

# Green Buildings: Emerging Laws and Practices

Green laws affecting buildings are becoming more prevalent across the country on the local, state and federal levels. Applying green standards helps owners and operators of real property reduce their buildings' greenhouse gas footprints and cut costs over the long term.



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Companies that have not already felt the impact of emerging “green” laws and policies aimed at enhancing the energy efficiency of buildings soon will. As of January 2011, green laws, executive orders, ordinances and incentives affecting buildings had been implemented in at least 45 states, 58 counties, 384 cities and towns, and dozens of federal agencies and education districts.

The increased emphasis on “greening” new and existing buildings is due to several interrelated factors, including:

- High energy prices.
- Increased focus on reducing the nation’s reliance on foreign oil.
- Concerns about global warming.
- An anticipated economic recovery.
- The benefits of an environmentally friendly public profile.

Companies that own or lease real estate, or plan to construct new buildings or acquire or renovate existing buildings, should understand applicable green law developments to comply with new requirements and take advantage of available incentives.

This article explains:

- How green laws, policies and incentives are used to increase the use of green practices in buildings.
- The costs and benefits associated with green buildings.
- Why the next trend in green laws and policies will likely focus on mandatory energy audits and retrofitting for existing buildings.
- The reasons companies should not wait to consider greening their real estate.

## INCORPORATING GREEN PRACTICES

Initially, green laws, policies and incentives applied only to new government buildings and major renovations of government buildings. They were later expanded to include new commercial buildings and major renovations of existing non-governmental buildings. More recently, some jurisdictions have expanded mandates to require non-governmental owners of existing buildings to evaluate and even retrofit their structures to improve energy efficiency.

Green practices in building management have been influenced by both:

- Local building codes.
- Voluntary programs that encourage environmentally conscious building design and construction.

Instituting and enforcing local building codes is the traditional form of governmental control over the construction and occupancy of a building. These codes outline the minimum standards to ensure the protection of public health, safety and welfare.

While these minimum standards are elevated over time, building codes do not mandate or encourage any standard above these minimums.

The green building movement aspired to improve the minimum standards set by building codes by introducing more environmentally conscious building design and construction elements. In the early 1990s, the movement achieved national momentum, primarily through two programs:

- ENERGY STAR.
- Leadership in Energy and Environmental Design (LEED).

While ENERGY STAR and LEED differ from each other, they largely are compatible. The principal difference between the programs is that ENERGY STAR focuses solely on energy efficiency, while LEED more broadly emphasizes building design and operation.

Both these programs remain voluntary, but they effectively have caused, even if indirectly, improvements in energy efficiency standards in new buildings (as building codes incorporate higher minimum standards) and existing buildings (as new legislation, regulations and incentives target existing structures).

#### ---> DID YOU KNOW?

*The built environment is the focus of the green building movement for good reason. Buildings consume 70% of the nation's electricity load and account for 38% of the nation's carbon dioxide emissions, which is higher than either the transportation or industrial sectors. Further, since a typical building remains standing for between 50 and 100 years, the introduction of green design elements will have lasting positive impact.*

#### ENERGY STAR CERTIFICATION

The US Environmental Protection Agency (EPA) and the US Department of Energy (DOE) jointly administer the ENERGY STAR program to promote energy efficiency and greenhouse gas reduction. Over the past two decades, the program's focus has expanded to improving energy performance in a wide range of buildings from residential to commercial, industrial, schools and hospitals.

In 1995, the program began to offer the ENERGY STAR label to new homes that were generally 20% to 30% more efficient than would be required under

the DOE's national model energy code. The model code is intended as a guide for adoption by states and localities, and now is part of the International Energy Conservation Code.

Currently more than one million new homes have been qualified through the ENERGY STAR program. Each year, residents of those homes save an estimated total of \$270 million in utility bills due to reduced energy costs. ENERGY STAR's new-home standards continually are being revised, with the most recent revision in January 2011.

