THE GREENING OF REAL ESTATE APPRAISAL

AS SUSTAINABLE BUILDING GAINS MOMENTUM THROUGH STANDARDS, LEGISLATION AND PUBLIC DESIRE, THE APPRAISAL COMMUNITY RESPONDS.

By Claire Nicolay

Bottom Line

- **Green, or sustainable, buildings are designed and built on environmentally friendly principles.**
- **Green initiatives by municipalities, corporations, universities and even neighborhoods have raised the profile of sustainability.**
- **The U.S. is catching up with international trends, bringing important opportunities and an expanded role for appraisers.**
- **Appraisers need to understand and communicate green performance differences for such appraisal reports to be effective.**
- **Sustainable buildings have a triple bottom line: economic, environmental and social.**
- **Green buildings are leasing well above the market norm.**

Green building, a movement that has been steadily growing since the 1970s, is now rapidly emerging as a powerful force. Green, or sustainable, buildings are designed and built on environmentally friendly principles; they use natural and recycled materials, conserve energy and water and maintain high levels of air quality. While green principles may once have seemed unprofitable and utopian, they are being increasingly recognized as marketable. Noting that "interest in green building has grown geometrically," Peter F. Korpacz, MAI, of PricewaterhouseCoopers observes that it's "not just for 'good citizen' types anymore: Builders have developed new techniques, and the price has gone down with initial spending offset by significant savings." In a sign of the times, the April 4 *CoStar Green Report*'s header splashily announced: "Building Green is the New 'Black.'"

The green building movement developed in response to problems caused by 20th century building technology. In the 1930s, the enclosed steel and glass building that relied on fluorescent lighting, reflective glass and an enormous HVAC system became the commercial building industry paradigm. Glamorous and functional, but energy inefficient, this model reached the height of its popularity in the late 20th century even as energy resources began to show signs of exhaustion. Indeed, gas shortages in the1970s were a spur to the formation of the green movement, which has developed steadily through the millennium and now seems poised to reach a new level of relevance in the 21st century.

Rising energy costs and increasing concerns about global warming have helped catapult green building into the national (and world) spotlight. Buildings have a major impact on the environment and are generally agreed to be a primary factor for global warming: The U.S. Green Building Council (USGBC) estimates that buildings account for 12 percent of water use, 65 percent of waste output and 70 percent of electricity consumption in the U.S. The Environmental Protection Agency attributes 19 percent of greenhouse gas emis-

sions in the U.S. to commercial buildings, and USGBC gives the number as 30 percent. Buildings also account for 39 percent of U.S. total annual energy consumption, according to the Department of Energy. It's no wonder that USGBC and other leaders in the green movement have trained their sights on energy inefficiency, especially in the commercial sector.

However, interest in the environment is not necessary for working with green buildings. Sustainable building is more durable and its features can be marketed as valuable amenities. As Leanne Tobias of Malachite LLC declares, "You are selling more natural light, better indoor air quality, a healthier environment with less toxic materials, and better temperatures and humidity controls." Moreover, as green building features become increasingly attractive to both commercial and residential buyers, the rapid evolution of sustainable building legislation will change today's "amenities" into tomorrow's standard requirements.

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–Scott Muldavin, Green Building Finance Consortium

Legislation

One measure of the green building movement's new clout is the list of current and pending legislation. In recent years, the federal government has sought to promote business by relaxing environmental restrictions and relying on voluntary caps on pollutants. This *laissez faire* attitude at the federal level has spurred a flurry of state and municipal legislative initiatives. California has led the pack, most notably with its stringent carbon emissions requirements, which have also been adopted by nine other states. According to the Union of Concerned Scientists, 21 states and Washington, D.C., have adopted renewable electricity standards. Green initiatives are proliferating across the country: states, cities, corporations, universities and even neighborhoods are committed to conserving energy and preserving resources.

Many big industrial companies fear that the proliferation of these localized initiatives and legislation will lead to a paralyzing confusion of standards in the U.S. As Douglas R. Oberhelman, group president of Caterpillar Inc.'s diesel engine business and head of compliance, told the *Chicago Tribune*: "Every state is trying to get on the bandwagon to be perceived as being serious about climate change. It's the worst possible situation." To avoid this outcome, Caterpillar, General Electric, DuPont, Alcoa, and Duke Energy are currently urging Congress to implement an emissions reduction program at the national level.

