

## Valuing Green Buildings

Do green buildings present a competitive advantage that can translate into lease premiums, reduced risk, and increased renewal rates?

GIVEN THAT BUILDINGS account for one-third of all energy and water consumed in the United States, there is increased interest in “going green” as energy prices continue to rise. The benefits of sustainable structures range from quantifiable energy and water savings—to the “brand” benefits brought about by actual stewardship of environmental resources. Yet, there are those in the real estate and financial communities who still have questions about whether these benefits outweigh the slightly higher initial costs of green buildings compared with conventional buildings.

“There is a strong business case for high-performance buildings,” maintains Brenna S. Walraven, executive managing director of San Antonio, Texas-based USAA Real Estate and chair of the Building Owners and Managers Association International (BOMA). (See “The Green Quotient: Q&A with Brenna S. Walraven,” November/December, page 118.) “Previously, green features were considered primarily on the basis that ‘if it’s good for our image, it’s good for marketing.’ Now there is greater awareness—and better documentation—of the financial benefits of high-performance buildings.”

Energy-efficient and water-efficient features can increase a building’s value by lowering operating costs. High-performance buildings can generate a 7 to 12 percent increase in net operating income (NOI) by reducing operating costs, notes Dennis Fleming, managing director of Revival Funds, a Denver-based firm that funds sustainable real estate investments. Green buildings use on average 30

percent less energy than conventional buildings, points out Greg Kats, managing director of Good Energies, a venture fund focused on renewable energies based in Manhattan. If energy costs run, say, \$2 per square foot, this becomes a savings of \$0.60 per square foot. For a 100,000-square-foot building, this represents energy and water savings of \$60,000 annually. With a 20-year present value of expected energy savings at a 5 percent cap rate, this savings adds roughly \$750,000 to the value of the building—all for a small additional investment in the initial costs. As interest rates and energy prices rise, these benefits become even more pronounced—and green buildings become even more valuable.

Green features have been shown to be less expensive than is commonly thought. “We had to overcome the misconception that it is prohibitively expensive to increase efficiency,” says Walraven, who has been a driving force behind the BOMA Energy Efficiency Program (B.E.E.P.), a partnership between BOMA and Energy Star that educates building owners and developers on low and no-cost measures to improve operating efficiency. “It’s not,” she insists.

The current average premium for integrating green features in new construction ranges from \$3 to \$5 per square foot, or from just 2 percent to 7 percent above the cost of building to conventional code requirements. This range reflects the scope of green options, but a number of energy-efficient features can be achieved within conventional budgets. These cost premi-

ums also reflect the added design and planning costs, which are likely to *decrease* as construction, design, and engineering professionals become more familiar with green building practices.

“Energy-efficiency has helped drive value for our portfolio,” says Walraven. By using Energy Star’s tools and ratings that normalize building efficiency for factors such as weather, occupancy, and building characteristics, Walraven explains that it was possible to identify low-cost opportunities to increase operating efficiencies for USAA Real Estate’s portfolio properties. The result, she says, is that implementing the recommendations from the energy audit generated \$10 million in savings on capital expenditures of \$2 million.

The economic drivers for developing, buying, or leasing a green building differ for commercial and residential tenants. To date, most of the green buildings have been constructed for corporate or institutional owner-occupants, who likely will have a long occupancy and investment horizon—and so will directly benefit from the lower operating expenses over the building’s life cycle. There has not, as yet, been much growth in either multitenant or speculative green buildings.

Lease structures can create a perceived split incentive. “Building owners ask themselves: ‘If the tenant pays for the operating costs, why should I pay for capital improvements so *they* can benefit?’” explains Kats. “But if you create great spaces that are cost competitive, the question for tenants is ‘Why move?’” Investing in high-

**CONSTANTINE A. VALHOULI** is a principal of the Hammersmith Group in Boston and New York City, a strategic consulting firm that advises developers on historic, luxury, and sustainable projects, as well as cities on reviving their historic downtowns. Additional research provided by former senior associate John H. Galbraith.

performance features can become a driver of returns for building owners by increasing tenant retention and reducing the costs associated with lease churn, he adds.

For speculative green developers, incorporating green features can be a competitive advantage: high-performance design can pass on energy savings to both residential buyers and commercial tenants with net leases, which can lower monthly operating expenditures and increase working capital. Lower operating costs also can act as a disincentive to relocating elsewhere.

Rising energy prices definitely should be a driver for adopting green technologies. Most buildings today are still being built the way they have been for the last 50 years—when oil, gas, and electricity were inexpensive. At the time, it did not matter that most buildings were built without much natural light or ventilation, because heating, cooling, and electric light were not prohibitively expensive.

Green building strategies are being embraced in areas that have experienced volatility in energy prices—which serves to sensitize consumers to the need either to be innovative, or to adapt to the situation. “People don’t change until they have to,” contends Charles Randall, managing director of Revival Funds. “High energy prices raise awareness of how prices affect you on a daily basis. When your natural gas bill goes up 50 percent, you feel the pressure to [become] energy efficient—quickly,” he notes.

