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Special Considerations in the Valuation of **Sustainable Properties**

Today, the "greening of America" is irrefutable. You can't pick up a news-paper, open a magazine, or watch television without seeing some reference to environmental issues and sustainability and how they will impact industry, the economy, and the manner in which we conduct both business and our daily lives.

Timothy R. Lowe

- The membership of the U.S. Green Building Council (USGBC) is nearing 10,000, with new members including Boston Properties, Inc., General Electric Corporation, Wells Fargo, and City National Bank.
- Thomas Friedman's April 15, 2007, *New York Times* article titled "The Power of Green" noted Stanford President John Hennessey's favorite quote from John Gardner, founder of Common Care, in referring to confronting climate-change energy-efficient issues as "a series of great opportunities disguised as insoluble problems."

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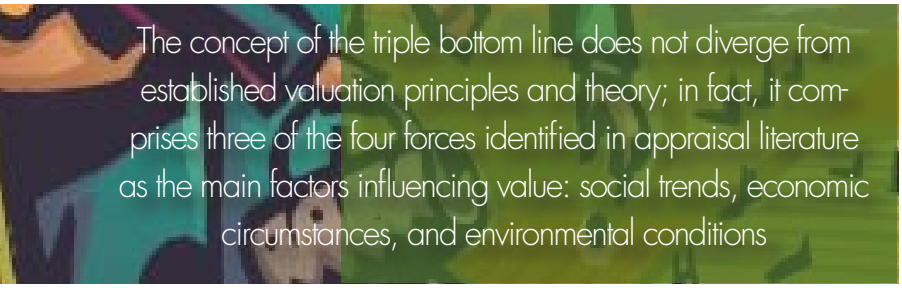
It is clear that the case has been made to owners and investors in all sectors that they should, at the very least, evaluate the environmental impacts of their decisions. From an investment property perspective, this means assessing those decisions that affect not only property acquisitions and sales but also property and asset management practices and policies. From a valuation perspective, sustainability cuts to the very core concepts of investment, benefit, and risk, including how we define both *value* and *market value.*



Valuation in the Context of Sustainability

The context of valuing green or sustainable properties for pension funds relates primarily to two perspectives: first, evaluation of the property internally for investment purposes and, second, estimation of market value by an independent, third-party expert. To assess a sustainable property from either perspective, one must first define exactly what a sustainable property is. This, in and of itself, presents a challenge for the valuer and valuation community.

The definition used by the United Nations and, in fact, the majority of the international community and the USGBC was created in 1987 for the United Nations by the Brundtland Commission: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

The significance of this definition is its focus on environmental and social considerations of development as well as economic productivity (profitability, investment, and risk). In fact, the concept of the triple bottom line permeates the principles of sustainability in buildings and forms the basis for many of its implications.

The concept of the triple bottom line does not diverge from established valuation principles and theory; in fact, it comprises three of the four forces identified in appraisal literature as the main factors influencing value: social trends, economic circumstances, and environmental conditions. Potential changes in traditional valuation practices will most likely be reflected in the extent to which each of these factors influences the marketplace for sustainable buildings and thereby the property valuation process.[1]

Sustainable principles initially gained acceptance in the public sector, and early adopters were primarily government agencies or similar entities. Therefore, most early USGBC certifications were awarded to public buildings such as offices, libraries, schools, or other public structures. Today, a number of federal government departments and agencies, including the General Services Administration (GSA) and the Environmental Protection Agency (EPA), have adopted the USGBC's standards as a requirement for the buildings they occupy. Corporations and owner-occupants followed the public sector in their adoption of green building practices. Only more recently have we seen the adoption of green building practices for investment real estate.

Which Green Standard?

There are at least 17 different green building councils in as many countries worldwide, each with its own set of sustainability standards. In the United States alone, there are a number of standards, the most widely recognized being USGBC's Leadership in Environmental and Energy Design (LEED) and the Environmental Protection Agency's ENERGY STAR. Green Globes, Earth Advantage, Earth Craft, and CABA are also recognized standards, and new groups continue to form. Internationally, GreenStar in Australia and BREEAM in the United Kingdom are among the best-known standards; presently, both China and India recognize and employ LEED as their dominant benchmark.

