
The Past, Present, and Future of Green Building

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In today's volatile and unstable economy, people across all industries are looking for a way to stimulate the economy or find the next lucrative opportunity. One way to distinguish your law firm or practice, your business or brand, or yourself, is to tap into the benefits of green building. Green building quickly became the wave of the future and is no longer an abstract theory or idea, but a realization that is becoming common throughout the United States and much of the world.

This article provides an overview of green building by beginning with the basic definition and design aspects, leading into the founding of the U.S. Green Building Council (USGBC), which developed the subsequent Leadership in Energy and Environmental Design (LEED) standards that have advanced over time and helped shape and expand green building throughout the country. Further, the article outlines several states with mandatory green-building laws and examples of green-building incentives that a state or certain jurisdictions within that state may offer to stimulate voluntary green building. Finally, the article outlines the green-building provisions included in the American Recovery and Reinvestment Act of 2009 (Stimulus Package) and how this law may affect the future economy and emphasize or promote green building throughout all states in the near future.

As far back as 1993, President Bill Clinton launched an initiative called "The Greening of the White House." President Clinton announced his initiative in his Earth Day Address in 1993 stating, "We're going to identify what it takes to make the White House a model for efficiency and waste reduction, and then we're going to get the job done." A number of experts in various fields, such as architects, engineers, designers, water experts, and many more, participated in a Feasibility Study in July 1993 that was sponsored by the American Institute of Architects. This study produced a report to the Office of Environmental Policy, setting out a model design process and the experts' recommendations for improvements to White House energy efficiency and environmental awareness. The report focused on such items as the building envelope, lighting, heating, ventilation, air-conditioning and cooling systems, building materials, and indoor air quality.

Further, the USGBC, a nonprofit organization, was founded in 1993 and is now internationally known as the certifying enti-

ty for green building. The USGBC's mission is to shape building and communities so that they are designed, built, and operated in a way that promotes "an environmentally and socially responsible, healthy, and prosperous environment that improves the quality of life." The USGBC has chapters throughout the country. Individual chapters provide local resources for green building and green education.

The USGBC's greatest contribution thus far to the advancement of green building has been the development of LEED, a third-party certification program certifying that one has designed, constructed, or owns a sustainable building. The LEED certification program currently includes a four-level rating system (Certified, Silver, Gold, and Platinum) that incorporates design, construction, and operation of high-performance green buildings. LEED certification is based on a point system for new buildings, existing buildings' operation and maintenance, and commercial interiors for tenants, core and shell construction, schools, retail stores, healthcare facilities, and homes.

LEED focuses on five areas to promote a whole-building approach to human and environmental health, including sustainable site development, water savings, energy efficiency, materials selection, and indoor air quality. An array of professionals can use LEED to distinguish themselves from their peers and to promote both their careers and green building, such as architects, engineers, designers, construction managers, and attorneys. Because every piece of a green building puzzle requires a thought-out plan to maximize energy efficiency and promote environmental health, each step of the building process requires knowledgeable professionals. LEED and other green-building regulations create and promote an entirely new and cutting-edge industry with jobs available across all markets.

In 2005, the state of Washington became the first state to mandate green-building requirements in the building of new public buildings. Washington's bill, signed by Governor Christine Gregoire, set forth LEED requirements for "all major public agency facilities exceeding 5,000 square feet, including school buildings receiving state funding."

On April 27, 2009, the USGBC launched the newest and latest improvements to the LEED system, dubbed "LEED v3." According to the USGBC, LEED v3 brings three enhancements to the current LEED rating system: (1) harmonization, or consistency in credits and prerequisites across all LEED rating systems; (2) credit weightings, which applies different weightings and point awards to factors that have greater positive impacts; and (3) regionalization, which involves identifying

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regionally specific environmental issues and prioritizing those credits because they address specific environmental issues relevant to the zip code where the project is located (e.g., water preservation in the desert Southwest or insulating and heat retention in Alaska). LEED v3 still applies to new construction, core and shell, schools, existing buildings' operation and maintenance, and commercial interiors.

With the emergence of the USGBC, LEED, and other green-building and energy-saving programs, as well as the continued focus of the general population on living "green" lifestyles, federal, state, and local governments have had growing interest in protecting the environment and the conservation of energy. Additionally, not all green building is LEED certified; there are many shades of green. Some states have reacted more quickly than others and have green-building regulations, programs, and incentives in place at the state, local, and community levels, while other states are slowly jumping on the "green" bandwagon.

