

California Building Standards Commission
and
California Department of Housing and
Community Development
present



CAL Green®



Introduction

California Building Standards Commission

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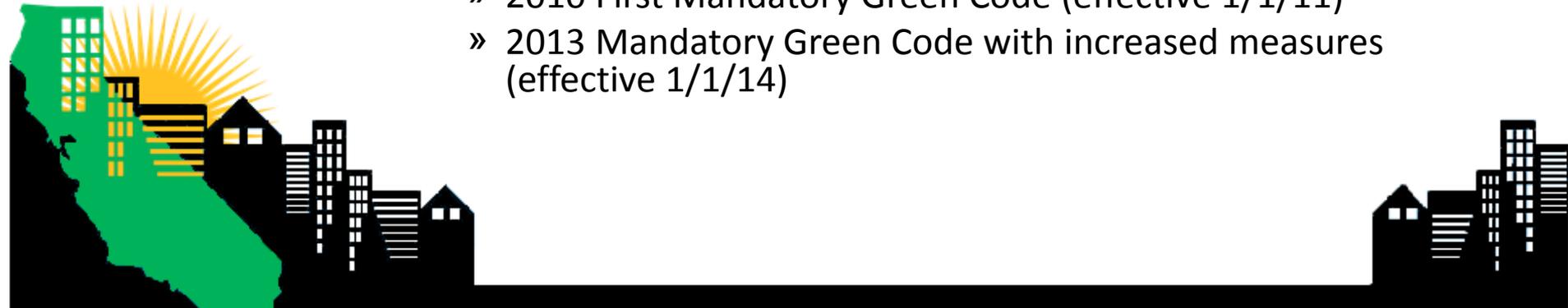
Workshop Goals

- Why CALGreen?
- Residential 2013
- Nonresidential 2013
- Current Activities
- Future Activities
- Q&A throughout



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;
- EO S-20-04: Reduce grid-based electricity by 20% in state-owned buildings by 2015; reduce associated greenhouse gas emissions
- AB 32: Reduce GHG emissions to 1990 levels by 2020
- 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)



