

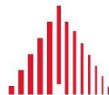


# GREEN BUILDING AND PROPERTY VALUE

A PRIMER FOR BUILDING OWNERS AND DEVELOPERS



**IMT**  
INSTITUTE  
FOR MARKET  
TRANSFORMATION



**Appraisal  
Institute™**

*Professionals Providing  
Real Estate Solutions*

The Appraisal Institute corporate  
signature is a registered trademark of  
the Appraisal Institute.



The Appraisal Institute corporate signature is a registered trademark of the Appraisal Institute.

## ABOUT THE INSTITUTE FOR MARKET TRANSFORMATION

The Institute for Market Transformation (IMT), founded in 1996, is a Washington, DC-based nonprofit organization promoting energy efficiency, green building, and environmental protection in the United States and abroad. The prevailing focus of IMT's work is energy efficiency in buildings. Our activities include technical and market research, policy and program development, and promotion of best practices and knowledge exchange. All our work involves many collaborators and targets a broad range of stakeholders in both the public and private sectors.

In particular, IMT aims to strengthen market recognition of the link between buildings' energy efficiency and their financial value. IMT's efforts lead to important new policy outcomes, widespread changes in practice, and ultimately, lasting market shifts toward greater energy efficiency, with substantial benefits for the economy and the environment.

### FOR FURTHER INFORMATION, CONTACT:

John Miller  
Program Manager, Energy Efficiency Finance Policy  
1707 L Street NW, Suite 1050  
Washington, DC 20036  
[john.miller@imt.org](mailto:john.miller@imt.org)  
202-525-2883 x 330

## ABOUT THE APPRAISAL INSTITUTE

The Appraisal Institute (AI) is a global membership association of professional real estate appraisers, with nearly 23,000 members in nearly 60 countries throughout the world. Its mission is to advance professionalism and ethics, global standards, methodologies, and practices through the professional development of property economics worldwide. Organized in 1932, the Appraisal Institute advocates equal opportunity and nondiscrimination in the appraisal profession and conducts its activities in accordance with applicable federal, state and local laws. Members of the Appraisal Institute benefit from an array of professional education and advocacy programs, and may hold the prestigious MAI, SRPA and SRA designations.

### FOR FURTHER INFORMATION, CONTACT:

Bill Garber  
Director of Government and External Relations  
122 C Street NW, Suite 360  
Washington, DC 20001  
[bgarber@appraisalinstitute.org](mailto:bgarber@appraisalinstitute.org)  
202-298-5586

We have drawn upon many helpful resources in composing this document. We note especially the valuable perspective of various documents written by Theddi Wright Chappell, Scott Muldavin, and James Finlay. See also the Resources section.





# SO YOU'VE BUILT A GREEN BUILDING

So, you are thinking about retrofitting an existing building or building a new one with green, high performance, and energy-efficient features. What is the best way for you to position your building from a valuation standpoint? Because these buildings are different, owners have had to change not only how they design, build, and market, but also how they approach financing and construction processes. Otherwise you may pay for green—with certifications, capital improvements, and marketing—and not fully realize the expected market benefits. Moving beyond the value that accrues to owners from rents, operational savings, and market recognition at sale, this guide will help building owners and developers understand the appraisal process and how green, high performance characteristics and data can be used by appraisers to help fully maximize valuation.

Each of these elements may have an impact on value and the more information you have readily available to assist the appraiser, the smoother the process will be for all involved. Don't leave the appraisal of your property to chance – take proactive steps to monitor and report operations in a meaningful way and highlight the impact of the green features.

## BACKGROUND

Credible appraisals must be well-supported by market data and information. In the case of a green building, this includes information on the subject property that helps explain why it stands out from its conventional peers. A range of documentation, including capital improvements, engineering reports, tenant retention rates, and comparable sales can be used by appraisers to analyze market trends. Additional data points include absorption trends, rental rates, cap rates, credit quality of tenants, collection losses, tenant satisfaction, months vacant (or downtime between leases), and renewal probabilities of tenants. For new development, market analysis and underwriting data commissioned for the benefit of investors and lenders anticipates much of the same data.