As noted, the most widely recognized standard in the United States is LEED.[2] Introduced in the spring of 2000 by the USGBC, LEED has emerged as the most rigorous and comprehensive set of sustainable development requirements in the United States. The LEED program recognizes the incorporation of sustainability features and materials by the awarding of points in five categories, with additional points available for Innovation and Design Process. The five categories are Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Quality. Depending upon the number of points awarded by category, a building may be designated as Certified, Silver, Gold, or Platinum. The more points, the higher the designation awarded. These criteria are applicable to all property types within project scope subsets—LEED-NC (New Construction), EB (Existing Buildings), CI (Commercial Interiors), and ND (Neighborhood Development). At this writing, two new pilot programs are now open for public comment: Retail CI and Retail NC.

1. In the traditional context, the formalized definition of market value anticipates that benefits from property ownership are exclusive, flow directly from the operation of property, and are monetary in nature.
2. LEED standards have evolved and are currently being rewritten to LEED Version 3 specifications, which recognize new levels of performance expectation and best practices, such as the increasing need for energy efficiency and carbon neutrality.

Evaluating Sustainable Building Investment Decisions

From a valuation perspective, sustainable buildings do not constitute a new property sector. The principles and practices that make up sustainable development are applicable in every asset class. Many architectural and development professionals contend that the industry has not yet achieved a truly sustainable building and prefer another term. Their position is that current efforts are moving buildings toward sustainability. The growing use of the term "high-performance buildings" as opposed to "sustainable buildings" is also significant, a recognition that sustainability is a process and not a static standard. Although income-producing properties have historically been valued largely on the basis of their income-generating capability and in the context of accepted performance norms and rules of thumb, sustainable properties require a more thorough analysis of building design and construction features in order to understand how these differences in building performance will influence income generation, risk, and return. Because the manner in which a sustainable property is designed and constructed has a direct impact on building performance and income generation, identification and evaluation of specific physical features and components will factor more heavily into the valuation process and the estimation of market value.

Appraisers and investment analysts alike will have to understand many new terms, such as *right-sizing* and *building commissioning*; recognize the importance of "life cycle analysis" and how it relates to and differs from "value engineering"; understand the significance of post-occupancy evaluations, used to assess building system performance objectives; and perhaps most importantly, understand the concept of "integration." In the context of sustainability, integration refers to a much higher level of interdependency and close coordination between building design and the performance of building systems. This concept permeates building design development and operations, from initial design team selection through design inception and systems integration to, most recently, "integrated leasing."

Practical Application to Investment Properties

Because the party making the green investment may not be the direct beneficiary of the savings, efficiency, or other benefit, a number of pertinent issues arise. A commonly cited concern of owners, investors, and developers—and one that will impact building performance, bottom line results, and ultimately value—is "Who pays for what and when?" If there are additional costs related to green building attributes, will the developer be able to recover them? Will a building owner be able to recoup expenses incurred to retrofit an existing property? Can building owners and/or managers create split incentives so that owners and tenants can share in both the costs and the savings of incorporating upgrades? The foregoing may be further influenced by local, state, and federal incentives and/or mandates to incorporate green attributes in new construction and rehabilitation. It is incumbent upon any valuation professional or investor analyzing potential acquisitions, completing due diligence, or formulating value estimates to evaluate the relevance of each of these factors on a property-by-property basis.