- 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

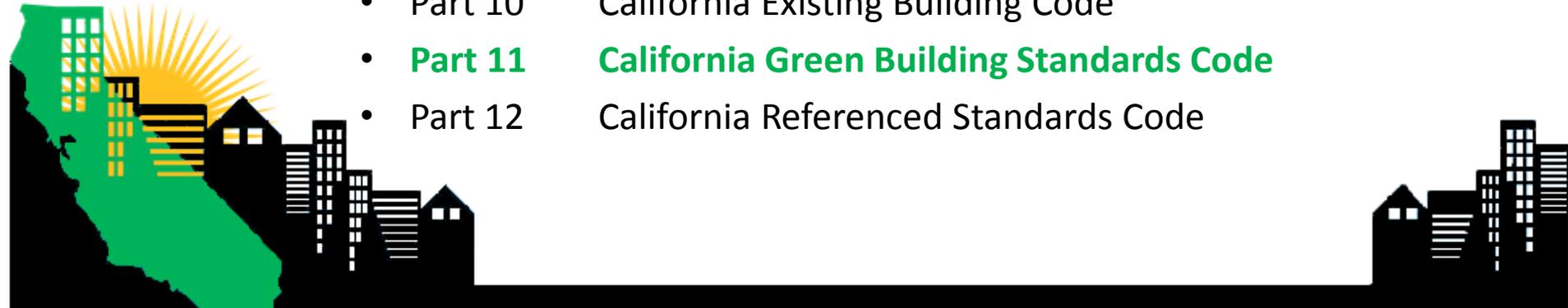




2013 California Building Standards Code

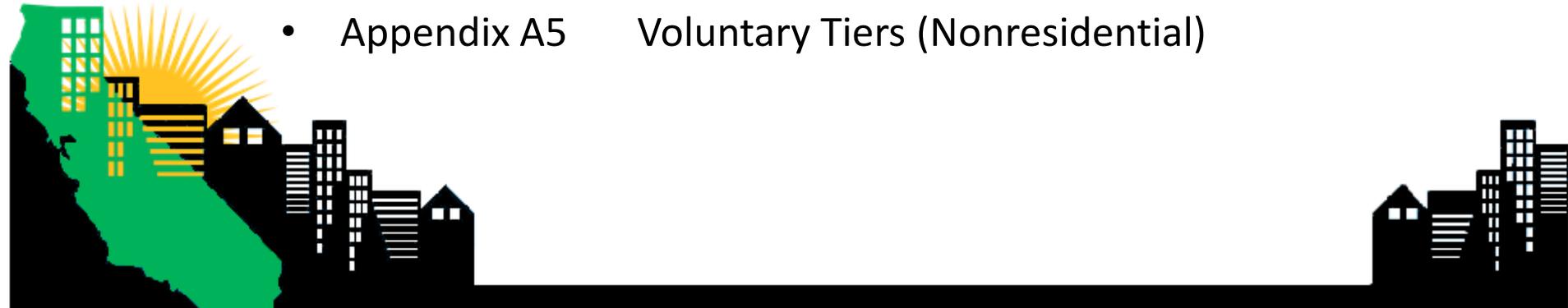
Title 24, California Code of Regulations

- 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

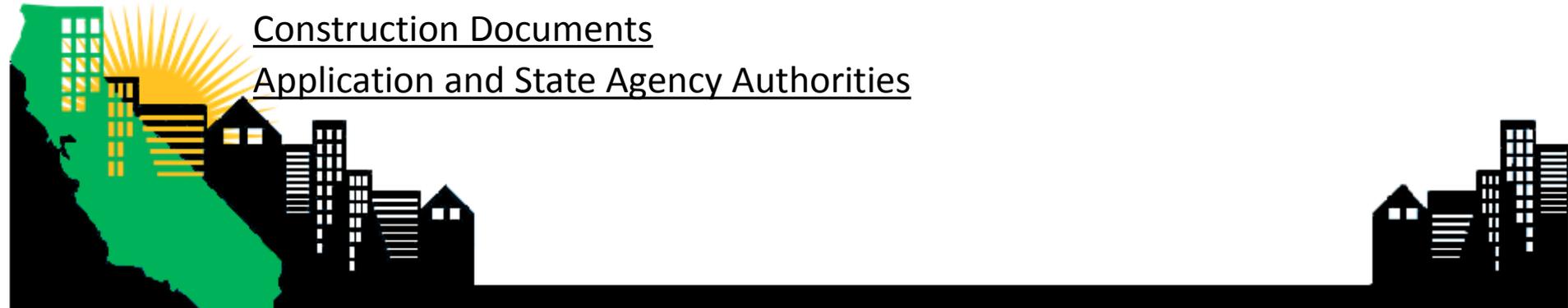
Local amendments based on findings

- Climate
- Topography
- Geology

Alternative Materials and Methods

Construction Documents

Application and State Agency Authorities



HCD-Residential Measures



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 (HCD)

