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# Student Housing Project in Qatar Will Reshape Sustainable Design Concepts

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When it comes to best practices in sustainable design for new and remodeled student housing in the United States, a project being completed halfway around the world from Kansas City may one day serve as the model. A 1,200-student residence hall in Doha, Qatar being designed and built for the Qatar Foundation for Education, Science and Community Development will incorporate wind turbines, banks of photovoltaic cells, and bio mass walls among other sustainable design features. This 850,000 square-foot complex is sure to reshape many of the design concepts for student housing around the world.

Kansas City-based Burns & McDonnell, with partners Treanor Architects, of Lawrence, Kansas, and Vertegy, a St. Louis-based sustainable design firm, have drawn on the work of the 21st Century Project of the Association of College and University Housing Officers – International (ACUHO-I) in creating breakthrough sustainable design concepts that aim to meet the United States Green Building Council's Leadership in Energy and Environmental Design (LEED) standards. Upon completion in 2010, all 12 separate residential housing structures will undergo rigorous reviews to potentially qualify for LEED® Platinum Certification. If it achieves this prestigious certification, the Education City complex would become the first LEED Platinum certified student residence halls in the world.

"This is a very exciting project," said Kevin Konecny, director of campus and residence life for the Qatar Foundation. "Qatar Foundation is committed to building a state-of-the-art residential complex that incorporates sustainability best practices. Students will live in zero-waste residence halls where each day will provide a new lesson on how green savvy technology can help global citizens to live a responsible sustainability focused life. Through our sustainability focused programs, we hope to help university students develop green lifestyle practices that will last a lifetime."

Burns & McDonnell's goal is to create an unforgettable residence life experience for the students of Education City. It is an experience that is inseparably linked to a living environment where students can thrive personally, socially, spiritually and academically. This will be a community that expresses the idea of unity and connectedness.

The Qatar Foundation was founded in 1995 by His Highness Sheikh Hamad Bin Khalifa Al Thani, Emir of Qatar. Her Highness Sheikha Mozah Bint Nasser Al Missned is the chairperson of Qatar Foundation. The Foundation is the driving force behind Education City, a regional center for education excellence that has attracted branch campuses from institutions like Virginia Commonwealth University, Texas A&M University, Carnegie Mellon University, Weill Cornell



Medical College, Georgetown University and Northwestern University.

In order to receive a LEED® Platinum certification, Burns & McDonnell designed the complex to incorporate the six primary focus areas of LEED: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environment quality and innovation and design process. The residence hall project recently won the People's Choice Award during the 21st Century Project Design Showcase Competition hosted by the ACUHO-I. The recognition came as a result of a vote from nearly 200 participants attending the event in St. Pete Beach, Florida.

The facility will be run on fully integrated building management systems, which maximize individual space and environmental control of high ventilation systems. The main electrical feed will come from a local utility and will be distributed to each residence building through an alternative means of energy production. Solar energy will be gathered on the rooftop through photovoltaic cells, wind energy will be harnessed by wind turbines on site, and water will be filtered and retained by the use of bio mass walls.

Structurally thickened walls will create thermal mass that achieves extremely high insulation values (ranging between R30 and R50). White roofing materials will create a "cool roof" and windows recessed into the wall thickness will prevent direct sunlight from hitting the window surface and provide the lowest possible "U" value for windows as well as air locks at all entry points.

The women's and men's residence halls will incorporate a number of advanced technology features, including fiber optic connections to the Education City wireless network, allowing for card access to buildings, smart motion sensor rooms that accommodate personal profiles and preset environments as well as room-to-room video conferencing.

"From the beginning, the 21st Century Project was about colleges and universities coming together to discover innovative ways to incorporate sustainability, utilize technology, enable flexibility and building community within their residence halls," said Sallie Traxler, ACUHO-I executive director. "Qatar Foundation and Education City epitomize these ideals and they should be commended for their work."