

# The World From the Ground Up: San Diego

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## Green from the Ground Up: Environmental Retrofits and the LEED Process

“Green” has arrived in commercial real estate. Whether motivated by helping the environment, planning ahead for future regulations, or saving money through energy efficiency, the US Green Building Council (“USGBC”), a non-profit environmental awareness organization based in Washington DC, has become the leading resource for building professionals concerned with sustainability. Since its inception in 1993, the organization has used its LEED

(an acronym for “Leadership in Energy and Environmental Design”) system as the industry-standard checklist for building owners, end-users and developers interested in meeting this goal.



The “LEED” process is a third-party certification program that uses a points-based system whereby building projects earn LEED “points” for satisfying specific green construction criteria. These criteria are grouped into six categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation and Design. The number of points a subject project earns in each category determines the level of LEED certification the project receives. LEED certification is available in four progressive levels: Certified, Silver, Gold and Platinum.



The USGBC also provides opportunities for individuals to enroll in courses and become a “LEED Accredited Professional.” In 2001, USGBC launched its Professional Accreditation program, which trains building professionals to facilitate LEED certification for both renovations and new building projects. Over 75,000 professionals have completed this program, which is now run through the USGBC-created Green Building Certification Institute (“GBCI”).

Training to become a LEED Accredited Professional gives building professionals a leg up on the competition for countless green projects springing up across the nation.

But LEED is not just for new construction. LEED is becoming increasingly important in environmental retrofits of existing buildings.

Adobe Systems Incorporated, a software giant with a reputation for environmental awareness, touted the success of its LEED retrofit in a 2006 press release. Beginning in 2001, Adobe implemented a series of sustainability projects at its headquarters in San Jose, California, including; retrofitting lighting; adding motion sensors; installing variable speed frequency drives on large fans and chillers; adding real-time metering; upgrading building control systems; re-commissioning of major systems throughout the facilities; and participating in peak period power-shedding programs. According to its press release, Adobe invested \$1.4 million to retrofit the three-building complex, and is saving \$1.2 million annually as a result. Specifically, Adobe has reduced electricity usage by 35%, domestic water usage by 22%, landscape irrigation by 76%, carbon dioxide emissions by over 20%, and solid waste, through recycling and composting, by nearly 90%. With the costs of the retrofit recovered in just over one year, Adobe also reports a net ROI of 148% on its LEED-EB (LEED for Existing Buildings), *Platinum* certification efforts.

The success of Adobe's environmental retrofitting appears to be the rule, not the exception. Deloitte LLP, a leading US consulting firm, released the results of a joint survey in 2008 entitled "The Dollars and Sense of Green Retrofits." Although 63% of survey respondents reported paying a 5% (or more) premium on green rather than conventional retrofits, the survey indicated this increased cost was well worth the investment. Ninety-three percent of respondents reported greater ability to attract talent, 81% saw greater employee retention, 87% reported an improvement in workplace productivity, and 73% reported cost reductions as a result of LEED retrofits. Deloitte concluded that existing commercial real estate which does *not* undergo green retrofitting will relinquish market leadership within the next few years due to higher operating costs, lower productivity, declining attractiveness to workers and negative brand image.

Indeed, LEED certified commercial real estate is already a prized commodity. A USGBC press release dating from April 3, 2008, indicates that LEED buildings command rent premiums of \$11.24 per square foot per annum over their non-LEED peers and have 3.8 % higher occupancy. In addition, LEED buildings command a remarkable \$171 more per square foot *at sale* than their non-green counterparts.



Locally, San Diego contractors are keeping abreast of these changes. Doug Mellinger, Senior Project Manager for Bilbro Construction Company discussed the green movement and his latest project, construction of a LEED-certified Kindergarten for the La Jolla Country Day School. “It’s growing unbelievably quick,” says Mellinger on LEED.

Having recognized the expanding market for LEED building projects, Mellinger became a certified LEED Accredited Professional in 2008. Although his current project was planned to be LEED Certified status, subsequent review of the project indicated that the Kindergarten will qualify for LEED Gold.