All definitions have been relocated to Chapter 2

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

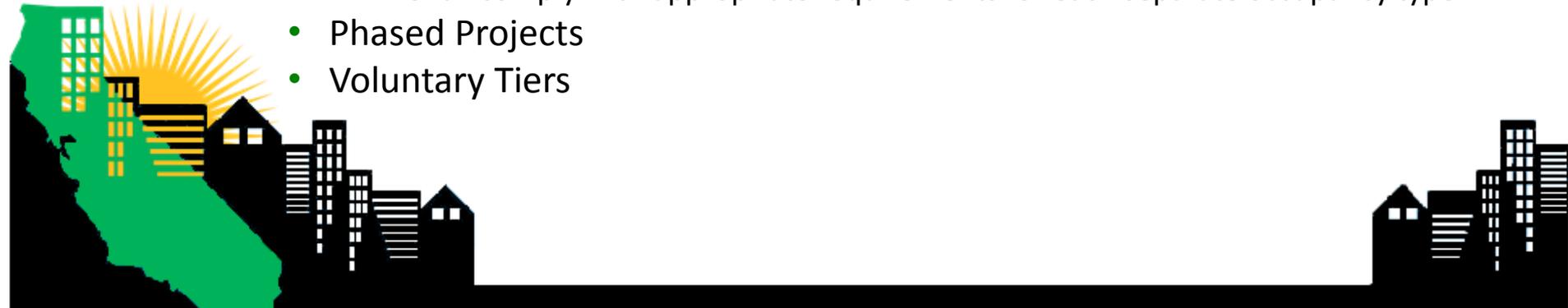
Newly constructed non- residential buildings, alterations and additions

- 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



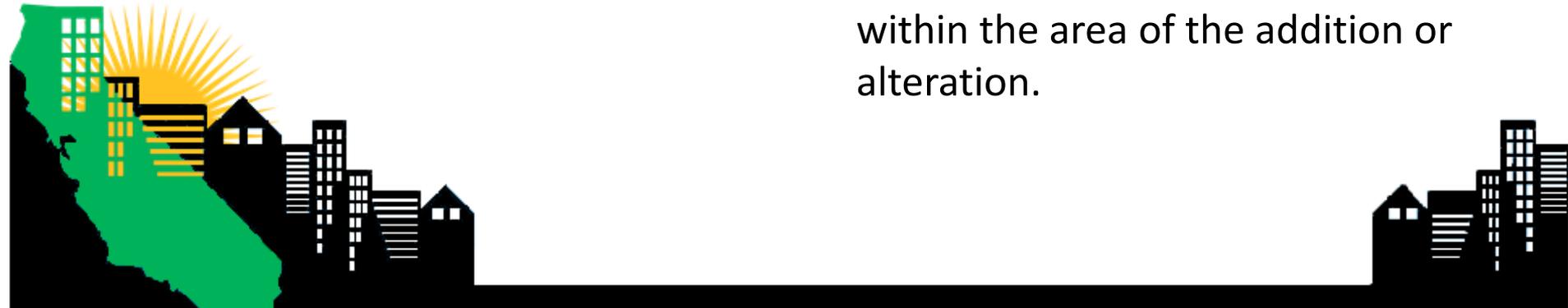
Chapter 3 – Additions and Alterations (HCD)

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.



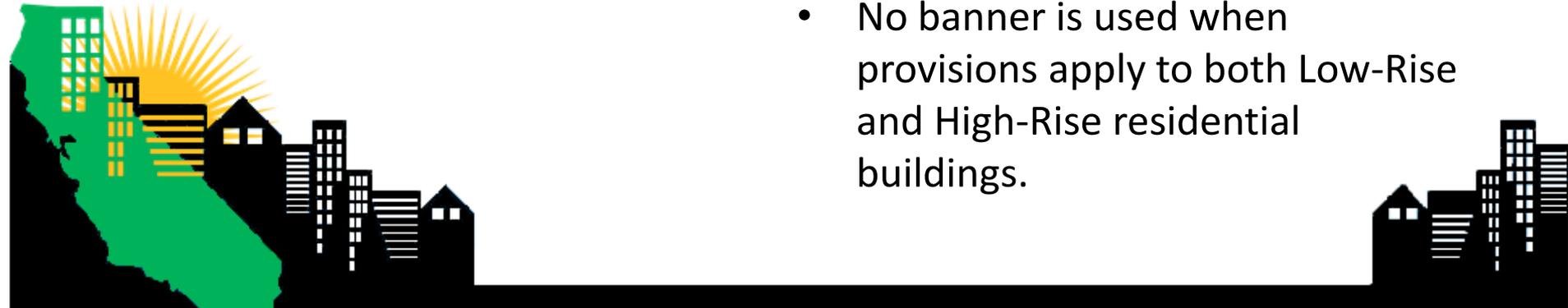
Chapter 3 – Low-Rise and High-Rise residential buildings (HCD)

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.



