Green Buildings: Valuation Issues and Perspectives

by Jennifer Pitts and Thomas O. Jackson, PhD, MAI

Architects, developers, urban planners, and others have shown a growing interest in the issue of sustainable development for several years. As the design and development of buildings with "green" features becomes more prevalent, appraisers will increasingly be called on to consider green or sustainable elements in their valuations. Such valuations must be based on market evidence of the enhanced value due to these elements.

From anecdotal evidence, and some case study research, it is becoming likely that green and sustainable features can and do influence market values. This depends, of course, on the property type, location, and local market conditions. Nonetheless, the relatively new and significant green features of many properties have garnered sufficient attention in the development community to call for careful consideration by appraisers and others.

Background

One accepted definition of *sustainable development* is "a development that meets the needs of the present without compromising the ability of future generations to meet their own needs."[1] Sustainable development seeks to "merge the priorities of economic prosperity, environmental quality and social equity."[2] The terms *green* and *sustainable* are often used interchangeably. The goal of green building, therefore, is to minimize the impacts of buildings on the environment and create healthier spaces in which to live and work.[3] As interest in green building has proliferated, so too has research on the subject. However, quantified research on the relationship of green features to asset value is still in its infancy.

LEED

Developers and builders in the commercial and municipal sectors are leading the movement towards green building. The U.S. Green Building Council has developed a certification program, Leadership in Energy and Environmental Design (LEED), to promote sustainable development for commercial properties. This program recognizes achievements in six areas: (1) sustainable site development; (2) water efficiency; (3) energy efficiency; (4) use and reuse of materials and resources; (5) indoor environmental quality; and (6) innovation and design.[4]

The first LEED certification was given in 1996, and as of January 2007, 625 buildings in the United States had earned LEED certification.[5] The green building market is quickly growing, with over ten times as many projects registered to be LEED certified, and thousands more making substantial sustainable investments without being formally rated.[6]

Potential Benefits and Incentives

Green building provides many obvious environmental and social benefits, but research suggests that direct financial benefits may accrue from green design as well. Green building has been referred to

1. Jim Schwab, "Appraising Sustainable Development: How Green Are My Property Values?" *Valuation Insights & Perspectives* (4th Quarter 1997): 20–21, 48.
2. Ibid., 20.
3. Krisandra A. Guidry, "How Green is Your Building? An Appraiser's Guide to Sustainable Design," *The Appraisal Journal* (Winter 2004): 57–68.
4. See U.S. Green Building Council, "LEED Rating Systems," at http://www.usbc.org.
5. Claire Nicolay, "The Greening of Real Estate Appraisal," *Valuation* (Second Quarter 2007): 15–19.
6. Ibid.

as "Super Class A," because there is evidence that green features lead to high performance.[7]

Initial construction costs are typically higher for a green building, but these extra costs may be recouped through operating savings and reduced energy costs. Since more durable materials are used in green building, maintenance costs also may be lower.

Green construction may have indirect benefits. Green commercial buildings provide a healthier and more enjoyable working environment, and this has been shown to improve worker productivity, although these findings are controversial. Incorporating green design into a company's buildings may improve the company's image and visibility.[8] Municipalities may offer incentives for green development and energy efficiency, such as density bonuses, subsidies or grants.[9] In some markets, green buildings are leasing well above the market norm. In addition, green buildings may be quicker to secure tenants and have lower tenant turnover.[10]

Residential Market

So far, the residential market has been slow to recognize any value implications of green features and to incorporate these features into single-family homes.[11] Timothy Bartlett, SRA, of Austin, Texas, has observed that even in Austin, a city known for its Green Building Program, the average homebuyer has not placed a higher value on energy-efficient homes. Bartlett notes, "You have to see if the market recognizes it…There's a lot of emotion to buying a house. They're not thinking of energy ratings."[12] Homebuyers often place a higher overall premium on location, square footage, and decorating trends, rather than energy-saving or green features.[13] In the future, however, recognition of the quantifiable benefits of green building may spill over from the commercial market into the residential market.

Valuation Issues

Appraisers should consider the effects of green building design and construction on the value of a property. It is the appraiser's job to determine whether a building with green features is more valuable in its market than a conventional building. An appraiser should ask whether the market recognizes the value of a sustainable building.[14] This is currently a challenge to appraisers, because this field is relatively new, and market data on this topic is limited.

There is evidence, at least in some markets, that sustainable design does indeed increase value.[15] However, appraisers require hard data, and at this point there is only anecdotal evidence that green features increase the value of a building.[16] A major problem in gathering hard data is that many green buildings are public-sector properties and not built for investment purposes.[17] Even within the realm of green investment properties, few of these buildings have yet to change hands, and owners/developers are reluctant to share financial data on these properties.[18] In addition, some of the benefits of green building may accrue solely to the occupier rather than the owner or developer, which presents another valuation challenge.[19]Appraisers may need to adjust and fine-tune the methods they use to address these new issues. The appraiser must understand the specific characteristics of green buildings and be able to asses the impact of these characteristics on asset value.