The most significant development in recent environmental law is the April 2007 Supreme Court decision in *Massachusetts vs. EPA, 05-1120*, which found "EPA's steadfast refusal to regulate greenhouse gas emissions presents a risk of harm to Massachusetts that is both 'actual' and 'imminent.'" It will be interesting to see how this ruling gets tested as challenges to new state carbon dioxide emissions standards reach the lower courts.

Corporate Investors

The push for environmental responsibility has also reached the corporate world: many corporations have already made green awareness part of their identities, and many others have decided to jump on the bandwagon. Sony, Wal-Mart, Bank of America, Texas Instruments and PNC Bank are just a handful of the companies making headlines with green initiatives.

About $300 trillion is now potentially available from corporate investors, and about one percent of that ($30 billion) is directed to sustainable properties. This hefty amount is, as Scott Muldavin, executive director of Green Building Finance Consortium (GBFC) notes, an unusual circumstance: capital out looking for product. Green investment can satisfy both philosophic and financial demands of investors, and the connection between green building and socially responsible investing can add new appeal to real estate investing. Because green investment offers social benefits, it can receive incentives for development like density bonuses that instantly become part of the value. Institutional investors and pension fund managers like California Public Employees' Retirement System (CalPERS) are interested: They're looking for social responsibility *and* return on investment. Green investment is rapidly becoming a major part of the diversified investment portfolio.

LEED® Standards

The Leadership in Energy & Environmental Design (LEED®) Green Building Rating system, developed by USGBC, has become the national standard for green building. LEED® for New Construction and Major Renovations evaluates green commercial and institutional projects, especially office buildings. It has also been used in the development of other building types, including K-12 schools, multiunit residential buildings, manufacturing plants and laboratories. Since its introduction in 1998, LEED® standards have been refined and developed through a consensus-based process involving all USGBC members from both private and public sectors.

The LEED system rates green buildings on a 69-point system using six categories of performance: Sustainable Sites, Energy and Atmosphere, Water Efficiency, Indoor Environmental Quality, Materials and Resources, and Innovation in Design. Using points awarded for achievement in these categories, LEED® assigns a building one of the following ratings:

- Certified: 26-32 points
- Silver: 33-38 points
- Gold: 39-51 points
- Platinum: 52-69 points

The first LEED®-certified building was

designated in 1996. As of January 2007, 625 buildings in the U.S. have earned LEED® certification. Of these, 256 are privately owned–184 corporate owner-occupied, 72 private non-owner occupied –and the rest either government or institutional buildings such as schools. Of the 72 private, non-owner occupied, 44 are LEED® NC (New Construction) and 17 are LEED® C&S (Core and Shell). The sustainable building market is growing fast, with over 10 times as many projects registered to be LEED® certified and thousands more that are Energy Star certified or are making substantial sustainable or energy-related investments without being formally rated.

Two major buildings in New York City have recently earned Gold LEED® ratings: Hearst Tower, developed by Tishman Speyer Properties and designed by Foster and Partners; and 7 World Trade Center, developed by Larry A. Silverstein and designed by Skidmore, Owings & Merrill. In California, Lennar Corp. has two major green residential projects in progress. In Orange County, Lennar is building 9,500 homes that will be part of the Great Parks Conservancy Project. In Sacramento, Lennar is building the largest solar homes development in the U.S., comprising 1,254 energy-efficient homes in 11 Sacramento communities. Other green properties in the news include the Chicago Center for Green Technology; Brewery Block in Portland, Ore.; and the platinum-rated Banner Bank Building in Boise, Idaho.

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Green Sources

Although much data on green buildings is still in the pipeline, there are nonetheless plenty of data sources available right now. Several groups have been at the forefront of the green movement, and their Web sites offer a broad variety of information, data, services and other resources.

•**U.S. Green Building Council** *(www.usgbc.org)* was founded in 1996 and now has over 7,600 members. As the developer of LEED® standards and host of the annual Greenbuild convention for green industry building professionals, USGBC is an authoritative voice in the green building industry. The USGBC database is at present the dominant source for green building reference.

