Bay Area Regional Energy Network (BayREN)

presents

• • •

CALGreen®

Introduction

Michael L. Nearman
Deputy Executive Director
California Building Standards Commission
(916) 263-0916
michael.nearman@dgs.ca.gov
www.bsc.ca.gov

Introduction

Shawn Huff
Codes and Standards Administrator I
Department of Housing and Community Development
(916) 327-2816
shawn.huff@hcd.ca.gov

CALGreen

History Note

- Governor directs state agencies in 2007/2008 to develop green building standards for residential, commercial, and public building construction for the 2010 code adoption process;
- State agencies with authority to develop building codes worked together with industry stakeholders to develop the first-in-the-nation statewide green building standards;
- Result- CALGreen:
  - » 2008 Voluntary Code (effective 8/1/09)
  - » 2010 First Mandatory Green Code (effective 1/1/11)
  - » 2013 Mandatory Green Code with increased measures (effective 1/1/14)

CALGreen®

- Enforced like other California codes
- Does not require third party inspection or verification
- Maintains current relationship between enforcing agencies and builders
- Uniformity and Consistency
  - Jurisdictions using different programs
  - Coordinated with other California codes

2013 California Building Standards Code

Title 24, California Code of Regulations

- Part 1 California Administrative Code
- Part 2 California Building Code
- Part 2.5 California Residential Code
- Part 3 California Electrical Code
- Part 4 California Mechanical Code
- Part 5 California Plumbing Code
- Part 6 California Energy Code
- Part 7 *Vacant*
- Part 8 California Historical Building Code
- Part 9 California Fire Code
- Part 10 California Existing Building Code
- **Part 11 California Green Building Standards Code**
- Part 12 California Referenced Standards Code

Code Format

- Chapter 1 Administration
- Chapter 2 Definitions
- Chapter 3 Green Building
- Chapter 4 Residential Mandatory Measures
- Chapter 5 Nonresidential Mandatory Measures
- Chapter 6 Referenced Organizations and Standards
- Chapter 7 Installer and Special Inspector Qualifications
- Chapter 8 Compliance Forms and Worksheets
- Appendix A4 Voluntary Tiers (Residential)
- Appendix A5 Voluntary Tiers (Nonresidential)

Chapter 1 - Administration

Purpose

- Minimize impact of building construction on the environment
  - Improve construction practices
  - Reduce greenhouse gases and air pollution
  - Improve indoor air quality

Scope

- Application
- Not intended to be identified as meeting the requirements of a point rated system

<u>Local amendments based on findings</u>

- Climate
- Topography
- Geology

<u>Alternative Materials and Methods</u>

Construction Documents

Application and State Agency Authorities

ADMINISTRATION

Chapter 1 – State-regulated buildings, structures and applications (HCD)

2010 Residential occupancies

- Identifies application of CALGreen to Low-Rise residential buildings.

2013 Residential occupancies

- Identifies application of CALGreen to ALL residential buildings.

Chapter 2 – Definitions 2013

<u>All of the definitions have been relocated to Chapter 2</u>

- Banners
- CONDITIONED FLOOR AREA. [BSC, HCD]
- Matrix Tables

Chapter 2 – Definitions (HCD)

2010

- Low-Rise residential building: A building that is of Occupancy Group R and is three stories or less, or that is a one- or two-family dwelling or townhouse.
- Residential building: (See "Low-Rise residential building"

2013

- Low-Rise residential building: Any building that is of Occupancy Group R and is three stories or less.
- High-Rise residential building: Any building that is of Occupancy Group R and is four stories or greater in height.
- Residential building: (See "Low-Rise residential building" or "High-Rise residential building.")

Chapter 3 - Green Building

- Scope 2010

  Newly constructed low rise residential buildings

  Newly constructed non- residential buildings, alterations and additions

  -Scope 2013

  301.3 Nonresidential additions and alterations [BSC]. The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings **[N]** or to additions and alterations **[AA]**. When the code section applies to both, no banner will be used.

- Mixed Occupancy Buildings
  - Shall comply with appropriate requirements for each separate occupancy type
- Phased Projects
- Voluntary Tiers

Chapter 3 – Additions and Alterations (HCD)

2010 Low-Rise Residential

- CALGreen applied only to new residential construction.

2013 Residential

- Also requires application of CALGreen provisions to additions or alterations of existing residential buildings where the changes increase the building's conditioned area, volume or size.
- Requirements only apply to or within the area of the addition or alteration.

Chapter 3 – Additions and Alterations (HCD)

2010 Low-Rise Residential

- CALGreen applied only to new Low-Rise residential construction.

2013 Residential

- A “note” is added to alert code users to requirements in the California Civil Code requiring the replacement of non-compliant water fixtures and fittings with water-conserving fixtures and fittings by specified dates.

Chapter 3 – Low-Rise and High-Rise residential buildings (HCD)

2010

- CALGreen applied only to new Low-Rise residential construction.

