



## **State and Local Government Green Building Ordinances in California**

In recent years, California has taken the lead in promoting “green” building ordinances. These measures can increase energy efficiency, reduce greenhouse gas emissions, and decrease other harmful environmental impacts. Numerous local governments in California have implemented such measures, and in 2010, the State adopted the nation’s first statewide green building standard. This document discusses the statewide code as well as the various approaches to green building ordinances that local jurisdictions have taken.

### **CALGREEN Code**

The statewide code, known as CALGREEN Code (available [here](#)), applies to all new buildings constructed after January 1, 2011, and requires that they be built using environmentally advanced construction practices. The Code updates Title 24 of the California Code of Regulations, also known as the California Building Standards Code. In addition to setting mandatory requirements, the Code includes more stringent optional provisions permitting developers to meet heightened standards, known as Tier 1 and Tier 2. CALGREEN Code § A4.6 (residential) and §A5.6 (nonresidential) include detailed criteria for meeting these tiers. Cities at their discretion may adopt Tier 1 or Tier 2 as mandatory or adopt and enforce other standards that are more stringent than the CALGREEN Code.

The CALGREEN Code includes the following requirements:

	<b>Mandatory Requirements</b>	<b>Voluntary Standards</b>
<b>Indoor Water Use Reduction</b>	20%	30%; 35%; 40%
<b>Water Meters</b>	Separate for nonresidential indoor and outdoor use	
<b>Diversion of Construction Waste from Landfills</b>	50%	Residential: 65% (Tier 1); 75% (Tier 2) Nonresidential: 65% (Tier 1); 80% (Tier 2)
<b>Mandatory Inspection of Energy Systems</b>	Nonresidential buildings over 10,000 ft. <sup>2</sup>	
<b>Required Low-Pollutant Emitting Materials</b>	Paint, carpet, vinyl flooring, and particle board	80% VOC compliant resilient flooring (Tier 1); 90% resilient flooring (Tier 2)
<b>Energy Efficiency</b>		Exceed Title 24's 2008 Energy Efficiency Standard by 15% (Tier 1); Exceed Standard by 30% (Tier 2)

## *State Buildings*

In December 2004, Governor Schwarzenegger signed Executive Order S-20-04 (EO). The EO requires “[d]esigning, constructing and operating all new and renovated state-owned facilities paid for with state funds as ‘LEED Silver’ or higher certified buildings.”[LEED is discussed below.] The Department of General Services maintains an updated list of LEED state-owned facilities here:

<http://www.green.ca.gov/GreenBuildings/leedcertbldgs.htm>.

## **LOCAL GREEN BUILDING CODES**

The following cities in California have enacted mandatory green building ordinances:

<b>City</b>	<b>Ordinance</b>	<b>Effective Date</b>	<b>Link</b>
Albany	Ord. No. 06-016	July 2007	<a href="#">Here</a>
Brisbane	Ord. No. 524	January 2008	<a href="#">Here</a>
Calabasas	Ord. No. 2003-185	February 2004	<a href="#">Here</a>
Cotati	Res. PC No. 06-24	January 2008	<a href="#">Here</a>
Culver City	Ord. No. 2008-004	March 2008	<a href="#">Here</a>
Davis	Ord. No. 2323	August 2008	<a href="#">Here</a>
Dublin	Ord. No. 9-04	March 2004	<a href="#">Here</a>
Hayward	Ord. No. 08-20	August 2009	<a href="#">Here</a>
Healdsburg	Ord. No. 1079	August 2009	<a href="#">Here</a>
Livermore	Ord. No. 1804	January 2008	<a href="#">Here</a>
Long Beach	Ord. No. 09-0013	June 2009	<a href="#">Here</a>
Los Altos	Ord. No. 07-315	December 2007	<a href="#">Here</a>
Los Altos Hills	Ord. No. 512	November 2008	<a href="#">Here</a>
Los Angeles	Ord. No. 179820	May 2008	<a href="#">Here</a>
Marin (Co.)	Ord. No. 3533	June 2010	<a href="#">Here</a>
Mill Valley	Ord. No. 1246	December 2008	<a href="#">Here</a>
Morgan Hill	Ord. No. 1966	Ord. Pending	<a href="#">Here</a>
Napa	Ord. No. O2009 3	January 2009	<a href="#">Here</a>
Novato	Ord. No. 1503	October 2005	<a href="#">Here</a>

