To Be Green or Not to Be Green? Why That Is Not the Question*

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Research

Allen Smith
Managing Director
Head of U.S. Business
Tel 973.734.1374
allen.smith@prudential.com

Pramerica Real Estate Investors
8 Campus Drive
Parsippany, NJ 07054
USA

Tel +1 973.683.1745
Fax +1 973.734.1319
Web www.pramericarei.com
research.reports@pramericarei.com

Introduction

Increasingly, sustainability and efficiency – going "green," as it were – are explicit considerations in the planning and construction of major development projects. With heightened public awareness and concern about global warming and ongoing increases in energy costs, the case for green development seems to have gained mainstream acceptance. This report discusses three reasons why the decision for real estate investors and developers today is not whether new projects should be green, but rather how green they should be.

Reason One: Tenant Demand

Perhaps the most powerful driver behind the move toward green development in the office sector is tenant demand. Soaring gas prices, extreme weather, crippling power outages and mounting scientific evidence of the harmful effects of greenhouse gas emissions have raised public awareness and concern about the environment and the long-term effects of economic growth and development. As the success of green products, such as Toyota's Prius, illustrate, consumers, shareholders and companies alike increasingly want to make a statement about their environmental ethos and sustainability has quickly become a core objective in the corporate world. While companies are responding to the opportunities and challenges that the sustainable movement presents with a broad range of "green" initiatives, the new emphasis on sustainability has inevitably led companies to green buildings and their potential benefits.

As extensive media coverage of sustainable development and high profile projects, such as Bank of America's new office tower in midtown Manhattan, have highlighted the key features of green buildings, more companies are beginning to embrace the benefits of sustainable design and construction. Over the long term, for example, the human resource benefits of green

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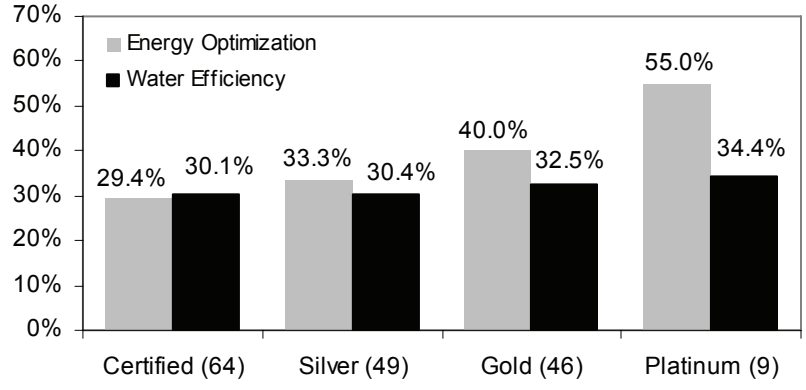
office buildings may far outweigh the potential energy savings as the primary reason tenants choose to go green. Although the data is mostly anecdotal, the features that typically are incorporated into new green office buildings to ensure a healthy indoor environment can generate significant gains in worker productivity. Likewise, green space may also provide a competitive advantage for companies in attracting and retaining the best talent, which will become increasingly important as labor force growth slows.

Green buildings also are attracting more attention from corporations for their external environmental benefits, particularly with regard to greenhouse gas emissions. As the body of scientific data linking greenhouse gas emissions and global warming has continued to grow, individuals and companies are pledging to reduce their carbon footprint. For some businesses, particularly large multinational companies, shareholder pressures have been a powerful catalyst in their newfound interest in greenhouse gas emissions. For others, the threat of future regulation has been a key driver. Regardless of the motive, because real estate accounts for a significant share of most companies' aggregate greenhouse gas emissions, green buildings offer an obvious and effective way for companies to measurably reduce their carbon footprint and to demonstrate their commitment to the environment.

From a very practical perspective, for many corporate owners and users of office space, the potential energy efficiency alone is sufficient to mandate green facilities. Utility costs account for a significant share of variable operating expenses for office properties. With the sharp increase in energy costs in recent years, operating expenses for most commercial properties have increased dramatically. Although expense data for green buildings is still fairly limited, studies and anecdotal evidence suggest green buildings can reduce energy and water use significantly and should, therefore, lower utility expenses. **Exhibit 1** shows the average savings in energy and water consumption for 168 LEED-certified office buildings by rating category (figures in parentheses indicate the number of buildings in each category). The findings are consistent with other studies that show green buildings consume about 30% less energy and 30% to 50% less water, on average, than conventional buildings.

Exhibit 1: Energy and Water Use Efficiency by LEED Rating



Source: "Green Building Costs, Savings and Value," Jim Broughton, July 2006

Getting Easier

Reason Two: It's ~~Not Easy~~ ^ Being Green

While developing and retrofitting office buildings to green standards still pose many challenges, it's getting easier and cheaper to build green. This presupposes, however, that the decision to build green is given forethought and fully incorporated into the design process. Done so, experts agree, "low hanging fruit" is available to allow developers to achieve a green certification, e.g., LEED Silver, with little marginal cost or effort. The current standard for green buildings in the United States is the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. The LEED rating system for new construction was launched in 1998 to provide a benchmark for high-performance "green" buildings. Since then, however, the LEED system has continued to evolve and expand, and now includes standards for existing buildings as well as specific building components (e.g., commercial interiors, core and shell) and, most recently, specialized property types and residential structures.