## LEADING INDICATORS

**YOUR MARKET:** The value of green buildings is better-recognized by tenants and buyers in major metros, while emerging markets may require a value narrative matched to local conditions. Emphasize your marketability and enhanced operational cost savings and place your building in context of other green buildings and opposite conventional peers

**COMPS:** Comparable sales and leasing comps of other green buildings can provide evidence of competitiveness—although they may need to be sourced from outside your submarket. The building's attributes and performance should also demonstrate how it can outperform conventional buildings on rents, occupancy, cap rates, operational costs, and other metrics.

**INCOMES & EXPENSES:** Income and expense information is critical to the appraisal process for income-producing buildings. Owners should be prepared to provide this information to the appraiser in as clear and concise a manner as possible, highlighting any operational savings or lease or income advantages.

**TENANT DEMANDS:** Focus on how you are translating high-performance and energy-efficient features into satisfied tenants and better property fundamentals over the long term by insulating your asset to potential downside risks. If energy savings and other green features can be used to document that the asset is higher quality, cheaper to operate, leads to greater occupant comfort and significant tenant signings, then the value of green features evidenced by utility savings is an order of magnitude more valuable than savings on their own. Tenant demand might be best illustrated by better-than-market tenant renewal rates, for instance.

**COSTS:** To assess the incremental value or ROI of green investment, cost data is essential. These costs can be used by an appraiser to verify that investments are reasonable through the cost approach to value.

# FOUR COMPONENTS OF VALUE AND HOW GREEN FITS IN

Four components of value—revenue, occupancy, operating expenses, and risk—shed light on the value of green buildings. Paralleling a standard operating statement, these categories also make the case for green appraisal value.

## 1. REVENUE

In many markets, rental premiums are emerging in green buildings as many of today's best tenants are increasingly willing to pay a premium for green spaces. For these tenants, leasing green space is an opportunity to demonstrate a commitment to sustainability, attract the best employees, and improve productivity. With green on the shopping list of the best firms, trophy office buildings in leading U.S. markets are chasing the best rents by making green investments increasingly common.

National studies for commercial office buildings back up this trend on rents and occupancy, as certified green buildings outperform their conventional peers by a wide margin.<sup>1</sup> For owners not pursuing certifications, investments in green features in brown buildings can also establish position in a crowded marketplace and keep rents up.

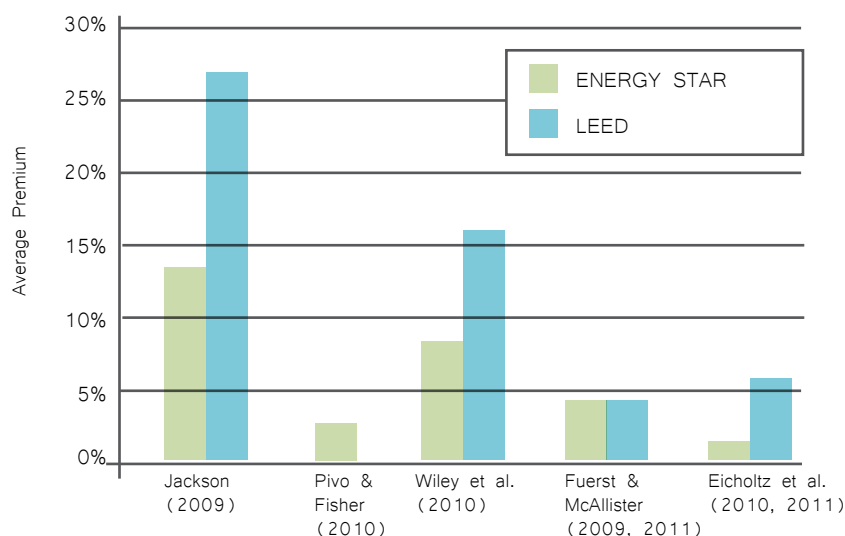
In those circumstances where you have an underperforming property, investments in green features may result in better positioning of the asset within the spectrum of other properties in the marketplace. A skilled valuation professional can assist in understanding whether investments are truly a green “premium” or necessary retrofits to keep up with the market.

<sup>1</sup> See Additional Resources: Summary of Efficiency and Property Value Studies. Page 8

## DEVELOPMENT CONSULTING

For owners considering green improvements, concerns over their ability to recoup their investment can be a deterrent. A professionally designated real estate appraiser can anticipate these risks during project planning, helping a building owner plan a retrofit or new construction project. Market analysis and feasibility studies are common services provided by valuation professionals in development consulting. These services can help positively position your property to the market, anticipate value opportunities, and protect against over-improvements, or “super adequacy” risks.