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



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

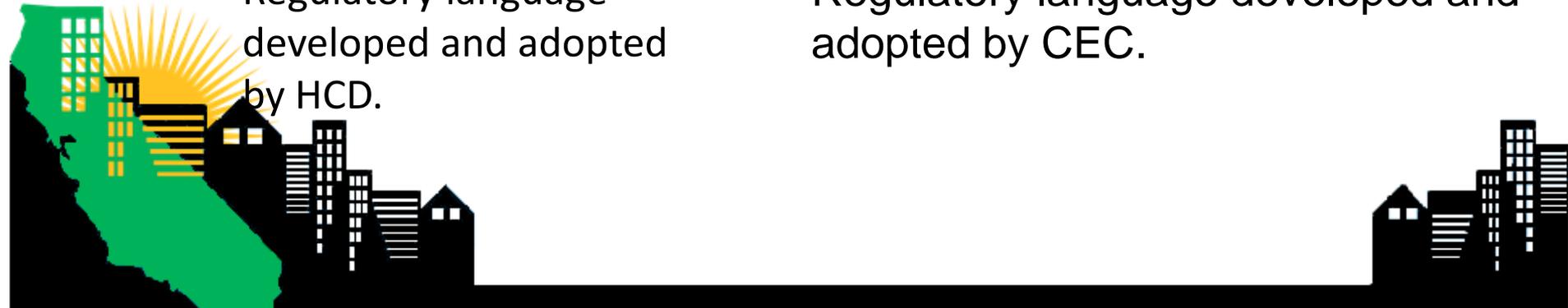
- Scoping language provides recognition that the California Energy Commission (CEC) adopts mandatory energy efficiency standards for purposes of residential buildings.

- Regulatory language developed and adopted by HCD.

2013

- Scoping language clarifies that the CEC will continue to adopt mandatory standards.

- 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



Water Efficiency and Conservation

Chapter 4 - Division 4.3, Indoor Water Use

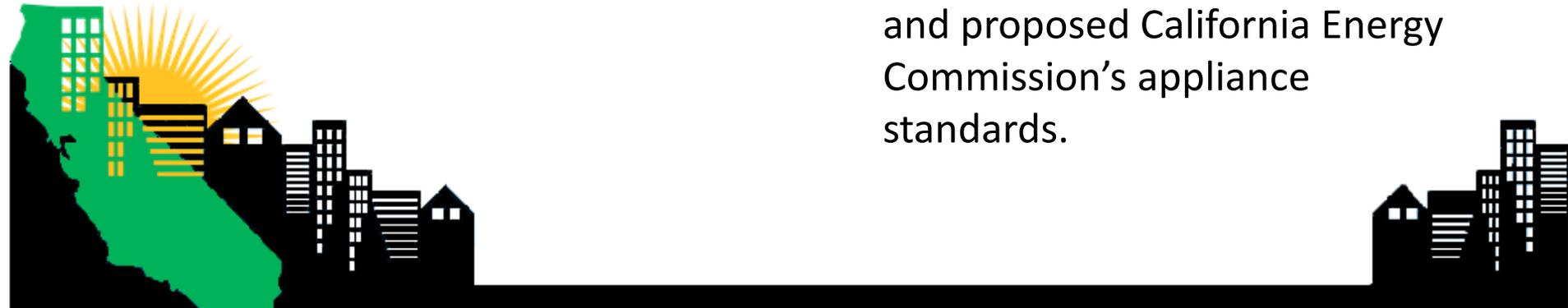
2010

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

2013

**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

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



Chapter 4 - Division 4.3, Indoor Water Use

2010

Multiple Showerheads Serving One Shower.

- 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

Standards for plumbing fixtures and fittings

- 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

Rodent proofing

- 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.