Oakland	Ord. No. 12658	May 2005	<a href="#">Here</a>
Palm Desert	Ord. No. 1124	February 2007	<a href="#">Here</a>
Palo Alto	Ord. No. 5006	July 2008	<a href="#">Here</a>
Pasadena	Ord. No. 7031	May 2008	<a href="#">Here</a>
Pleasanton	Ord. No. 1934	January 2006	<a href="#">Here</a>
Redwood City	Ord. No. 2348	November 2009	<a href="#">Here</a>
Rohnert Park	Ord. No. 782	July 2007	<a href="#">Here</a>
San Francisco	Admin. Bulletin No. AB-093 Implementing Ord. No. 180-08	January 2010 for Admin. Bulletin and November 2008 for Ord.	<a href="#">Here</a>
San Jose	Ord. No. 28622	September 2009	<a href="#">Here</a>
San Mateo (Co.)	Ord. No. 04411	March 2008	<a href="#">Here</a>
San Rafael	Ord. No. 1879	June 2010	<a href="#">Here</a>
Santa Barbara	Ord. No. 5446	March 2008	<a href="#">Here</a>
Santa Clara (Co.)	Ord. No. NS-1100.107	August 2009	<a href="#">Here</a>
Santa Cruz	Ord. 2005-29	January 2007	<a href="#">Here</a>
Santa Monica	Ord. No. 2261	May 2008	<a href="#">Here</a>
Santa Rosa	Ord. No. 3869	June 2008	<a href="#">Here</a>
Sebastopol	Res. 5454	March 2005	<a href="#">Here</a>
Sonoma	Ord. No. 03-2009	August 2009	<a href="#">Here</a>
Tiburon	Ord. No. 512	November 2008	<a href="#">Here</a>
Union City	Ord. No. 729-10	2009	<a href="#">Here</a>
Windsor	Ord No 2007-215	June 2007	<a href="#">Here</a>
West Hollywood	Ord. No. 07-762	October 2007	<a href="#">Here</a>

### ***Green Rating Systems***

The enactment of local green building requirements has been facilitated by the development of several independent rating systems increasingly used in the building industry to objectively evaluate “green” buildings.

The most common system is Leadership in Energy and Environmental Design (LEED<sup>®</sup>), developed by the United States Green Building Council (<http://www.usgbc.org>). LEED has developed several rating systems with guidelines for different construction markets, including new nonresidential buildings, core and shell

construction of commercial buildings, construction of commercial interiors, the construction of schools, health care facilities, and retail spaces, and a newly-developed system for homes (LEED-H), released in January of 2008. The LEED for the Neighborhood Development Rating System (LEED-ND) launched in April 2009. LEED-ND integrates smart growth, urbanism, and green building at the neighborhood level to encourage the design of environmentally responsible communities. LEED-ND has three stages of certification: Conditionally Approved Plan, Pre-Certified Plan, and Certified Neighborhood Development.

Under the LEED rating system, the use of specific green building practices or design elements, in addition to certain prerequisite practices, accrue “points” on a checklist. Depending upon the number of points earned, each project is given a rating which corresponds to a level of LEED certification. Projects which meet the minimum number of points are “Certified.” Projects which accrue more than the minimum are rated “Bronze,” “Silver,” “Gold,” or “Platinum,” according to the number of points earned. Most cities require some level LEED-equivalent performance for some types of buildings, but do not require registration with the United States Green Building Council.

Another rating system used by local governments in their green building ordinances is the “GreenPoints Rated” program first developed by a coalition of Alameda County waste agencies (<http://stopwaste.org>) and promoted by Build It Green, a nonprofit organization based in Berkeley, California (<http://www.builditgreen.org>). The GreenPoints Rated system, while similar in approach to LEED, is focused on residential development, including separate guidelines for single-family and multifamily buildings. A building must attain at least 50 “GreenPoints” to be certified as “GreenPoint Rated.”

Several cities or counties have developed their own “points” systems using guidelines and checklists based on the GreenPoint Rated system. These include guidelines developed by the Sonoma County Waste Management Agency (<http://www.recyclenow.org>) and the City of West Hollywood (<http://www.weho.org/greenbuilding/>). These alternative systems award points for many of the same practices, such as the use of fly ash in concrete, the recycling of construction debris, and the installation of overhangs.

While the great majority of local ordinances require or permit the use of LEED ratings for public and commercial projects, most local ordinances rely on GreenPoints or related systems for residential construction. In 2007, Build it Green signed a Memorandum of Understanding with Davis Energy Group ([www.davisenergy.com](http://www.davisenergy.com)) to calibrate the LEED for Homes and GreenPoints Rated systems for use in California, allowing for cross-training of building professionals, concurrent verification, and the possibility of “dual-branded” homes meeting the requirements of both systems.

