

Appraising Green: Show me the Market Value

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Abstract

This paper explores the role that energy performance and green features should have in commercial building appraisals, why current appraisal practice often does not consider them, and potential interventions to ensure they are properly incorporated. Appraisals are used to determine the building value for mortgage lending purposes, but are also used for internal valuation purposes and in the due diligence step for acquisition. Energy related equipment and performance is relevant to appraisals of all buildings, not just “green” ones, as it could affect their value and risk positively or negatively. But regulatory and market changes over the past 40 years have led to increased commoditization of appraisals and greater standardization of appraisal documents. This, combined with an aging and more skeptical workforce, creates a difficult environment in which to introduce change. Yet opportunities to easily incorporate energy and green factors exist throughout the entire appraisal process, including while defining the scope of work, collecting and analyzing information about the property, applying well-established methodologies to determine value, and providing the final opinion of value. Critical next steps include: raising awareness of green and high-performance (“green/HP”) features and the ability to incorporate them into the existing appraisal framework, generating demand for competent appraisers capable of valuing green/HP features, and increasing the availability of functional, relevant data.

Introduction

The sustainability community instinctively believes that when a building undergoes a major efficiency upgrade, or solar panels are installed, this should make the building more valuable. By the same logic, a building with inferior performance should have below-average value. However, calculating the exact impacts on value is the challenging part of this process. And even though methodologies to measure the added value exist, they are often not applied in real world valuations. This paper will explore the role of appraisals in the commercial real estate industry, the current appraisal process and methodology, and key industry trends. It will then identify barriers and opportunities to ensure appraisals appropriately account for green attributes, and provide actionable recommendations for appraisers, lenders, owners and policymakers.

Background

The Role of Appraisals

An appraisal is “the act or process of developing an opinion of value(s). An appraisal must be numerically expressed as a specific amount, as a range of numbers, or as a benchmark (e.g. assessed value, collateral value).” (*Uniform Standards of Professional Appraisal Practice 2016, 1*). Commercial appraisals are frequently used to determine

value for mortgage lending purposes – serving as the denominator of the loan to value ratio. For buildings appraised at a higher value, the purchaser may be able to borrow a higher amount on their mortgage. Appraisals are also used in due diligence activities for the acquisition or disposition of property, mergers and acquisitions, and estate matters. In addition, some large real estate companies such as REITs may conduct quarterly, semi-annual or annual valuations of properties for investor reporting purposes and balance-sheet updating. Some REITs use external appraisers while others use in-house valuation teams, which may or may not follow USPAP in their methodology.

Minimum state licensing qualifications for appraisers are guided by the Appraisal Foundation (TAF), a congressionally authorized entity overseen by the Appraisal Subcommittee (ASC) of the Federal Financial Institutions Examination Council (FFIEC). The Appraisal Foundation also promulgates best practices through its Uniform Standards of Professional Appraisal Practice (USPAP). These standards are similar to building codes in that TAF sets a national standard, but each state has the authority to adopt its own regulation and certification program, determine continuing education requirements, and define other operating parameters. Industry groups such as the Appraisal Institute and McKissock are active in providing education and training to appraisers.

Appraiser Competency

Competency is a key issue in appraisals. USPAP requires that for any given assignment, the appraiser either should be competent to perform the assignment, acquire the necessary competency during the course of the assignment, or decline or withdraw from the assignment. Appraisers are allowed to self-determine whether they are competent and many commercial appraisers opt to obtain needed competency during the assignment. Currently, Fannie Mae is the only entity that requires that the appraiser decline the assignment if they do not already have the necessary expertise.

There are no strictly defined competency requirements for green or energy efficient buildings. However, TAF's Appraisal Practices Board has three publications designed to inform and standardize the valuation of high performance buildings. *Valuation of Green and High Performance Property: Background and Core Competency* addresses basic areas of relevant *appraiser competency* for commercial and residential buildings such as codes, green rating systems, energy modeling, green lease clauses, and more (Briggs *et al.*, 2015). An advisory document on recognized *valuation methods and techniques* for one to four unit residential buildings was recently published, and a companion for commercial buildings is undergoing public comment. In addition, the Appraisal Institute offers a professional development program focused on green buildings and maintains a registry of appraisers that have completed the curriculum.