Construction Waste Reduction, Disposal and Recycling

2010

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

Exceptions:

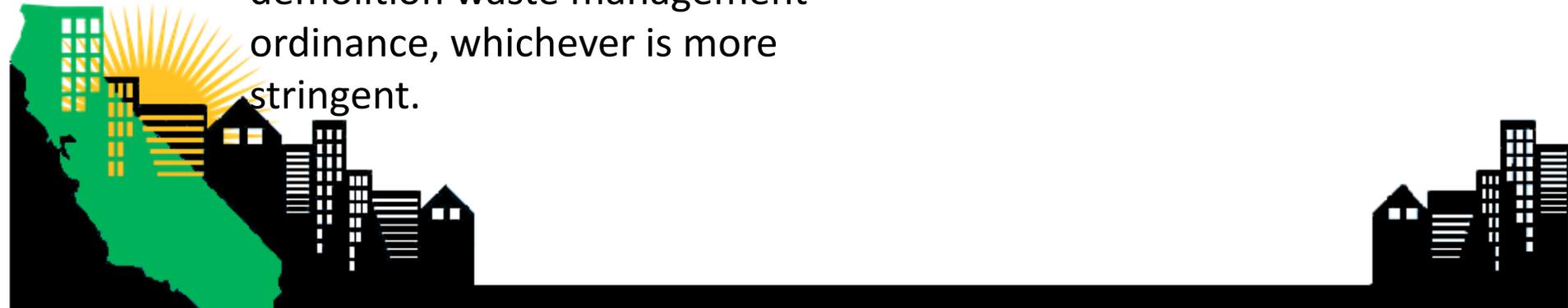
- Excavated soil and land-clearing debris
- Alternate waste reduction methods
- Isolated jobsites.

OR

- 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

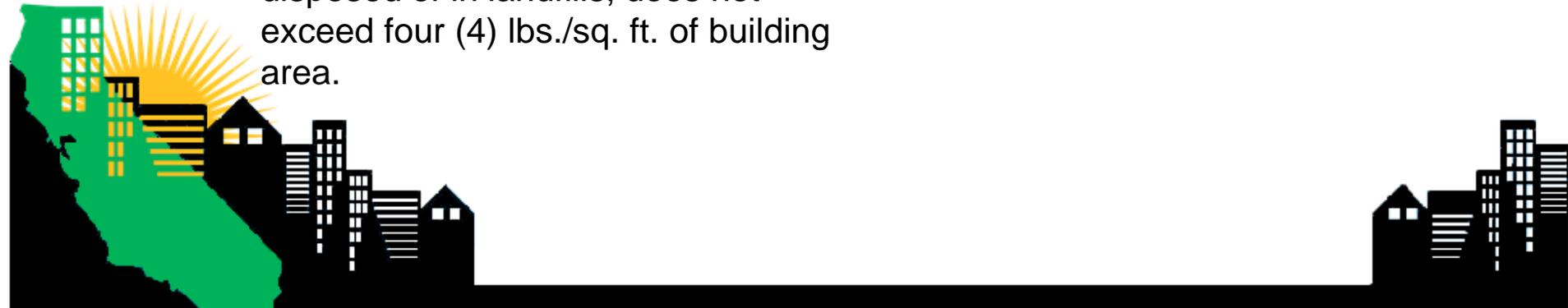
Methods for meeting the 50 percent construction and demolition waste requirement when there is no local ordinance.

