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***ENERGY EFFICIENCY***
***GREEN BUILDINGS***

*This article discusses New York City's legislation to promote the greening of its building stock. The new laws will require benchmarking of existing buildings, energy audits, improved building maintenance, and lighting and other energy-related upgrades as well as public disclosure of energy and water use for affected buildings. The authors of this article summarize these new requirements, make some predictions about where the green building trend is heading, and discuss what building owners and operators and developers can do to prepare for these developments.*

# New York City Adds to Growing Tide of Green Buildings Legislation

**By David J. Freeman and Jesse Hiney**

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*The opinions expressed here do not represent those of BNA, which welcomes other points of view.*

New York City has just enacted a series of cutting-edge laws to promote the "greening" of its building stock. Unlike much of the existing municipal legislation, which primarily focuses on new construction, New York's new statutes zero in on existing buildings, requiring energy audits, lighting and other energy-related upgrades, improved building maintenance, benchmarking, and public disclosure of energy and water use for affected buildings. As such, these new laws may well serve as the model for similar legislation elsewhere.

This article will summarize the major provisions of the New York City ordinances, comparing and contrasting them with requirements imposed by other cities and states. It then will make some predictions about where this trend is heading, and what building owners and operators and developers can do to prepare for these developments.

## New York City Laws

The quartet of ordinances enacted by the New York City council in November 2009 [1] and signed into law by Mayor Michael Bloomberg (I) Dec. 28, 2009, focuses on four primary areas:

- establishing a city energy conservation code,
- requiring energy audits and retro-commissioning of existing buildings,
- imposing lighting upgrade obligations, and
- providing for the benchmarking and public disclosure of energy and water usage.

[1] "New York City Mayor Signs Bills to Increase Energy Efficiency in Buildings, Cut Emissions," 247 DEN A-2, 12/30/09.

**New York City Energy Conservation Code**

Effective July 1, 2010, New York City will have a new Energy Conservation Code (NYCECC). It is a stricter counterpart to the New York state Energy Conservation Construction Code and will serve as a set of standards for building energy performance in the city. The new law requires that any alteration, no matter what percentage of the building system it affects, must be code-compliant. By comparison, the state code applies only to alterations that impact more than 50 percent of a building system or subsystem.

In addition, the new law imposes requirements that will ensure energy conservation will continue to be a focus in New York City construction. It requires the Commissioner of Buildings to prepare and propose amendments to the NYCECC on a periodic basis to ensure it meets or exceeds the latest requirements and revisions to the state code. To this end, the commissioner is required to establish an advisory committee of registered design professionals and environmental advocates who are knowledgeable in energy efficiency and conservation as well as construction and real estate professionals and representatives of appropriate labor organizations.

**Audits and Retro-Commissioning Requirements**

The new Audits and Retro-Commissioning Law requires owners of each "covered building" [2] to perform an energy audit, submit an energy efficiency report to the Department of Buildings, and (with certain exceptions) implement the recommendations of the report at least once every 10 years. The first energy-efficiency reports are due beginning in calendar year 2013. [3]

[2] Covered Buildings are defined as (i) any building that exceeds 50,000 gross square feet, (ii) two or more existing buildings on the same tax lot that together exceed 100,000 gross square feet, and (iii) two or more buildings held as condominiums that are governed by the same board of managers and together exceed 100,000 gross square feet.

[3] The due dates for submission of energy efficiency reports are staggered based on the calendar year that corresponds with the last digit of a building's tax block number. The law provides an exemption for qualifying high performance buildings, including U.S. Environmental Protection Agency Energy Star-compliant buildings; LEED-certified buildings; and buildings that maintain a specific combination of high-efficiency features, the implementation of which are certified by a registered design professional.

The energy audit must be conducted under the supervision of an approved entity meeting the qualifications to perform audits. It must include an analysis of the base building systems and identify:

- all "reasonable" retro-commissioning (non-capital work, such as repairs and maintenance) or retrofit (capital alterations) measures [4] that would reduce energy use and/or the cost of operating the building if implemented;
- the annual energy savings, cost to implement, and "simple payback" [5] for each identified measure;
- the benchmarking output pursuant to the EPA Portfolio Manager tool;
- a breakdown of energy usage by system and the predicted energy savings by system after implementation of the proposed measures; and
- an assessment of how the energy used within tenant spaces impacts energy consumption of the central system based on a representative sample of spaces.

