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The Institute for Market
Transformation to Sustainability

National Green Building Investment Underwriting Standards

Residential Buildings

**UNANIMOUSLY APPROVED
September 2, 2008**

The "green-collar" workers shown below are installing a thin-film solar roof at a new housing development



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September 2, 2008

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ABSTRACT

Green Building Underwriting Standard

The Green Building Underwriting Standard and the CMP Green Value Score is a straightforward, easy-to-implement tool allowing lenders, private equity investors, developers, and real estate owners the ability to rate an asset's "greenness" at the time of financing or acquisition. The tool is structured as an underwriting overlay that enhances current underwriting practices, increases transparency, and serves as an indicator of investment risk and long-term asset value.

Following an analysis as detailed in this Standard, an asset can be assigned a CMP Green Value Score from 0-100 based on the presence or absence of financially tangible criteria that influence the asset's financial, operational, and market-based risk profile. Understanding an asset's green profile and CMP Green Value Score on a relative basis allows for improved decision metrics along with greater market transparency across all facets of the investment decision process.

The CMP Green Value Score takes into account asset features that lead to energy and water efficiency, reducing current operating costs while also insulating tenants from future energy and water price increases and price volatility. The CMP Green Value Score also incorporates location-based attributes that affect a tenant's commuting patterns and/or carbon footprint, as well as factors inherent to indoor environmental quality that can affect rents, risk, and liability exposure.

The tool is applicable to asset-based and portfolio-based analysis and investment decision processes. Once a specific asset's CMP Green Value Score is determined, this analysis can be expanded to the portfolio level through an aggregation of asset-specific CMP Green Value Scores on a weighted basis improving investment decision making and investor reporting.

The Standard addresses critical market pressures that include the rapid and continuing rise in conventional energy and water costs, increased ongoing operating costs, exposure to price volatility, tenant preferences swaying in favor of green buildings, and current/future climate-change issues. Implementation will improve underwriting processes leading to increased capital market confidence. Ultimately, determining and disclosing an asset's CMP Green Score will better enable investors to fulfill fiduciary responsibilities, improve real estate industry underwriting, and lead to better risk-adjusted investment decisions.



CMP GREEN SCORE FORMULA

NATIONAL CONSENSUS GREEN BUILDING UNDERWRITING STANDARDS©

	Score	Value Ratio	Adjusted Score
ENERGYSTAR Score		40%	
Green Building Underwriting Standard Score		35%	
LEED Rating (intangible value)	NONE	0%	
	CERTIFIED	2%	
	SILVER	5%	
	GOLD	10%	
	PLATINUM	15%	
Climate Neutral Certified	YES	10%	
	NO	0%	
CMP GREEN SCORE		100%	

The CMP Green Value Score is part of the approved *Green Building Underwriting Standards©* documenting green building value including cash flow and expenses.

The Underwriting Standards were unanimously approved on September 2, 2008 through the Capital Markets Partnership’s (CMP) American National Standards Institute (ANSI) accredited and audited consensus process.

The Standards are the exclusive jurisdiction of CMP’s Green Building Underwriting Standards Committee that is conducting Standards Education and adoption with leading financial institutions and developers.

The Standards are part of CMP’s *Capital Markets Briefing Paper: Sustainable Investment Business Case©* documenting CMP’s four years of due diligence with investors, investment banks and rating agencies, that green buildings and their certified sustainable products reduce risk and are more valuable and profitable than conventional investments, thus preferred by investors. The Paper includes the Investor Survey initiated by CMP / S&P covering over \$3.5 trillion in assets. Its development was supported by the Energy Foundation, the Federal Home Loan Bank, and an anonymous foundation for green affordable housing investment.

UNANIMOUSLY APPROVED STANDARD
September 2, 2008

NATIONAL GREEN BUILDING INVESTMENT UNDERWRITING STANDARDS[®]

Applying Certified Buildings to Residential Real Estate Underwriting, Financing, and Appraisal Methods

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ACKNOWLEDGEMENTS

The Capital Markets Partnership ("Partnership") is a collaboration of financial institutions, investment banks, real estate investors, governmental entities, NGO's, non-profits, and other interested parties. A full list of Partnership members is available in Section 17.0.

