



GREEN

SCHOOLS FOR

Changing how we design, construct, and operate our schools and campus buildings will allow educational facilities to enhance student learning experiences

By Jaime Van Mourik



At the U.S. Green Building Council (USGBC), we see the profound, positive impact that green buildings have on our lives and the innovation they have poured into the marketplace—from office and retail buildings to government facilities and individual homes. However, none of these markets speaks more powerfully to the benefits and potential of green buildings than our educational facilities.

Stakeholders at colleges and universities across the country are connecting around the topic of sustainability. With the understanding that green buildings are about more than just bricks and mortar, institution leaders are creating new learning experiences and facilitating higher levels of community engagement. Students are also taking on a larger role, asking to be part of the greening of their campuses, and facilities staff and faculty are working together to provide experiential learning opportunities for students.

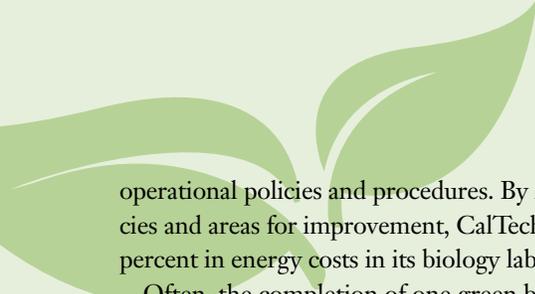
THE CURRENT LANDSCAPE

Higher education institutions have a higher percentage of LEED®-certified green space than any other market sector, including government, retail, and hospitality, and represents more than 85 million square feet of construction space. Although impressive, there are more than 83,000 higher education buildings in the United States comprising 3.48 billion square feet on colleges and universities campuses. We have only begun to scratch the surface.

Many colleges and universities currently use the LEED® for Existing Buildings: Operations & Maintenance™ (LEED for Existing Buildings: O&M) rating system to improve facilities performance and guide campus-wide sustainability planning and implementation. The California Institute of Technology (CalTech), for example, is assessing campus-wide activities and scaling up its green efforts by making necessary updates to improve the performance of multiple buildings. As part of this process, several existing buildings are undergoing retro-commissioning to carefully examine their

EVERYONE WITHIN THIS GENERATION





operational policies and procedures. By identifying inefficiencies and areas for improvement, CalTech is expecting to save 40 percent in energy costs in its biology lab alone.

Often, the completion of one green building encourages larger sustainability initiatives across campuses. After the LEED Gold certification of **Western Michigan University's** (WMU) College of Health and Human Services building, the university witnessed a cultural shift in occupant behavior across the entire campus. WMU has since adopted an enhanced campus sustainability plan, including an effort to benchmark its current portfolio of buildings, make changes to key policies and procedures and obtain LEED certification for additional buildings on its campus.

As part of the District of Columbia's **American University's** comprehensive sustainability strategy the institution has committed to LEED for Existing Buildings: O&M certification for 30 buildings, using a volume-based certification model that streamlines the certification process. This new program dramatically increases the efficiency of LEED certification and lowers the associated costs.

The AU effort is being led by an interdisciplinary campus team that includes staff members from the Office of Sustainability and the facilities department in addition to faculty and students. The work being done will help the institution reach its carbon neutrality goal while also serving as a model for other colleges and universities.

To enhance and support institutional efforts to finance green building projects, USGBC collaborated with the Energy Services Coalition to create the *Paid-from-Savings Guide to Green Existing Buildings*, a publication providing detailed information on how to leverage the cost savings from improved building performance to fund more comprehensive green building retrofits. As one example of a financing mechanism, the guide outlines how to expand a typical Energy Savings Performance Contract to include more holistic green improvements, and achieve LEED for Existing Buildings: O&M certification in the process.

A VISION FOR THE FUTURE

As USGBC looks ahead, we have a vision: green schools for everyone within *this* generation. As a way to enhance our support of allied institutions, we have formed the Center for Green Schools at the U.S. Green Building Council. The center is increasing our efforts to drive change in how we design, construct, and operate our schools and campuses so that all educational facilities can enhance student learning experiences, not compromise them. We believe that everyone, from the kindergartner entering the classroom for the first time to the post-graduate student performing research in a lab, should be able to learn in green buildings.

The Center for Green Schools continues the work started by the USGBC's Green Campus Campaign, and works directly with staff, faculty, students, and administrators to expedite the transformation of all campuses into sustainable places to live and learn, work and play. The Center applies a holistic and campus-wide approach to greening all buildings and engaging the entire community in the process, and the Center is

fostering conversations among K-12 and college and university leaders, as well as advocates on local and national levels.

