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COMMERCIAL GREEN BUILDINGS: THE BUSINESS CASE

National Association of REALTORS® building
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COMMERCIAL GREEN BUILDINGS: THE BUSINESS CASE

As concerns about sustainability and global warming grab headlines worldwide, the commercial real estate industry is taking notice and taking steps to improve the green footprint of office, industrial, retail, and multifamily properties. Decisions by such major players as CB Richard Ellis to go carbon neutral by 2010 and federal legislation that, if passed, would require U.S. commercial buildings to become carbon-neutral users of energy by 2050 point to the prevalence of the issue. An almost fivefold increase since 2000 in the number of properties certified by the U.S. Green Buildings Council also shows that the push to go and stay green is very much on the minds of commercial property owners and real estate practitioners.

What makes a commercial building green?

Different definitions and standards of sustainability and “green”—and the wide range of issues from energy use to smart growth that fall under the broad heading—have led to a variety of interpretations about exactly what a building must have and do to be considered “green.” Here are a few definitions to consider.

According to the Santa Monica (Calif.) Green Building Program, a building is green when it:

- reduces exposure to noxious materials
- conserves nonrenewable energy and scarce materials
- minimizes the life-cycle ecological impact of energy and materials
- uses renewable energy and sustainable materials

The Leadership in Environmental Energy and Design® certification program from the U.S. Green Buildings Council offers green certifications for both new and existing commercial properties. It considers five key areas of human and environmental health when awarding certification: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. The LEED® standard is flexible; buildings do not have to meet standards in all areas.

Scott Muldavin, CRE, executive director of the Green Building Finance Consortium, says that relying on a

LEED® or Energy Star rating isn’t enough. Current green rating systems measure only environmental performance, not financial outcomes, he cautions. Financial outcomes must be based on a property’s specific sustainable features (water-efficient landscaping or the use of “daylighting” to reduce lamping costs, for example). Ultimately, the meaning of sustainability will be based on government regulations and/or the growth of tenant demand for specific features, he believes.

As a general description, Muldavin, whose Consortium consists of real estate companies and groups working to develop methods for private investors to assess green buildings from a fiduciary perspective, cites the definition formulated by the Brundtland Commission in 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”

Why is the real estate industry so receptive to sustainable development these days?

While green buildings got their start in the nineteenth century, (London’s Crystal Palace is one example), only recently have they gained broader awareness and acceptance. Attitudes among commercial real estate practitioners toward green buildings and sustainable design have changed, in some cases by 180 degrees, recently, says Brenna Walraven, CPM®, RPA, executive managing director of national property management for USAA Real Estate Co. “There has been a dramatic shift in the past five years,” she says. Sustainability in office space, Walraven adds, is “no longer a preference, it’s a requirement, and building owners have to be ready to accommodate that.”

The office market is going green, in large part, because much of corporate America has already embraced sustainability. At least 70 percent of the corporations in the Business Roundtable, nearly all of which are in the Fortune 1,000, have made commitments to add more green to their business practices. One milestone event

was Wal-Mart's announcement in July 2006 that it would reduce the corporation's enormous contribution to the waste stream by cutting its packaging by 5 percent by 2013. The company will also begin designing stores that use 30 percent less energy by 2010.

In a May 2007 survey by McGraw-Hill/Siemens, 60 percent of the corporate real estate executives surveyed saw a value in sustainability. An additional 28 percent expected to see a value within the next three years. In another survey of corporate real estate professionals presented at the April 2007 CoreNet Global Conference, 77 percent of respondents said they would pay a premium for sustainable features in a property.

Several factors contribute to this growing interest. Businesses want to enhance their reputations as supporters of responsible environmentalism, according to Leanne Tobias, president of Malachite, a real estate consultancy based in Bethesda, Md. Major companies, she says, "want to be seen as good corporate citizens."

A study conducted in 2007 by CoreNet Global and the Rocky Mountain Institute also noted that such factors as rising energy cost, concerns about aging infrastructure, government regulation (as well as the current federal tax deduction for energy retrofits), and even shareholder pressure from groups such as the Carbon Disclosure Project, all contributed to corporations' willingness to look more closely at sustainable properties.

Government regulatory pressures at the local, state, and federal levels are also of increasing concern to corporate real estate professionals. Commercial properties are significant energy consumers. A recent report from New York's Mayor Michael Bloomberg stated that properties account for 79 percent of carbon production in New York City and over 50 percent in most urban areas. Concerns about global warming are very likely to spur greater regulation—generating a net benefit to investors who are prepared for regulation before it occurs.

How much tenant demand currently exists for green buildings?