•**Green Building Finance Consortium** *(www.greenbuildingfc.com)* is an independent group of leading corporations, real estate companies and trade groups who have joined together to address the need for independent research and analysis of investment in green or energy–efficient buildings. GBFC is currently developing underwriting practices, tools and valuation methodologies for green building assessment and offers an extensive collection of research and resources.

•**The Urban Land Institute** *(www.uli.org)*, a nonprofit research and education organization supported by its members, is a multidisciplinary real estate forum with more than 34,000 members. Its Web site offers research information, case studies, policy reports and advisory services, among other useful information.

•**CoStar** *(www.costar.com)* is beginning to add Energy Star ratings to buildings in its property database. It also provides lease and sales comparable data as well as a database to compare green and non-green performance. The *CoStar Green Report*, which appears in the News section at Costar.com, was introduced in February 2007, and is a great source for green building news.

•**Energy Star** *(www.energystar.gov)* is a joint program of the U.S. Environmental Protection Agency and the U.S. Department of Energy that promotes energy-efficient products and practices. Its Energy Star rating system evaluates energy efficiency.

•**Green Building Initiative** *(www.thegbi.org)* offers Green Globes, an assessment protocol and rating system with slightly different standards: It uses SFI wood as well as certified wood, is more likely to allow vinyl products, and also has developed a Life Cycle Assessment (LCA) tool for integrating the evaluation of building assemblies in green building rating systems.

•**The Royal Institution of Chartered Surveyors** *(www.rics.org)* has extensive sources available on its Web site, including its 2005 Green Value Study.

•**Natural Step** *(www.naturalstep.org)* is a nonprofit international research, education and advisory organization founded in 1988.

•**EarthCraft House** (*www.earthcrafthouse.com*) is a green building program focused on residential properties.

•**Environmental Building News** *(www.buildinggreen.com)* is an independent company that provides a plethora of information on a variety of topics, including the process; land use and community; government activities; non-government activities; energy efficiency; and site and water.

•**Residential Energy Services Network** *(www.natresnet.org)* is a not-for-profit membership organization that has established the American building performance rating system recognized by the mortgage industry and federal government for verification of building energy performance for Energy Star, among other programs.

Green Valuation Issues

Most appraisers haven't encountered sustainable building issues yet, but given green's current momentum, they soon will. Green building is more prevalent internationally than in the U.S., but the trend is expanding rapidly here and brings important opportunities and an expanded role for appraisers.

Because green building is a new trend, the data's not all in yet: It will take five to 10 years for the data to be fully collected and processed. However, appraisers can't wait for the empirical data. Malachite's Tobias asserts that enough resources and data exist today for the valuation of green buildings. She notes that commercial real estate can be tracked in Argus models and emphasizes that despite the data lag, "value can be shown in an extraordinarily concrete, concise and pragmatic way."

Green building is often referred to as "Super Class A." Its specific characteristics lead to high performance. According to USGBC, green buildings save on average 30 percent of energy costs, 35 percent of carbon costs, 30-50 percent of water use costs and 50-90 percent of waste costs. Tobias notes that sustainable buildings lease more rapidly and have a range of attainable rents in the top tier, "going head to head with the best Class A." Tim Lowe, CRE, of Waronzof Associates, says green buildings are sufficiently different enough that they should be considered a semi-specialized class; like hotels, golf courses, health clubs and other specialized valuation sub-groups, they perform differently.

Green buildings have features that mitigate risk: They may have lower risk in energy cost increases because they're designed to conserve energy, a feature that's hard to compare. They also have a unique process of design in which architects and engineers work together to achieve best performance and low capital costs. Rather than simply ordering the best building systems, they use tradeoff analysis to develop systems that interrelate to create a balance of HVAC, window and lighting. For a green appraisal to be effective, the appraiser needs to understand green performance differences and communicate these to readers of the report.

Theddi W. Chappell, MAI, of Pacific Security Capital, observes, "As with any new property type, the learning curve is great, but we'll have to do the best we can." Chappell notes that appraisers "will need to get up to speed on what green buildings are, must understand clients' goals and objectives, and must know green building systems and terminology." Although basic appraisal methods won't change, more factors will have to be considered. Chappell, who is the Appraisal Institute's official representative to a variety of the industry's green-building initiatives, sees appraisers becoming "much more a part of the strategy, making strategic decisions rather than just providing numbers." They will be particularly needed early in the green building process to provide cost-benefit analysis.