The Risk of Green

The concept of risk—physical as well as financial—is a significant component of value in commercial appraisals. Both “normal” and “green” buildings can have energy-related features that either increase or decrease risk.

The energy related assets and performance of traditional buildings face increased risk because they would be more greatly affected by energy price fluctuations that could reduce the bottom line. In addition, inefficient equipment that is left in place beyond its

useful life can lead to unplanned costly maintenance and repairs. Finally, as demand for green buildings increases and energy codes become more stringent, a low-performing building may be at risk of faster obsolescence.

By contrast, green or high performance (green/HP) buildings may have lower risk due to lower operating costs and capital needs. Some markets may actually see a “green premium” where LEED and Energy Star buildings achieve higher rent and lower vacancy. green/HP features can also reduce physical, regulatory and environmental risks, e.g., by enhancing resiliency.

However, it is also important to note that green/HP buildings may also hold *higher* risk because new technologies can fail or be difficult to operate and maintain. In addition, appraisers are often concerned about “super-adequacy,” meaning that there are unnecessary or superfluous elements, in which case the market may not value them.

Therefore, it is important to approach the appraisal conversation holistically – energy related equipment and performance is relevant to appraisals of all buildings, not just “green” ones. No separate “green appraisal” is needed, only fuller incorporation of energy related considerations in existing practices.

State of the Appraisal Industry

Trends in the market and regulatory environment surrounding appraisers, and demographics of the profession have an important bearing on the industry’s preparedness and ability to properly assess green and high-performance buildings.

The move towards securitization of real-estate debt since the 1980s led to the involvement of many more parties in real-estate transactions and a proportionately significant increase in appraisal activity. Industry observers point out, to their chagrin, that in spite of higher stakes and increased complexity, the time allowed for performing appraisals has shortened and the fees have stagnated, or in some cases declined, thanks in part to the institution of a more competitive bidding process for these assignments (Hudgins 2007). Meanwhile, profits have subsequently been divided among an increasingly diverse set of market players.

The advent of securitization also fueled a surge of real estate transactions, which included many imprudent loans that became a contributory factor to the Savings and Loan meltdown of the early 1990s. This led to regulatory reforms including the Financial Institutions Reform Recovery and Enforcement Act (FIRREA) which called for state licensing of all appraisers for assignments which include FDIC Insurance. The Appraisal Foundation was created concurrently with FIRREA; the organizations who sponsor TAF were already in discussions about the need for consistent, national valuation standards. Our interviews with valuation professionals indicate that because poor appraisals were considered to be a contributing factor in the crisis, the appraisal industry today is wary of factors that could lead to speculative values, such as green features and branding.

The real estate bubble of the mid-2000s resulted in the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 and its Truth in Lending and Interagency Guidelines. Dodd-Frank called for the use of “Automated Valuation Models” (primarily applied to residential properties), with the intention of reducing risk of tampering or undue subjectivity. However, these models were not built with green/HP considerations in mind, and therefore limit appraisers’ flexibility when confronted with atypical

buildings. The end result of the regulatory changes over the past few decades has been the creation of a highly commoditized marketplace, where there is little budget or reward for making “unusual” adjustments, even when warranted.

Further complicating the industry, the demographics of the appraisal profession indicate a shrinking and aging workforce (Appraisal Institute 2015; O’Rourke 2013). As of mid-2015, there were 78,500 active real estate appraisers, with the population recently contracting at a rate of 3% per year. Nearly two-thirds of appraisers are over 50 years old, and 80% have a bachelor’s degree or less education. Median income is under \$53,000 per year (Bureau of Labor Statistics 2015).

A national survey found that only 4% of appraisers exclusively practice commercial appraising, 80% exclusively residential, and 15% both. Two thirds of these are sole proprietors, an important indication of the lack of support possessed by many practitioners. Two-thirds of all appraisers do not belong to any professional association, and association membership is very fragmented; thus complicating outreach efforts. Approximately 80% of appraisers reported dropping fees in 2015 and only 22% of appraisers were optimistic about the future of their profession. (Alltera Group 2015). As a result of these challenges facing the industry, it is harder than ever to introduce efforts focused on specific issues such as energy-related performance and risk that would be perceived as increasing an already challenging workload.