2013

- Clarifies that individual sections may apply to either Low-Rise or High-Rise residential buildings or to both.
- Introduces banners designating when provisions apply only to Low-Rise [LR] or only to High-Rise [HR] residential buildings.
- No banner is used when provisions apply to both Low-Rise and High-Rise residential buildings.

Chapter 3 – Tiers (HCD)

2010

- Allows enforcing agencies to grant modifications to threshold levels of a tier when there are practical difficulties with compliance.
- Adopted only by BSC

2013

- Co-adopted by HCD.

CALGreen

Chapter 4 - Residential Mandatory Measures

Five Divisions:

Division 4.1 - Planning and Design

Division 4.2 - Energy Efficiency

Division 4.3 - Water Efficiency and Conservation

Division 4.4 - Material Conservation and Resource Efficiency

Division 4.5 - Environmental Quality

PLANNING AND DESIGN

Chapter 4 - Division 4.1 Site Development

2010

- The site shall be planned and developed to keep surface water from entering buildings.
- Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings

2013

- No Change
- Exception added to clarify non-application to alterations not altering the drainage path.

ENERGY EFFICIENCY
Chapter 4 - Division 4.2 General

2010	2013
• Scoping language provides recognition that the California Energy Commission (CEC) adopts mandatory energy efficiency standards for purposes of residential buildings.	• Scoping language clarifies that the CEC will continue to adopt mandatory standards.
• Regulatory language developed and adopted by HCD.	• Regulatory language developed and adopted by CEC.

California Energy Commission Contact information

Residential Energy Efficiency Standards

California Energy Efficiency Hotline
Telephone: (916) 654-5106
1-800-772-3300 (toll free in CA)

Email: title24@energy.state.ca.us

Website: www.energy.ca.gov

CALGreen

Water Efficiency and Conservation Chapter 4 - Division 4.3, Indoor Water Use

2010

20% Water savings.

- Requires a 20% reduction of indoor water use.
- Provides a prescriptive and performance method. Prescriptive method included Table 4.303.2 showing maximum flow rates for fixtures.

2013

- References to prescriptive and performance methods repealed.
- Prescriptive (specified) requirements for water conserving fixtures and fittings identified.
- Consistent with Health and Safety Code, California Plumbing Code and proposed California Energy Commission's appliance standards.

Chapter 4 - Division 4.3, Indoor Water Use

2010

TABLE 4.303.2

FIXTURE FLOW RATES

FIXTURE TYPE	BASELINE FLOW RATE	MAXIMUM FLOW RATE AT ≥ 20 PERCENT REDUCTION
Showerheads	2.5 gpm @ 80 psi	2 gpm @ 80 psi
Lavatory faucets, residential	2.2 gpm @ 60 psi	1.5 gpm @ 60 psi [1]
Lavatory faucets, nonresidential	0.5 gpm @ 60 psi	0.4 gpm @ 60 psi[2]
Kitchen faucets	2.2 gpm @ 60 psi	1.8 gpm @ 60 psi[3]
Gravity tank type water closets	1.6 gallons/flush	1.28 gallons/flush [4]
Flushometer tank water closets	1.6 gallons/flush	1.28 gallons/flush [4]
Flushometer valve water closets	1.6 gallons/flush	1.28 gallons/flush [4]
Electromechanical hydraulic water closets	1.6 gallons/flush	1.28 gallons/flush [4]
Urinals	1.0 gallons/flush	0.5 gallons/flush

2013

4.303.1 Plumbing fixtures and fittings shall comply with the following:

- Single Showerheads: ≤ 2.0 gpm @ 80 psi
- Multiple Showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gpm @ 80 psi
- Residential Lavatory Faucets: ≤ 1.5 gpm @ 60 psi
- Lavatory Faucets in Common and Public Use Areas of Residential Buildings: ≤ 0.5 gpm @ 60 psi
- Metering Faucets: ≤ 0.25 gallons per cycle
- Kitchen Faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm
- Waters Closets: ≤ 1.28 gal/flush
- Urinals: ≤ 0.5 gal/flush

CALGreen

Chapter 4 - Division 4.3, Indoor Water Use

2010

<u>Multiple Showerheads Serving One Shower.</u>

- Prescriptive method: sum of multiple showerheads shall not exceed the flow rate specified in Table 4.303.2 (2.0 gpm).
- Performance method: maximum flow rate for each shower head shall not exceed 2.5 gpm @ 80 psi.

2013

- Prescriptive water flow rate is now 2.0 gpm @ 80 psi as noted on previous slide.
- Option for performance method has been repealed. 2.5 gpm @ 80 psi is no longer an option due to prescriptive requirement of 2.0 gpm @ 80 psi.

Chapter 4 - Division 4.3, Indoor Water Use

2010

<u>Standards for plumbing fixtures and fittings</u>

- Standards for water closets, urinals, faucets and showerheads included in Table 4.303.3.