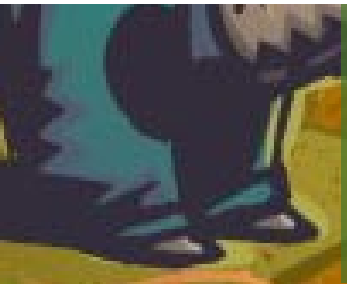
The Devil's in the Details

Addressing sustainability in buildings will be a significant challenge for the pension fund industry. Because of the variability among buildings in sustainability features, attributes, and performance, applying a "30,000-foot-view" approach simply will not work. The current lack of a significant body of empirical data (comparable sales, surveys of property performance, and return expectations) will require pension fund analysts and valuation professionals to rely more heavily upon thorough analysis of sustainability attributes at the property level to ensure accurate identification of costs, benefits, and risk. In the absence of this empirical data, valuers will have to rely much more upon the body of market data that is available (albeit limited) and use good judgment to estimate market value. This will inevitably take more time and effort on the part of the analyst or appraiser. Today, case studies of green buildings represent some of the best market information available. Though studies incorporating financial information are limited, they do exist.[3] Absent actual property sales data, however, assessment of the market's reaction to the risks and opportunities of the sustainable project, whether new development or retrofit, is arguably the most challenging aspect of valuation today.

The Quest for Alpha

As stated in *No Stone Unturned: The Global Search for Real Estate Alpha* (*Expectations & Market Realities in Real Estate 2007*, Principal Real Estate Investors, Real Estate Research Corporation, and Torto Wheaton Research): "A key issue for investors

3. Case studies completed for the Vancouver Valuation Summit, March 2007.



… there is increasing evidence that investment capital is flowing toward more sustainable, environmentally … responsible investment opportunities and away from those that are not.

allocating capital to … higher return strategies is heightened risk awareness and therefore avoidance of risk complacency. After all, alpha is inherently a risk-adjusted concept."

The foregoing considered, quantification and qualification of risk is quite likely the most important exercise a valuer has to complete in appropriately assessing the pros and cons of a sustainable building investment opportunity. In addition to evaluating traditional risk-adjusted returns, a valuer also has to factor in a number of other risk-related issues. These include:

- The impact of long-term changes in energy costs and other consumables;
- Functional obsolescence and changing building performance standards;
- Tenant adoption of/reaction to sustainable building features, including benefit sharing;
- Regulatory changes, mandates, and incentives; and
- Investor interest in sustainable investment strategies and the associated implications for capital flows into real estate and other asset classes.

According to Bruce Kahn, an ecological economist and Second Vice President at Citi Smith Barney, there is increasing evidence that investment capital is flowing toward more sustainable, environmentally sensitive, and responsible investment opportunities and away from those that are not.

Recognizing this transition in capital allocation, the pension real estate industry should immediately begin to assess the implications of the sustainability paradigm on their existing (non-green) property portfolios and the extent to which these buildings could become functionally obsolete as the adoption of sustainability attributes becomes more widespread and the new "market standard." Ultimately, the analyst and valuer must take these many considerations into account as he or she forms an opinion about future green building performance, the market context surrounding the property under analysis, and the expectations of the property investment community.

Elements of the Sustainable Building Valuation

A competent and reliable valuation analysis of a sustainable building should incorporate a number of elements (investigation, analysis, and conclusion or opinion) that either may be new to the valuer or have been silent in the valuation of traditional investment real estate. These elements should be considered in any valuation, whether internal or external. They include:

- A description and evaluation of the sustainability attributes of the building being valued. What are these features? How do they influence the performance and competitiveness of the building? How do these features relate or compare to the systems and practices being incorporated into current projects?
- A description and evaluation of the integration process that was completed during building design (whether new construction or rehabilitation) and culminated in the selection of specific sustainability features, systems and materials in the building being valued.[4] For example, this analysis might include a discussion of the results of energy consumption modeling or other cost-benefit analyses performed by architects and engineers to size and select building systems or other important building components and materials.
- An evaluation of the extent to which the sustainability features provide a return on the sustainability investment implied or imputed in the building's or project's cost. This is a form of mini-feasibility analysis that asks the valuer to form an opinion about the direct and indirect financial benefits that may result from the sustainability features and investment.
- In the valuation of a non-green building, the valuer should begin to consider whether the absence of sustainability features or attributes signals the beginning of functional obsolescence or a lack of competitiveness in the building's respective property class.
- In his or her evaluation of the marketplace and assessment of investor expectations, the valuer should identify and evaluate the extent to which green buildings are becoming established in the market area and whether the expectations of tenants and users are being met or otherwise fulfilled. The number and nature of green building projects

4. The description and evaluation of the trade-off analysis that occurs during building design is important both in better describing the features of the building being valued and in establishing the credibility and suitability of the many financial and investment assumptions that the valuer will make relative to future building performance.

should be considered as well as the number of developers proposing such projects and the mandates and incentives required or offered by local government. The extent to which adoption of sustainability policies and programs by significant tenants or industries has occurred should be considered, especially where large corporate tenants drive market rents and leasing conditions.

