

Syracuse Center of Excellence earns highest LEED certification

September 23, 2011

[Sara Miller](#)

(315) 443-9038

The [Syracuse Center of Excellence](#) (SyracuseCoE) headquarters has been awarded LEED® Platinum-level certification, established by the U.S. Green Building Council (USGBC) and verified by the Green Building Certification Institute (GBCI). LEED (Leadership in Energy and Environmental Design) is the nation's pre-eminent program for the design, construction and operation of high-performance green buildings.

The SyracuseCoE was designed to exemplify the highest level of LEED standards. The result is an iconic, high-performance building that is the realization of a dream shared by leaders in government, industry and academia to create a world-renowned location for collaborations that address global challenges in clean and renewable energy, indoor environmental quality and water resources.

“Achieving a LEED Platinum rating for the SyracuseCoE headquarters is emblematic in multiple dimensions,” says SU Chancellor and President Nancy Cantor. “It not only embodies our region's signature strengths in clean energy and environmental systems innovation, entrepreneurship and collaboration, but it signifies that dreaming big is worth it—that sustainability is possible and that our highest aspirations for cross-sector partnerships really are achievable. We very greatly appreciate the support of New York state and our hundreds of industry and academic partners in creating this internationally recognized asset for discovery and education.”

“Achieving a Platinum LEED rating for the SyracuseCoE headquarters further strengthens our region's reputation as an international leader in clean energy and environmental systems,” says Robert Simpson, president of the CenterState Corp. for Economic Opportunity. “At the cutting edge of sustainable design and performance, the SyracuseCoE provides an optimal venue for emerging companies to develop new technologies and positions local firms to accelerate product development, helping us compete in the global market.”

“As a resident and native of Central New York, I am professionally and personally thrilled that the SyracuseCoE headquarters has earned a LEED Platinum rating,” says Rick Fedrizzi, president, CEO & founding chair of USGBC. “This project is an extraordinary example of how human systems can integrate with natural systems to have powerfully positive impacts on the people who use the buildings, the natural and human landscapes that surround the building, and an entire region's well-being. The leadership and scholarship CoE has demonstrated is an international model of how to deliver something that will inspire and nurture generations to come.”

LEED promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality. LEED certification is earned at the levels of certified, silver, gold and platinum.

Dedicated in March 2010, the five-story, 55,000-square-foot SyracuseCoE headquarters was funded by New York State's Empire State Development with the New York State Foundation for Science, Technology and Innovation (NYSTAR); the New York State Energy Research and Development Authority (NYSERDA); Syracuse University; Carrier Corp.; National Grid; and Otis. Projects at the SyracuseCoE are funded by multiple sources, including the U.S. Department of Energy, U.S. EPA and U.S. Department of Agriculture.

"Achieving a LEED Platinum rating for the design and construction of the SyracuseCoE headquarters is a great accomplishment for New York's Centers of Excellence program," says Kenneth Adams, Empire State Development president, CEO and commissioner. "This is an impressive facility with unique capabilities to springboard research into widespread deployment of innovative technologies."

"NYSERDA congratulates Syracuse University and its design and construction teams for achieving a LEED Platinum rating for the SyracuseCoE headquarters facility," says Francis J. Murray Jr., president and CEO of NYSERDA. "The funding provided for this project showcases an excellent example of the many benefits of green buildings, including reducing energy use and improving indoor environments for occupants. Further, we celebrate that the facility was designed and constructed by firms from throughout New York to provide a unique resource for development of new products and services for green buildings."

"The site of the SyracuseCoE headquarters has seen many important developments over the years, including the construction of the Erie Canal, the manufacturing of typewriters by L.C. Smith & Brothers, and the launching of Onondaga Community College," says Ed Bogucz, SyracuseCoE executive director. "After seven generations of use, the site became a surface parking lot on top of a landfill. Earning a LEED Platinum rating for our facility makes clear to the world that the site has been restored to be a healthy, vibrant presence in the community for the next seven generations."

"At SUNY-ESF and at scores of other firms and institutions, students, faculty and collaborators greatly appreciate the unique facilities that are available at the SyracuseCoE headquarters," says Cornelius B. Murphy, Jr., president of the SUNY College of Environmental Science and Forestry (SUNY-ESF). "We warmly applaud Syracuse University and the SyracuseCoE headquarters design and construction teams for achieving a LEED Platinum rating at a facility that benefits firms and institutions across Central New York."

The headquarters sits on a three-acre, EPA-designated brownfield site in downtown Syracuse. The SyracuseCoE construction team dedicated itself to completely remediating

the brownfield with careful investment made to clearing the land of environmental contamination and restoring it for sustained use by SyracuseCoE and future generations. The headquarters' earliest construction was sustainable, with the construction team led by LeChase Construction Services of Rochester, N.Y., diverting 98 percent of unused materials from landfills—whereas a typical building construction diverts just 2 percent of unused and waste materials.

Today, the SyracuseCoE houses research laboratories for indoor environmental quality and biomass fuel, classrooms, public spaces and additional lab space for use by SyracuseCoE academic and industry partners. Facilities include the Willis H. Carrier Total Indoor Environmental Quality Lab, the only research facility of its kind in the world dedicated to conducting controlled experiments on the human response to indoor environments—temperature, air quality, odor, light, etc. The 150-foot Urban Ecosystem Observatory takes measurements of outdoor air quality to help research into urban air pollution and the impact of buildings on urban ecosystems.