RENTAL PREMIUMS OF GREEN COMMERCIAL BUILDINGS IN THE U.S.







## 2. OCCUPANCY

Occupancy premiums can lead the case for green investments. If it can be determined that the green features will result in higher occupancy than an otherwise similar building, a significant argument can be built for increases in value. Savings may be experienced as a result of tenant retention and the corresponding reduction in lost rents, reduced retrofit costs upon releasing of space, lower vacancy at turn over, and improved lease terms. Along with this potential occupancy premium, quicker absorption may be experienced in new properties

or those that have been repositioned as green. Using input from tenants and brokers, owners can work with appraisers to demonstrate how enhanced demand is influencing a property.

The table below approximates the potential for occupancy premiums to impact value. Although some studies indicate the potential for a greater occupancy premium, this diagram demonstrates the effects of a conservative 2 percent occupancy swing.

### VALUE FROM OCCUPANCY PREMIUM OF TWO PERCENT, CBD OFFICE

100,000 sq ft Leasable Area

Select Markets	CBD Gross Asking Rent	Annual Gross Income from Additional Occupancy	Incremental Net Operating Income*	Market Cap Rate	Incremental Value
San Francisco	\$51	\$102,000	\$76,500	5.00%	\$1,530,000
New York (Downtown)	\$48	\$96,000	\$72,000	5.25%	\$1,371,429
Atlanta	\$22	\$44,000	\$33,000	7.75%	\$425,806
Phoenix	\$21	\$42,000	\$31,500	7.00%	\$450,000
Kansas City	\$16	\$32,000	\$24,000	8.00%	\$300,000

\*Assumes 25% non-recoverable expenses. Rents: CBRE, Cap Rates: Integra

### 3. OPERATING EXPENSES

The most straight forward value proposition of owning a green building is lower utility bills—realized from steadily improving energy codes, green certification requirements like LEED and Energy Star, and well-executed retrofits. The resulting energy savings reduce operating expenses and increase net operating income (NOI) – which can have positive effects on value. Value attributed to these expense savings is dependent on lease structure; owners can only directly recoup these savings when they are responsible for utility payments. For these owners, even small energy savings are magnified during building valuation.

For example, lowering energy use by 10 percent on a 100,000 square foot office paying \$2.50 per square foot for energy can translate into \$25,000 in NOI, or \$313,000 at an 8 percent cap rate. In premier markets with high rents, energy savings may appear relatively small as a percent of operating income, however, low cap rates can catapult savings into value per square foot. By contrast, in markets with lower rents, energy costs represent a much larger percentage of income; improving cash flow and helping savings ‘punch above their weight,’ in spite of higher cap rates.

Operational savings on maintenance and reserves may convey value as well. Building owners stand to lower maintenance costs by installing longer-lived or more durable components such as LED lights. Other technologies and maintenance needs may need to be accounted for explicitly in owner documentation to justify positive value adjustments. Additional details on documenting energy efficiency savings and the effects on valuation can be found in IMT and the Appraisal Institute’s free Guide to Green Building Valuation for Appraisers. Provide a copy of this guide to your appraiser and ask your lender to do the same.



#### ENERGY SAVINGS CREATE VALUE BY INCREASING NOI: COMMERCIAL BUILDINGS

Energy Saved (%)	Savings per Square Foot	Value per Square Foot
Baseline	-	-
5%	\$0.13	\$1.56
10%	\$0.25	\$3.13
15%	\$0.38	\$4.69
25%	\$0.63	\$7.81

\*Income Capitalization Approach to Value. Assumes owner is responsible for utilities, energy baseline \$2.50/SF/YR, cap rate 8%



4. RISK

Green building value also shows up in the risk-mitigating protections these assets offer to owners and banks. In the appraisal and underwriting process, high-performance buildings can offer hedges against changing consumer preferences as well as new laws and increasing energy prices. Best-in-class market position can future-proof assets, protecting the going-out cap rate. Recognizing the relative safety of green assets, one major insurer now offers discounts for green buildings.

For green buildings, owners can help appraisers—and themselves—by documenting risk mitigation actions taken, such as commissioning. Risk-mitigating features of green buildings and potential risks are outlined in a table on page 9. Additional resources addressing retrofits and risk are available from Rocky Mountain Institute and the U.N. Environmental Program and are referenced in the additional resources section on page 8.