The Capital Markets Partnership (CMP) is a Coalition of financial institutions, investors, investment banks, governments, NGOs, professional firms and countries. CMP is a Coalition of Market Transformation to Sustainability (MTS), a nonprofit public charity and an American National Standards Institute Accredited Standards Developer.

The national Green Building Underwriting Standards© were developed and approved by the Consensus Green Building Underwriting Committee. The Committee has exclusive jurisdiction for the development, approval, interpretation and revision of the Standards and is led by the following Officers:

- **Wade Crowfoot**, Climate Change Director, Office of San Francisco Mayor Gavin Newsom, and US Conference of Mayors
- **Steve Hoffmann**, President, Hoffmann & Associates, LLC, Chairman, CMP Partnership Committee
- **Rich Pietrafesa**, Managing Director, Destiny USA
- **Tomek Rondio**, CEO, MortgageGreen, Inc.
- **Michael Schneider**, AIA, NCARB, LEED AP, Vice President, Marx/Okubo Associates, Inc.
- **Mario Silvestri**, MAI, CCIM, CTA, Vice President, Wachovia
- **Ken Willis**, Vice President and Director, Federal Home Loan Bank Boston
- **Dan Winters**, Managing Principal, Evolution Partners

We express our great appreciation to the Officers, especially Dan Winters, and all Committee Members for their exceptional work in developing and approving these National Consensus EMERGENCY Standards.

A companion Green Building Commercial Underwriting Standard ("Commercial Standard") which adopted this Standard's structure, format, and base background information was developed independent of this Standard and is found in a separate document.

The *Green Building Industry Value Rating System*®, a report that shows the underlying market value of inherent to green buildings is available at:

<http://webstore.ansi.org/RecordDetail.aspx?sku=MTS+2006%3a2>

The Rating System was the basis of Citi's recommendation to S&P to initiate Sustainable Building Securities. This Standard and the companion Commercial Standard, including all content and associated underwriting methodology, is the sole property of the Capital Markets Partnership.

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1.0 INTRODUCTION

There is significant value inherent to buildings that have achieved the US Green Building Council's Leadership in Energy and Environmental Design® ("LEED") certification, EPA ENERGY STAR certification, and/or Climate Neutral Certification. These national consensus standards limit risk and uncertainty especially for the capital markets. This value can be reflected in the criteria and financial underwriting processes used by appraisers, lenders, and property investors. Risk-based investment underwriting practices can evolve to effectively incorporate this value by quantifying and certifying an asset's LEED rating, ENERGY STAR score, and/or Climate Neutral Certification. This certification can then be used to further quantify risk-reduction in the underwriting guidelines of financial institutions investing in residential real estate.

As example, the USGBC's LEED rating system qualifies an asset on several critical areas including energy and water efficiency, indoor environmental quality, and overall location among others which is then verified through independent third-party certification. Achievement of key LEED points positively impacts an asset's financial attractiveness, risk profile, and market competitiveness.

These consensus standards advance transparency on real estate asset attributes that reflect current and future material financial value. Incorporating these attributes into the asset underwriting process is important for accurately assessing a certified asset's value in comparison to non-certified assets.

This Residential Green Building Investment Underwriting Standard ("Standard") addresses the USGBC LEED, EPA ENERGY STAR, and Climate Neutral standards with particular attention paid to breaking down key areas directly affecting financial value. In doing so, the Standard associates appropriate LEED points, an asset's ENERGY STAR score, and Climate Neutral aspects to residential property value. The tangible and intangible characteristics of green buildings, if transparently identified, can have a corresponding positive impact on the valuation of green buildings relative to comparable conventionally constructed buildings.

This Standard provides the real estate industry with a means to identify green building attributes along a sliding scale based on property characteristics identified by LEED, ENERGY STAR and Climate Neutral Certification. With a reliable quantification system, the real estate industry can tangibly recognize the green building "dividend" and include it in property valuation analysis, real estate equity and debt underwriting, secondary market securitizations, and portfolio analysis.

