

# CALGreen

Purpose – “...to improve public, health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices...” Section 101.2

In 2007, Governor Schwarzenegger directed the California Building Standards Commission to work with specified state agencies on the adoption of green building standards for residential, commercial, and public building construction for the 2010 code adoption process.

This added Part 11 in California Title 24 –

- Part 1 - California Building Standards Administrative Code
- Part 2 - California Building Code
- Part 3 - California Electrical Code
- Part 4 - California Mechanical Code
- Part 5 - California Plumbing Code
- Part 6 - California Energy Code
- Part 7 - California Elevator Safety Construction Code (No longer published in Title 24. See Title 8, CCR)
- Part 8 - California Historical Building Code
- Part 9 - California Fire Code
- Part 10 - California Existing Building Code
- Part 11 - 2008 California Green Building Standards Code (CALGreen Code)**
- Part 12 - California Reference Standards Code

The code will require –

1. 20 percent mandatory reduction in indoor water use, with voluntary goal standards for 30, 35 and 40 percent reductions.
2. Separate water meters for nonresidential buildings’ indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects.
3. Requiring diversion of 50 percent of construction waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80 percent for commercial projects.
4. Mandatory inspections of energy systems (i.e. heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.
5. Requiring low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring and particle board.

## OVERVIEW OF CODE

CALGreen is not a point based system (unlike LEED) but instead lays out a number of mandatory measures to be implemented at all projects. Further, the code calls for voluntary measures (tier 1 & 2) to be adopted by different city jurisdictions or property owners at their discretion. The new code has the following chapters -

- Chapter 1 Administration
- Chapter 2 Definitions
- Chapter 3 Green Building
- Chapter 4 Residential Mandatory Measures
- Chapter 5 Non-Residential Mandatory Measures
  - Division 1 - Planning & Design
  - Division 5.2 - Energy Efficiency
  - Division 5.3 - Water Efficiency & Conservation
  - Division 5.4 - Material Conservation & Resource Efficiency
  - Division 5.5 - Environmental Quality
- Chapter 6 Referenced Organizations & Standards
- Chapter 7 Installer and Special Inspector Qualifications
- Chapter 8 Compliance Forms and Worksheets
- Appendix A4: Residential - Tiers and Electives & Checklists
- Appendix A5: Non-residential - Tiers and Electives & Checklists

## CALGREEN & LEED

A number of the sections in the new code could help a project get points in the current version of LEED. However, a CALGreen project does not guarantee a LEED certificate. Most notably, CALGreen standards do meet the requirements of LEED for - energy savings, green power, daylight and views, local development etc. Note that a number of Tier 1 & 2 measure, if adopted by local jurisdictions, could make LEED certification easier.

### NOTES:


**NON-RESIDENTIAL MANDATORY MEASURES**

*DIVISION 1 – PLANNING & DESIGN*

**SECTION 5.106: SITE DEVELOPMENT**

**5.106.1 Storm water pollution prevention plan.** For newly constructed projects of less than one acre, develop a Storm Water Pollution Prevention Plan (SWPPP).

**5.106.4 Bicycle parking and changing rooms.** Comply with Sections 5.106.4.1 and 5.106.4.2; or meet local ordinance or the University of California Policy on Sustainable Practices, whichever is stricter.

**5.106.4.1 Short-Term bicycle parking.** For buildings with significant visitor traffic, provide bicycle racks within 100 feet of the visitors’ entrance for 5 percent of visitor motorized vehicle parking capacity (minimum 2).

**5.106.4.2 Long-Term bicycle parking.** For buildings with over 10 tenant-occupants, provide bicycle parking for 5 percent of motorized vehicle parking capacity (minimum 1).

**5.106.5.2 Designated parking.** Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles per **table 1**.

Total Spaces	Requirement
0–9	0
10–25	1
26–50	3
51–75	6
76–100	8
101–150	11
151–200	16
201 and over	8%

**Table 1(5.106.5.2) Parking Requirements**

**5.106.5.2.1 Parking stall marking.** Paint in the paint used for stall striping – “Clean Air Vehicle”.

**5.106.8 Light pollution reduction.** Comply with lighting power requirements in the CEC, and design lighting such that zero direct-beam illumination leaves the building site.

**5.106.10 Grading and paving.** The site shall be planned and developed to keep surface water from entering buildings. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows.