2013

- Table 4.303.3 repealed.
- Refers code user to referenced standards in the California Plumbing Code.

Chapter 4 - Division 4.3, Outdoor Water Use

2010

Irrigation Controllers

- Requires irrigation controls to be weather- or soil moisture-based and automatically adjust irrigation in response to changes in plants' needs as weather conditions change, or have rain sensors or communication systems that account for local rainfall.

2013

- No changes to irrigation controller requirements.

Chapter 4 - Division 4.4
Enhanced Durability and Reduced Maintenance

2010

<u>Rodent proofing</u>

- Requires spaces around pipes and other penetrations in the building to be filled with materials that will prevent the passage of rodents.

2013

- Clarifies that the sole/bottom plates at exterior walls are the plate openings to be protected.

Chapter 4 - Division 4.4

Construction Waste Reduction, Disposal and Recycling

2010

- Recycle and/or salvage a minimum of 50 percent of the nonhazardous construction and demolition waste.

  Exceptions:

  - Excavated soil and land-clearing debris
  - Alternate waste reduction methods
  - Isolated jobsites.

<u>OR</u>

- Meet a local construction and demolition waste management ordinance, whichever is more stringent.

2013

- No changes to 50 percent reduction of construction and demolition waste requirement.

Chapter 4 - Division 4.4

Construction Waste Reduction, Disposal and Recycling

2010

Methods for meeting the 50 percent construction and demolition waste requirement when there is no local ordinance.

- Submit a construction waste management plan in conformance with five specified items.
- Utilize a waste management company which can document 50% diversion.
- Verify the total combined weight of construction and demolition waste disposed of in landfills, does not exceed four (4) lbs./sq. ft. of building area.

2013

Adds another compliance option for High-Rise residential buildings.

- Verify the total combined weight of construction and demolition waste disposed of in landfills, does not exceed two (2) lbs./sq. ft. of building area

Chapter 4 - Division 4.4

Construction Waste Reduction, Disposal and Recycling

2010

- Provide documentation to local enforcing agency showing compliance with the 50 percent reduction of construction and demolition waste.
- Sample worksheets and documentation forms are available on HCD's website.
- Additional forms and documentation may be acceptable to the local enforcing agency.

2013

- No changes to requirements for documentation.
- Editorial change to referenced CALGreen "guide" title.

Chapter 4 - Division 4.4

Building Maintenance and Operation

2010

- Requires educational materials, operation and maintenance manuals to be provided to ensure buildings and equipment are properly maintained.
- Requires additional information be provided, e.g., landscape design and maintenance, public transportation options, recycle opportunities, special inspection reports, and energy incentive programs.

2013

- No changes to requirements for operation and maintenance manuals.

Chapter 4 - Division 4.5, Fireplaces

2010

- Requires gas fireplaces to be direct-vent sealed-combustion type.
- Requires woodstoves and pellet stoves to comply with EPA Phase II emission limits.
- Woodstoves, pellet stoves and fireplaces shall also comply with local ordinances.

2013

- No changes.

Chapter 4 - Division 4.5, Pollutant Control

2010

- Required covering of duct openings and protection of mechanical equipment from water, dust and debris.

2013

- No changes.

CALGreen

Chapter 4 - Division 4.5, Pollutant Control

2010

Finish Material Pollutant Control

- Limits pollutants from the off-gassing of finish materials inside a residence.
- Tables identify limits on the emissions of VOCs in adhesives sealants and chalks; and paints and coatings (including aerosol products).
- VOC limitations are also included for carpet, carpet cushions and carpet pad adhesives.

2013

- No changes to finish material pollutant control.

Chapter 4 - Division 4.5, Pollutant Control

2010

Carpet systems

- VOC limitations are also included for carpet, carpet cushions and carpet pad adhesives.

2013

- No changes to carpet system requirements.

CALGreen

Chapter 4 - Division 4.5, Pollutant Control

2010

Resilient flooring systems

- Requires at least 50% of areas where resilient flooring is installed to comply with specified VOC limits and criteria.

2013

- Increases requirement to at least 80% of floor area receiving resilient flooring.
- Responds to the Governor's Executive Order B-18-12 directing state agencies to implement CALGreen's relevant and feasible voluntary measures to ensure healthy indoor environments.

Chapter 4 - Division 4.5, Pollutant Control

2010
Composite wood products

- A table addressing the formaldehyde limits for composite wood products was developed based on maximum allowable limits established by the California Air Resources Board (ARB).
- Ensures these formaldehyde levels are met by including a mandatory verification component which requires certification or documentation.

2013

- Table has been updated to delete obsolete dates for compliance.
- No changes to verification components.

Chapter 4 - Division 4.5, Interior Moisture Control

2010

Concrete slab foundations

- Requires installation of vapor retarders in slab-on-grade foundations to address moisture and mold issues that can negatively affect indoor air quality as well as damage floor coverings.
- Requires an aggregate base of ½" or larger material to be used as a capillary break and clarifies that the vapor retarder must be placed above the aggregate and in direct contact with the concrete slab.
- Allows equivalent methods to be used provided the same protections will be maintained.