The Appraisal Process

Interpretations of value are based on asset attributes, net income, and current market dynamics. They rely on sales data and characteristics of the property, including energy use, but are also informed by the appraiser’s past experience and perspective on market conditions. This often conflicts with the trending commoditization and automation of the appraisal process, as previously described.

Appraisers report value per market indications; they do not create it. The energy efficiency industry has undermined itself by advocating to appraisers that they *should* value the building higher, when appraisers are ethically bound to an evidence based approach. In order for an appraiser to adjust building value, he or she must be able to identify a *monetary impact*. Therefore, it doesn’t matter what green attributes a building has unless they somehow impact the building’s cash flow or sale value.

An established standard process exists for conducting appraisals, as seen in Figure 1 (Appraisal Institute 2013). While green/HP attributes merit consideration at each stage, fundamentally new methods are not required for successful incorporation of green/HP features.



Figure 1. Key steps of traditional non-residential real-estate valuation process

Request Bids and Select Competent Appraiser

Incorporating green/HP features into non-residential property valuation begins first and foremost with the client. There are many different types of clients who order appraisals. Understanding their roles, needs, and existing views on green/HP attributes is the first step to identifying opportunities along the appraisal process. Next, one must identify the intended use for the appraisal and the purpose of the assignment.

Non-residential appraisals often originate from lending institutions, when triggered by a property purchase or refinance event. A loan officer will issue a bid or Request for Proposal (RFP) for an appraisal by circulating a property address, short description, and request for fees. RFPs often have quick turnaround times and pricing is a strong factor in selection.

Clients should ensure that RFPs indicate that the building has green or high performance features so the appraiser can generate a more accurate fee and timing bid (Appraisal Institute 2014). Clients can also request information about appraisers' competency including relevant training and experience valuing other green/HP properties. Missing material at this step can lead to a mismatch in appraisal competency if the property proves to be too complex. Moreover, clients may need to take a more nuanced approach to selecting the best proposal as opposed to opting for the lowest bid.

Define the Scope of Work

After the assignment is awarded, the process goes through an information gathering and confirmation process to ensure the property will be valued accurately.

Communication between the appraiser that drafts the scope of work (SOW) and the client is critical and often lacking at this stage, with many clients unaware that the presence of green/HP features will dictate the need for a non-standard assessment. In addition to a standard Property Condition Assessment, clients should provide detailed information about the building's green attributes, for example by filling out the Appraisal Institute's Green Building Addendum.

Collect Property Data

A plethora of property-specific data must be collected after the Scope of Work is established. Traditional sources include income and expense items, property description, and comparable sales data. Building owners should provide any necessary documentation to facilitate this process, but the appraiser may also have to seek out performance metrics that come from third-party data sources, such as energy-use disclosures and certification databases to effectively incorporate green/HP attributes into the report. In new construction, modeling studies comparing typical to proposed energy use are needed for interpretation. Contractual relationships such as solar leases, power purchase agreements, utility contracts, or Energy Service Company agreements should be identified so their risks, benefits, and costs can be disclosed to lenders and prospective buyers. In fact, a solar PV system will likely be valued differently depending on whether it is owned or leased by the building. It is critical that building owners disclose special characteristics during this phase and drive the need for their attention in the valuation process.

Market data includes information about comparable properties including sales, offerings, occupancy and tenant composition, cost and depreciation, income and expenses, capitalization rates. green/HP factors that could impact value include regulatory trends, particularly significant considering the increasing number of cities with benchmarking ordinances, as well as the local market's interest and willingness to pay for green/HP buildings.

To properly collect all this information requires the appraiser to seek out non-traditional documentation and third-party opinions. These parties include utility customer representatives, energy auditors, commissioning providers, architects and engineers, sustainability specialists, local benchmarking databases, among others.