According to Muldavin, tenant demand for sustainable properties has risen significantly in the last two years, especially in the last six months. Demand has been greatest among larger corporations that have made sustainability commitments during the last few years and are now turning their attention to their real estate leasing and acquisition strategies. Still, a 2007 CoreNet/Rocky Mountain Institute report found that fewer than half of corporations surveyed had energy policies or consumption reduction targets currently in place.

One major office space user that has set goals is the U.S. General Services Administration, which is responsible for 350 million square feet of office space owned or leased by federal agencies. By a 2007 executive order, government agencies are required to improve energy efficiency by 30 percent by 2015, reduce water consumption against a baseline, reduce the use of hazardous chemicals, and maintain waste reduction and recycling programs.

In the private sector, Goldman Sachs is building a 43-story headquarters in Manhattan and aiming for a LEED® Gold rating. Meanwhile, Bank of America will occupy a 55-story building in Midtown that has applied for the LEED® Platinum, the highest designation awarded by the USGBC. Not to be outdone, JP Morgan, the old-line investment banking firm, plans to open its new headquarters in New York later this decade. Morgan is also trying for a Platinum rating. CoreNet Global, an association of corporate real estate executives, has challenged its members to reduce energy consumption by 60 percent by 2010.

Corporations have embraced sustainability for sound business reasons, as well as for the public relations value of going green. Energy-cost savings, advantages in recruiting and retaining employees, and potential productivity benefits all factor into a corporation's

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commitment to sustainability. For example, the EPA estimates that poor indoor air quality costs U.S. businesses \$60 billion annually in lost productivity. Adding sustainable features now will also help corporations stay ahead of the curve of future environmental regulations.

The interest in sustainable structures is not being felt as strongly in multitenant buildings or among smaller property owners. Furthermore, since the supply of multitenant sustainable buildings nationwide was less than 100 at the start of 2007, an active tenant market has been slow to develop. But with LEED® registration and the number of sustainable buildings rapidly expanding, tenant demand is likely to accelerate.

Do green buildings cost more to build?

A few years ago, many studies estimated that making a new commercial building green added anywhere from 1 to 2 percent to its cost. However, advances in materials and processes seem to be eradicating even these minor differences. In *The Cost of Green Revisited*, a 2006 study by Davis Langdon & Seah International, the authors evaluated the actual cost of constructing buildings to the LEED® standard and determined that “there is no significant difference in average costs for green buildings as compared to non-green buildings. Many project teams are building green buildings with little or no added cost and with budgets well within the cost range of non-green buildings with similar programs.”

The study also noted that “in many areas of the country, the contracting community has embraced sustainable design, and no longer sees sustainable design requirements as additional burdens to be priced in their bids. Data from this study shows that many projects are achieving certification through pursuit of the same lower cost strategies... .” In addition, because energy-efficient buildings often require smaller mechanical, electrical, or other systems, some costs of construction may actually be lower than those for conventional properties. The key to holding down costs is integrated design, which

optimizes the entire building for multiple benefits rather than evaluating each building component separately.

In the August 2007 issue of *Urban Land*, Vivian Loftness, head of the architecture school at Carnegie Mellon University, noted that older buildings are particularly well suited to renovations that lower energy consumption. “Our historic buildings, for example, were originally designed to use extremely low (if any) amounts of electricity. Their high ceilings, large and plentiful windows, and wide hallways, for example, bring natural daylight to the core of the building, which means you don’t have to use electric lights at all during the day,” she noted. New buildings can use many of the same techniques to lower energy consumption and become more green, she added.

In his work for the Consortium, Muldavin has found that with a well-applied integrated design implemented by an experienced service provider, sustainable buildings can often downsize HVAC systems and obtain other cost savings to offset higher costs for some materials and construction. He cautions, however, that there are additional risks related to products, materials, and the implementation process that must be well understood to ensure positive cost results.

Yet, despite all the pluses to environmental sensitivity and its growing prominence, there’s still a long way to go. A 2007 joint report by CoreNet and the Rocky Mountain Institute concluded, “On average, [building] design is still fragmented, rule-of-thumb [specifications] are still common, and buildings still cost more to build, are less comfortable, and use more energy than they should.”

How do the costs of operating a green building differ from those of a conventional property?

One of the most pernicious myths about going green is that it requires making a big capital outlay for specialized hardware, like photovoltaics or paying a premium for electricity generated by wind turbines and other

alternative energy sources, according to BOMA Chairman Brenna Walraven. “That capital improvement myth has stopped a lot of companies from taking the first steps toward sustainable practices in asset management,” she says.