2013

- No changes to capillary break requirements.

Chapter 4 - Division 4.5, Interior Moisture Control

2010
Moisture content of building materials

Moisture content shall be determined as follows:

- Either a probe-type or a contact-type moisture meter

OR

- Equivalent moisture verification methods approved by the enforcing agency which satisfy requirements for alternate materials, designs and methods in Section 101.8.

2013

- No changes to moisture content requirements.

CALGreen

Chapter 4 - Division 4.5, Interior Moisture Control

2010
Bathroom exhaust fans

- Fans must be controlled by a humidity control which may be a separate component to the exhaust fan and are not required to be integral (i.e., built-in).
- Fans must be capable of (automatic or manual) adjustment between relative humidity levels of ≤ 50% to maximum of 80%.

2013

- No changes.

Chapter 4 - Division 4.5, Environmental Comfort

2010

Openings (for whole house exhaust fans)

- Requires the openings for whole house exhaust fans to be insulated.

2013

- Section repealed.

Chapter 4 - Division 4.5, Environmental Comfort

2010

- HVAC sizing and selection requirements.

2013

- No changes.

Residential Voluntary Measures Appendix A4

Tier 1 and Tier 2

Scope

- The measures contained in the Appendix are not mandatory unless adopted by a city, county, or city and county.

- In order to meet one of the tier levels - designers, builders, or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level.

Appendix A4

Prerequisite Measures

- Tier 1 and Tier 2 thresholds require compliance with the mandatory provisions of this code and incorporation of the required prerequisite measures listed for Tier 1 and Tier 2.

- Prerequisite measures are also identified in the Residential Application Checklist.

- Additional prerequisite measures may be included by the enforcing agency to address specific local environmental conditions and may be listed in the Innovative Concepts and Local Environmental Conditions portions of the checklist.

Appendix A4

Elective Measures

- In addition to the mandatory requirements and prerequisite measures, Tier 1 and Tier 2 buildings must incorporate a specified number of elective measures.

CALGreen

Appendix A4 Number of Electives for Tier 1

2010 Tier 1 Electives:	2013 Tier 1 Electives (changes)
• Two (2) Planning and Design elective measures.	• No changes.
• Four (4) Energy Efficiency elective measures.	• All 2010 Energy Efficiency electives repealed and replaced with 2013 prerequisites.
• One (1) Water Efficiency and Conservation elective measure.	• At least two (2) electives needed for Water Efficiency.
• Two (2) Material Conservation and Resource Efficiency elective measures.	• No changes.
• One (1) Environmental Quality elective measure.	• No changes.

Appendix A4

Tier 2

Note:

The measures necessary to achieve Tier 2 status are very stringent. Cities, counties, and cities and counties considering adoption of Tier 2 (as mandatory) should carefully consider the stringency of each measure and ensure that the measures are achievable in their location.

Appendix A4

Revisions to Division A4.1 Planning and Design

Revised tier item: Cool roof for reduction of heat island effect (A4.106.5)

Revised elective: Electric vehicle charging (renumbered to A4.106.8)

Repealed elective: Building orientation (A4.106.1)

New electives:

- Community connectivity (A4.103.2)
- Vegetated roof (A4.106.6)
- Reduction of heat island effect for nonroof areas (A4.106.7)
- Bicycle parking (A4.106.9)
- Light pollution for High-Rise buildings (A4.106.10)

Appendix A4

Revisions to Division A4.2 Energy Efficiency

- HCD has repealed all 2010 provisions related to voluntary energy efficiency in Low-Rise residential buildings in Division A4.2.
- The California Energy Commission (CEC) has developed and will be maintaining provisions related to energy efficiency in CALGreen.
- Due to the organization of the California Energy Code voluntary energy efficiency provisions related to residential buildings will be added to the following Divisions:

  A4.2 Provisions related to Low-Rise residential buildings

  A5.2 Provisions related to High-Rise residential and hotel/motel buildings

Appendix A4.2, Energy Efficiency

2010 Tier 1 Prerequisites

New construction Low-Rise

- Exceed the 2010 California Energy Code (CEC) requirements by 15%.

2013 Tier 1 Prerequisites (changes)

New construction Low-Rise

- Energy Budget no greater than 85 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by Compliance Software PLUS

- Energy design rating computed by Compliance Software.
- Quality Insulation Installation as specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5.
- Lighting requirements as specified.

Appendix A4.2, Energy Efficiency

2010 Tier 1 Prerequisites:

<u>Additions and alterations Low-Rise</u>

- None

2013 Tier 1 Prerequisites (changes)

<u>Additions and alterations Low-Rise</u>

1. One and only one mechanical system -- no greater than 95 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software OR
2. Two or more mechanical systems- no greater than 90 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software.