#### LEED CERTIFICATION

The US Green Building Council (USGBC), a non-profit trade organization, developed LEED to promote sustainability through its certification programs. Introduced in the mid-1990s, LEED is now among the most widely recognized programs in the national and international green building community. Between 2008 and 2009, ten states enacted laws requiring that large, new government-owned buildings receive LEED or LEED-equivalent certification. Those states are:

- Florida.
- Illinois.
- Maryland.
- New Jersey.
- New York.
- Oklahoma.
- Rhode Island.
- South Dakota.
- Utah.
- Virginia.

The certification programs provide building owners and operators with a framework for identifying and implementing a wide variety of green building elements to enhance their structure's design, construction, operations and maintenance. Apart from certain defined prerequisites, a project sponsor has the flexibility to choose its own unique blend of design elements to achieve LEED certification.

LEED elements and standards are continually updated and enhanced. The building elements considered by LEED are grouped into five main areas:

- Sustainable site development.
- Water savings.
- Energy efficiency.

- Materials selection.
- Indoor environmental quality.

The LEED program features unique rating systems for nine broad construction categories. Each of the construction categories includes elements tailored to that category that are required for LEED certification. The LEED certification system encourages the inclusion of sustainable elements in existing buildings. For example, the “Existing Building” category (LEED-EB) measures and certifies the operational sustainability of an existing building.

LEED certification is determined by a points rating system. The number of points a building receives is based on the number and degree of LEED elements incorporated into its design. If a building receives enough points, it qualifies for one of the four levels of LEED certifications:

- Certification (40 to 49 points).
- Silver certification (50 to 59 points).
- Gold certification (60 to 79 points).
- Platinum certification (80 to 110 points).

## COSTS AND BENEFITS OF GREEN BUILDINGS

When undertaking green building planning, a company should consider the various costs involved. These generally relate to expenses incurred in construction and certification. However, the many benefits of greening a building may significantly outweigh the costs.

### COSTS

The costs of incorporating green building elements into a new or existing building vary widely, especially due to the broad range of design elements that can be used. It is relatively straightforward to calculate a return on investment for certain elements, such as enhancements relating to water and energy efficiency. However, it is more difficult to measure the value of other elements, such as adding bicycle racks or increasing interior daylight or views from interior building spaces.

The costs associated with obtaining certification under ENERGY STAR, LEED or other similar programs fall under one of the following categories:

- **Application fees.** Applicants typically must pay registration and certification fees to the certifying entity. Certification fees can range from a few thousand dollars up to about \$30,000, depending on the size of the building

and other variables. For more information on application and registration fees, see the Green Building Certification Institute’s current certification fees and registration fees (available at [gbc.org](http://gbc.org)).

- **Management costs.** Consultants and architects can charge additional fees for managing the application process.
- **Design, research, commissioning or energy modeling costs.** These costs would be greater than those required for a conventional building, which typically have lower or no such costs at all.

### BENEFITS

Companies can derive a number of other benefits from following the design elements of LEED or similar programs, even if certification is not sought or achieved. These benefits include:

- Financial incentives.
- Increased asset valuation and lower operating expenses.
- Expedited construction procedures.
- Positive public perception.

### Financial Incentives

Some jurisdictions provide financial incentives for attaining LEED or similar certification, and in some cases, even for incorporating a certain level of green elements from those programs without achieving formal certification. Typical incentives may include one or more of the following:

- Rebate or refund of permit fees.
- Rebate or refund of various development application costs, including costs to expedite application review.
- Reduction or waiver of a variety of taxes.
- Granting of zoning allowances to permit a larger building to be constructed than zoning laws otherwise would allow.

Examples of jurisdictions where financial incentives are in effect include:

- **Miami Beach, Florida.** Refund of application and review fees for LEED certification. Refund of up to 5% of the incremental cost of achieving LEED Silver certification.
- **Baltimore County, Maryland.** Residential green developers receive tax credits that are effective for up to three years and for up to a

maximum of \$1 million. Developers receive a property tax credit of:

- 40% for LEED Silver certification;
  - 60% for LEED Gold certification; and
  - 100% for LEED Platinum certification or applicable LEED equivalents.
- **State of Connecticut.** Permitted base credit between 5% and 10.5% for broadly defined “allowable costs” for qualifying new and renovated commercial projects that earn certain LEED or equivalent certifications.