ADDING UP VALUE

Appraisers will reconcile the primary approaches to valuation (income, cost, and sales comparison), assigning relative weights to each based on quality and quantity of available data. For instance, if a recent sale of a green building occurred, the sales comparison approach may take on greater significance.

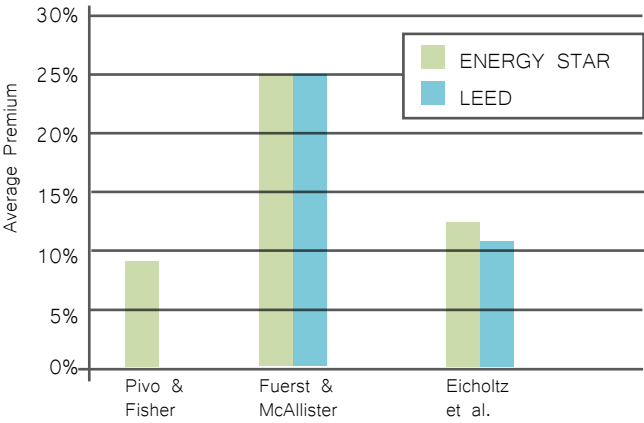
From the perspective of a property owner, green value can be considered in the abstract. Viewed in the context of an operating statement, green building property performance and value can show up across the board in quantifiable property metrics and favorable adjustments made during appraisal and underwriting.

INCOME CAPITALIZATION OF GREEN BUILDINGS\*

Gross Revenue	(higher rents)
-Vacancy	(lower vacancy vs. market)
<hr/>	
=Effective Revenue	(revenue up)
-Operating Expenses	(lower utility bills, maintenance, reserves)
<hr/>	
=Net Operating Income	(NOI up)
NOI/Cap Rate = Value	(lower cap rate)

\*Income capitalization shown for simplicity. An appraisal using a DCF is likely to reflect similar performance adjustments.

SALE PREMIUMS OF GREEN COMMERCIAL BUILDINGS IN THE U.S.



# NAVIGATING THE APPRAISAL PROCESS



## EACH APPRAISAL MATTERS

**INTERNAL VALUATION:** Valuation of assets under management—whether prepared by a third party or internally—is an opportunity to inform a later refinance or sale. Because it is not supporting a transaction, an internal valuation by an owner or appraiser carries less immediate weight than a third party appraisal, but is an opportunity to put together a value narrative for future appraisals. For private investment management firms and REITs, required annual (and sometimes, quarterly) appraisal updates are an opportunity to undertake this analysis. These results can also be used to inform performance assessments and compensation for managers.

**REFINANCE:** Ensuring that the appraisal considers green value may mean better loan terms and the opportunity to pull additional equity out of the property.

**SALE:** For the seller, green considerations may have already influenced the price and can be provided to the appraiser to lend support to their analyses and conclusions.

## TALKING TO LENDERS

Despite institutional commitments to sustainability at the highest level, banks—and appraisers—cannot maximize valuation for green and high-performance buildings without active engagement and advocacy from the owner. First and foremost, valuing a high-performing asset should mean an expanded scope of service in the appraisal that accounts for the complexity of high-performance buildings. The appraiser is the one who develops a “scope of work” for the appraisal, but the lender can make a “scope of services” request in the bidding or request for proposals for the assignment.

Developers and owners should choose their banks wisely and utilize services of financial institutions with expertise in this area. When the bank goes to hire an appraiser, the appraiser is more likely to succeed if he or she has experience working with high-performance assets, or knows the local market. Asking for a professionally-designated appraiser (such as those who carry the MAI, SRA or SRPA designations conferred by the Appraisal Institute) can help ensure that the appraiser meets these standards. Additionally, ask whether the appraiser has received any specialized education on the valuation of sustainable buildings. Lastly, at the review stage the bank or investor should be analyzing the appraisal—and as a result banks with a qualified reviewer can make a difference.