Another alternative is the California Green Builder program (<http://cagreenbuilder.org>), developed by the California Building Industry Association’s Building Industry. The California Green Builder program combines prescriptive green building measures with a performance-based verification system. Unlike LEED and GreenPoints Rated, the California Green Builder protocols do not use “points,” but require specific practices and third party verification of a building’s actual performance. The California Green Builder program requires that buildings exceed state energy efficiency requirements by at least 15%, while verifying practices such as duct sealing and construction waste management. As of yet, no California city has required developers to use the Green Builder Program. However, cities such as San Bernardino, Riverside, and Cathedral City have passed ordinances that provide incentives for developers who use the system.

Examples of cities' minimum LEED, GreenPoint Rated, or other point requirements for private development:

<b>City</b>	<b>Nonresidential Buildings</b>	<b>Residential Buildings</b>
Albany	LEED Gold if over 5000 ft. <sup>2</sup>	50 GreenPoints for single-family
Berkeley	Energy audit required if construction totals more than \$50,000	Energy audit required if construction totals more than \$50,000
Brisbane	LEED Silver if over 10,000 ft. <sup>2</sup>	50 GreenPoints for multifamily
Calabasas	LEED Certified if over 500 ft. <sup>2</sup> ; LEED Silver if over 5000 ft. <sup>2</sup>	
Cotati	60 GreenPoints	60 GreenPoints
Chula Vista		50 GreenPoints
Hayward		50 GreenPoints for 20+ multifamily
Livermore	LEED Certified Equivalent	50 GreenPoints
Long Beach	LEED Certified if over 50 units	LEED Certified if over 50,000 ft. <sup>2</sup>
Los Altos		50 GreenPoints
Los Angeles	LEED Certified if over 50,000 ft. <sup>2</sup>	LEED Certified if over 50,000 ft. <sup>2</sup> and at least 50 units.
Novato		50 GreenPoints
Palo Alto	LEED Silver if over 5,000 ft. <sup>2</sup>	70 GreenPoints if over 1250 ft. <sup>2</sup>
Pasadena	LEED Certified if over 25,000 ft. <sup>2</sup> ; LEED Silver if over 50,000 ft. <sup>2</sup>	LEED Certified if over four stories
Pleasanton	LEED Certified if over 20,000 ft. <sup>2</sup>	
Rohnert Park	LEED Silver	90 GreenPoints
San Francisco	LEED Gold	75 GreenPoints or LEED Silver
San Rafael	LEED Certified; LEED Silver if over 30,000 ft. <sup>2</sup>	60 GreenPoints
San Mateo (Co.)	LEED Silver if over 3,000 ft. <sup>2</sup>	50 GreenPoints or LEED Certified
Santa Cruz		10 GreenPoints + 1.5 GreenPoints for every 100 ft. <sup>2</sup> over 350 ft. <sup>2</sup>
San Francisco	LEED Silver; LEED Gold (by 2012)	75 GreenPoints or LEED Silver (by 2012)

Santa Monica	7 LEED Points (all LEED prerequisites)	
Sebastopol	60 Sonoma County Points	60 GreenPoints
Hayward	LEED Silver if valued over \$3,000,000	50 GreenPoints if more than 20 units
Windsor	20 LEED Points	50 GreenPoints
West Hollywood	60 City Points Or LEED Certified	60 City Points or LEED Certified

### ***Prescriptive Measures***

While the independent rating systems discussed above offer flexibility for developers, some cities have chosen to prescribe specific green building measures in lieu of or in addition to required ratings. These requirements address the particular resource needs of a community, and include measures such as the installation of water-saving plumbing fixtures, solar panels, or the use of energy-saving EnergyStar appliances.

Some cities that require specific prescriptive measures with examples:

<b>City</b>	<b>Required Measures</b>
Cotati	Pre-plumb for solar water heating; 30% fly ash in concrete; 50% native plants in landscaping; protection for 80% drought conditions.
Chula Vista	Pre-plumb for solar water heating
Culver City	1kw of installed solar panels
Palm Desert	Fluorescent, automatic-OFF landscape and utility lighting; NEMA premium electric motors and pumps; conduit for solar
Pasadena	Meet LEED credit 3.1 (water efficiency)
Rohnert Park	Variable speed pool pumps; EnergyStar exhaust fans
Santa Barbara	Variable speed pool pumps; EnergyStar appliances; NEMA premium HVAC motors
Santa Monica	Efficient water heating; EnergyStar appliances; light sensors/dimmers
Sebastopol	Dual flush toilets; low-flow showerheads
West Hollywood	Roof capacity for solar panels; bike parking; many others.