As shown in **Exhibit 2**, new commercial buildings seeking LEED certification are scored across six categories to assess the energy efficiency and environmental "friendliness," among other things, of the physical improvements and site plan. Depending on the extent of the green features incorporated into the design and construction of the project, buildings may be awarded one of four designations, ranging from "LEED-Certified" for buildings incorporating a modest level of green features to "LEED-Platinum."

Exhibit 2: LEED New Construction Rating System

Categories	Total Points	Share
Sustainable Sites	14	20%
Water Efficiency	5	7%
Energy & Atmosphere	17	25%
Materials & Resources	13	19%
Indoor Environmental Quality	15	22%
Innovation & Design Process	5	7%
Total Points	**69**	**100%**

Rating	Score
Certified	26-32
Silver	33-38
Gold	39-51
Platinum	52-69

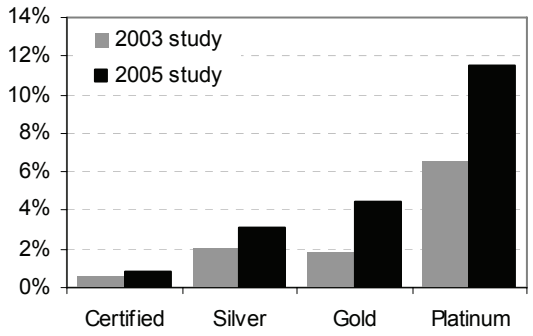
Source: U.S. Green Building Council (USGBC)

As the range of categories in the LEED rating system suggests, sustainable development encompasses a broad spectrum of design and building features. The multidimensional nature of the standards is important because it means developers can achieve LEED certification (and improve building performance) in a variety of ways, from site selection and the orientation of the improvements to the composition of the materials and efficiency of the mechanical systems and construction process itself. Although the most sophisticated, high-performance green buildings

can still cost significantly more than conventional alternatives, many features required to meet a basic level of LEED certification require little or no additional cost. As noted previously, however, essential to success is forethought.

Construction cost data for new green buildings is still fairly limited, and the results of studies that have been conducted to date vary widely. **Exhibit 3** shows the average premiums by LEED category for newly constructed buildings from two studies. Although the results differ somewhat, as expected, the cost premiums typically increase with the rating level, ranging from less than 1% for projects rated "LEED Certified" to as high as 11.5% for "LEED-Platinum" buildings. Anecdotal evidence suggests, however, that even the highest-rated buildings can be developed at relatively little additional cost. For example, the incremental costs for the Bank of America building in Manhattan, which is seeking LEED-Platinum certification, reportedly will add less than 2% to the project's $1 billion total budget, according to the developer.

Exhibit 3: Average Incremental Cost of Green by LEED Rating



Sources: "The Costs and Financial Benefits of Green Buildings," October 2003; "Construction Forecast Monthly," Reed Research Group, September 2005 (cited in "Market Barometer, 2005," Turner Construction)

The diverse criteria also afford developers flexibility to determine the appropriate degree of "greenness" for each project, which in most cases will depend on the trade-off between benefits and costs. In some markets, a minimum level of LEED certification may be more than sufficient to differentiate green from non-green buildings. However, in other markets, higher levels of green features may be required.

Reason Three: Risk Management

Finally, while much of the discussion surrounding green buildings has focused on premiums associated with their cost and, potentially, the rents and values they might achieve over time, the most compelling long-term arguments for developing green today may involve the risks associated with non-green buildings. In the near term, the relatively low penetration rate of green buildings (i.e., as a share of the total stock) and limited experience in the leasing and transaction markets should help mitigate the potential risks for non-green buildings. However, as the market share of green buildings increases and sustainable development becomes more mainstream, owners of non-green buildings could face increased risks on several fronts.

The most obvious market risk could be the functional obsolescence of a non-green building in an increasingly green world. One can certainly envision a day when the green standing of a building will be one of the dimensions that distinguishes Class-A from Class-B space. Because retrofitting existing buildings to green standards is almost always more complicated and more costly than new green development, capital expenditures (and cap rates) for non-green buildings could be much higher. Although compliance with targets for reduced greenhouse gas emissions and energy consumption are mostly voluntary, more local, state, regional and even multinational governing bodies are contemplating a variety of regulatory initiatives to mandate more environmentally friendly development and corporate practices. Some proposals, such as a "carbon tax" based on greenhouse gas emissions, could directly affect property owners and tenants. If the real estate industry's experience with asbestos abatement and sprinkler systems provides any guidance, higher cap ex or lower effective rents for non-green buildings eventually will find their way into underwriting assumptions.

Closing Thoughts

The green building movement has serious implications for real estate investors and developers, especially in the office sector. As more businesses conclude that green or sustainable practices address a myriad of competitive, organizational and, potentially, regulatory challenges, increasing demand for green space will create new risks and opportunities for owners and builders. While the lack of green inventory in the market today likely means that perceptions of non-green buildings will change gradually, the competitive advantages that green buildings offer tenants leave little doubt that perceptions will change, especially as the cost differential between green and non-green development narrows and the supply of green alternatives increases.

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