Approaches to Value

If a subject property is identified as having green elements, this will have an effect on the appraiser's three traditional approaches to value. The sales comparison approach is appropriate for valuing a green building, but comparable properties may be difficult to find, especially in markets without mu-

7. Ibid.
8. Guidry.
9. Nicolay.
10. Royal Institution of Chartered Surveyors (RICS), *Green Value: Green Buildings, Growing Assets* (October 2005).
11. Kathy Price-Robinson, "Green Building: Lenders' and Builders' Perspectives," *Valuation* (Second Quarter 2007): 21–24
12. Kathy Price-Robinson, "A Green Dream: The Story of an Evolving Eco-Home," *Valuation Insights and Perspectives* (First Quarter 1999): 5–8, 44.
13. Ibid.
14. Steve Bergsman, "Sustainable by All Accords," *Valuation* (Second Quarter 2007): 25–27.
15. RICS, *Green Value*.
16. Bergsman.
17. Nicolay.
18. RICS, *Green Value*.
19. Ibid.

nicipally-sponsored certification programs.[20] Adding to the challenge is the fact that a building may have many green design features, or it may incorporate only a few. Moreover, a structure that has not been officially certified as green may still have many green features. Adjustments will have to be made to account for the differences between the subject and other green properties, just as adjustments are made for other property characteristics.[21]

The cost approach may also be used to assign market value to a green building. Appraisers can determine the reproduction or replacement cost of a green building, and then estimate depreciation. However, certain forms of accrued depreciation may be lower for green improvements than for conventional ones. Green buildings are built with more durable, low-maintenance materials, and therefore may have longer economic lives.[22]

Another point appraisers should consider when using the cost approach is the possibility of the superadequacy of green construction. Buyers in some markets may not be willing to pay the full cost of green amenities that already exist in a building. In this case, an adjustment would have to be made.[23] A major drawback to using the cost approach in valuing green buildings is that this approach may ignore the benefits of green building features and the effects these benefits have on asset value.[24]

The income capitalization approach provides a logical framework for valuing a green commercial building. Green design features may reduce operating costs such as energy costs, maintenance and repairs, water costs, and legal and insurance costs. These cost reductions increase net operating income. More controversial is the effect of green design on market rent and vacancies. In some markets, green spaces may rent or sell quicker and/or at higher rates than spaces in conventional structures. Capitalization rates may also be affected.[25] A major challenge in utilizing this approach is that rent comps and market data may be difficult to find, due to the low number of green investment properties and the reluctance of owners/developers to share financial data.[26]

Some believe that green buildings are different enough to be considered a semi-specialized class, like hotels or golf courses. When the availability of green comparables is limited, it may be appropriate for appraisers to employ the methods they use for other specialty property types.[27]

Improving Knowledge and Skills

In March 2007, valuation professionals and others from international organizations concerned with green building and sustainability met in Vancouver, British Columbia, to create the Vancouver Accord. This document is a commitment from those who signed the Accord to facilitate sustainability and valuation through education, standards creation, and practices. By 2010, participants in the Vancouver Accord intend to collaborate on agreed valuation practices and standards, participate in a consensus to create consistent approaches to valuation and sustainability, and create education tools and resources to improve knowledge and skills in this area.[28]

Efforts to address the current state of knowledge about green buildings from an educational perspective include a new seminar, *An Introduction to Valuing Green Buildings*, which will be offered by the Appraisal Institute later this year. As the contents of the seminar show, knowledge about green building valuation builds on familiar appraisal principles and procedures within a new context. Case studies in the *Green Buildings* seminar are used to illustrate real world applications. Information is presented on design principles, cost-benefit analysis, and their implications for the valuation process. The seminar addresses how green buildings are analyzed and valued for investment purposes. Appraisers learn how to

- identify the relevant components of a sustainable property;
- discover green buildings resources;

20. Guidry.
21. Ibid.
22. Ibid.
23. Ibid.
24. RICS, *Green Value*.
25. Guidry.
26. RICS, *Green Value*.
27. Nicolay.
28. Bergsman.

- evaluate construction costs in the context of long-term benefit, capital and operating costs, and relative to net income from operations and reversion;
- analyze the relevance of green features in the marketplace;
- assess market and investment risks relative to potential rewards;
- identify who pays the costs and who receives the benefits for the sustainable elements incorporated in green construction; and
- provide a competent and reliable estimate of market value in the context of available data.

An educational project by the American Real Estate Society (ARES) is also underway. In conjunction with the CoStar Group, ARES plans to publish a monograph on green buildings and sustainable development in 2009.

These efforts, along with others, will begin to fill the gaps in knowledge of this important and emerging topic, and provide a solid base of empirical evidence on the effects of green building design on the market value of different property types.

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Additional Reading

Fisher, Rachel, Liz Coll, Lorna Pelly, and Jerry Percy. "Surveying Sustainability: A Short Guide for the Property Professional." *The Appraisal Journal* (Winter 2008): 15–22, excerpt reprinted from *Surveying Sustainability: A Short Guide for the Property Professional* (RICS, 2007)