<u>AND</u>

- Lighting requirements as specified.

CALGreen

Appendix A4.2, Energy Efficiency

2010 Tier 2 Prerequisites

New construction Low-Rise

- Exceed the 2010 California Energy Code (CEC) requirements by 30%.

2013 Tier 2 Prerequisites (changes)

New construction Low-Rise

- Energy Budget no greater than 70 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by Compliance Software PLUS

- Energy design rating computed by Compliance Software.
- Quality Insulation Installation as specified in the Building Energy Efficiency Standards Reference Residential Appendix RA3.5.
- Lighting requirements as specified.

Appendix A4.2, Energy Efficiency

2010 Tier 2 Prerequisites:

<u>Additions and alterations Low-Rise</u>

- None

2013 Tier 2 Prerequisites (changes)

<u>Additions and alterations Low-Rise</u>

1. One and only one mechanical system -- no greater than 90 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software OR

2. Two or more mechanical systems -- no greater than 85 percent of the 2013 CEC Energy Budget for the Proposed Design Building as calculated by certified Compliance Software.

<u>AND</u>

- Lighting requirements as specified.

Appendix A4

Revisions to Division A4.3

Water Efficiency and Conservation

Repealed tier item: Kitchen faucets and dishwashers (A4.303.1)

Revised electives:

- Nonwater supplied urinals and waterless toilets (renumbered to A4.303.2)
- Rainwater catchment systems (A4.303.4)
- Recycled water piping (A4.305.2)

New electives:

- Kitchen faucets (A4.303.1) (formerly a Tier 1 requirement)
- Alternate water sources for nonpotable applications (A4.303.2)
- Appliances (dishwashers and clothes washers) (A4.303.3)
- Irrigation metering device (submeter) for irrigated areas > 2500 sq. ft. (A4.304.6)

Appendix A4

Revisions to Division A4.4 Material Conservation and Resource Efficiency

- No changes to tier or elective measures.

Appendix A4

Revisions to Division A4.5 Environmental Quality

Revised tier item: Resilient flooring systems (A4.504.2)

- Tier 1 increased from 80% to 90%
- Tier 2 increased from 90% to 100% with allowance for specialty flooring

Revised electives:

- Compliance with formaldehyde limits (A4.504.1)
- Filters (A4.506.1)
- Direct-vent appliances (renumbered to A4.506.3)

New electives:

- Construction filter (HR 4+) ≥ MERV 6 (A4.506.2)

Appendix A4

Division A4.6 Tier 1 and Tier 2

A4.601.4.2 Prerequisite and elective measures for Tier 1
A4.601.5.2 Prerequisite and elective measures for Tier 2

- Listings of prerequisite measures and required number of electives have been revised to reflect changes within the Chapter 4 and Appendix A4 text

A4.602 Residential Occupancies Application Checklist

- Checklist has been modified to reflect changes within the Chapter 4 and Appendix A4 text.

Possible Changes
2013 Intervening Cycle

- Implementation of any new statutory or legislative mandates.
- Any nonsubstantive or editorial changes to provide further clarity.
- HCD is currently conducting a study of residential readiness for electric vehicle charging.

Executive Order B-16-12

- Issued by Governor Brown on April 25, 2012:
  - Establish benchmarks for 2015.
    - Major metropolitan areas have infrastructure and streamlined permitting to accommodate zero emission vehicles.
  - Establish benchmarks for 2020.
    - Infrastructure to support 1 million zero emission vehicles.
    - Costs will be competitive.
    - Accessible to mainstream consumers.
  - Establish benchmarks for 2025.
    - Infrastructure to support 1.5 million zero emission vehicles.
    - Zero emission vehicle industry will be economically strong.

CALGreen

- Issued by Governor Brown on April 25, 2012:
  - [Effective immediately] Take actions to reduce greenhouse gas emissions by at least 10% by 2015 and 20% by 2020, as measured against a 2010 baseline.
  - Zero Net Energy (State Buildings) beginning design after 2025 with an interim target of 50% beginning design after 2020.
  - Implement feasible measures from CALGreen Appendix A4.5 and A5.5.
  - Identify and pursue opportunities for EV charging at employee parking facilities.

HCD Contact Information

California Department of Housing and Community Development
State Housing Law Program
1800 Third Street, Room 260
Sacramento, CA 95811-6942

June 2013 New Address:
2020 West El Camino Avenue
Sacramento, CA 95833

Telephone: (916) 445-9471
FAX: (916) 327-4712
Website: www.hcd.ca.gov
Questions: Use "Submit a Comment" form

IMPORTANT INFORMATION

Enterprise Zone Reform

2013 Income Limits

New State Income Limits Hold Harmless Policy

Resources | Prop 46 & 1C | Quick Links | Highlights | CALGreen

- Section 811 Project Rental Assistance
- Income Limits
- Utility Energy Efficiency & Solar Programs for Housing
- HCD Foreclosure Avoidance Information

