BEPN Critical Issues Series

SPONSORED BY

Emerging Building Energy Performance Regulations and Industry's Response

by Anthony J. Buonicore, P.E., BCEE, QEP*
Buonicore Partners, LLC, Milford, CT

and Andrew Burr, LEED AP**
Institute for Market Transformation (IMT), Washington, DC

December 20, 2010

*Contributor of the Commercial Real Estate Industry Response section. Please direct all inquiries to Buonicore Partners, LLC, Suite 101, 440 Wheelers Farms Road, Milford, CT 06461, 800-238-1841.

**Contributor of the Regulatory Overview section.

Introduction

Rapidly evolving legal and regulatory mandates, in addition to common sense economic factors, are driving the inclusion of energy and sustainability issues into the main stream of commercial real estate transactional due diligence. Currently, environmental site assessment (ESA) and property condition assessment (PCA) due diligence is routinely conducted in such transactions in an effort to avoid liability. The focus of energy and sustainability due diligence, on the other hand, is to identify opportunities to increase asset value. As such, it has come to be viewed as a marked (and welcomed) departure from ESA/PCA due diligence and therefore warrants a careful review by all industry participants.

From an economic perspective, green building due diligence can identify low or no-cost energy efficiency retrofit opportunities which can be financed with an array of public, utility and bank financing. Such investments often have compelling return on investments (ROIs) especially when funded with a myriad of external funding sources. Federal stimulus funding has provided several potential financing components by way of local low interest loans and grants. Utilities in many states are under regulatory mandate to finance such investments of their customers with funds often gathered through on-bill revenue collection methods across the customer base. Traditional banks are now focusing on this area as a means of developing new lending products backed by energy efficiency-driven cash flows as well as bundled financing which can lead to comfortable loan-to-value ratio levels and relatively low risk transactions while enhancing collateral value.

The primary focus of this whitepaper is to provide: (1) an overview of transactional disclosure regulations, which require disclosure of a property's energy use prior to a sale, lease or financing; and (2) the commercial real estate industry's response to these emerging regulations. Other forms of such disclosure utilize a building labeling approach which requires building owners to update and disclose their property's energy consumption history on a routine basis.

Regulatory Overview

Commercial building energy rating and disclosure policies are not yet widespread in the United States and until recently, federal legislators have shown little interest in building energy performance policy. Those dynamics are beginning to change. In the past few years, two states – California and Washington – and four major cities – New York, Austin, Seattle and Washington, D.C. – have enacted policies requiring performance rating and disclosure for privately owned commercial buildings. A handful of other states and local jurisdictions have similar requirements for government buildings. With additional rating policy activities underway in more than a half-dozen jurisdictions and new support for rating initiatives at the federal level by the Obama administration, a proliferation of rating policies appears possible or even likely over the next five years.

Current U.S. rating and disclosure regulations are already set to have a significant impact on U.S. property markets. In New York City alone, roughly 22,000 buildings totaling nearly 2.6 billion square feet of floor space must be rated by 2012.[1] In the city of Seattle, almost 9,000 buildings totaling 150 million square feet and 93,800 multifamily units will be affected by new regulations.[2] In the absence of federal policy, states and cities have tailored rating and disclosure policies according to local needs and political considerations. This has resulted both in policy innovation and widely varying requirements between jurisdictions. To date, all U.S. policies leverage Energy Star software to generate ratings based on building operational data, although this too may soon change. New rating systems and procedures are emerging from industry groups including the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), ASTM International and Portland Energy Conservation Inc. (PECI). At the federal level, the government will soon begin creating a national framework for commercial building rating and labeling.[3]

This evolving regulatory framework emanates in part from the approach used in the European Union (E.U.) over recent years. When such regulations took effect in the E.U., the commercial real estate community and its consultant infrastructure were not adequately prepared to meet the market needs. The U.S. commercial real estate industry in cooperation with ASTM, ASHRAE, EPA and others is taking a more pro-active approach to position for the impact these regulations will have on commercial property transactions as well as to realize the asset value enhancement opportunities presented by the process.

California

California enacted the first U.S. rating and disclosure policy in late 2007, borrowing heavily from requirements in Europe's Energy Performance of Buildings Directive (EPBD) regulation and setting the table for other states and jurisdictions to follow suit. The California regulation requires energy ratings when a full building is involved in a sale, lease or financing transaction, and the disclosure of ratings to transaction counterparties prior to the closing of the deal. This transaction-based requirement closely mirrors the regulations for issuing and disclosing energy performance certificates in the European Union.