“It is exciting news that the Center of Excellence has been given the LEED Platinum-level certification,” says Senator John DeFrancisco (R). “Central New York is fortunate to have a unique institution on the brink of catapulting our community to the forefront as a leader in the environmental and energy systems industry. As members of our research, academic and business sectors continue to work together, they will develop innovative ideas and technologies that have tremendous potential to enhance our region’s economic health and improve the quality of life for those who live here.”

“I congratulate Ed Bogucz and the entire CoE staff on this well-deserved distinction, putting Syracuse University and Central New York once again at the forefront of technological innovation,” says Senator David J. Valesky (D).

“Congratulations to the Syracuse Center of Excellence on receiving the highest LEED certification for green building design and construction. It is wonderful that the building exemplifies the energy efficiency and cutting edge technology that COE employees research, develop and promote,” says Assemblyman William B. Magnarelli (D). “Buildings like this will continue to help Syracuse make a name for itself as a community that leads the state and nation in environmental friendly policies, designs and innovations.”

Among the SyracuseCoE’s sustainable design, construction and operational features that contributed to LEED Platinum certification are:

- **Building Shape and Form—The building is relatively narrow, reducing brownfield site disturbance and excavation, with extensive windows providing a high level of occupant comfort with ample natural light and opportunities for views and natural ventilation;**
- **Building Orientation—To optimize the building’s southern exposure in order to avoid solar energy drain during the colder months, the tower portion of the building is rotated 13-degrees from the urban street grid;**

- **Structure**–The use of substantial cantilevers in the steel structure on the north, south and west sides of the building reduces the number of columns, overall steel tonnage and required footings for the building;
- **Landscape Design**– Large sloping landforms provide a dynamic reflection of the building, as well as a means for safely encapsulating contaminated soil instead of shipping it to a distant landfill;
- **Vapor Intrusion System**–Ventilation below the foundation prevents underground vapors from entering the building, eliminating a potential source of contaminants in indoor air;
- **Storm Water Retention Tank**–The southwest corner of the property features a storm water retention tank to control run-off entering the sewer system;
- **Demand-Controlled Ventilation**–The amount of fresh air delivered to a room varies depending on the number of people who are present, saving energy when rooms are partially occupied;
- **Insulation**–Solid façades include superior insulation to reduce heating and cooling loads. Interior insulation uses Demilec, a 100 percent soy-based spray foam. Exterior insulation boards were created from sustainable natural fiber materials;
- **Underfloor Ventilation and Raised Flooring**–Ventilation is provided close to occupants for improved thermal comfort using a raised floor system, allowing for even air distribution with lower fan speeds. The Tate raised floor system, situated 12 inches above the concrete deck, also provides convenient wire routing;
- **Radiant Ceilings**–Most of the heating and cooling in rooms is provided via ceiling panels that are embedded with copper piping that efficiently carries warm or cool water;
- **Restrooms**–Restrooms feature waterless urinals, dual flush low-flow toilets and faucets, and sustainable paper and cleaning products;
- **Furniture**–Furniture by Haworth and Herman Miller is made from recycled materials and FSC wood and wood products. Furniture is also 100 percent recyclable by the manufacturers upon return;
- **Lighting**–High-efficiency compact fluorescent and LED lighting, controlled by a daylight harvesting (auto dimming) system and auto shut-off occupancy sensors, is used throughout the building;
- **Windows**–The south façade features highly insulated glass with integrated, electronically controlled blinds that provide solar heat and glare control, capable of operation at 15-degree increments. The ceramic white dots on the windows passively reduce glare and solar heat gain;
- **Roof**–The building roof on the west tower is designed to reflect most of the sunlight, minimizing solar heat gain and reducing the cooling load. The roof is also designed to allow future installation of photovoltaics, building-scale wind turbines and roof-top HVAC units; and
- **Green Roof** –The roof of the laboratory wing on the east end is covered with a living “green” roof that features six sedum plant species native to the region. The green roof is designed to absorb and retain rainwater, reducing runoff from storms. The green roof also eliminates heat island effect during summer and reduces heat loss during winter.

The headquarter building design and construction team was composed of local and national experts, led by Syracuse-based executive architect Ashley McGraw Architects, and assisted by LeChase and world-renowned design architect Toshiko Mori. Other design team members were Ove Arup & Partners (mechanical, electrical, plumbing and structural engineering); Hargreaves Associates (landscape architects); Burt Hill (lab planner); Transsolar (climate concepts); Stearns & Wheeler (civil engineering); O'Brien & Gere (environmental engineer); John P. Stopen Engineering (geotechnical engineering); Peterson Engineering (elevators); C&S Companies (commissioning agent); and 7 Group (LEED consultant).

The strong Central Upstate New York roots of the majority of the design and construction team is a demonstration of the advanced technical expertise available in the region for green building projects. Specifically, construction for this highly advanced building involved more than 25 companies based in Central Upstate New York.

The U.S. Green Building Council's LEED green building certification system is the foremost program for the design, construction and operation of green buildings. More than 100,000 projects are currently participating in the LEED rating systems, comprising more than 8 billion square feet of construction space in all 50 states and 114 countries. By using less energy, LEED-certified buildings save money for families, businesses and taxpayers; reduce greenhouse gas emissions; and contribute to a healthier environment for residents, workers and the larger community. For more information, visit www.usgbc.org.