Online Services

- File A Complaint Online
- Mobilehome & Special Occupancy (RV) Parks Listing
- Manufactured Home/Mobilehome Registration Renewal
- Occupational Licensing Query
- Redevelopment Agency Reporting System (RDA)
- Requestor Account Title Search
- Title Search and Escrow Opening

What's New

- HCD Web News
- HCD Blog
- Press Releases
- Announcements
- Events
- Recent Site Updates

Chapter 5- Nonresidential

- Mandatory Measures
  - Planning and Design – Division 5.1
  - Energy Efficiency – Division 5.2
  - Water Efficiency and Conservation – Division 5.3
  - Material Conservation and Resource Efficiency – Division 5.4
  - Environmental Quality – Division 5.5

Chapter 5-Division 5.1
Site Development

2010 CALGreen

- Stormwater pollution prevention BMP
- Bicycle parking

Designated parking

2013 CALGreen

- Clarifies that it also applies to additions
- Updated for Additions and Alterations
- No Change

Chapter 5- Division 5.1
Site Development

2010 CALGreen

- IESNA 2011 BUG Ratings mandatory as of July 1, 2012
- Grading and paving

2013 CALGreen

- Clarifies that it applies to new construction only
- Exception: for Additions and Alterations

Chapter 5- Division 5.2

Energy Efficiency mandatory measures regulated by the California Energy Commission

- Mandatory provisions are found in Part 6 of Title 24

Chapter 5- Division 5.3
Indoor Water Use

2010 CALGreen

- Separate water submeters for subsystems
- 20% reduction in indoor water use
  - prescriptive and performance methods with updated tables

2013 CALGreen

- Clarifies that it also applies to Additions
- ***New section*** "*Water Reduction*": Comply with reduced flow rates table;
- "Water conserving plumbing fixtures and fittings": Prescriptive reduced flow rates for: water closets, Urinals, and Showerheads and
- New Exception for performance 20% reduction
- Clarifies for Areas of additions and alterations

Indoor Water Use-Continued

2010 CALGreen

Waste water reduction

Plumbing fixtures and fittings

(standards)

2013 CALGreen

- Clarifies that it applies to new construction only
- ***New Section***: References the California Plumbing Code

Chapter 5- Division 5.3 Outdoor Water Use

2010 CALGreen	2013 CALGreen
• Water budget	• No change
• Separate submeter for outdoor potable water use (with Clarifications)	• No change
• Irrigation design-Weather or soil moisture-based irrigation controllers (with minor clarifications)	• No change

Chapter 5- Division 5.4
Water Resistance & Moisture Management

2010 CALGreen	2013 CALGreen
• Exterior weather protection by Title 24 or local ordinance	• No change

• Design for moisture control
  • Sprinklers
  • Entries and openings
	• No change
	• Exterior door protection: Removed notes and Updated requirements

Chapter 5- Division 5.4
Construction Waste Reduction, Disposal & Recycling

2010 CALGreen	2013 CALGreen
• Construction waste reduction of 50%	• Added demolition requirement
• Waste management plan required, or meet local ordinance added options	• Added demolition requirement
• Exception for isolated jobsites	• Removed exception
• Recycle or reuse 100% of land clearing debris with added exception for contaminated debris	• No change

Chapter 5- Division 5.4
Building Maintenance and Operation

2010 CALGreen

- Recycling by occupants

2013 CALGreen

- Added clarification for ordinance requirements
- New Section: Clarifies requirements for Additions only with 30% increase and added an additional exception

Chapter 5- Division 5.4
Building Maintenance and Operation

2010 CALGreen

- Building commissioning for new buildings 10,000 sq.ft. and over with added exceptions for
    - Dry warehouses
    - Some tenant improvements

2013 CALGreen

- Clarifies requirements for New construction only
- ***Note***: All energy related requirements for Commissioning, OPR & BOD now have a reference to the Energy Code

Chapter 5- Division 5.4
Building Maintenance and Operation

2010 CALGreen

- Testing and adjusting for buildings less than 10,000 s.f.

2013 CALGreen

- ***New section***: Clarifies requirements for new buildings or new systems designed to serve an addition or an alteration

- HVAC balancing

- No change

ENVIRONMENTAL QUALITY

Chapter 5- Division 5.5

Pollutant Control

2010 CALGreen	2013 CALGreen
• Fireplaces	• Minor clarification
• Temp. const. ventilation If HVAC is used for temp. const. ventilation (replace filters)	• Clarifies requirements for “areas of additions or alterations”
• Covering of duct openings and protection of equipment during construction	• No change

Chapter 5- Division 5.5
Pollutant Control

2010 CALGreen

- Finish materials-
- Carpet systems-
- Composite wood products-
- Resilient flooring-