- The valuer needs to consider and articulate market conditions and the operating environment that affects the property being valued. Because sustainability features and building performance will be influenced by geographic location, climatic conditions, energy prices, and the price of consumables such as water, the analysis should reflect regional or local expectations for these important factors.
- The valuer should be able to form an opinion about the extent to which the sustainable property represents the highest and best use of the site, as well as the extent to which some of the benefits of sustainable features inure to other than the building occupant, owner, or landlord.

The above represent elements of property and market area descriptions that are formally considered in an independent appraisal and that should also be thoroughly understood in an informal internal valuation. Importantly, the above represents the body of specific information relative to a sustainable property that the valuer should be aware of and capable of evaluating in the context of a property value estimate. If the considerations outlined above are not known or evaluated, there is a strong possibility that the ultimate value conclusion will be less reliable and a poor or inadequate basis for business decision making and financial reporting.

The Three Approaches to Value

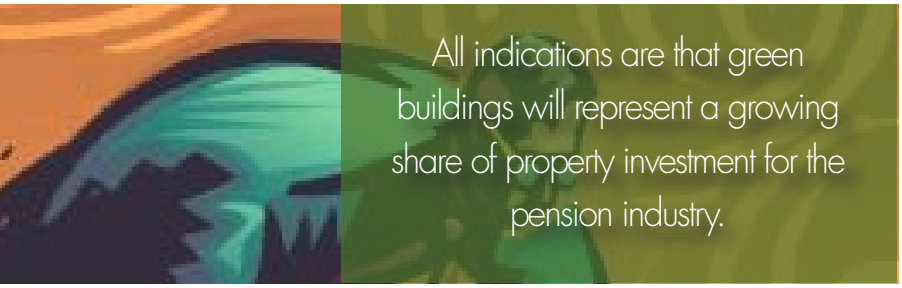
Although a detailed discussion of how each of the three approaches to value is different for a sustainable building is beyond the scope of this article, there are a number of generalizations that can be made.

- **Income Approach:** This analysis should be completed in a manner that allows the valuer to consider how all the key income, expense, and risk attributes are affected by the specific sustainability features of the building being valued. Potentially, all the relevant elements of the income approach may be influenced: basic rent, percentage rent, common area expense recoveries, vacancy, absorption of new or vacant space, operating expenses, capital expenditures for normal operations and maintenance, capital expenses related to tenant turnover, and capitalization rates and discount rates. The valuer should have a sound basis for his or her assessment of how each of these elements will or will not be influenced by sustainability features of the property.
- **Sales Comparison Approach:** This should be completed in a manner that allows the valuer to compare his or her expectations of future performance of the subject property with the expectations of buyers and sellers of comparable properties in relevant markets. For some time to come, the valuer of the green buildings will not have access to a significant supply of similar property transactions in the local or regional market. The valuer will need to extract information from existing transactions (which may include a mix of green and non-green buildings) and make relevant and reliable adjustments to sales of existing properties to provide meaningful information about the value of the sustainability features considered. To successfully complete this approach, the valuer will employ already-established appraisal techniques to extract or develop adjustments (using cost, income, and other data) that may be applied to comparable property transactions to simulate the effect upon value of the sustainability features and performance of the subject property. For quite some time to come, valuers will confront a mixed marketplace of green and non-green buildings, prompting industry development of typical or common practices for this adjustment process.

Although this analysis is more time-consuming than a comparison of like buildings, it is nonetheless a very important check and balance on the indications of value by the income approach. Omission of the sales comparison approach because "there are no green building comparables" is a risky decision because of the extent to which it provides a reality check on the value indications of the other two approaches to value.