Implementation of the regulation was postponed until 2011. It will phase-in over a period of two years, with larger buildings reporting before smaller buildings, according to guidelines issued by the California Energy Commission (CEC).[4] The regulation compels utility companies in

[1]Estimate from the City of New York and the PlaNYC report

[2]Estimate from the City of Seattle Dept. of Planning & Development

[3]The DOE/EPA National Building Rating Program, announced October 2009

[4]See http://www.energy.ca.gov/ab1103/documents/ for more information

California to provide utility bill data to building owners to assist them in rating their buildings.

California Assembly Bill 758, enacted in 2009, empowers the CEC to expand its work on commercial benchmarking and develop regulations and programs related to commercial asset rating and regional benchmarking.

District of Columbia

2008. Its requirements are quite different from that of California's policy. Rather than using a transaction-based approach, buildings will be rated annually beginning in 2010 regardless of transaction activity and ratings will be posted on a public web site administered by District of Columbia government. The regulation affects buildings with at least 50,000 square feet and phases-in over a period of four years. Buildings owned or operated by the District of Columbia that are greater than 10,000 square feet in size were required to begin rating in late 2009. Ratings for those buildings will also be posted publicly.

Additionally, newly constructed buildings greater than 50,000 square feet must estimate and publicly disclose their energy performance beginning in 2012. The District of Columbia is currently the only U.S. jurisdiction to require ratings for new commercial buildings.

Austin, TX

The city of Austin, TX, enacted its regulation, known as the Energy Conservation Audit and Disclosure Ordinance (ECAD), in November 2008 after studying policy options for energy performance rating and mandatory retrofits for nearly a year. Ratings are required for commercial buildings by mid-2011 and ratings must be disclosed to transaction counterparties when the building sells, however new buildings are exempted from the regulation until they reach 10 years of age. Small commercial buildings are required to generate ratings using software from Austin Energy, the municipal utility that is administering the ECAD ordinance.

Audits are required for single-family homes at the time of sale. For large multifamily buildings, the ECAD requirements are particularly aggressive. Those properties must undergo an energy audit by mid-2011 and provide audit results to prospective buyers and tenants, as well as post the results within the building. "High energy-use" multifamily buildings – those consuming more than 150 percent of the average multifamily energy use per square foot in Austin, based on the audit – must make energy retrofits within 18 months to bring the property to within 110 percent of the average.

Washington

Washington became the second state to enact rating and disclosure legislation in mid-2009. The transaction-based requirement is nearly identical to California's regulation, requiring rating and disclosure prior to the closing of a sale, lease or financing transaction and compelling utilities to assist building owners in rating. It affects buildings 10,000 square feet or greater and phases-in over two years beginning in 2011.

Washington structured several innovative measures related to the rating of public buildings and state leasing requirements into its legislation. Public buildings that receive poor ratings (an Energy Star score of less than 50) must have a preliminary energy audit. If the audit identifies cost-effective energy savings, an investment-grade energy audit is required by mid-2013 and cost-effective efficiency measures must be implemented by 2016. The state has also begun using building energy ratings to set minimum efficiency requirements for state leases in privately owned buildings. Starting this year, state agencies may not sign a new lease or renew space in a private building with an Energy Star rating less than 75. Exceptions are permitted when a building owner agrees to undertake an energy audit and implement cost-effective upgrades within the first few years of a state lease.

Seattle

In January 2010, Seattle enacted a rating and disclosure policy that broadens the scope and requirements of the state law. The regulation requires annual energy ratings regardless of transaction activity beginning in 2011 and the disclosure of ratings to the city government beginning in 2012, although the city does not plan to make the ratings public. The regulation also requires annual ratings for multifamily buildings, which were not covered under the state law. Seattle considered mandatory retrofit provisions but decided not to pursue them after a stakeholder task force recommended against such requirements.

New York City

In late 2009 New York City enacted the Greener, Greater Buildings Plan, a package of four bills to increase the energy efficiency of existing buildings. It is arguably the most comprehensive legislation in the nation related to building efficiency, requiring periodic energy audits and retro commissioning, energy rating and disclosure, water benchmarking and lighting retrofits. It also updated city energy code requirements related to renovations. The package was part of New York City Mayor Michael Bloomberg's PlaNYC initiative to reduce the city's carbon footprint.