## WORKING WITH THE APPRAISER

For appraisals, be prepared to provide as much data as possible. Examples include: a market study with comparable properties, energy audits or bills, equipment specifications and monitoring plans, construction or retrofit costs, a pro forma, and other due diligence. Information on tenant demand for green features – preferably with a list of tenant representative contact information can help as well. Translating this into value requires unpacking market research and creating a value narrative appropriate for your building. A checklist at the end of this document summarizes the essential data. This information can be brought to bear at multiple points during the appraisal process:

**MEETING WITH THE BANK** – bring the data and set expectation of green scope of work.

**SCOPE OF WORK** – make sure green elements are built into the scope of services provided to appraisers bidding on the assignment

**DATA REQUEST LIST** – use this opportunity to send important data backing your value narrative.

**INTERVIEW WITH APPRAISER/APPRaisal MANAGER**—tell the story by designating a “champion” to describe green attributes to appraiser: could be an owner, architect, or consultant.

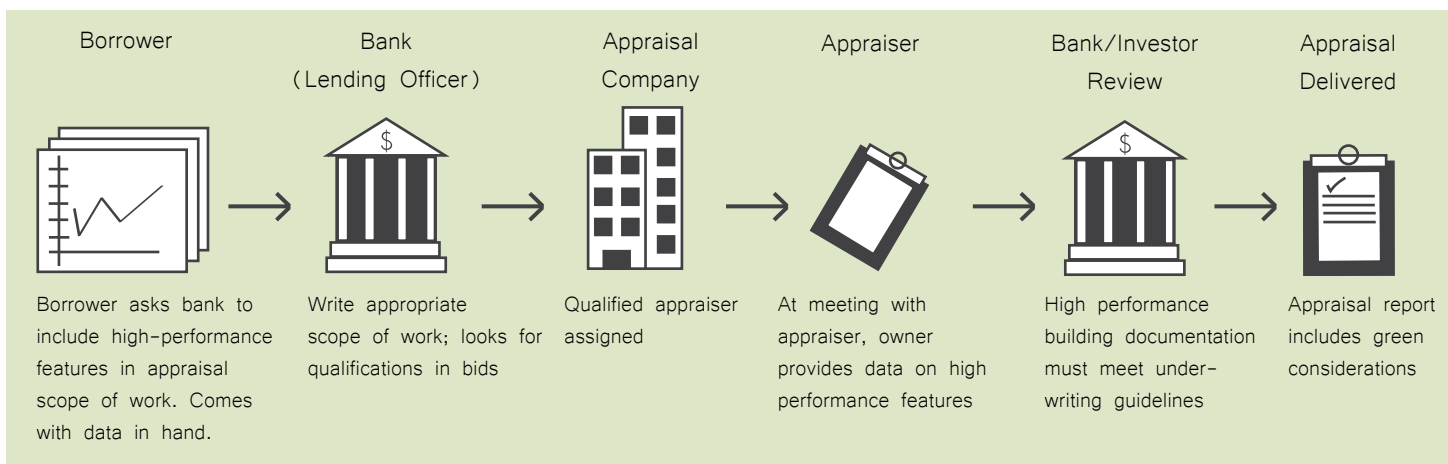


### GETTING AN APPRAISAL THAT VALUES GREEN

Small interventions by the owner in the conventional appraisal process can make a difference in getting value.

## GETTING AN APPRAISAL THAT VALUES GREEN: SMALL INTERVENTIONS BY THE OWNER IN THE CONVENTIONAL APPRAISAL PROCESS CAN MAKE A DIFFERENCE IN GETTING VALUE

### APPRAISAL PROCESS FOR GREEN BUILDINGS



## OWNER CHECKLIST FOR APPRAISALS

### 1) ARTICULATED PROJECT VISION

Create a value narrative by focusing on intended goals of construction or retrofit. Explain how green attributes contribute to market position, distinguish your building from conventional peers, and provide other financial benefits

### 2) YOUR PRO FORMA

With explanation of how assumptions are backed up by market analysis: absorption, retention, rents, vacancy, and expected energy costs

### 3) BUILDING PLANS AND TECHNICAL SPECIFICATIONS OF IMPROVEMENTS

### 4) COST INFORMATION ON IMPROVEMENTS

Supports the cost approach to valuation

### 5) UTILITY BILLS OR ENERGY MODELING RESULTS

For stabilized assets: historical utility use data and performance over citywide energy use intensity (EUI) in benchmarked cities or BOMA energy use average for your asset type/region

For audits: Results, auditor's credentials and track record, and level of analysis, e.g. ASHRAE Level I, II, or III. Probability distribution of projected energy savings (if available)