Analyze Property Data

Utility and operating expenses are essential to any building valuation based on cash flow. Unless robust third-party-verified information proves otherwise, appraisers will utilize default utility expense values, as stated by organizations like Building Owners and Managers Association (BOMA). Appraisers require significant evidence to indicate that a higher-than-average performing building will experience utility expenses lower than those exhibited by its competitive set. They will require quality-assured utility bill analysis, as provided by third-parties such as ENERGY STAR Portfolio Manager[®]. For new construction or projected savings from retrofits, validated computer energy models or tools should be used to clearly delineate energy savings.

In addition to reduced operating expenses, appraisers should look at increased operating income, via higher rents or lower vacancies, because green features and labels are more marketable to tenants.

Apply Approaches to Value

When applying the approaches to value, many appraisers tend not to consider green/HP attributes even though the current, well-established valuation approaches provide the opportunity for them to be included. According to customary appraisal practices, there are three traditional methods of valuation: replacement cost, comparable transactions, and income capitalization. The **cost** approach focuses on the cost to construct the building, and is mostly used to evaluate new construction. Lay people commonly use the **sales comparison** method, where the sale prices of similar properties are used to understand whether a potential purchase is a good deal. Appraisers tend to prefer this approach for single family and commercial properties alike. The **income** approach is based on an examination of a building's cash flow, and is a common method for buildings that generate revenues, e.g., tenanted office and multifamily buildings. It is arguably also the best way to capture the value of green/HP properties.

Appraisers may use their discretion in deciding which combination of methods are most relevant for the assignment at hand. In practice, commercial appraisers often use a combination of the sales comparison approach and the income capitalization approach to value the income-producing properties that comprise the focus of this paper.

In the **sales comparison** approach, appraisers examine the sale price of similar buildings and adjust for key differences between the subject property and its comparables (comps), such as building age, proximity to transit, quality of construction tenant composition, etc. Therefore, in order to justify an adjustment for green/HP features, appraisers need evidence comparing the sale prices or operational characteristics of similar green/HP vs. conventional buildings that are in the same local market.

It is becoming increasingly possible for appraisers to seek and obtain this information, as sales information can be searched in conjunction with green/HP databases such as the EPA's Registry of ENERGY STAR Rated Buildings, USGBC's Green Building Information Gateway, and data from local benchmarking laws. Unfortunately, many appraisers remain unaware of these resources and the data included in these tools may not be presented in a manner that is effective for appraisers. Additionally, many appraisers who operate in smaller secondary or tertiary markets with a lower-level asset mix may have very little data available to them and will continue to face significant challenges in effectively valuing green/HP features.

In the **income capitalization approach**, the appraiser typically examines the building's income and expense characteristics, uses assumptions to project performance, and then applies a capitalization rate¹ to the net operating income to arrive at the building value. If the appraiser is valuing the property over specified or estimated holding period, he/she will typically use a discounted cash flow analysis (DCF) to arrive at an opinion of value. This allows incorporation of assumptions regarding rent growth, future capital expenses, vacancy, retention, etc., that are based on a combination of the building's track

¹ A "cap rate" is the building's net operating income as a percentage of its sale price, and provides an apples-to-apples metric to determine value or compare deals, differentiating for a building's riskiness.

record, the performance of similar buildings in the same market, and broader market trends such as economic and demographic changes that may change the building's competitive position in the future.

A large body of research indicates that green/HP buildings tend to have better attributes in this regard (US DOE 2016). On the expense side, if a building has undergone a major retrofit more than a year before the appraisal, impacts on building performance should be evident regardless of whether anything in the building is specifically identified as "green". For example, it could have lower energy costs or projected capital needs. However, to avoid taking on unnecessary risk, appraisers may opt to use an industry standard assumption for future operating costs thus overriding the lower costs actually experienced at the property. Further exacerbating this problem is the fact that it is not common practice to itemize each utility separately. Without the required level of detail, appraisers find it more difficult to validate energy efficiency characteristics as the potential basis for lower operating costs.

On the income side, measuring the value attributed to a green building characteristics is even more complicated. For example, if a building has recently attained ENERGY STAR or Leadership in Energy and Environmental Design (LEED), the potential for increased rent resulting from the certification will not be evident until a current tenant moves out and a new lease is signed for the space. Even when the building's cash flow reflects these impacts, an appraiser may still seek evidence of a differential in similar buildings in the same market to justify assumptions for future rent or lower turnover time between tenants. In fact, several in-house valuation teams from companies such as Prudential have attempted to analyze their own portfolios for indications of impact of green label with inconclusive results because it is too difficult to parse out the impacts of other correlated variables such as age, size, and location.