The energy rating provision requires annual rating for large commercial and multifamily buildings beginning in 2011 and the posting of ratings to a public web site administered by the city. Buildings owned or fully leased by the New York City government must be rated annually. Similar to regulations in the state of Washington, city buildings with low ratings are required to have an energy audit and make cost-effective improvements.

Other States and Local Jurisdictions

As of mid-2010, rating and disclosure policies have materialized or are under consideration in a number of other states and jurisdictions. They include:

Maine – Maine enacted legislation in 2009 directing the Public

Utilities Commission to develop or select a rating system and reporting guidelines for homes and commercial buildings.

Illinois – In 2010, Illinois passed a bill requiring the Capital Development Board to initiate a study of building energy rating procedures and systems. Results will be reported to the legislature in 2012.

Maryland – A bill requiring the rating and disclosure of commercial buildings in Maryland was introduced into the legislature in 2009 but failed to move out of committees. The bill is likely to be reintroduced in 2010.

Massachusetts – Massachusetts is currently participating in a pilot program for the Building EQ label under development by ASHRAE.

Oregon – The Oregon Energy Performance Scores Task Force reported recommendations on voluntary benchmarking to the state legislature in 2010.

Portland, OR – Separate from state activities, the city of Portland has proposed rating and disclosure provisions for commercial buildings. Legislation has not yet been introduced.

San Francisco, CA – San Francisco introduced legislation requiring energy audits, annual rating and public disclosure of ratings for commercial buildings. The legislation builds on rating requirements at the state level. The measures were recommended by a city task force that studied energy consumption in existing buildings.

Rating and Disclosure at the Federal Level

Provisions requiring federal agencies to develop a building energy label were included in two bills introduced in 2009: H.R. 2454, better known as the Waxman-Markey bill, and S. 1462, the American Clean Energy Leadership Act. Both bills are pending in the Congress.

Additionally, the Department of Energy launched the National Building Rating Program (NBRP) in late 2009, a joint effort with the EPA to develop a standard building energy label and rating methodology for homes and commercial buildings – essentially the same mandate that was included in federal climate and energy bills. The first phase of the program is addressing energy rating for homes, with work on commercial rating to follow. The Obama administration strongly supports the program.

Commercial Real Estate Industry Response

To address the need for standardization in complying with these regulations, the commercial real estate industry turned to ASTM to establish a standardized methodology to assess and report on a building's energy use. In 2008 ASTM (having determined that market-driven forces required action), established its Building Energy Performance Assessment (BEPA) Task Group (WK 24707) to address this growing marketplace need. The Task Group is a multi-disciplinary team of more than 200 commercial real estate industry representatives, consultants, attorneys, lenders, professional organizations, government representatives, academia and other interested parties. The Task Group's final work product in the form of ASTM E 2797, Building Energy Performance Assessment Standard, after more than two years of drafting and balloting, is expected to be published in January 2011. The property due diligence consulting industry is viewed as a major delivery vehicle for the BEPA service given its ability to bundle such a deliverable with the routine ESA and PCA services thus leading to time and cost efficiencies in the overall service delivery process.

The ASTM BEPA standard is a commercial real estate industry-driven standard developed in compliance with the rigorous ASTM standard-setting process. As various regulations were emerging, such as building codes that included specific energy-efficiency and "green building" requirements and broad building energy labeling and transactional disclosure obligations, a growing number of commercial property owners and prospective owners, investors, managers, and tenants became increasingly interested in having a better understanding of the issues surrounding a building's energy use.

The specific driving forces behind development of the standard were both regulatory and business. The regulatory driving forces have been discussed previously and pertain to building energy performance and disclosure legislation, regulation and policy. The business driving forces include:

(1) less energy efficient buildings may become less competitive in the marketplace and result in the need for a rent "discount" that can impact a building's pro forma cash flows provided to the lender for financing;

(2) buildings with poor energy performance may be viewed as less valuable, particularly as the "green" trend continues to gain popularity;

(3) poor building energy performance can reduce the prospective tenant pool as tenants today under triple-net leases are very concerned about escalating energy costs;

(4) new building energy efficiency codes can impact the capital needs associated with a prospective property;

As a result of these driving forces, prospective purchasers of buildings began to ask PCA firms that, as part of their pre-acquisition PCA investigation, they also assess the building's energy use. Unfortunately, since the market lacks a generally accepted due diligence methodology to assess and report on a building's energy use, this can present a problem.