[4] "Reasonable" is not defined by the statute.

[5] "Simple payback" is defined as the number of years it takes to pay back an energy efficiency investment (*i.e.*, cost divided by annual energy savings).

Within four years of completion of the audit report, the building owner must implement the retro-commissioning measures identified therein [6] and then file an energy efficiency report with the Department of Finance. The report must contain:

- a certification by an energy professional that the covered building is in compliance with

the provisions of the Audit and Retro-Commissioning Law,

• a copy of the energy audit,

• copies of the approved construction documents for any required retro-commissioning,

• sign-offs that any required work has been completed, and

• such other information relating to energy consumption as required by the Department of Buildings.

[6] An exception is made for owners who determine and substantiate that the actual cost of the measures proposed exceed the cost estimates by at least 20 percent and the simple payback may exceed 7 years.

All retro-commissioning in response to an audit must be performed on the base building systems by or under the supervision of a retro-commissioning agent prior to filing an energy efficiency report. The retro-commissioning agent must document the retro-commissioning efforts, including details of the project team and building, testing protocols, audit findings, and a listing of the deficiencies corrected.

As onerous as these provisions may seem, they are watered down considerably from the bill as proposed initially, which would have required owners to implement an "optimum bundle" of energy-saving provisions, including capital alterations, identified by the energy audit.

**Lighting Retrofits Law**

This law requires the lighting systems of all "covered buildings" to be upgraded on or prior to Jan. 1, 2025, to comply with the standards for new lighting and electrical systems as promulgated by NYCECC Section 805. A nonexclusive list of the elements affected include lighting controls; tandem wiring; exit signs; interior lighting power requirements; and, as applicable, exterior lighting. The owner of a "covered building" is required to file a report prepared by a registered design professional or a licensed master or special electrician certifying compliance with the law prior to Jan. 1, 2025.

In addition, the law requires the installation by Jan. 1, 2025, of submeters in certain large tenant spaces. [7] Once installed, the meters must be read on a monthly basis, and each tenant must be provided with a monthly statement showing the amount of electricity measured for each area covered by the submeter.

[7] Affected tenant spaces are those that (i) exceed 10,000 gross square feet on one or more floors of a covered building let or sublet to the same person, or (ii) consist of a floor of a covered building larger than 10,000 gross square feet consisting of tenant spaces let or sublet to two or more different persons.

**Energy and Water Use Benchmarking**

The Energy and Water Use Benchmarking Law requires owners to input their buildings' water and energy usage into an online benchmarking tool created by the U.S. Environmental Protection Agency. Starting in 2010 for city buildings [8] and 2011 for covered buildings, by February 15 of every year owners will be required to obtain, and tenants will be required to report, any tenant's separately metered energy usage for the previous calendar year. By May 1, 2010, for city buildings and May 1, 2011, for covered buildings, and every May 1 thereafter, owners are required to input their buildings' energy usage directly into the online benchmarking tool. [9]

[8] A "city building" is defined, with certain exceptions, as a building that is more than 10,000 gross square feet according to Department of Finance records and is owned by the city or for which the city regularly pays all or part of the annual energy bills, provided that two or more buildings on the same tax lot shall be deemed to be one building.

[9] The city's Office of Long-Term Planning and Sustainability is working with utility providers to enable them to upload the benchmarking information directly. If an owner's utility company uploads the benchmarking information directly, the owner will not be obligated to do so. For water usage, benchmarking is required only for those city buildings and covered buildings for which the Department of Environmental Protection has equipped automatic

meter reading equipment and the equipment has been in operation for the entirety of the previous calendar year.

All benchmarking information will be posted on the Internet by the Department of Finance no later than Sept. 1, 2011, for city buildings; Sept. 1, 2012, for nonresidential covered buildings; Sept. 1, 2013, for residential covered buildings; and no later than every September 1 thereafter for each category of subject buildings. The available information will include:

- the building's energy utilization index (energy use per square foot);
- water use per square foot;
- where available, a rating that compares the energy use with similar buildings; and
- a comparison of data across calendar years for any year the building was benchmarked.

