Could LEED for Existing Buildings Transform the building industry?

ALTHOUGH TROUBLE in the credit markets has stilled building construction cranes throughout the country, a transformation in the buildings industry has begun in earnest over the past year in the field of "greening" of existing buildings. It is a trend beginning with some of the highest-profile existing office buildings in the country, including the Empire State Building in New York City and the Willis Tower (formerly the Sears Tower) in Chicago, and it could accelerate the multitrillion-dollar annual buildings industry's move toward higher efficiency and greater sustainability.

Many even believe the greening of existing buildings will substantially affect the national response to climate change. The outsized potential impact of greening existing buildings is attributable to the fact that the overwhelming majority of buildings that will be in use over the next ten or 20 years in the United States have already been built. In 2008, existing buildings made up 98.2 percent of the built environment, and new construction the other 1.8 percent, according to the McGraw-Hill Construction Building Stock Database. Moreover, buildings are responsible for 72 percent of U.S. electricity consumption and 38 percent of carbon dioxide emissions, according to the U.S. Green Building Council.

Consequently, it is not surprising that management consulting firm McKinsey & Company, in a report titled "Reducing Greenhouse Gas Emissions: How Much at What Cost?" found that existing building–related energy-efficiency efforts provided both the lowest-cost and biggest opportunity to reduce greenhouse gas (GHG) emissions nationally by 2030.

The U.S. Green Building Council, which administers the Leadership in Energy and Environmental Design (LEED) building certification system, launched LEED for Existing Buildings (LEED-EB) in 2004. This LEED certification standard has not yet proved nearly as popular as LEED for New Construction (LEED-NC), but among the more than 2,000 buildings that have won LEED-NC certification, a substantial portion have been criticized for not necessarily being leaders in energy efficiency, Mireya Navarro reported August 30 in the *New York Times* in an article titled "Some Buildings Not Living Up to Green Label." Unlike LEED-NC, however, LEED for Existing Buildings: Operations and Maintenance (LEED-EBOM) specifically requires energy efficiency in the operations of a building, and has begun to be embraced by some top leaders in the U.S. existing building market.

LEED-EBOM is concerned with the retrofit, operation, and management of existing buildings. While it is intended distinctly for existing buildings, in its structure and application it parallels LEED programs for new construction, core and shell, and commercial interiors. As with those systems, LEED-EBOM rates buildings as certified, Silver, Gold, and Platinum according to performance in seven areas: energy and environment (35 percent of credits), indoor air quality (15 percent), materials and resources (10 percent), water efficiency (14 percent), sustainable sites (26 percent), regional (four of ten bonus points), and innovation (six of ten bonus points). After reviewing extensive data submitted by the building for up to a year, the USGBC rates it on a scale of 1 to 100. An aggregate score of more than 40 wins a designation of certified; 50 earns Silver; 60, Gold; and 80 or above, Platinum.

Even though, at 350, the number of building certified under LEED-EB or LEED-EBOM is only a tiny percentage of all U.S. buildings, the number of buildings registered to seek LEED-EBOM certification is increasing rapidly—from 96 in 2006, to 725 in 2007, to the current 2,368.

This dramatic increase in annual registrations for certifications includes some of the highest-profile office buildings in the country and is all the more impressive in view of the fact that it is continuing even during the current credit crisis in commercial real estate. In a recent, unpublished Massachusetts Institute of Technology graduate thesis titled "Greening Existing Buildings with LEED-EB," Tyson Dirksen and Mark McGowan assert that 40 percent of the Class A building stock in the Boston downtown office market is planned for, registered for, or certified as LEED-EBOM.

Corporations that own and occupy their own buildings are among the best positioned to use LEED-EBOM because they do not require the cooperation of third-party tenants. Consequently, some of these U.S. corporations are using LEED-EBOM as a management tool to drive efficiencies, particularly in their headquarters buildings, while enhancing their brand both internally—with employees and prospective employees—and externally. Adobe Systems' LEED-EB Platinum certification for its three-office-tower headquarters in San Jose, California, for example, is largely attributable to its documentation of the 64 green retrofit projects it conducted over two years to achieve Platinum-level certification—and a 121 percent return on investment (ROI).

Increasingly, owners of multitenant office buildings are also taking the opportunity to advertise their commitment to greener and higher-performing buildings and pursuing LEED-EBOM certification. Some firms with extensive real estate holdings, including real estate investment adviser Kennedy Associates of Seattle, Liberty Property Trust of Philadelphia, and USAA Real Estate Company of San Antonio, have even committed to greening their entire portfolios, which through economies of scale has brought

about considerable decreases in the cost of certification on a square-foot basis. In many cases, firms have found that the costs of certification have been lower than expected.

There also has been growth in the number of local, state, and federal mandates and incentives encouraging the greening of both new and existing buildings, often prompting concern that conventional less-efficient, less-healthy buildings will become functionally obsolete. Underscoring the national nature of the move to mandate or provide incentives for greener buildings, the USGBC as of September lists 195 municipalities that have new incentives and regulations for green construction and renovation.

As with any rating system, however, LEED has its limitations. LEED-EBOM, for example, requires an Energy Star score of 69 as a prerequisite. Consequently, to qualify for certification, a building must rank among the top 31 percent of all buildings in energy efficiency. Though this demanding standard is consistent with the goal of LEED-EBOM serving as a code for leadership, it does make it an unlikely standard for owners who do not believe their buildings—without significant expense—can be upgraded in systems and management to perform in the top third of buildings in energy performance.

In part as a consequence of this, large building owners and users of corporate real estate have expressed an interest in helping LEED-EBOM evolve into a system that has broader application throughout their portfolios, and that is focused less on achieving certification for particular buildings and more on continuous improvement throughout their portfolios. The USGBC is also working to help make the use of the LEED-EBOM standard easier for managers of large portfolios through a pilot portfolio program and the development of efficient online tools.

The Portland, Oregon–based nonprofit Green Building Institute (GBI) offers a competitive alternative to the LEED program with its Green Globes system, which awards one to four Green Globes based on an owner's report of a building's performance. Growth in LEED-EBOM and Green Globes for existing buildings, especially among the highest-profile office buildings in the United States, is being augmented by an unprecedented public sector commitment to greening existing buildings led by the Obama administration.

President Obama has been an influential champion of more efficient buildings. In his State of the Union Address on February 24, he stated, "We will put Americans to work making our homes and buildings more efficient so that we can save billions of dollars on our energy bills." Consequently, even with the development market moribund, it would appear that a revolution may be at hand that could transform one of the world's largest industries, moving it toward greater sustainability.

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