While LEED certification and green building may generally have higher initial construction costs, this also means more money for the architects, engineers, and contractors while the job is ongoing. Further, even in states where no mandatory green-building regulations exist, many incentives are emerging. Some examples include priority permitting; reduced permitting fees, state and local tax incentives; state and local grant, loan, and rebate programs; and utility grant, loan, and rebate programs.

State and Local Green Building Developments

The following provides an overview of certain states and their respective green-building movements (or lack thereof) that include policies or programs for green building, in either the public sector or the private sector. While most states provide discretionary guidelines that one can benefit from under the incentives, some include mandatory guidelines at the state or local level. These jurisdictions may provide laws, regulations, or an executive order implementing green-building policies that the state has adopted or that jurisdictions within may choose to adopt and enforce. These may be policies that implement only certain aspects of green building, such as using energy-efficient appliances, energy reductions, or an increase of use in renewable energy. Many mandatory policies apply to new construction and/or major renovations, but certain states may provide that all state or local government buildings become a certain level of "green" at some future date or that buildings reduce energy consumption by certain percentages over time. Certain states have extremely advanced green-building regulations and incentives in place, while others simply seek to improve energy efficiency in small amounts. The trend towards mandatory green-building requirements and energy reductions in city and state buildings has grown rapidly. The public sector has definitely taken the lead on promoting the future of green building, and certain states, especially in the West and Southwest, where resources like solar and wind power are abundant, have taken the lead in

the private sector.

Every state offers incentives for the green builder that may include, but are not limited to, items such as personal tax credits; corporate tax credits; property-tax assessments and exemptions; production incentives; and state and/or utility grant, loan, and rebate programs. Not all states have mandatory green-building requirements. (The following information regarding mandatory policies and incentives was compiled from either www.dsireusa.org or www.energycodes.gov and is current as of June 2009.)

For example, as far back as 1998, the city of Scottsdale, Arizona, was focused on green building. Today, Scottsdale has mandatory requirements for one- and two-family dwellings, as well as townhouses and condominiums not taller than three stories. These requirements include measures such as high-efficiency toilets in 50 percent of the bathrooms or sealing high penetrations and connections in the building envelope. In the public sector, Scottsdale's standards for new city buildings and renovations were the first to adopt a LEED Gold requirement. The city of Phoenix, Arizona, recently released a seventeen-point plan to make Phoenix the "first carbon-neutral city—and the greenest—in the entire county." It includes, among many other items, bringing all public buildings in Phoenix up to new LEED-equivalent retrofit standards.

Further, in 2008, the mayor and city council of Tucson, Arizona, approved an ordinance requiring all new single-family homes and duplexes in the city to be "solar ready." See Tucson City Ordinance No. 10549. This means these homes must have photovoltaic and solar water heating systems installed or have the necessary hardware to allow installation in the future. The solar water heating rules have been enforced as of March 1, 2009, while the photovoltaic rules are still in development.

As for mandatory state policies in Arizona, the governor issued Executive Order 2005-05 in 2005, which requires new state-funded buildings to include renewable energy sources and meet energy-efficiency standards. This was reaffirmed in Executive Order 2008-29, which also initiates energy-performance contracts for state agencies that have not met energy-reduction goals. Certain statutory provisions also require a reduction in energy usage for the Department of Administration, the Department of Transportation, and the Arizona Board of Regents. See ARIZ. REV. STAT. § 34-451.

California is another leader on the green-building front, with standards such as the "Green Building Action Plan for State Facilities" in place. The governor signed Executive Order S-20-04, aimed at improving the energy performance of all public buildings by certain percentages. Further, new and renovated state buildings have to be at least at LEED's Silver level. California cities also have enacted energy standards for public buildings that may contain even more strict requirements than the state requires. For example, Berkeley requires that all city-sponsored buildings receive LEED certification (Berkeley City Council Resolution 62284, Nov. 18, 2003); San Diego created a policy to achieve LEED Silver for new city facilities and major building renovation projects over 5,000 square feet (City of San Diego Council Policy 900-18, June 19, 2001); and San

Francisco requires all new city construction and major renovation for buildings over 5,000 square feet to achieve LEED Silver, whereas buildings less than 5,000 square feet are encouraged to achieve a LEED score as high as practicable (San Francisco Environment Code Ch. 7, May 27, 2004).