## Nationwide Trend

These new laws may have put New York City in the forefront of green buildings legislation, but other jurisdictions are not far behind.

As noted above, the efforts of other jurisdictions to date for the most part have focused on making new construction more environmentally responsible and energy efficient. The legislation typically relies on established criteria like the U.S. Green Building Council's standards for Leadership in Energy and Environmental Design (LEED). LEED is a third-party certification system aimed at improving building performance through an integrated design approach over a building's life cycle that focuses on the development of green buildings using sustainable sites, construction materials, and techniques and establishes efficiency benchmarks for energy and water. Austin, Texas; Boston; Chicago; Los Angeles; and Portland, Ore., are just a few of the cities that require certain new real estate development to obtain some level of LEED certification.

Since as early as 2002, Los Angeles has required all new municipal buildings exceeding 7,000 square feet to qualify as LEED-certified. In addition, regulations in Los Angeles require most new nonresidential, residential, or mixed use buildings with a gross floor area exceeding 50,000 square feet also to qualify as LEED-certified. All permit applications for these developments as well as alterations in excess of 50,000 square feet or where construction costs exceed 50 percent of a building's replacement cost also require a statement from a LEED Accredited Professional stating that the project meets the "intent of criteria for [LEED] certification." Los Angeles includes incentives in the form of expedited processing for discretionary entitlements for those buildings that meet LEED Silver levels.

Other cities have adopted similar measures with varying levels of LEED compliance. For example, Portland, Ore., requires all new public buildings to meet LEED New Construction (NC) Gold standards and all city-owned and -occupied existing buildings to achieve LEED Existing Buildings (EB) standards at the silver level. Portland, Maine, requires all new city-funded construction projects and major renovations of existing buildings to be LEED-certified. Austin, Texas, requires LEED Silver certification for new construction and major renovations of city buildings. [10] Boston requires the developer of any building project that requires a building or use permit, requires zoning approval, or exceeds 50,000 square feet to demonstrate (by submission of a LEED score card and a certification by a LEED Accredited Professional) that the project would earn enough credits to qualify for LEED certification.

[10] These provisions apply to projects that require work in five of the major LEED rating categories and whose cost will exceed $2 million as well as to renovations, interior finishing, and additions to municipal buildings that cost in excess of $300,000 and require work in three major LEED rating categories.

On Jan. 12, 2010, California announced a statewide green building standards code (CALGREEN) that applies to all new construction effective Jan. 1, 2011. The code imposes water consumption, construction waste, and low pollutant-emitting material thresholds for all new construction as well as operation and maintenance obligations for certain nonresidential buildings. New buildings constructed in accordance with the code that pass a state building inspection will be able to label and market their facilities as CALGREEN-compliant.

As in New York City, a number of jurisdictions now also are beginning to focus on mandating improvements to their existing building stock. Until recently, most requirements to improve efficiency in existing buildings focused on state-owned or state-funded buildings. In 2005, Colorado adopted the LEED-EB standard for all state buildings. In April 2005, pursuant to an executive order, Michigan required all state-funded new construction and renovation projects whose costs exceed $1 million to be LEED-certified. In August 2005, Rhode Island, through executive order, required all new construction and renovation of public buildings to be LEED Silver-certified. In New Mexico, a January 2006 executive order requires renovations of public buildings in excess of 15,000 square feet to meet LEED Silver standards. In April 2009, Los Angeles enacted an ordinance that mandates retrofitting all city-owned buildings larger than 7,500 square feet or built before 1978 with a target of achieving LEED Silver certification. San Francisco now requires all renovations of municipal buildings exceeding 5,000 square feet to meet the LEED Silver standard.

Several states—including Colorado, Hawaii, Massachusetts, North Carolina, Utah, and Wisconsin—announced Jan. 5, 2010, that they will develop comprehensive plans to retrofit existing buildings to improve energy efficiency. The states will be working with the National Governors Association Center for Best Practices in developing such plans, which will include innovative funding and financing mechanisms, building energy use benchmarking tools, targeted education and outreach measures, and workforce training programs. These measures will be used to assist the design of larger-scale building retrofit programs and encourage improved efficiency in existing buildings.

