

## **TITLE 24 PART 11 - CALIFORNIA GREEN BUILDING CODE**

The California Green Building Code (CALGreen) is the nation's first set of state-wide green building regulations. Its intention is to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impact during and after construction.

CalGreen covers both residential and non-residential buildings, as well as special-use buildings such as hospitals and schools. It contains both mandatory requirements and optional improved "tiers" that can be adopted by local jurisdictions should they choose to be more sustainable. The mandatory requirements are separated into the following divisions:

1. Planning and Design
2. Energy Efficiency
3. Water Efficiency and Conservation
4. Material Conservation and Resource Efficiency
5. Environmental Quality

### **Planning and Design**

This division includes different requirements in site development:

- Storm water-soil lost prevention plan is required for newly constructed projects of less than one acre in order to prevent the discharge of surface water pollutants from construction sites into receiving waters.
- For new projects, or additions and alterations, that add 10 more vehicular parking spaces, designate parking is required for any combination of low-emitting, fuel-efficient, or car pool/van pool vehicles.
- Short Term Bicycle Parking – If a new project, or an addition or alteration, is anticipated to generate visitor traffic, provide permanent anchored bicycle rack within 200 ft. of visitor's entrance, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
- Long Term Bicycle Parking – For new buildings with over 10 tenant-occupants, or for additions or alterations, that add 10 more tenant vehicular parking spaces, provide secure bicycle parking for 5% of tenant vehicular parking spaces being added, with a minimum of one space. Acceptable parking facilities shall be conveniently accessed from the street and shall be permanently anchored racks either in covered lockable enclosures, or lockable rooms, or be lockable, permanently anchored bicycle lockers.
- Light pollution reduction that meets the requirements of the CEC and reduces both light and glare from interior and exterior light source leaving any building site.
- Grading and paving are required to be planned and developed to keep surface water from entering buildings.

### **Energy Efficiency**

The Code recognizes the California Energy Commission as the agency with the authority to develop energy efficiency standards for the State. (Refer to CEC for requirements.)

### **Water Efficiency and Conservation**

For indoor water usage:

- A separate water meter is required for each individual tenant within buildings of more than 50,000 ft<sup>2</sup>, where tenants use more than 100 gal/day, and in any building within a project or any space within a building that consumes more than 1,000 gal/day.
- 20% saving for potable water from all plumbing fixtures in any building.
- Waste Water Reduction – Each building shall reduce wastewater by 20% by one of the following methods:
  - Installing water conserving fixtures that meet water usage criteria listed in the Code.
  - Utilizing nonpotable water systems complying with the current edition of the CPC.

For outdoor water usage:

- Outdoor Water Use – When water is used for outdoor irrigation for new construction projects it shall comply with one of the following options:
  - A local water efficient landscape ordinance that is at least as effective as the model ordinance adopted by the Department of Water Resources.
  - The California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO)

#### **Material Conservation and Resource Efficiency**

Construction Waste Management - Construction waste is to be reduced through recycle and/or salvage for reuse of a minimum of 65% of non-hazardous construction and demolition waste, or meet local construction and demolition waste management ordinance. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan which shall include the following:

1. Identify waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if waste materials will be sorted on site or bulk mixed.
3. Identify diversion facilities where waste materials will be taken.
4. Specify whether the amount of waste materials diverted is calculated by weight or volume.

Waste Management Company – Utilize a waste management company that can provide verification documentation that the percentage of construction and demolition waste diverted from the landfill complies with this code. Documentation shall be provided to the enforcing agency to demonstrate compliance. The WMP shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

#### **Environmental Quality**

Duct Openings – At all times during construction until final startup of mechanical equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris, which may enter the mechanical system.

Environmental Tobacco Smoke Control – Where outdoor areas are provided for smoking, prohibit smoking within 25 ft. of building entries, outdoor air intakes and operable windows.

#### **VOLUNTARY MEASURES**

CALGreen also provides two additional sets of voluntary measures: Tier 1 and Tier 2, to be adopted by local jurisdictions on their own volition to further reduce green house gas.