California cities have created their own standards for the residential and commercial sectors as well. More particularly, Berkeley passed an ordinance that requires energy-conservation measures when selling or doing major renovation of residential and commercial properties, if the property participates in the Berkeley Financing Initiative for Renewable and Solar Technology (FIRST) Program. See Berkeley Municipal Code Ch. 19-72, 19-16. The FIRST Program allows a property owner to borrow money from the city to install photovoltaic systems and repay the loan over twenty years through an annual special tax on property tax bills.

Additionally, Marin County, California, implemented Marin County's Single Family Dwelling Energy Efficiency Ordinance, which requires new houses larger than 3,500 square feet to meet the energy design standard of a 3,500 square-foot home (a house cannot use more energy than a 3,500 square-foot house regardless of the size). See Marin County Code § 19.04.100 (Effective Jan. 1, 2003). San Francisco also has a Green Building Code, adopting stringent guidelines for both residential and commercial properties. See San Francisco Ordinance No. 180-08 (effective Nov. 1, 2008). This Green Building Code outlines and defines the differing building types (e.g., small and midsize residential) and lists the requirements for each, such as "must be GreenPoint Rated and building applications must demonstrate that a minimum of 50 GreenPoints will be earned" in 2010 and 2011 for small residential buildings.

Furthermore, one can see the abundance of incentives available in many states. For example, Oregon has a number of incentives available to the green builder. For one, Oregon provides both a corporate tax credit for businesses and a personal tax credit for individuals. Also available is "industry recruitment and/or support," which in the case of Oregon is a tax credit for renewable energy equipment manufacturers. This credit targets the manufacturing industry to promote the growth and development of renewable-energy systems. In addition, Oregon, through the Eugene Water & Electric Board's Solar Electric Program and the Northwest Solar Cooperative, has production incentives for residential and commercial customers who generate electricity using solar photovoltaic systems. There are numerous grant, loan, and rebate programs sponsored by both the state and the utility companies. These programs range from incentives for businesses, residential homes, and local and state government sectors.

Another state advancing green-building policies is New York. Besides the numerous incentives, which include a corporate tax credit, reduced permit fees, industry recruitment and/or support, a local rebate program, personal tax credits, a production incentive, property tax assessment and exemptions, a sales tax exemption, as well as state grant, loan, and rebate programs and utility rebate programs, the state of New York also has mandatory policies affecting the public sector. In 2001,

New York Governor George Pataki signed Executive Order No. 111 setting forth "Energy Standards for Public Buildings." Over the years, subsequent governors have renewed the order, which implements a number of requirements: (1) in buildings that state agencies own lease or rent, they must reduce energy consumption by 35 percent from 1990 levels by 2010 and establish targets and schedules for peak demand reductions; (2) state agencies must use ENERGY STAR equipment when obtaining or replacing equipment; (3) any new state construction and/or substantial renovations must employ LEED guidelines as practicable; and (4) existing buildings' operations should try to meet ENERGY STAR standards for energy performance and indoor air quality.

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New York City also has passed a law for city buildings and projects funded by the city treasury that apply to new construction, building additions, and substantial reconstructions. These requirements include meeting LEED certification standards and vary depending on the cost of the project. See New York City Local Law No. 86 (2005).

While all states have some type of incentives, not all states have jumped on the green bandwagon with mandatory policies. One such state is Mississippi, which has no law or regulation enforcing green-building requirements. However, Mississippi does have discretionary incentives. For example, the Energy Department of Mississippi Development offers an Energy Efficiency Lease Program, which allows public institutions and private nonprofit hospitals to lease-purchase energy-efficient services and equipment for up to ten years. To qualify for such a program, an institution must apply and pass a resolution identifying the project. The institution also must develop design and project-implementation guidelines. After approval is granted, the institution can select a contractor and execute lease documents.

Another incentive offered in Mississippi is a state loan program, which is a low-interest loan for renewable-energy and energy-efficiency projects for technologies such as solar thermal, hydropower, photovoltaics, and other renewable energy sources. The loan provides a maximum seven-year loan, with an interest rate 3 percent below the prime rate, and ranges from \$15,000 to \$300,000. The project must demonstrate that they will reduce the facility's energy costs.