### European Precedents

It should be noted U.S. jurisdictions trail those in the European Union in addressing the carbon footprint of existing buildings. The EU's Energy Performance Directive on Buildings (Directive 2002/91/EC) requires member states to impose minimum requirements for energy performance in new buildings and major renovations and retrofits. It also requires regular inspection of heating, ventilating, and air conditioning systems and energy performance certificates to be made available to the building owner (for new construction) and to prospective buyers and tenants. Member states are implementing the directive by bringing their national laws to compliance with it. Great Britain's Energy Performance of Buildings Regulation, for example, requires provision of a certificate containing information about the energy performance of a building upon its construction, sale, or lease accompanied by a recommendation report for improving the building's energy efficiency.

### ISO Standard

The highly regarded International Organization for Standardization also has weighed in on improving energy efficiency in buildings, promulgating the ISO 23045:2008 (ISO Standard). The ISO Standard provides guidelines for the improvement of energy efficiency in new buildings through the design process. According to ISO, the new standard will assist in:

- collecting and providing information regarding the energy efficiency of the building under consideration,
- conducting the iterative process to ensure improved energy efficiency of buildings, and
- obtaining the target values for energy efficiency ratios used in labeling or information to the public and/or consumers. [11]

[11] The announcement of International Standard ISO 23045:2008 is available at http://www.iso.org/iso/pressrelease.htm?refid=Ref1193.

### ASTM Work Item 24707

A significant aspect of many of the new statutes and regulations promoting the greening of existing building stock is their focus on disclosure. It is thought, probably correctly, that the mere fact that subpar energy efficiency will have to be disclosed to prospective buyers or tenants, and/or that it will be posted on a publicly available database, will be a powerful incentive for owners to improve their buildings' performance.

That trend is likely to be accelerated by the expected promulgation sometime later this year of a new ASTM standard for due diligence and disclosure of energy efficiency and sustainability performance of properties. An ASTM Work Group is developing a checklist of items to review, including:

- property and building characteristics;

- electrical consumption and cost;
- oil, natural gas, and steam consumption and cost;
- water consumption and cost;
- carbon dioxide emissions and footprint;
- energy audit history;
- green building certification/rating;
- applicable energy efficiency ordinances and codes;
- applicable tax credits, commercial incentives, and grants; and
- benchmarking against peer buildings.

ASTM is the organization that developed and popularized the Phase I Report, which has become the standard for due diligence with respect to environmental conditions of real property, so the potential influence of a new ASTM standard in this area should not be underestimated. Should the new standard become widely accepted, owners of buildings far from any jurisdiction that has imposed green building requirements, or far smaller than the threshold below which such requirements apply, may find themselves forced by publicity or market pressure to consider green building upgrades.

**Conclusion**

New York City's new laws place it at the forefront of the green building movement in the United States. It is likely these new laws will be reviewed closely, and at least to some degree emulated, by other jurisdictions hoping to address the environmental impact of their built environment. Moreover, nongovernmental initiatives, such as the incipient ASTM standard, may leapfrog these regulatory developments by providing a powerful, independent incentive for building owners and operators to improve the energy efficiency of their properties.

Over the next several years, we are likely to see a proliferation of such measures, in one or more of the following forms:

- revisions to building codes to increase energy efficiency and reduce water consumption;
- requirements for meeting LEED or “LEED-like” standards for new construction and substantial renovations;
- benchmarking against peer buildings using EPA Energy Star Portfolio Manager or similar programs;
- disclosure and public availability of energy efficiency performance via online governmental databases;
- mandatory disclosure of building energy performance to potential purchasers, tenants, and lenders; and
- building labeling requirements.

Keeping abreast of these developments is critical for property owners and property managers. To maintain the value of the asset in a competitive marketplace, save money, and avoid conflict with regulatory requirements, it will be important to understand:

- what is being, or what will be, required, measured, or mandated to be disclosed;
- how each property stacks up against these requirements or standards;
- what are the most cost-effective means to bring properties into compliance and improve their performance against the relevant metrics; and

- what federal, state, and local economic incentives—grants, loans, tax benefits, and technical assistance—may be available to assist in complying with these new measures.

Building owners and operators would be well advised to begin doing their homework on these issues now, so they will be prepared, and will be in position to reap competitive advantage, when this rising tide reaches their jurisdiction.

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