To accomplish this, the Standard associates appropriate LEED points, an asset's ENERGY STAR score, and Climate Neutral aspects to financial decision points for primary and secondary market participants by deriving the CMP Green Value Score™. The CMP Green Value Score is a mathematical score ranging from 0-100 based on how an asset performs on the ENERGY STAR, LEED and Climate Neutral standard. The intent is to use the CMP Green Value Score as a compliment to existing underwriting processes and disclosures, informing primary and secondary market investors as to an asset's or portfolio's green performance on financially tangible attributes.

Once calculated, the CMP Green Score can be used as a risk-management tool as follows:

PRIMARY MARKET

- Loan application review
- Loan committee decision making
- Purchase and sale negotiations

SECONDARY MARKET

I. Portfolio Analysis and Disclosure

- Pooled debt/equity investment vehicles (private / public)
- Real estate private equity portfolios
- REIT stock analysis

II. Corporate Information Disclosure

- Private client asset / portfolio reporting
- Quarterly or annual financial reports
- Regulatory reports
- Analyst conference calls

The Standard addresses several areas of critical focus for the real estate capital markets:

1. Establishes a common definition of green building attributes appropriate for financial underwriting.
2. Constructs an analytical basis focused on transparent disclosure of tangible green building characteristics important to capital market risk assessment.
3. Creates an opportunity for capital market actors to develop a comparative data set from which to perform ongoing risk assessments and analysis.

Beyond deriving and reporting the CMP Green Value Score for asset risk analysis, portfolio risk analysis, and investor reporting, the factors identified within the Standard can be used within ARGUS and/or other proforma-based spreadsheet analysis tools that seek to determine real estate financial value. The use of the Standard in detailed financial analysis projections can provide a better risk assessment through the identification of specific revenue and expense line items positively impacted by a building's green features.

Based on added value, a positive interest rate adjustment or fee advantage for certified LEED, ENERGY STAR or Climate Neutral homes may be applied based on the results of the Rate / Price Adjustment Matrix used by financial institutions. The percentage chosen can reflect the certified green building attributes for the home(s) in question achieving the credits identified in this Standard. For LEED Home Certification, the completed certified LEED for Homes Checklist should be submitted with the loan request along with written evidence from the US Green Building Council that the home is certified. For ENERGY STAR and Climate Neutral, copies of these certifications should also be submitted.

This Standard relies on the completed due diligence with investment banks and rating agencies documenting added green building value including the Green Building Industry Value Rating System© developed in 2006 which clearly demonstrates significant added value and risk reduction inherent to certified green buildings.

Commercial buildings including multi-family residential properties are covered in the companion Commercial Green Building Investment Underwriting Standard.

UNANIMOUSLY APPROVED STANDARD
September 2, 2008

2.0 SCOPE AND OBJECTIVE

This Standard covers all residential (non-commercial) building types including detached single family homes, manufactured housing, attached townhomes, and condominiums. Multi-residential housing including rental apartments are covered by the Commercial Green Building Underwriting Standard.

The Standard's main objective is to enhance current asset underwriting practices through the incorporation of existing consensus industry standards for green and/or energy-efficient residential projects – LEED, ENERGY STAR, Climate Neutral Certification – into the underwriting process. Green and energy-efficient certified residential properties contain numerous positive value enhancement and risk reduction aspects compared to a non-certified market peer group. The additional transparency afforded by these standards allows underwriters to reflect this value appropriately.

Adoption of this Standard will allow underwriters and other professionals to appropriately assess risk and incorporate risk-reduction strategies, both of which increase industry awareness of these issues and stimulate important market signals. These market signals encourage broad real estate industry participation in energy and water efficiency management practices, thus further stimulating green building practices.

Implementation of this Standard by financiers within the capital markets will further encourage the private market to utilize the EPA ENERGY STAR tools and pursue third-party LEED and Climate Neutral Certification thereby increasing energy, water, and environmental performance and associated reporting by the real estate industry.