One of the interesting things Mellinger pointed out was that regionally, some entirely *standard* construction practices can earn LEED points. “For example,” says Mellinger, “higher levels of insulation are a no-brainer in colder regions of the country, and this can score you points in the LEED system.” With the La Jolla school, seven highly energy-efficient HVAC units proved to be a key element, and it’s no mystery why. Mellinger stated, “According to the EPA, about \$40 billion is spent annually in the US to air-condition buildings – 1/6th of all electricity generated in a year.”

John Brand, a partner at Sentre Partners (a real estate investment and services firm in San Diego) and architect Greg McClure, of the local firm Delawie Wilkes Rodrigues Barker, commented on LEED’s influence in the building industry with respect to retrofits. Brand spearheaded the first LEED-EB retrofit in San Diego with the Columbia Center in downtown, and attained the “LEED Gold” certification. In discussing LEED, he touches on two primary themes. First, like Doug Mellinger, Brand notes that a given building may by default qualify for LEED certification with relative ease. According to Brand, “A big driver [of the LEED-EB rating system] is the structure’s Energy Star rating.” This rating happened to be very high for the Columbia Center, earning it fifteen LEED-EB points when just 51 points overall will earn a Gold rating. McClure, a LEED accredited professional, concurs, pointing out that due to its unique exterior ventilation system, the Columbia Center’s original climate control system happened to be highly efficient. Outside air is drawn in from inconspicuous towers on the corners of the property, reducing the need for air conditioning.

McClure went on to say, “Class A buildings like [the Columbia Center] also receive LEED points for their superior operations.” LEED for Existing Buildings assigns many points to whole-building cleaning and maintenance issues (including use of environmentally-sensitive chemicals), recycling, and exterior maintenance programs. Both Brand and McClure also noted that simply complying with California’s stringent environmental regulations will qualify a building for some LEED points. According to Brand, “LEED is just part of our current cost of business.”

Second, and equally important, Brand concluded that LEED certification can be a worthwhile financial endeavor. Brand confirmed Deloitte’s analysis when he shared a story about Sentre Partners applying for LEED certification on another building in Orange County, largely because the tenant was considering a move to a new green building in the area. A growing number of tenants are beginning to actively search for

green office space, and according to Brand LEED certification is one of the first things they look for.

The one true drawback to LEED may be that applying for certification entails a substantial learning process. Being Brand's first project, the Columbia Center's certification took about two years to complete. However, McClure noted that subsequent projects are taking closer to just 6 months. What's more, Brand pointed out that just being able to say "we've registered [for certification] with LEED" can be enough to mollify environmentally-sensitive tenants. Both Brand and McClure seemed confident that for now, LEED is the standard method for building professionals to ensure environmentally-friendly building practices in green retrofits.

The USGBC's retrofitting system appears to be financially viable, and it is catching on across the United States. On April 6, 2009 a partnership between the Clinton Climate Initiative ("CCI"), the Rocky Mountain Institute and several other prominent organizations announced plans to retrofit the Empire State building in New York City and apply for LEED Gold certification. The project centers on eight economically viable upgrades: Window Light Retrofit; Radiator Insulation Retrofit; Tenant Lighting, Daylighting, and Plug Upgrades; Air Handler Replacements; Chiller Plant Retrofit; Whole-Building Control System Upgrade; Ventilation Control Upgrade; and Tenant Energy Management Systems. According to the CCI, this \$20 million project will save the Empire State Building an estimated \$4.4 million in annual energy savings costs, reduce its energy consumption by close to 40%, repay its net extra cost in about three years, and cut its overall carbon output. More information on the Empire State Building's green retrofit is available on the project website at <http://esbsustainability.com>.

As urban sprawl claims more territory, the economy slumps and the climate grows warmer, building professionals are in a unique position to have a positive impact on communities across the nation. The USGBC's LEED-EB system can assist these professionals both in reducing the environmental impact of existing buildings, and, as mounting evidence indicates, saving money and growing business in the long run.