2013 CALGreen

- Clarifies VOC emission limits and testing requirements.
- Added CA-CHPS to list of approved methods of compliance
- Clarifies the formaldehyde limits in a revised table
- Increase the percentage from 50% to 80% and Clarify VOC emissions limits and testing requirements. Added CA-CHPS to list of approved methods of compliance

Chapter 5- Division 5.5
Pollutant Control

2010 CALGreen	2013 CALGreen
Filters Referenced standards with Exception for small, H.E. ductless units	• Clarifies MERV exceptions and added new exception for existing mechanical equipment • ***New section***: labeling requirements
• Environmental tobacco smoke with clarification of authority to regulate	• No change

Chapter 5- Division 5.5
Indoor Air Quality

2010 CALGreen

- Outside air delivery
  - Ventilation-Editorial changes
  - CO_2 monitoring

2013 CALGreen

- No change
- Clarifies that it also applies to additions

Chapter 5- Division 5.5
Environmental Comfort

2010 CALGreen

- Exterior noise transmission With added performance & prescriptive methods
- Interior sound transmission

2013 CALGreen

- Clarifies application to additions or altered envelope
- Editorial change-Noise exposure
- Editorial change-Performance method; applies to additions or altered envelope
- Editorial change-Site features
- No change

Chapter 5- Division 5.5
Outdoor Air Quality

2010 CALGreen

Not in current code

2013 CALGreen

- Supermarket refrigerant
- leak reduction: for retail food stores 8,000 sf or more.
- Refrigerant piping: meet California mechanical code
- Valves: meet California mechanical code
- Refrigerated service cases: use corrosion-resistant materials
- Refrigerant receivers: if over 200 lbs provide level indicator
- Pressure testing: test during installation
- Evacuation: evacuate after pressure testing and prior to charging.

NONRESIDENTIAL VOLUNTARY MEASURES

- Appendix A5
  - The measures contained in the appendix are not mandatory unless adopted by a city, county, or city and county. Appendix provisions may also be used voluntarily by designers, builders, and property owners.
  - *CALGreen* Tier 1 and Tier 2 are intended for adoption by cities, counties, and cities and counties to help California meet its goals for greenhouse gas emission reduction.

Category	Environmental Performance Goal	Tier 1	Tier 2
All	Minimum Mandatory	Meet all of the provisions of Chapter 5	**Meet all of the provisions of Chapter 5**
Planning and Design	Designated Parking for Fuel Efficient Vehicles	10 percent of total spaces	**12 percent of total spaces**
	Cool Roof to Reduce Heat Island Effect	Roof Slope < 2:12 SRI 64 Roof Slope > 2:12: < 5 lb/s.f. SRI 16 ≥ 5 lb/s.f. SRI 10	**Roof Slope < 2:12 SRI 78 Roof Slope > 2:12: < 5 lb/s.f. SRI 23 ≥ 5 lb/s.f. SRI 30**
		1 additional Elective from Division A5.1	**3 additional Electives from Division A5.1**
Energy Efficiency	Energy Performance	Exceed 2010 CA Energy Code by 15 percent	**Exceed 2010 CA Energy Code by 30 percent**
Water Efficiency and Conservation	Indoor Water Use	30 percent Savings	**35 percent Savings**
	Outdoor Water Use	Not exceed 60 percent of ETo times the landscape area	**Not exceed 55 percent of ETo times the landscape area**
		1 additional Elective from Division A5.3	**3 additional Electives from Division A5.3**
Material Conservation and Resource Efficiency[2]	Construction Waste Reduction	At least 65 percent reduction	**At least 80 percent reduction**
	Recycled Content	Utilize recycled content materials for 10 percent of total material cost	**Utilize recycled content materials for 15 percent of total material cost**
		1 additional Elective from Division A5.4	**3 additional Electives from Division A5.4**
Environmental Quality	Low-VOC Resilient Flooring	80 percent of flooring meets VOC limits	**90 percent of flooring meets VOC limits**
	Low-VOC Thermal Insulation	Comply with VOC limits	**Install no-added formaldehyde insulation & comply VOC limits**
		1 additional Elective from Division A5.5	**3 additional Electives from Division A5.5**
Additional Measures	Added measures shall be achieved across at least 3 categories	1 Additional Elective	**3 Additional Electives**
Approximate Total Measures		**14**	**24**

CALGreen

California Building Standards Commission

- **Use the web! www.bsc.ca.gov**
  - Newly reformatted CBSC website for easier access to code information
    - Rulemaking Process
    - Code Cycles
    - Current Codes
    - Guidebooks and other resources
    - Information Bulletins
    - Meeting Notices

Office of Governor
Edmund G. Brown Jr.
Visit his Website

SCSA Secretary
Anna Caballero
Visit SCSA Website

BSC Executive Director
Jim McGowan

Electronic versions of the 2013 code will be viewable online shortly after the July 1 publication date. Watch here for notifications!