“Because energy costs aren’t going down, there must be a move toward greater efficiency. Green technologies [provide] a way to reduce exposure to rising energy prices,” points out Robert Ansin, CEO, MassInnovation, a sustainable development company based in Lawrence, Massachusetts. “By using geothermal exchange instead of fossil fuels, we’ve reduced costs and have unlinked the price of heating and cooling from the rising cost of energy,” says Ansin, whose last two projects include New England’s largest geothermal installations.

Ansin says his projects incorporate a number of other green and energy-efficient features. Currently, he is converting what was once the largest mill building in the world into New England’s largest (1.3 million square feet; or 120,774 sq m) green development. The mixed-use project, Monarch on the Merrimack, incorporates a number of high-performance features, including a green roof, low-flow toilets, waterless urinals, and faucet aerators. A private, six-acre (2.4-ha) park incorporates moisture sensors to reduce water usage, and the park is irrigated using water discharged from the geothermal wells, thereby reducing potable water usage and associated expenses.

Energy efficiency, explains Ansin, can be a hedge against environmental, financial, and market risks. “All else being equal, we can generate at least the same returns with lower risk by investing in green buildings instead of conventional ones,” notes Fleming. “If the market supports a price premium, then we’re that much ahead of the game,” he adds.

“Green buildings simply represent a better class of asset,” says Peter Liu, vice chairman of New Resource Bank, a commercial bank based in San Francisco, that finances sustainable development projects. “If the fundamentals of a project are solid, then high-performance features offer a competitive advantage.”

Because of the reduced risks associated with high-performance features, financial institutions such as New Resource Bank and Novato, California-based Fireman’s Fund Insurance report that they are cutting better deals for green buildings. New Resource offers a 0.125-point rate discount and a higher loan-to-value ratio for green developments. Fireman’s offers discounted pricing to green building owners.

Green buildings can also lower risk by reducing carrying costs during planning and construction. A number of municipalities recognize the benefits of having green buildings in their communities, and have expedited the permitting

and approval process for energy-efficient buildings. “In some communities, this can be the difference between a 15-month permitting process and a two-month process,” explains Ansin. “This is one more way in which building green can have a significant, quantifiable, bottom-line effect.”

Besides expedited permitting, some green features can also eliminate entire steps in the construction process. For example, Carlstadt, New Jersey-based Hycrete has developed one of the leading integral waterproofing systems for concrete. Not only is it a green technology with life cycle benefits, but it eliminates the need for external waterproofing, a step that can reduce project time by weeks or months. “By eliminating a step in the construction process, we reduce holding costs for developers or owners and move them toward revenue generation that much faster,” maintains David Rosenberg, CEO of Hycrete.

The biggest barriers to the broader adoption of sustainable development practices reportedly are the status quo—and the lack of broad data. Real estate is highly formulaic, in part because repeatable processes lead to efficiency, which generate higher returns. “Until recently, there’s been little incentive to change the way things have been done,” says Ansin. “There’s been a history of predictability and profitability in doing it the traditional way. But rising energy prices are making alternatives more attractive,” he notes.

“When the developer is not the building owner, the typical incentive has been to barely meet code at the lowest possible cost,” says Kats. “In that mindset, innovations equaled risk. Now, the risk is that by continuing to do things the way they have been done, you will be stuck with an inferior product.”

This outlook is reinforced by the prevailing method used to value buildings. Traditionally, “first costs” are the metric by which profit is measured. However, life cycle analysis is said to offer a more complete

picture by linking capital costs and operating expenses. According to the U.S. Federal Facilities Council, first costs represent only 5 percent to 10 percent of total life cycle costs, while operating expenses represent 60 to 80 percent of the expenditures over a building’s lifetime. When buildings are valued using life cycle analysis, the long-term saving as a result of lower electricity, water, and heating and cooling costs becomes apparent. A 2003 study conducted for the California Sustainable Building Task Force shows that a 2 percent increase in first costs for green design will yield life cycle savings of more than ten times the initial investment.

One of the obstacles to broad adoption of high-performance features is that it is difficult for appraisers and lenders to get comparable figures. To date, the majority of green buildings have been built for corporate or institutional owner-occupants, and few of these buildings have been sold. “As of today, there is still no data sampling that is large enough to turn heads,” points out Randall. “Anecdotal evidence is not sufficient to sway the financial community. There are always issues specific to each project that contribute to the success or failure of that project.” For buildings that have outperformed the market, the question becomes: “How much of that premium was the result of green features alone—independent of design, brand, or location?” he explains.

“The defining study for the benefits of building green still remains unwritten,” contends Fleming. “We need a landmark study that compares the ten- to 15-year pro forma of the same buildings built both green and conventionally.” **UL**