- **Cost Approach:** Omitting this analysis in appraisals and valuations for pension investment purposes is common, but there are very good arguments to be made for its inclusion in the valuation of a sustainable property, in the transitional time during which the investment real estate community is learning about, developing, operating, and (eventually) selling the first generation of green buildings developed and owned for investment purposes. The cost approach is the platform from which the valuer begins to form an opinion about the productivity of the investments made in sustainability features and how those additional costs (if any) compare to the costs of a non-green peer building. For the foreseeable future the valuer will need to have a competent understanding of the cost differences between green and non-green alternatives. These differentials can then be evaluated relative to any changes in net income or cash flow from operations and reversion (evident in the income approach analysis) and to any differences

in property prices observed in the sales comparison approach. Ultimately, it is this set of comparisons that will inform the valuer about the reaction of the marketplace to sustainability features and the rates of return that imputed to them.



A Return to Judgment

As data sources for information about investment real estate have grown, industry requirements that valuers have a detailed understanding of property construction and performance and a keen appreciation of competitiveness, risk, and return have declined. The advent of green buildings reengages the valuer in the need to have a detailed and competent understanding of the property being valued and the costs and benefits associated with sustainability features. Further, broad adoption of sustainability principles and goals among corporate America and by cities, states, and the federal government mandates that valuers consider more carefully how green buildings will operate and compete. The valuer will not be able to rely upon a well-documented body of property transactions to frame the value of the green building for some years to come. All indications are that the market will move rapidly to adopt sustainability attributes in new and rehabilitated building, but it will take time for market experience and a body of knowledge to accumulate. Consequently, valuers will have to rely much more heavily on their training, understanding of the property type, and understanding of property-specific sustainability features than on a body of transactions and standardized operating assumptions to form a reliable opinion of value.

The effort, time, and expense of these types of valuations will be greater; the use of competent valuers (knowledgeable about sustainability) will be necessary. Pension investors and managers will need to modify their appraisal management practices to meet these needs. Investors and managers will realize improvements in their appraisal management process for sustainable buildings by working more collaboratively and cooperatively with their valuers—whether internal or external. Data collection by managers and investors will evolve to include monitoring and reporting of financial and operating data that describe whether sustainability features are meeting their performance goals, producing lower costs or higher rents. These data will have to be shared more cooperatively with the valuation community than is now the norm. Some of these practices and necessities will ultimately disappear as the body of knowledge and experience with green buildings grows and data become more available through traditional sources.

The pension real estate industry and its service providers, including consultants and valuers, will, no doubt, meet these challenges in the coming years. Proactive and collaborative approaches to the data gathering and analysis needs of valuers will improve the reliability of value estimates and will lower the costs of completing those estimates. Likewise, use of valuers who have been trained in sustainability in buildings will improve the reliability of valuations. For example, use of valuers who have obtained the LEED Accredited Professional designation of the USGBC should result in better and more reliable valuations.

Conclusion

All indications are that green buildings will represent a growing share of property investment for the pension industry. Whether new construction, rehabilitation, or through tenant improvement investments, sustainable property investment places new demands on the property valuation process used by the pension industry, and new processes and best practices will emerge over time. The nature of sustainability features in green buildings refocuses the valuer on the operational performance of buildings (after many years of an almost exclusive emphasis on financial performance). For the foreseeable future, the limited number of green buildings held for investment purposes will require that valuers use a proportionally more thorough property analysis and greater judgment to reliably estimate value. Investor and manager appraisal management processes will have to evolve to meet these needs. In turn, improved information gathering and sharing and collaboration among investor, manager, and valuer should benefit the process and the reliability of valuation. Consequently, valuers will have to rely much more heavily on their training and understanding of property-specific sustainable features than on transaction data and standardized operating assumptions to form a reliable opinion of value.

Sustainability in buildings appears here to stay, and all indications are that these buildings will set the bar for how we regard and assess investment real estate building performance in the future. Investment managers will need to respond to the specific demands of green buildings in their financial analyses, valuations, and financial reporting in order to meet the expectations of investors, regulators, and stakeholders in the pension investment community. ■