- 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

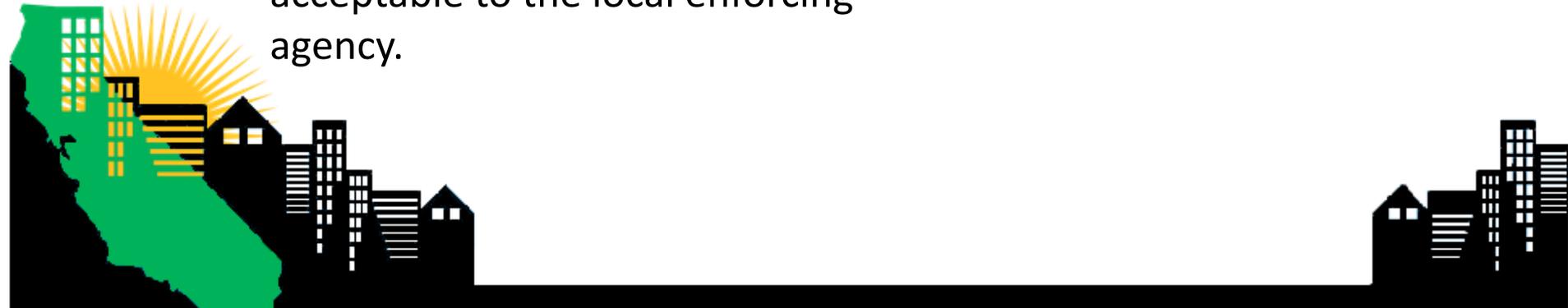
Construction Waste Reduction, Disposal and Recycling

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

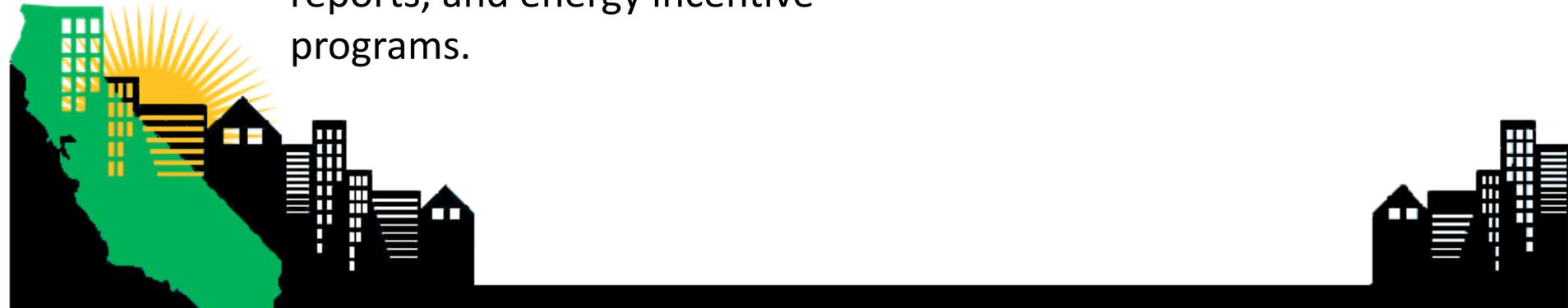
Building Maintenance and Operation

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.



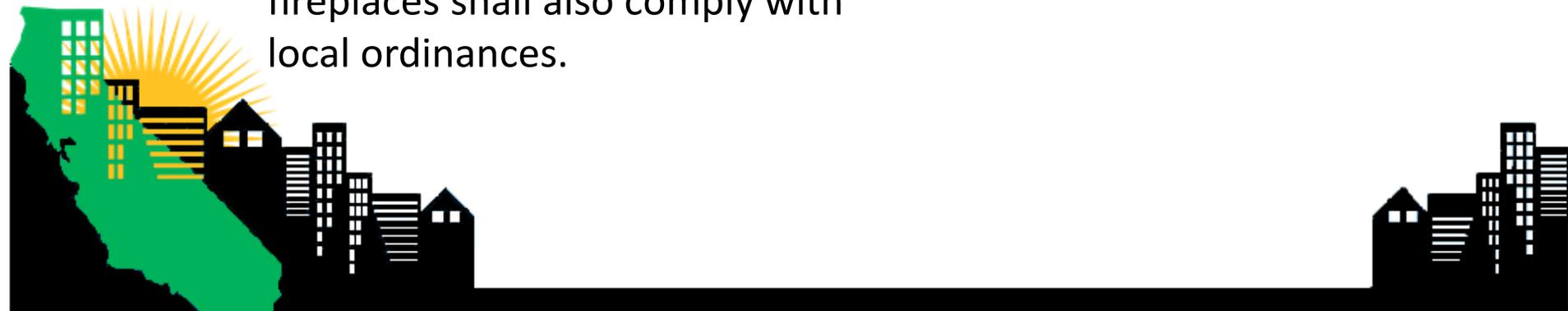
Chapter 4 - Division 4.5, Fireplaces

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.