### Increased Asset Valuation and Lower Operating Expenses

According to USGBC, an upfront investment in green building design yields life-cycle savings of ten times the initial investment amount. A green building also frequently offers a better indoor environment for occupants than a conventional building, with:

- Improved air quality and ventilation.
- Enhanced access to natural light.
- Other health and safety benefits.

When compared to conventional buildings in the same market, surveys cited by USGBC show that green buildings (particularly, but not exclusively, those that are certified under a program such as LEED) tend to have a higher valuation. This is also evidenced through higher leasing rates and resale prices for green buildings.

Valuation may be further impacted in the future as energy audit and efficiency information becomes increasingly public in major markets. Jurisdictions are starting to require owners of existing buildings to perform energy audits and to make that information available to the public (see below *Energy Audits and Retrofitting for Existing Buildings*).

This energy audit information likely will become an important financial consideration for potential buyers, actual and potential tenants and even lenders. This information also may contribute to the general public’s positive perception of the building’s owner, tenant and designer (see below *Positive Public Perception*).

New standards are being developed in response to these new energy-performance disclosure laws. In March 2011, ASTM International, a leading international standards organization, released ASTM E2797, a technical standard aimed at providing a uniform means of collecting, compiling, analyzing and

reporting building energy performance data for the benefit of lenders, buyers, tenants and others.

As more energy-efficiency disclosure mandates are enacted, the widespread adoption of ASTM E2797 or a similar standard will become increasingly likely. For more information, see ASTM’s news releases (available at [astmnewsroom.org](http://astmnewsroom.org)).

### Expedited Construction Procedures

Companies that achieve LEED or equivalent certification, particularly at the higher certification levels, can go through the various stages of the development process on an expedited basis. This can translate to reduced construction and carrying costs and to the faster receipt of income from the building’s sale or rental.

Some examples of expedited construction incentives already in effect are:

- **Los Angeles, California.** Expedited plan review and permitting for projects seeking LEED Silver, Gold or Platinum certification.
- **San Francisco, California.** Priority permitting when developments achieve LEED Gold or Platinum certification, or their equivalent under other local programs.
- **Anchorage, Alaska.** Refund of all expedited building permit fees and refunds of a portion of the building’s standard permit fees when a project achieves LEED or equivalent certification. Fees refunded increase as the building’s certification level increases.

### Positive Public Perception

Designing and constructing a building with green principles provides an opportunity for public relations and advertising. Local media and governments, and green certification organizations like USGBC, frequently highlight these developments, including through awards or features on websites or in print.

Similarly, a green building can:

- Be promoted and perceived as a tangible demonstration of the owner’s (or the tenant’s) environmental and social values.
- Help owners and tenants build goodwill with their local community and business community.

Certification under ENERGY STAR, LEED or an equivalent program confers the most benefit with respect to public perception because these certifications

are recognized on a national level and constitute third-party validation of a building's green attributes.

## ENERGY AUDITS AND RETROFITTING FOR EXISTING BUILDINGS

The next wave of green laws and policies affecting buildings is expected to incentivize and even require that existing buildings be evaluated and retrofitted to improve energy efficiency.

Some jurisdictions already require that energy audits be prepared for existing buildings, particularly for larger ones. An energy audit surveys a building's physical features and mechanical systems to:

- Assess overall energy usage, and identify energy inefficiencies and measures to improve efficiency.
- Describe the costs associated both with identified energy inefficiencies and potential improvement measures.

The evolution of retrofit initiatives is similar to that of other green building requirements. The early retrofit mandates originally applied to government buildings and are beginning to be applied to commercial and other real estate categories.

### LOCAL GOVERNMENT INITIATIVES

Energy audit and retrofitting initiatives currently exist only in a small number of leading jurisdictions, such as New York City and San Francisco. However, these initiatives are expected to become more commonplace and increasingly mandatory in coming years (see *Box, Leading Trends in Cities*).