USGBC is also eager to advance green building at under-resourced higher education facilities, including minority-serving institutions and community colleges. 2011 will see the launch of a more formal program focused on extending the knowledge and benefits of green building in these communities.

PAVING THE WAY

While every institution's path will be different, the core commitment of colleges and universities to create greener campuses transcends school type, size and location. The Center for Green Schools provides guidance, programming and resources for all members of a campus community. USGBC's recently completed *Roadmap to a Green Campus* presents strategies for using LEED as a framework for developing and evolving campus-wide sustainability plans, and implementing practical and measurable green campus solutions. The resource was created with the support of the Association for the Advancement of Sustainability in Higher Education (AASHE) and references over 100 tools and resources to support campus greening efforts, as well as institutional success stories from across the country.

INCREASED COMMUNITY AND STUDENT INVOLVEMENT

The use of many campus facilities extends beyond students, faculty, and staff into the local community. Community participation in the integrated process of designing, developing and implementing LEED projects is vital to success. Including students in these projects also presents an opportunity for the community and students to work collaboratively, creating unique opportunities to foster lasting relationships.

As part of a one-year green building educational internship program, the **Los Angeles Community College District** (LACCD) in California sets a great example for community engagement. Students are paired with their local USGBC chapter members and receive mentoring and green building education, which they take back to LACCD to work on their LEED projects.

At the Institute for the Built Environment at **Colorado State University**, students receive green building training as part of coursework and use this experience on local LEED projects across all sectors of the building industry. Since 2001, CSU students who intern for the institute have worked on more than twenty-five buildings pursuing LEED certification.

ENHANCING STUDENT LEARNING

As college and university leaders from across the United States work to green their campuses, students can and should play a critical role. Campuses that implement programs to include students on LEED projects create opportunities for faculty to incorporate project-based learning into course work, provide students valuable hands-on project experience and help the institution lower LEED project costs. At California's

University of San Diego, for example, students accounted for 86 percent of the total labor hours on the school's first LEED for Existing Buildings Silver-certified project, lowering the overall project costs by 30 percent. Student participation on the project also secured a LEED innovation credit.

As a way to help connect students to campus green building projects, the Center for Green Schools at USGBC released a free, online publication called *Hands-on LEED: Guiding College Student Engagement*. This publication focuses exclusively on the role of students and explains how they can be involved in green building projects and contribute to LEED certification efforts. The guide outlines three options for engaging students: course-work, internships, and volunteer opportunities. It details the benefits of involving students and outlines ways to initiate the process of developing an engagement program, such as planning considerations and LEED-related activities and tasks that students can perform. The guide also contains profiles of three campuses that are engaging students with great success.

Working on LEED projects also helps students develop skills that will distinguish them as they seek employment in an increasingly competitive job market. According to a recent study, green building will support nearly eight million U.S. jobs and pump \$554 billion into the economy between 2009 and 2013—statistics that are encouraging for soon-to-be-graduates seeking green job opportunities. To help connect students with this growing market, USGBC has created a student program that has nearly 60 active groups. College and university students from all disciplines use this network to learn and participate in hands-on green building experiences on their own campuses.

LOOKING AHEAD

Colleges and universities are USGBC's allies in the green building movement, and we expect to see continued results and innovation as institutions address existing building needs with carbon reductions in mind. A green campus is bigger than the life cycle of its buildings, grounds, and infrastructure. The ability to use research, pioneer technological innovations, engage the community and encourage partnerships provides a unique opportunity for higher education institutions to serve as leaders

in the creation of new and revitalized green communities. By continuing an integrated approach to planning and implementing sustainability initiatives, we can achieve green schools for everyone within this generation. 

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Leaking tile showers?

Re-grouting won't fix the problem.





Before



After



	MIRASEAL	VS.	RE-GROUTING	
SERVICE:				
Permanently Seal Grout	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Yes / No
Remove Water Under Tile	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Yes / No
Eliminate Grout Maint.	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Yes / No
Repair Cracked Tile	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Yes / No
Change Tile & Grout Color	<input checked="" type="checkbox"/>		<input type="checkbox"/>	Yes / No

"The money we saved vs re-grouting our leaking showers at FAU is a very compelling reason to use Miracle Method. After nearly two years, we have no recurring shower pan leaks."

- Richard Smith
Asst Dir of Housing & Residential Life
Florida Atlantic University



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