Interestingly, in late-2008 the District Court of New Mexico decided to grant a preliminary injunction in *The Air Conditioning, Heating and Refrigeration Institute, et al. v. Albuquerque*, a case

that sets a precedent that may hinder individual states' and cities' green-building regulations. See No. 08-633 MV/RLP, 2008 U.S. Dist. LEXIS 106706 (D. N.M. Oct. 3, 2008). Based on recommendations and options from the Mayor's Green Ribbon Task Force developed to implement green changes to building regulations, Albuquerque's Green Building Manager (GBM) drafted Volumes I and II of the Albuquerque Energy Conservation Code (Code), and the Albuquerque City Council adopted the Albuquerque High Performance Buildings Ordinance (Ordinance). The Code included options that exceeded the federal standards and efficiency levels; the Ordinance set "prescriptive standards" above and beyond the federal regulations and required the GBM to establish other criteria for building energy conservation, which the GBM interpreted as "requiring compliance with Volumes I and II of the Code." *Id.* at *9.

In response, The Air Conditioning, Heating and Refrigeration Institute (AHRI) filed for an injunction because of the requirement to comply with federally preempted regulations. The court, granting the preliminary injunction, held that "[t]here is no doubt that Congress intended [in 42 U.S.C. § 6297(c), (f)] to preempt state regulation of the energy efficiency of certain building appliances in order to have uniform, express, national energy efficiency standards." *Id.* at *20. Further, the court stated that "[i]t was Congress's intent that a qualifying building code 'follow a one-for-one equivalency as closely as possible, to assure that the credits for exceeding Federal standards are even-handed and are not unfairly weighted resulting in undue pressure on builders to install covered products exceeding Federal standards.'" *Id.* at *21 (quoting S. Rep. 100-6 at 11).

AHRI provides an interesting commentary on the development of green-building regulations in states and cities nationwide. It begs the question of whether green building will be controlled from the top down (by federal regulations) or from the bottom up (by local building code regulations). AHRI shows that federal regulations may begin to hinder the green-building movement; although certain localities are moving at a quicker pace in developing and implementing stringent green-building laws, AHRI demonstrates that certain areas are preempted by federal law and, therefore, will only expand their regulations as quickly as the federal government does.

The Obama Presidency and the Stimulus Package

On January 14, 2009, six days before then-President-Elect Barack Obama's inauguration, the USGBC reported that the president-elect had

issued a recent commitment to make the U.S. a global leader in green, energy-efficient government facilities, calling for an overhaul of 75% of federal buildings in an effort to save \$2 billion

through energy efficiency alone. On schools, the President-Elect has said repeatedly that green school funding will be another priority in the economic package.

With high hopes of the Obama presidency, the USGBC looked forward to a "Greening of the White House 2009." Holding true to his word, on February 17, 2009, President Obama passed and signed the Stimulus Package into law, which provided for an advancement of energy efficiency. See H.R. 1, 111th Congress, 1st sess. (Feb. 17, 2009).

The Stimulus Package provides discretionary state energy grants to a state only if the state's governor gives necessary assurances. The language in the Stimulus Package sets forth incentives for a state to adopt utility regulatory reform and stronger building energy codes. For example, Section 410(a)(2)(B) calls for a building code for commercial buildings throughout a state that meets or exceeds the ANSI/ASHARE/IESNA Standard 90.1-2007. The Stimulus Package also provides for the expansion of existing energy-efficiency programs by the state. These incentives, also known as the State Energy Program (SEP), have been allocated \$3.1 billion.

The Stimulus Package contains other incentives that support green building, such as an overall \$16 billion for the weatherization of homes at the federal, state, local, and tribal levels as well as \$4.5 billion to make 75 percent of federal buildings more energy efficient, i.e., to convert such facilities to "high performance green buildings." Further, the Stimulus Package provides \$3 billion for school improvement grants.

However, the Stimulus Package only provides incentives and not mandatory regulations. States and their governors have no obligation to implement SEPs but have to make the choice as to how much they want or need an influx of cash for these types of programs. It seems that with such large amounts of money available and the advantages of "going green," states would jump at the opportunity to receive this type of cash flow to stimulate building and create jobs in their local economies. But with different financial constraints it is unclear if states can afford to make the necessary assurances for state funding and make more expensive green buildings a state priority.

When the economy begins to rebound, and building starts anew, the emergence of more mandatory green-building regulations may grow exponentially. However, an increase in mandatory building regulations could impede the development of incentives for green building. As already seen in the public sector in many states, the tide has begun to shift and green building momentum has grown, leading to less discretionary incentives and more mandatory building requirements. Further, with the current presidential administration and its plans for the future, it seems as though green building is not a short-term fad. In time, green building may no longer be a catch-phrase or a trend for the future, but instead the standard for construction in all residential, commercial, and government buildings. 🌳