Reconcile Value and Provide Final Opinion

When preparing the final report, the appraiser must reconcile any differences between the approaches employed; this process can include client and external reviews. This analysis should be supported by third-party technical appendices such as energy audits, benchmarking reports, renewable energy lease documents to substantiate any consideration of green/HP building features. Clients can dispute appraisal findings, though this is more challenging when all relevant information, including supplemental documentation for non-traditional analyses, is provided in the initial documentation.

Submit Report

The client accepts or contests the appraisal report based on completeness of the final assessment. If a building owner believes green/HP features have not been properly valued, they can dispute the report, and withhold payment. This poses an expensive and time consuming option for appraisers when compared to properly valuing the property the first time around.

Recommended Next Steps

Although there are considerable, clearly identified challenges that inhibit green/HP appraisals throughout the valuation process, there is space for these features to be incorporated into the fabric of the existing system. Critical next steps include: raising awareness of green/HP features and the ability to incorporate them into the existing appraisal framework; generating demand for competent appraisers capable of valuing green/HP features, and increasing the availability of functional, relevant data. The following recommendations are designed to take advantage of the existing appraisal process and engage key stakeholders to enhance their practices in order to incorporate consideration of energy factors at each step of the workflow.

Raise Awareness Throughout the Appraisal Supply Chain

Driving demand for green/HP appraisals will first and foremost rely upon improved communication and awareness throughout the appraisal supply chain and its various stakeholder groups. Most appraisers lack training and education on basic building design and operations, and few appraisers have had training on how to incorporate energy efficiency considerations in their assessments. New terms and practices such as right-sizing, life-cycle analysis, commissioning, and energy efficiency measures are unfamiliar to most appraisers. Disjointed information and the introduction of new material without context leaves many appraisers with little understanding of how a building comes together and how green/HP features affect it, rendering them incapable of linking building value to upgrades in operations and equipment, or detecting under-performance.

On the commercial side, the TAF guidance on core competencies and methods for residential and commercial valuations, the Appraisal Institute courses, RMI's *Value Beyond Energy Cost Savings*, and Runde and Thoyre's *Linking Sustainable Improvements to Retail Real Estate Value* all provide a critical foundation of information to explain how green/HP features fit into this complex process. Other resources are available as well, including DOE's *Energy Matters!* training course, which provides building operations and energy background information, as well as detailed training and tips for using ENERGY STAR Portfolio Manager, DOE's Asset Score, and the Building Performance Database (BPD).

In our experience, broad, coordinated communication of these resources to appraisers, building owners and operators, AMCs, and other stakeholders has yet to take place, and should be the first step toward building demand for green/HP appraisals. Additionally, given the industry compression of fees and timetables for completing tasks, it will be beneficial to incentivize the pursuit of these trainings by providing training at low (or no) cost to appraisers in a thorough, yet time-efficient manner. Educational subsidies or incentives may become relevant if local governments mandate competency in green/HP appraisal practices. Further engagement can be incentivized through the development of customized content that considers the unique opportunities and issues facing hospitals, data centers, laboratories, and energy-intensive industrial buildings.

Further, these resources must be communicated not only to appraisers, but to appraisal clients. This will increase overall market awareness, and allow leading

organizations to apply top-down pressure on their own asset managers, as well as appraisers and the market as a whole to incorporate green/HP considerations in the appraisal and valuation process.

Generate Demand for Competent Appraisers

To promote a cycle that encourages appraisers to acquire competency in green/HP valuation, clients will need to drive demand for these adjusted processes to become the new norm. Regardless of the intended use, clients must request that green/HP features be included in the SOW, provide the information appraisers need to carry out the task effectively, and be willing to value and pay for the additional effort required to complete the assignment. Three potential approaches to generating demand include:

Leading real estate companies and lenders can voluntarily adopt green/HP valuation policies and procedures in their daily operations to ensure the procurement only of competent appraisers that are competence to value green/HP features. These policies and procedures can be based on the TAF guidance. DOE's Better Buildings appraisal working group is laying the groundwork for this adoption, but organizations will need continued support to assist them in making it actionable. This group would benefit significantly from the development of model SOW language with examples of which information to share, and how to provide it in a manner that informs appraisers without influencing them. Taking care not to cross this boundary, the model SOW could also provide examples of the types of analysis that might be conducted to reveal the potential impacts on property value.