Sustainable buildings have a triple bottom line, says Lowe: economic, environmental and social. They cost more to build, but costs are going down and advocates believe that when all the evidence is in, the inherent value in green construction will be clear. Early adopters, as Lowe calls them, have already proved willing to build and believe the price of building is worth it.

The biggest claim, and perhaps the one that generates most skepticism, is that sustainable building enhances worker productivity. If better productivity could be statistically established—and green advocates are confident it will—it could affect rent and value. Other benefits, including incentives for development such as density bonuses awarded by municipalities for energy efficiency, offer immediate value.

Sustainable buildings also offer strong operational benefits, but not always directly to the owner. For example, lower electric costs may benefit either landlord or tenant. Demolition may be cleaner, which is a community benefit. Although the set of benefits that flow through property is still being evaluated, some benefits must reasonably affect market value. However, some benefits are so distant and/or so speculative that they

might not affect market value.

That said, green buildings are leasing well above the market norm. In the Class A submarket, Tobias notes that pre-leasing has been substantially higher than expected, with 93 percent leased on completion. When Steven Zenker of Cushman & Wakefield created a hypothetical model for the Urban Land Institute in 2004, he examined how green features would perform in an Argus model: Zenker took case study data, and applied it to an Argus model to see how it affects values. Assuming slightly higher retention rates and lower utility bills, Zenker found the green building had a 10-15 percent bump to value over a conventional building over a typical holding period, despite only costing 2-3 percent more to build. Tobias notes that the usual cost premium is 2-3 percent, but if you have faster lease-up, you'll more than make up for the initial expenditure.

One problem in getting data is that less than 50 of the approximately 700 existing green buildings were built for investment purposes. Most are public-sector properties, often for educational or corporate use. Thus, most profitability exists at the corporate level, if the wellness claims can be substantiated: These users would get increased workforce productivity and energy savings. Lowe notes that although they can inspire much press and interest, public buildings and corporations are rarely appraised, so they don't form a big part of the body of appraisal. When corporations are tenants, they can be beneficiaries; long-term ownership confers the most benefits.

Of course, no matter how good a green building looks on paper, the important question is: How will its green features affect value? Will tenants and/or investors be willing to pay? Muldavin and Chappell both stress that although the appraisal framework for a green building will not fundamentally change, appraisers will have to enhance their knowledge of key sustainable features and potential value impacts, similar to the type of information they have had to learn in recent years to better understand building-related telecommunication changes, American Disabilities Act legislation, and the effect of the securities markets on capital flows. Muldavin further states: "Green buildings are not a property type. A green office building is just an office building with sustainable features. Appraisers have to increase their knowledge to gain the competence required under USPAP and apply their judgment on key sustainable building valuation issues, just like they do on appraisals of non-sustainable properties. While the availability of comparable property data is improving, appraisers today must employ the methods and practices they currently employ for other specialty property types or anytime the availability of comparables is limited, which occurs regularly in the appraisal profession. The Consortium's work will help provide the knowledge base and competence to assist appraisers in their valuation efforts under USPAP."

The Future of Green Valuation

Lowe predicts that the high performance of sustainable buildings and new government standards will help make green building the "de facto standard in 20 years." As more cities pass green legislation, old buildings will have to be evaluated according to new standards and will be worth less. Retrofitting will become increasingly important.

In general, the underlying framework of underwriting and valuation will stay the same for green buildings as for other buildings, says Muldavin. For rent, the appraiser will have to show comparable properties as a basis to form judgment. The same analysis will be needed with the addition of two factors: worker health and productivity, and energy efficiency.

Muldavin believes that "appraisers will be at the center of the green movement," and calls the sustainable building market "great news for appraisers because it will run on the qualitative judgments of appraisers." Green building will open new vistas for appraisers with a new pool of investors and more creative work. Ultimately, the new perspectives, techniques and behaviors of green building will also help illuminate other appraisal issues, he said.

Lowe said, "During the last 25 years, commercial real estate appraisers have put their eggs in the financial analysis basket." Now, he observes, they will have a chance to a focus on building performance.

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