California's building codes are published by the following three entities. The 2013 Code may be purchased now from:

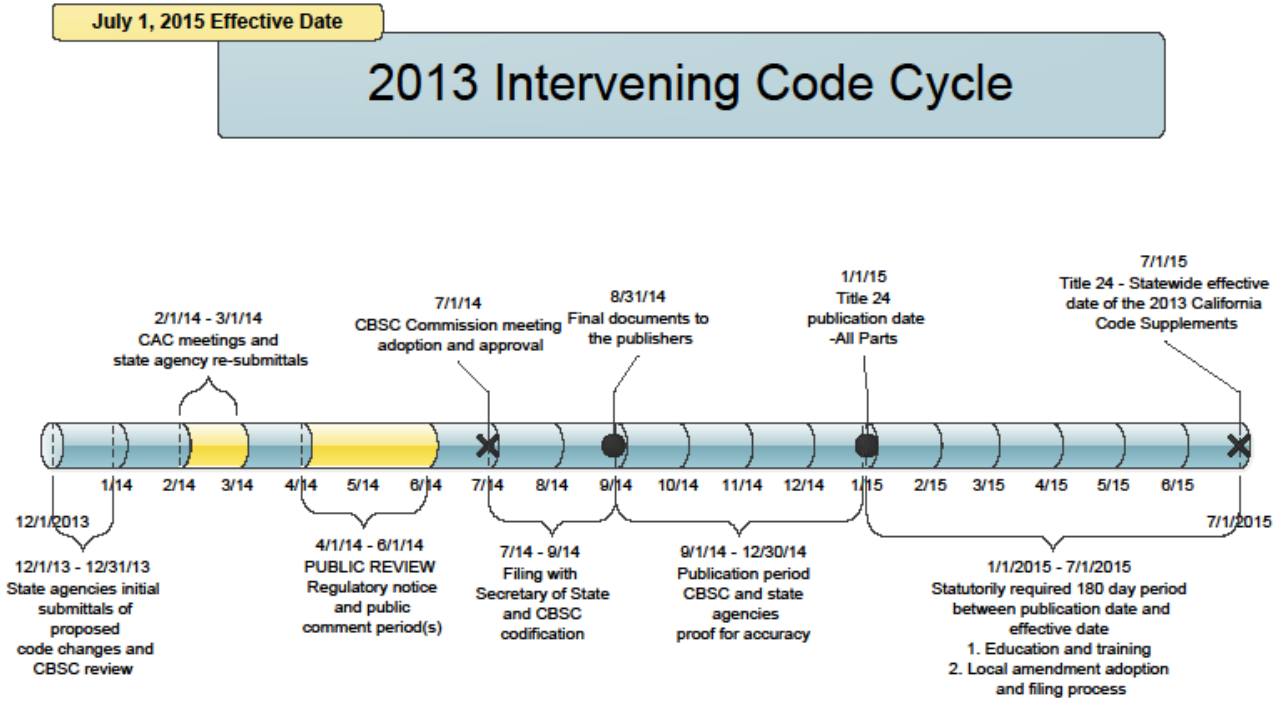
- International Code Council (ICC) publishes **Parts 1, 2 (includes 8 and 10), 2.5, 6, 9, 11 and 12** of Title 24, the Administrative, Building with Historical and Existing Buildings, Residential, Energy, Fire, Green and Referenced Standards Codes. For order information go to www.iccsafe.org, or call (800) 786-4452;
- International Association of Plumbing and Mechanical Officials (IAPMO) publishes **Parts 4 and 5** of Title 24, the California Mechanical and Plumbing Codes. For order information go to www.iapmo.org, or call (909) 472-4208; and
- BNi Building News publishes **Part 3** of Title 24, the California Electrical Code. For order information go to www.bnibooks.com or call (888) 264-2665.

California's building codes (California Code of Regulations, Title 24) are published on a triennial basis. The CBSC is responsible for the administration and implementation of each code cycle, which includes the proposal, review and adoption processes.

Supplements and errata are issued throughout the cycle. Review the current code cycle timeline here. The 2013 code is scheduled to go into effect in January 2014. For more information about the code cycle and the regulatory processes review the information available throughout this website. Click here for helpful tips on how to navigate the CBSC web pages.

The **2010 codes**, which remain in effect through 2013 are available online both on this website and on the submitting

What's Next?



CAC Committees:
SDLF – Structural Design/ Lateral Forces
PEME – Plumbing, Electrical, Mechanical & Energy
HF – Health Facilities
GREEN – Green Building
BFO – Building, Fire & Other
ACCESS – Accessibility

*** All dates are subject to change**

2013 CALGreen
Contacts and Resources

Purchasing Information for 2013 CALGreen (loose-leaf or eCode)

International Code Council
5360 Workman Mill Road
Whittier, CA 90601

Telephone: 1-888-ICC-SAFE (422-7233)
FAX: 1-866-891-1695
Website: www.iccsafe.org

Thank you…

Are there any questions?

Nonresidential: cbsctraining@dgs.ca.gov

Residential: shuff@hcd.ca.gov