### 6) CERTIFICATION REPORTS

LEED, Energy Star, National Green Building Standard certification reports

### 7) OPERATIONS AND MAINTENANCE

- Plans for operations and maintenance, including green components and practices
- Warranties for high-performance components

### 8) ANTICIPATE POTENTIAL DOWNSIDE RISKS OF GREEN FEATURES

Distinguish those attributes that are proven in the market

### 9) CONTACT INFORMATION

- Designate a point person on building value. Also include contact information for relevant consultants, engineers, architect, and real estate brokers
- Current and potential tenants with supportive opinions of asset's position in the market

### 10) SHARING THE DATA:

- Share in conversation with banker and appraiser/appraisal manager
- Transmit as part of data request list
- Ensure the Standard Scope of Work includes green elements

## ADDITIONAL RESOURCES

1) Summary of Efficiency and Property Value Studies.

[www.buildingrating.org/content/efficiency-property-value](http://www.buildingrating.org/content/efficiency-property-value)

2) AI-IMT Guide for Appraisers: Recognition of Energy Costs and Energy Performance in Real Property Valuation. IMT, 2012.

[www.imt.org/resources/detail/recognition-of-energy-costs-and-energy-performance](http://www.imt.org/resources/detail/recognition-of-energy-costs-and-energy-performance)

3) Value Beyond Cost Savings: How to Underwrite Sustainable Properties, Scott Muldavin, 2010.

[www.greenbuildingfc.com/Documents/Value%20Beyond%20Cost%20Savings--Final.pdf](http://www.greenbuildingfc.com/Documents/Value%20Beyond%20Cost%20Savings--Final.pdf)

4) An Introduction to Retrofit Value for Owner Occupants and How to Calculate and Present Deep Retrofit Value for Owner Occupants, Scott Muldavin, 2013. [www.rmi.org/Buildings](http://www.rmi.org/Buildings)

5) Unlocking the Energy Efficiency Retrofit Investment Opportunity: A Checklist for Real Estate Owners and Asset Managers, U.N. Environmental Program: Finance Initiative, January 2014. [www.unepfi.org/work\\_streams/property](http://www.unepfi.org/work_streams/property)

6) Greening Our Built World: Costs, Benefits and Strategies. Greg Kats, 2009



## GREEN ASSET VALUE: POSITIVE CONSIDERATIONS AND DOWNSIDE RISKS

[illegible]

#### FOR EDUCATIONAL PURPOSES ONLY

This document represents the opinions and views of the preparers and/or reviewers. Although these materials may have been reviewed by the Institute for Market Transformation, the Appraisal Institute and its members, the views and opinions expressed herein are not endorsed or approved by the Institute for Market Transformation and the Appraisal Institute as policy unless adopted by each of their Board of Directors. While substantial care has been taken to provide accurate and current data and information, both the Institute for Market Transformation and the Appraisal Institute do not warrant the accuracy or timeliness of the data and information contained herein. Further, any principles and conclusions presented in this document are subject to court decisions and to local, state, and federal laws and regulations and any revisions of such laws and regulations.

This document is presented for educational and informational purposes only with the understanding that the Institute for Market Transformation and the Appraisal Institute are not engaged in rendering legal, accounting, or other professional advice or services. Nothing in this document is to be construed as the offering of such advice or services. If expert advice or services are required, readers are responsible for obtaining such advice or services from appropriate professionals.

This document is provided "AS IS" and without any warranty of any kind, expressed or implied. Without limitation, there is no warranty of non-infringement, no warranty of merchantability, and no warranty of fitness for a particular purpose. All warranties are expressly disclaimed. Readers who rely or use this document assume the full risk of any reliance or use. In no event shall the Institute for Market Transformation and the Appraisal Institute, jointly or severally, be liable for any actual, direct, indirect, punitive, or consequential damages arising from such use, even if advised of the possibility of such damages.

#### NONDISCRIMINATION POLICY

The Institute for Market Transformation and the Appraisal Institute advocate equal opportunity and nondiscrimination and conduct their activities in accordance with applicable federal, state, and local laws.

#### COPYRIGHT NOTICE

Copyright © 2013, Institute for Market Transformation and Appraisal Institute. All rights reserved. No part of this document may be reproduced, modified, rewritten, or distributed, electronically or by any other means, without the express written permission of the Institute for Market Transformation or the Appraisal Institute.



The Appraisal Institute corporate signature is a registered trademark of the Appraisal Institute.