The purpose of the ASTM BEPA standard is to define a commercially useful practice for conducting a building energy performance assessment on a building involved in a commercial real estate transaction. The standard has five specific objectives: (1) define a commercially useful practice for collecting, compiling, and analyzing building energy performance information; (2) facilitate consistency in the collection, compilation, analysis and reporting; (3) supplement as needed a property condition assessment; (4) provide that the process is consistent, transparent, practical and reasonable; and (5) provide an industry standard.

As the standard developed, it was decided not only to provide actual/historical energy use data for the building, but also to determine a

reasonable upper and lower range for operational energy use and costs.

In view of recent history in the commercial real estate financing market where pro forma financials frequently overstated income potential and understated operating expenses, coupled with volatility in energy prices, this visibility to a pro forma range of energy consumption and cost for a building became a central purpose of the standard.

While a number of Task Group members advocated for the ASTM standard to include benchmarking as part of its primary scope of work, after considerable debate the Task Group ultimately determined the standard should identify benchmarking as an optional "non-scope consideration" as there are multiple organizations such as EPA, ASHRAE, Capital Markets Partnership, U.S. Green Building Council (LEED) as well as commercial services that already have various existing benchmarking and rating systems in the marketplace. Should the stakeholders in a commercial real estate transaction find added-value, after calculating the building's energy use according to ASTM E 2797 BEPA methodology, in applying these rating and benchmarking systems, the ASTM standard provides for this option in a highly complementary structured way, thereby seamlessly facilitating benchmarking and rating seamlessly into the work scope.

The Task Group's position has always been that these benchmarking and rating organizations will also benefit from a standardized, consistent, transparent, practical and reasonable methodology for the collection of building energy use information. As such, if a prospective purchaser and/or lender desires to benchmark a property's energy performance with respect to peer buildings, the consultant conducting the due diligence, according to the ASTM standard, can include the value-added benchmarking and rating information seamlessly as part of their BEPA Report.

Ultimately, it will be the market that will decide the value of incorporating various benchmarking and rating system outputs into the ASTM BEPA process. It is important to note that adding "non-scope considerations" is common in ASTM property due diligence standards and such "non-scope considerations" are routinely managed by the stakeholders in commercial property transactions. For example, in the conduct of ASTM E 1527 Phase I Environmental Site Assessments, it is common practice for the stakeholders to determine whether "non-scope considerations" such as asbestos, radon, lead-based paint, mold, indoor air quality, etc. should be included in the investigation.

Key Areas of Standardization

The ASTM E 2797 BEPA practice includes numerous areas of standardization, the most important of which include identifying the time frame over which energy use data is to be collected, how energy use data is to be compiled, what energy use metrics should be used, identifying what constitutes a major renovation, what normalization parameters are appropriate and how they should be applied. Also included is how the upper and lower energy use ranges for a building should be defined, as well as what the most representative energy use and energy cost values are for a building.

ASTM BEPA and Other Industry Initiatives

The ASTM BEPA standard is designed to complement other industry benchmark and rating programs including EPA's Energy Star building labeling program, U.S. Green Building Council's LEED building rating and certification program, Capital Markets Partnership Green Building Underwriting Standard and its Green Value Scoring, and ASHRAE's building energy labeling initiative. Each of these programs includes a core focus on rating, labeling and/or benchmarking a building's performance against its relevant peer group. The ASTM E 2797 BEPA standard is expected to add-value to the data standardization methodology when using these benchmark and rating systems and therefore provide the basis for broad scale market adoption of the BEPA process including various existing rating, labeling and benchmark systems enabling users to include complementary benchmark and rating system results in their ASTM BEPA reporting.

Practical Use of the ASTM BEPA in the Marketplace

As in the case of its predecessors; ASTM E 2018 Property Condition Assessment (PCA) Standard and ASTM E 1527 Phase I Environmental Site Assessment (ESA) Standard, the ASTM E 2797 Building Energy Performance Assessment Standard is expected to become the standard methodology for building energy use data collection and form the foundation for building energy performance determinations in pre-acquisition due diligence applications, as well as provide added-value to stakeholder's compliance reporting under building energy labeling and disclosure regulations or industry-driven "green building" initiatives. The ASTM BEPA is also expected to become a standard adjunct to property acquisition due diligence. As noted above, the results from the ASTM BEPA, i.e., Pro Forma Energy Use and Cost calculations are expected to be fully-leveraged by market stakeholders to facilitate broader market adoption of building rating, benchmarking and labeling programs. Furthermore it is also anticipated that the ASTM BEPA methodology will become a routine part of the building energy auditing process as a standardized first and critical step to calculate the building's energy use and cost baseline as well as the projected energy use and cost ranges considering the impact of primary independent variables such as weather, occupancy and operating hours, leading to specific energy efficiency recommendations with compelling ROIs and payback term characteristics.