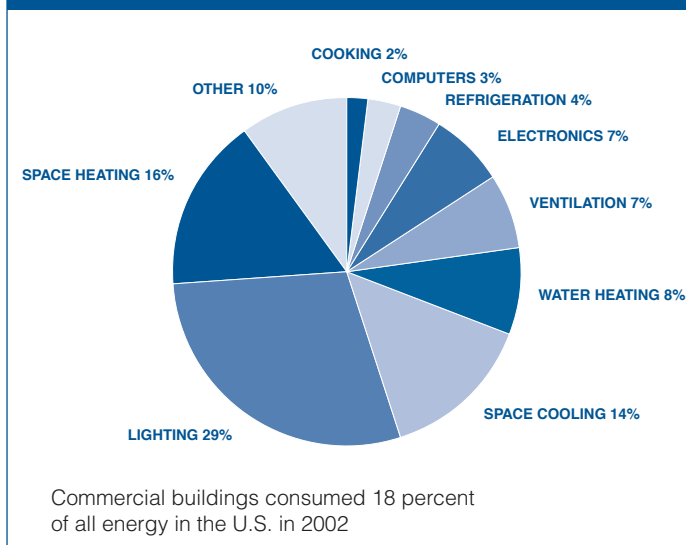
In many buildings, greener practices and savings can be achieved at little or no cost, adds Marc Fischer, senior vice president of Transwestern’s Baltimore office. “Many green practices are common-sense things like shutting off lights and heating systems at night and shutting down equipment when it is idle,” he says.

“Lighting is a perfect example,” says Walraven. Electricity use is one of tenants’ largest expenses, yet some building managers seem cavalier about wasting current. “You drive through the city at night and see a building all lit up like a Christmas tree,” says Walraven. “There’s no way that building is occupied.” Even a simple solution such as turning off some lightbulbs and replacing a few others with fluorescents can achieve savings of 25 to 30 percent without any boost in the normal cost of replacing bulbs, she says.

To assist its members in improving office-building energy efficiency, the Building Owners and Managers Association has initiated the BOMA Energy Efficiency Program (BEEP). The National Association of REALTORS®, whose Washington, D.C., headquarters is LEED® certified, offers online resources including a *Field Guide to Commercial Green Buildings* (see Resource list). The Environmental Protection Agency’s Energy Star program also offers suggestions on ways that existing commercial properties can lower energy consumption.

A study by the EPA found that Energy Star certified buildings saved an average of 31 percent in energy costs through 2006. Even such simple shifts as moving janitorial work to daylight hours can save 10 percent of energy use in some buildings, notes Muldavin. While utility costs are still a relatively low portion of overall building operating expenses (\$2.11 per square foot for suburban office

Figure 1: Commercial real estate energy consumption



Source: University of Michigan, Center for Sustainable Systems

buildings according to the 2007 IREM Income/Expense Analysis® report), rising energy costs will increase those costs.

Another inexpensive way to go green is to require janitors to use safe cleaning products, rather than the chemical-rich products that leave behind traces of toxic substances. “This is something that can be accomplished in a week, just by changing instructions to your cleaning crew,” says Fischer. Even chemicals used for pest control can be replaced by substances that kill or repel bugs and rodents without harming people.

Do green buildings command a premium in value or rents in the current marketplace?

Green as a factor in value is “very hard to isolate and measure,” says Paul Brumbaum, senior vice president of real estate at Wells Fargo Bank in San Francisco. Even though Wells Fargo Bank has made more than \$1.3 billion in construction loans to LEED®-certified projects since 2005, a question mark hovers over the exact value that sustainability brings to a Class A office building, he says.

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Certain aspects of green are easier to quantify. Savings in energy costs, for example, which increased by 5.4 percent for an average office building between 2005 and 2006, according to the IREM Income /Expense Analysis[®], go straight to the bottom line and have a significant impact on value. A study by Gregory Kats, principal of Capital E in Washington, D.C. (cited in *Building Design and Construction*, Nov. 2003), stated that a LEED[®]-certified or pre-certified building would achieve an added \$5.79 per square foot in net present value over its 20-year live span. As energy costs continue to rise, the payoff may be greater.

Still, even though the inventory of green buildings is large and growing—900 buildings have been LEED[®]-certified to date and another 1,300 are pursuing the designation—comparatively few green buildings have changed hands, which makes it hard for appraisers to find comparable sales numbers when assessing value.

“What we are missing,” says Theddi Wright Chappell, an appraiser with Pacific Security Capital in Portland, Ore., “is the body of empirical data that would be statistically supportive” of any sign that green buildings were performing better financially than conventional properties. Answers may be easier to find in the future, thanks to the development of two databases that track sustainable buildings, the Higher Performance Building Data Protocol and Repository of the Green Building Alliance in Pittsburgh and the High Performance Building Database compiled by the U.S. Department of Energy in collaboration with the U.S. Green Buildings Council.