## ***Performance Standards***

Performance standards provide a way to measure the energy efficiency of a building. Tools and guidelines for assessing the performance of buildings have been developed to implement California's energy efficient building standards, and are available from the California Energy Commission (<http://www.energy.ca.gov/title24/>). Both the California Green Builder program and GreenPoints Rated systems require qualifying buildings to exceed Title 24 requirements by at least 15%, and buildings using the LEED system are awarded points for exceeding Title 24 requirements by more than 15%.

As an alternative to ratings systems such as LEED, GreenPoint Rated, or California Green Builder, which grant certification for specific actions designed to conserve resources, many local governments have chosen to directly implement performance standards as alternate means of compliance or as separate requirements from green building practices. Under California Public Resources Code § 25402.2(h), energy efficiency ordinances created by local governments must be approved by the California Energy Commission and must be more stringent than the requirements found in Title 24, Part 6 of the California Code of Regulations. Although the Title 24 2008 building energy efficiency standards went into effect in January 2010, many cities have already adopted more aggressive energy requirements. The below table lists cities that have adopted more aggressive standards and the standard each chose. While the table is up to date as of the posting of this document, California Energy Commission makes regular updates [here](#).

Cities that have adopted performance-based requirements exceeding Title 24 include:

<b>City</b>	<b>Energy Efficiency Requirement (increase over Title 24)</b>
Chula Vista	15%
Hayward	15%
Marin (Co.)	15%-30% depending on size
Morgan Hill	15%
Palo Alto	15% for residential buildings; 15%+ for commercial
Richmond	15%
San Francisco	15%
San Jose	15%
Santa Clara (Co.)	15%
Sonoma	15%
Union City	15%

## ***Municipal Buildings***

Many ordinances in California require that municipal buildings and other city-sponsored projects promote green building practices. Examples of cities which have higher green building requirements for public buildings than for private projects:

(For a detailed list of LEED Public Policies, go to the [USGBC website](#).)

<b>City</b>	<b>Requirement for Municipal Buildings</b>
Berkeley	LEED Silver
Brisbane	LEED Silver if over 5,000 ft. <sup>2</sup>
Campbell	LEED Silver if over 5,000 ft. <sup>2</sup>
Costa Mesa	LEED Gold
Cupertino	LEED Silver
Dublin	LEED Silver if over \$3 million
Gilroy	LEED Silver if over 5,000 ft. <sup>2</sup>
Hayward	LEED Silver if over \$3 million
Irvine	LEED Certified if over 5,000 ft. <sup>2</sup>
Livermore	LEED Silver
Los Altos	LEED Certified if over 7,500 ft. <sup>2</sup>
Los Altos Hills	LEED Certified if over 1,000 ft. <sup>2</sup>
Los Angeles	LEED Certified if over 7,500 ft. <sup>2</sup>
Los Angeles (Co.)	LEED Silver if over 10,000 ft. <sup>2</sup>
Monterey	LEED Silver
Morgan Hill	LEED Silver
Oakland	LEED Silver if over \$3 million
Pasadena	LEED Silver if over 5,000 ft. <sup>2</sup>
Richmond	LEED Silver if over 5,000 ft. <sup>2</sup>
Rohnert Park	LEED Silver
Sacramento	LEED Certification; LEED Silver if over 5,000 ft. <sup>2</sup>
San Francisco	LEED Silver; (LEED Gold in 2012)
San Rafael	LEED Certified; LEED Silver if over 30,000 ft. <sup>2</sup>
West Hollywood	LEED Certified
Livermore	LEED Certified

### ***Enforcement***

Cities have chosen many different mechanisms for enforcing green building requirements. Most cities require submission of complete checklists based on building plans as a condition for getting a building permit. Many



cities, such as Rohnert Park, Santa Monica, and Palo Alto, provide for green building verification prior to issuing an occupancy permit. San Mateo County requires builders to post a bond of \$1.50 per square foot to ensure compliance with green building requirements.

In addition to enforcement through the permitting process, some local ordinances provide for penalties for violation of a green building ordinance. Ordinances can provide for infractions or injunctions for violators, or even civil penalties. Criminal and civil sanctions are an important way of insuring that green building practices are followed even after the permitting process is complete.