**NOTES:**


*DIVISION 2 – ENERGY EFFICIENCY*

Comply with CEC, Title 24 Part 6

*DIVISION 3 – WATER EFFICIENCY & CONSERVATION*

**SECTION 5.303: INDOOR WATER USE**

**5.303.1 Meters.** Separate meters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

- 5.303.1.1** Buildings in excess of 50,000 Square feet are to provide separate sub-meters for –
- Each individual tenant space projected to consume more than 100 gal/day must have a separate meter.
  - For spaces used for laundry or cleaners, restaurant or food service, medical or dental office etc projected to consume more than 100 gal/day
  - Excess consumption: provide separate water meters for any building or space projected to consume more than 1,000 gal/day

**5.303.2 Twenty percent savings.** Submit a schedule of plumbing fixtures and fixture fittings that will reduce the overall use of potable water within the building by 20%. Demonstrate one of the following –

- Each plumbing fixture and fitting shall meet the 20 percent reduced flow rate
- A calculation demonstrating a 20 percent reduction in the building “water use baseline”

**5.303.4 Wastewater reduction.** Each building shall reduce by 20 percent wastewater by one of the following methods:

- The installation of water-conserving fixtures (water closets, urinals)
- Utilizing non-potable water systems [captured rainwater, graywater, and municipally treated wastewater (recycled water)]

**5.303.6 Plumbing fixtures and fittings.** Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall meet the standards referenced in Table 5.503.6 (low flow standards).

**SECTION 5.304: OUTDOOR WATER USE**

**5.304.1 Water budget.** A water budget for landscape irrigation is to meet local or state ordinances.

**5.304.2 Outdoor potable water use.** For new water service for landscaped areas between 1,000 square feet and 5,000 square feet, separate meters or sub-meters shall be installed for indoor and outdoor potable water use.





**5.408.2 Construction waste management plan.** In no local codes exist, submit a construction waste management plan for approval by the enforcement agency that:

- Identifies the materials to be diverted from disposal.
- Determines if materials will be sorted on-site or mixed.
- Identifies diversion facilities where material collected will be taken.
- Specifies that the amount of materials diverted shall be calculated by weight or volume.

**5.408.3 Construction waste reduction of at least 50 percent.** Recycle and/or salvage for reuse a minimum of 50 percent of the non-hazardous construction and demolition debris.

**5.408.4 Excavated soil and land clearing debris.** 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.

**SECTION 5.410 BUILDING MAINTENANCE AND OPERATION**

**5.410.1 Recycling by occupants.** Provide areas for the depositing, storage and collection of non-hazardous materials for recycling (at a minimum) paper, corrugated cardboard, glass, plastics and metals.

**5.410.2 Commissioning.** For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements.

Commissioning requirements shall include:

- Owner's project requirements
- Basis of design
- Commissioning measures shown in the construction documents
- Commissioning plan
- Functional performance testing
- Documentation and training
- Commissioning report

**NOTES:**


**DIVISION 5 – ENVIRONMENTAL QUALITY**

**Section 5.503: Fireplaces** Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove.

**SECTION 5.504: POLLUTANT CONTROL**

**5.504.3 Covering of duct openings and protection of mechanical equipment during construction.** At the time of rough installation, or during storage on the construction site, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system.

**5.504.4 Finish material pollutant control.** The following finish materials are required to comply with low VOC requirements as set by industry bodies and tables included in the code.

- **5.504.4.1 Adhesives, sealants and caulks**
- **5.504.4.3 Paints and coatings**
- **5.504.4.4 Carpet systems**
- **5.504.4.5 Composite wood products**
- **5.504.4.6 Resilient flooring systems**
- **5.504.5.3 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 8.

**5.504.7 Environmental tobacco smoke (ETS) control.** Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and in buildings.

**5.505.1 Indoor moisture control.** Buildings shall meet or exceed the provisions of CCR, Title 24, Part 2.

**5.506 Indoor air quality.**

**5.506.1 Outside air delivery.** For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements CCR, Title 24, Part 6.

**5.506.2 Carbon dioxide (CO<sub>2</sub>) monitoring.** For buildings equipped with demand control ventilation, CO<sub>2</sub> sensors and ventilation controls shall be specified and installed in accordance with the requirements of the current edition of the California Energy Code, CCR, Title 24, Part 6, Section 121(c).