Several jurisdictions have committed to retrofit buildings that are government owned or operated, such as:

- **St. Louis, Missouri.** Legislation passed in 2007 applies LEED-EB principles in the retrofitting or renovation of any municipal building if practicable.
- **Los Angeles, California.** An ordinance passed in 2009 requires the city to retrofit most pre-1978 municipal buildings with the goal of achieving LEED-EB Silver certification.
- **Bloomington, Indiana.** Commitment made in 2009 to retrofit all municipal buildings to LEED-EB Silver within ten years.

### FEDERAL GOVERNMENT INITIATIVES

Under the American Recovery and Reinvestment Act of 2009 (ARRA), commonly known as the Stimulus Act, the federal government has funded the retrofits of both government and privately-owned buildings in various locations in the United States.

ARRA funds were used in Los Angeles to launch the Green Retrofit Workforce Program, which trains workers to obtain jobs retrofitting existing buildings. This year, Green Retrofit Workforce employees will begin to retrofit the first of 130 city government buildings to improve the buildings' energy efficiency.

ARRA also funds the Green Retrofit Program, which has awarded \$250 million in grants and loans to retrofit 20,000 existing residential buildings around the country.

## WHY COMPANIES SHOULD CONSIDER GREENING REAL ESTATE NOW

The design, construction and operation of buildings continue to become more green as a result of:

- Improved technology and industry practice.
- Amended building codes.
- The influence of programs like ENERGY STAR and LEED.
- Available benefits and incentives.

Taken together, these factors continually set a higher "floor" for the performance of green buildings. At the same time, revised ENERGY STAR and LEED standards continually raise the "ceiling" for sustainable green development by recognizing the most cutting-edge green elements.

The historical progression of the green building movement shows that as this cycle continues, what is cutting edge today will become standard practice tomorrow. There is every indication that this trend will not only continue, but accelerate, for the foreseeable future.

Whether designing and constructing a new building or renovating an existing building, companies should analyze:

- The costs and benefits of incorporating green building elements.
- Whether to apply for ENERGY STAR, LEED or equivalent certification.

## LEADING TRENDS IN CITIES

New York City (NYC) and San Francisco have now set requirements for energy audits and retro-commission mandates for private buildings. Both cities are at the leading edge of the nation's green building trends.

In December 2009, NYC enacted four laws that together comprise what is known as the Greener, Greater Buildings Plan (GGBP). The GGBP is a cornerstone of NYC's goal of achieving by 2030 a 30% reduction of annual greenhouse gas emissions from 2005 levels. The GGBP requires private buildings over 50,000 square feet and city buildings over 10,000 square feet to track and assess their energy and water use through an ENERGY STAR benchmarking tool. Each building's energy and water use will be reported annually and made available to the public.

The GGBP also requires that the building owner's audit report to NYC authorities identify the

costs and savings associated with all reasonable efficiency and retrofit measures that would reduce energy use. While no retrofits are currently required, building owners must retro-commission or "tune-up" the building's existing systems to ensure efficient operation. Buildings that are "high performance" (such as those that are ENERGY STAR or LEED-certified) during the time of an audit submission date are exempt from the audit and retro-commissioning requirements.

In December 2010, San Francisco adopted an ordinance requiring owners of non-residential buildings over 10,000 square feet to conduct an energy audit and submit a report every five years. That audit report must identify retrofitting or retro-commissioning alternatives (or both) that could, among other things, pay for themselves in five years.

This assessment often requires the services of company engineers, technicians or other staff and in-house or outside counsel (or both). Attaining third-party green certification from ENERGY STAR, LEED or a similar program also could exempt a company from, or at least delay a company's need to comply with, future mandates to undergo an energy audit and retrofit its building.

As green building elements become more stringent and mandates become more commonplace, there likely will be increased competition for the incentives that are available today and some incentives that will no longer be funded.

By exploring these issues now, companies should be able to take advantage of funding opportunities, tax credits and other government-sponsored incentives that currently exist to defray the costs associated with constructing a new green building or with retrofitting an existing one.