Cities and their methods of green building enforcement:

<b>City</b>	<b>Enforcement</b>
Berkeley	Plan check at permit stage
Brisbane	Verification prior to occupancy permit
Cotati	Plan check and project inspection
Culver City	3rd party inspection
Livermore	Verification plan submitted at permit stage; inspection prior to occupancy permit; infraction or injunction for violation; violation is also public nuisance
Long Beach	3 <sup>rd</sup> party inspection prior to occupancy permit
Los Altos	Verification prior to final inspection
Los Angeles	Plan check or LEED registration at permit stage
Novato	Plan check at permit stage
Palo Alto	Plan check and verification prior to final inspection
Rohnert Park	Plan check and verification prior to final inspection; infraction and civil penalty for violation
Pasadena	Verification at final inspection; additional inspections as needed
San Mateo (Co.)	Plan check at permit stage; bond required until 3 <sup>rd</sup> party verification
Santa Cruz	Plan check at permit stage
Santa Monica	Plan check at permit stage and final inspection
Santa Rosa	Plan check at permit stage and final inspection
Windsor	Verification plan developed at permit stage
West Hollywood	Plan check at land use and permitting stages

## *Incentives*

Many ordinances that codify mandatory green building requirements also provide incentives that encourage developers to meet or exceed the required standard. These incentives can take the form of rebates or reimbursements, or preferential treatment as expedited permit review, expedited inspections, or even permit variances such as increased floor-area-ratio (FAR) or unit density.

Examples of cities that provide incentives for green performance in addition to mandatory standards:

<b>City</b>	<b>Incentives</b>
Anaheim	Expedited permit processing and fee waivers
Burbank	Expedited permit processing and reduced permit fees (5-15%)
Costa Mesa	Expedited permit processing and fee waivers to cover the costs of LEED certification
Chula Vista	50 GreenPoints meets indoor air plan requirements; expedited permit processing
Los Angeles	Expedited permit processing for LEED Silver
Petaluma	Buildings attaining 50 GreenPoints get certificate, plaque, city recognition
San Francisco	Priority permitting for LEED Gold; FAR/height waivers for higher performance; rebates for PV installation from SFPUC; rebates for water and energy efficiency
San Rafael	Expedited permit, fee waiver, sign, plaque for 100 GreenPoints or LEED Gold
San Mateo (Co.)	Priority permitting for 75 GreenPoints or LEED Certified
Santa Monica	Permit processing for 35 GreenPoints or 33 LEED points
Marin (Co.)	Rebates for installation of home solar panels

## *Comprehensive Ordinances*

While CALGREEN sets some mandatory requirements effective in January 2011, this document illustrates that there are a variety of approaches, methods, and measures that allow a city to pursue even more aggressive green practices. Required ratings, prescriptive measures, performance standards, powerful enforcement, and a variety of incentives can all work together to promote the effective and efficient shift to environmentally sensitive building. The most comprehensive programs combine all of these elements to establish minimum standards while encouraging innovation and voluntary commitment to green practices. Cities and counties of all sizes can take ambitious action to combat climate change. Two such comprehensive programs are compared below:

	<b>San Francisco (proposed)</b>	<b>Rohnert Park</b>
Approximate population (U.S. census estimate)	764,000 in 2007	41,083 in 2006
Residential requirement	75 GreenPoints (by 2012)	Single Family 90 GreenPoints; Multifamily 80 GreenPoints
Nonresidential requirement	LEED Gold (by 2012)	LEED Silver
Examples of prescriptive requirements	On-site space designated for compostable waste, in addition to recycling (by 2012)	Variable speed pool pumps; Energy Star exhaust fans; mastic applied to duct joints
Incentives	For “significantly” exceeding requirements: -Additional building height or FAR -Priority permitting -Equalization of green assessment evaluations, avoiding increased taxes for green features -Rebate or refunds of project fees	None
Enforcement	Plan check and verification prior to final inspection	Plan check and verification prior to final inspection; infraction and civil penalty for violation

Several organizations offer information to local governments interested in developing green building initiatives. Model ordinances and resolutions covering city buildings and encouraging green building in the private sector are available at <http://www.stopwaste.org>. These resolutions are common first steps to developing mandatory green building requirements. Global Green USA (<http://www.globalgreen.org>) offers several publications and resources for local governments, including [\*Developing Green Building Programs: A Step-by-Step Guide for Local Governments\*](#).