For new construction - Tier 1 measures are generally 15% over base code requirements. Tier 2 measures are generally 30% over base code requirements.

For additions and alterations - Tier 1 measures are generally 5-10% over base code requirements. Tier 2 measures are generally 10-15% over base code requirements.

The following are some of the voluntary provisions:

### **Planning and Design**

Reduce Parking Capacity – With the approval of the enforcement authority, employ strategies to reduce on site parking area by:

1. Use of on street parking or compact spaces, illustrated on the site plan or
2. Implementation and documentation of programs that encourage occupants to carpool, ride share or use alternate transportation.

### **Energy Efficiency**

On-site Renewable Energy – Use on-site renewable energy source such as solar, wind, geothermal, low-impact hydro, biomass and bio-gas for at least 1% of the electric power calculated as the product of the building service voltage.

### **Water Efficiency and Conservation**

Graywater Irrigation Systems – Install a graywater collection system for onsite subsurface irrigation using graywater collected from bathtubs, showers, bathroom wash basins and laundry water.

### **Material Conservation & Resource Efficiency**

Regional Materials – Compared to other products in a given product category, select building materials or products for permanent installation on the project that have been harvested or manufactured in California or within 500 miles of the project site. Regional materials shall make up at least 10%, based on cost, of total material value. If regional materials make up only part of a product, their values are calculated as percentages based on weight. Provide documentation of the origins, net projected energy savings and value, of regional materials.

### **Environmental Quality**

Daylight – Provide daylight spaces as required for toplighting and sidelighting in the CEC. In constructing a design, consider the following:

1. Use of light shelves and reflective room surfaces to maximize daylight penetration.
2. Use of means to eliminate glare and direct sun light, including through skylights.
3. Use of photosensor to turn off electric lighting when daylight is sufficient.
4. Not using diffuse daylighting glazing where views are desired.

### **2022 CalGreen Changes**

*Section 202 revised to add new definition of Electrical Vehicle (EV) Capable Space and Electrical Vehicle (EV) Ready Space. An EV Capable Space is a vehicle space with electrical panel space and load capacity to support branch and necessary raceway to support electrical vehicle charging. An EV Ready Space is a vehicle space which is provided with a branch circuit and necessary raceways to accommodate electrical vehicle charging, terminating in a receptacle or a charger.*

*Residential Mandatory Measure Changes:*

*Section A4.106.8.2.1 added to require that for multi-family development projects and hotels and motels, 10% of the total parking spaces on a building site need to be EV capable spaces and 25% of the total parking spaces on a building site need to be EV ready spaces. For multi-family development projects with 20 or more dwelling units and hotels and motels with 20 or more sleeping units or guest rooms, an additional 5% of the total parking spaces on a building site need to be equipped with EV supply equipment.*

*Non-residential Mandatory Measure Changes:*

*Table 5.106.5.3.1 revised to provide new required number of EV capable spaces based on total number of parking spaces on a building site.*

*Voluntary Measure Changes:**Residential Voluntary Measure Changes:*

*Section A4.106.8.2 added to require that for Tier 1 for multi-family development projects and hotels and motels, 35% of the total parking spaces on a building site need to be EV ready spaces. For multi-family development projects with 20 or more dwelling units and hotels and motels with 20 or more sleeping units or guest rooms, an additional 10% of the total parking spaces on a building site need to be equipped with EV supply equipment.*

*For Tier 2 for multi-family development projects and hotels and motels, 40% of the total parking spaces on a building site need to be EV ready spaces. For multi-family development projects with 20 or more dwelling units and hotels and motels with 20 or more sleeping units or guest rooms, an additional 15% of the total parking spaces on a building site need to be equipped with EV supply equipment.*

*Non-residential Voluntary Measure Changes:*

*Table A5.106.5.3.1 revised to provide new required number of EV capable spaces based on total number of parking spaces on a building site for Tier 1*

*Table A5.106.5.3.2 revised to provide new required number of EV capable spaces based on total number of parking spaces on a building site for Tier 2*