Please share your comments on this white paper at Anthony Buonicore's blog, found at: http://blog.bepinfo.com/

BIOGRAPHY

Anthony J. Buonicore, P.E.

Anthony Buonicore is a past president and Fellow Member of the Air & Waste Management Association, a Diplomat in the American Academy of Environmental Engineers, a Qualified Environmental Professional and a licensed professional engineer. He is a member of the ASTM Property Environmental Due Diligence committee, former chairman of its ASTM Phase I Task Group, and currently chairs the ASTM Task Group that developed the U.S. standard for vapor intrusion screening for properties involved in real estate transactions. In addition, Mr. Buonicore is chairman of the ASTM Task Group responsible for developing the new Building Energy Performance Assessment and Disclosure Standard.

Mr. Buonicore has been a leader in the energy-environmental industry since the early 1970s, serving as General Chairman of the American Institute of Chemical Engineers' First National Conference on Energy and the Environment in 1973 and as founder and first chairman of the Air Pollution Control Association's Energy-Environmental Interactions Technical Committee in 1974. He pioneered the use of refuse-derived fuel pellets (a bio-fuel) mixed with coal in stoker-fired boilers and has written extensively on energy and environmental issues.

As a Managing Director of Buonicore Partners, LLC, Mr. Buonicore is responsible for management of the firm's commercial real estate holdings and all due diligence activities associated with property acquisition. He holds both a bachelor's and a master's degree in chemical engineering.

Andrew Burr LEED AP

Andrew Burr is a program manager with the Institute for Market Transformation. He leads the organization's activities related to building performance rating and disclosure, providing technical guidance to policymakers and government agencies, outreach to real estate stakeholders and advocacy for legislative and regulatory policy. He has presented on U.S. building labeling policy throughout the United States and in Europe and China. He is a member of the International Codes Council.

Andrew was previously a senior reporter and editor with the international commercial real estate information firm CoStar Group, where he launched and managed the company's editorial coverage of real estate energy and sustainability issues. His articles have been independently reported on by the New York *Times* and BusinessWeek Online. He is a past member of the National Association of Real Estate Editors and was one of the few credentialed members of the press nationwide to earn LEED accreditation. Andrew received a bachelor's degree in political science from Bucknell University.

SUSTAINABLE REAL ESTATE SOLUTIONS™

SRS IS REINVENTING ENERGY EFFICIENCY BENCHMARKING
DISCOVER HOW >> WWW.SRMNETWORK.COM

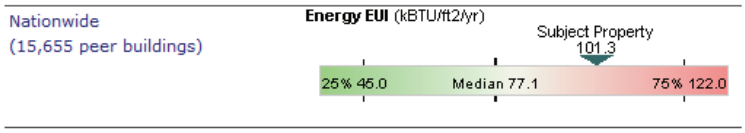
About Sustainable Real Estate Solutions, Inc. (SRS)

SRS delivers Sustainable Real Estate Manager® an Internet-based, software-as-a-service workflow platform enabling building owners, operators, investors, lenders, tenants and consultants assess, benchmark and optimize the energy and sustainability performance of their properties.

Your Assessment, Benchmarking & Optimization Solution

Sustainable Real Estate Manager® (SRM) seamlessly integrates leading industry standards, benchmark and rating system protocols with proprietary data and workflow automation enabling the capture of your energy and sustainability-related opportunities.

The SRM guided workflow solution has reinvented industry best practice methodology for building energy efficiency benchmarking with its Peer Building Benchmarking™ database, encompassing 120,000 buildings across 15 property types, 3.3 billion square feet, over $7.8 billion in annual energy costs and $635 million in annual water/sewer costs.



The SRM workflow 'wizard' facilitates the comparison of your subject property's energy and water key performance indicators to its peer group's performance across multiple geographic areas resulting in unparalleled visibility to performance assessment and benchmarking analytics.

SRS IS REINVENTING ENERGY EFFICIENCY BENCHMARKING >> DISCOVER HOW >> WWW.SRMNETWORK.COM

100 Technology Drive, Suite 208 - Trumbull, CT 06611 - 203.459.0567 - Info@SRMnetwork.com