Indicators of market leadership and success can also be used to encourage and recognize appraisal clients for incorporating green/HP factors into their appraisals. The Global Real Estate Sustainability Benchmark (GRESB) provides a voluntary reporting platform that is increasingly used by investors as a proxy for responsible real estate investment and industry leadership in asset performance. Including appraisal-related questions on the annual GRESB survey could by providing credit and recognition to organizations that effectively adjust their process. Investor demand for improved GRESB scores would lead to additional adoption by some of real estate's largest global actors. Further, such a platform for could also establish the foundation for critical tracking processes that indicate market adoption of green/HP appraisals and provide insight into additional targets for green/HP appraisal communication.

Required competency and procurement of green/HP appraisals may prove to be a necessary and effective complement to voluntary initiatives as well. The State of Oregon's Appraiser Certification and Licensure Board became the first to require energy efficiency and renewable energy valuation training for its appraisers, believing that it would result in an objective, quantifiable comparison of energy efficiency between buildings and the ability to measure market response to differences in energy performance (ACLB 2014). In 2015, the State of California also proposed energy efficiency training and methodology legislation for appraisers that is still under debate. By mandating that green/HP training and competency be included to maintain licensure, state governments would have the ability to ensure that the industry accounts for the potential risk and value implications of variations in energy performance.

Policymakers must tread carefully however, and maintain an open and productive dialogue with appraisers who have absorbed blame for prior market failures and are held

to an extremely high standard for remaining unbiased and assuming and understanding risk. To communicate in common terms with appraisers, policymakers should consider integrating disaster resilience and sustainability into appraisal requirements. The perception of analyzing and valuing risk as a component of building value will be familiar to appraisers, and would recognize important commonalities among these features, including durability and ability of green/HP buildings to better withstand external hazards such as natural disasters and mitigate internal ones such as indoor air pollution.

Increase Availability of Relevant Information

As appraisers begin to undergo the necessary training to develop competency in green/HP valuation it will be essential for building owners to share **all** information for the subject property in a manner that can be effectively understood and interpreted for appraisal purposes. This includes contact details for architects, engineers, and other building subject matter experts; drawings, plans, and specifications for the building that indicate unique building features; relevant operational information, physical details and records indicating the timing of energy efficiency measures, benchmark and rating reports, and the details of any special tenant incentives or lease stipulations.

A variety of third-party tools and reporting systems are available which may include relevant data to inform appraisers. For example, the building details and information included in ENERGY STAR Portfolio Manager, DOE Asset Score, the Building Performance Database (BPD), GRESB, CBRE Green RE Index, etc. can all be used to provide appraisers with a comprehensive understanding of a property's energy use patterns and how its consumption compares to buildings of similar size and with similar characteristics. The organizations that compile and manage these resources will also need to be engaged by appraisal stakeholders to ensure that they are prepared to assist appraisers in gaining access to the information in their reports and databases and help them in interpreting the data once it is made available. Further research, training, advisory guidelines, and addenda will be needed to help appraisers identify and differentiate among the many types of third-party reports that exist.

To truly enable appraisers to link green/HP features with property value, a link must be made between building performance and sales information. This will require engagement and cooperation between organizations such as CoStar and DOE to make datasets available and facilitate the development of software that can effectively match records. Aggregating this information into a singular entity, such as the DOE's Building Performance Database, could provide the comps and energy-sales correlation that appraisers currently lack.

Conclusion

Energy and sustainability performance and related risks may already be influencing the financial performance of commercial buildings. If appraisals are not reflecting this, then market transactions and lending may not be as efficiently priced as they could be. The efforts recommended in this paper: to raise awareness, generate demand, and provide

information, could help make it the norm for building appraisals to fully analyze and incorporate green and high performance factors, and truly reveal the value of “Green.”

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