“There is a growing inventory of operating green buildings, and if we can see how they perform, their rate of tenant retention, and their return on rental rates, we can come up with some way to track that performance,” Brumbaum says.

Chappell says she can imagine a time in the near future when sustainability translates into an enhancement of building value and sale prices. Such a scenario, she adds, would result from a public perception that green buildings

customarily have quicker absorptions (lease-up times), higher lease rates, better tenant retention, and less turnover. “Tenants will expect a better-performing, highly efficient building or they won’t want to be there,” she says.

Tenants also vary in their requirements. Smaller companies that are totally cost driven may not be willing to pay a premium for green. Large corporations may place more value on any employee productivity gains that green environments may provide. Tenant requirements may also vary from market to market, with office users in green-sensitive West Coast areas more receptive to sustainability, for example.

“If you’re a tenant rep broker, you have to determine whether green benefits are real or not for the specific buildings you are evaluating for your clients and be able to articulate your findings clearly,” says Muldavin. “You need to understand how your client would value a property’s sustainability and cost savings and consider how the broader market will value these benefits in the event of subleasing. Fortunately, there is a significant amount of information available about the costs and benefits of sustainable buildings. Tenant rep and sales brokers can now start evaluating if tenants will, or should, pay more.”

The Consortium, which NAR has supported as both a founding and sustaining member, is developing the methods and practices to enable brokers, appraisers, lenders, investors, and other real estate participants to evaluate sustainable property economics and risk. Significant research will be available by the end of 2007, according to Muldavin. Some resources are already available on the group’s Web site, www.greenbuildingfc.com.

What other factors are affecting investors’ acceptance of green commercial buildings?

The difficulty in assigning a current value to a green building is only part of the challenge for those who want to develop and finance environmentally friendly buildings. The other piece is finding a way to assess the risk associated with the rapid evolution and therefore obsolescence of

green technologies. Financing costs for green buildings are generally comparable to those for conventional buildings, according to the CoreNet Global/Rocky Mountain Institute study. Tax incentives and grants for energy improvement, such as the current federal tax deduction for improving energy efficiency in commercial buildings, also offset imbalances. And as forecasting models for energy performance improve, lenders may actually begin preferring to lend on green.

Investors in sustainable properties need to understand that return on investment does not exist in a vacuum, says Muldavin. Sustainable properties, especially if they are new construction or substantial retrofits, have some unique product and construction risks, but these risks need to be viewed in perspective, he says. All new development has a substantial amount of product and construction risk. Sustainability also lessens the risk that a property will become functionally obsolete in the face of rapidly expanding governmental regulation of environmental issues, he notes. This risk reduction can add to a green property's value.

"We need to come up with uniform standards that lenders and everybody else can understand," says Tobias. Those standards, she says, should include all the customary issues that appraisers deal with: the expenses, the risk factors, tenancy, and overall quality of the building, but also the sustainable features and whether they are perceived to add value to the whole. Green systems that provide a hedge to still-rising energy costs also contribute to a higher resale value.

Part of the value for many tenants is something that does not factor into most real estate appraisals—worker productivity. A presentation by Jerry Yudelson of Yudelson Associates, a green building consultancy in Tucson, Ariz., noted that worker productivity increases between 3 percent and 5 percent in green buildings that offer features such as increased daylight and better indoor air quality.

"The productivity argument is significant because labor costs are such a high percentage of the overhead of a service business," says Brumbaum. "Even a small pickup gives a business a multiplier effect. There's some very powerful math at work there."

Muldavin notes that while productivity and health benefits may be difficult to quantify and will vary depending on the tenant mix of a building, the potential gains can be very compelling to some tenants, even without quantitative measurement.

And as analytical tools for assessing the reliability and accuracy of energy-saving measurements improve, perhaps other criteria need to enter the valuation of green buildings, says Chappell. "As real estate appraisers, we are going to have to dig a bit deeper with a little bit more specificity and use different approaches," she says. One possible approach, she adds, is to see value in the triple bottom line (social, economic, and environmental benefits) that many corporations have pledged to follow.

"There are all kinds of precedents for analyzing the market beyond numbers alone," Chappell says. "Many people make business decisions every day in current valuation standards, while others may think along the lines of a triple bottom line."

Resources

Building Green.com, www.buildinggreen.com
Environmental Protection Agency, Energy Star Program, www.energystar.gov
The Field Guide to Commercial Green Buildings, www.REALTOR.org/library
Green Building Finance Consortium, www.greenbuildingfc.com
Green Building Initiative, www.thegbi.org
Sustainable Buildings Industry Council, www.sbicouncil.org
U.S. Green Buildings Council, www.usgb.org

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