Chapter 4 - Division 4.5, Pollutant Control

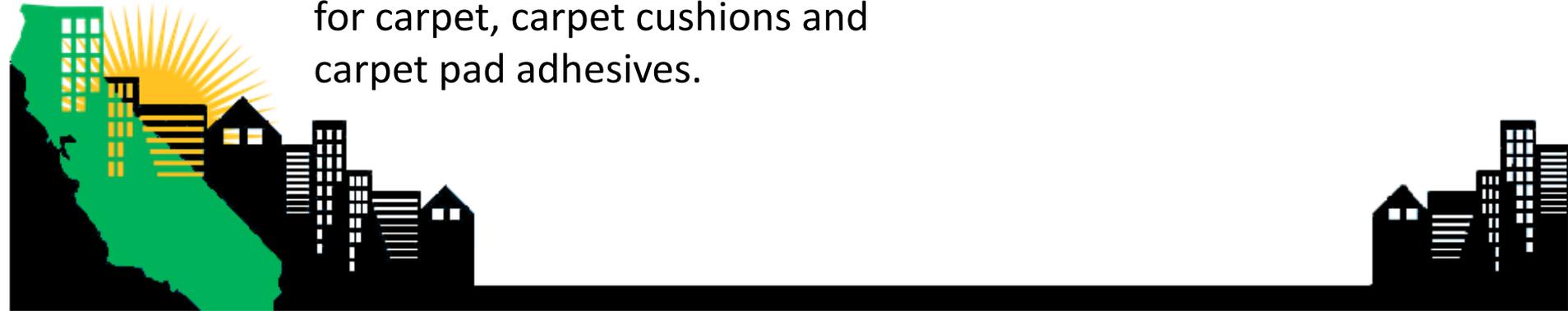
2010

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 chinks; 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.



Chapter 4 - Division 4.5, Pollutant Control

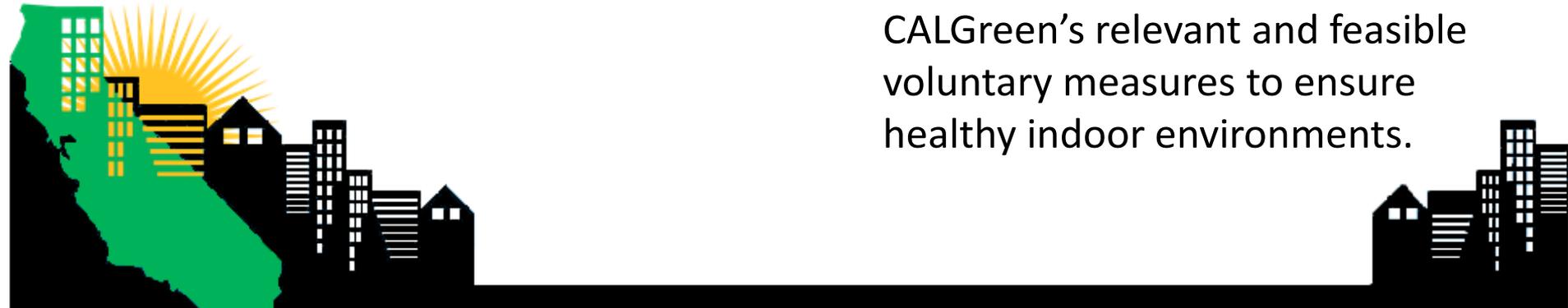
2010

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

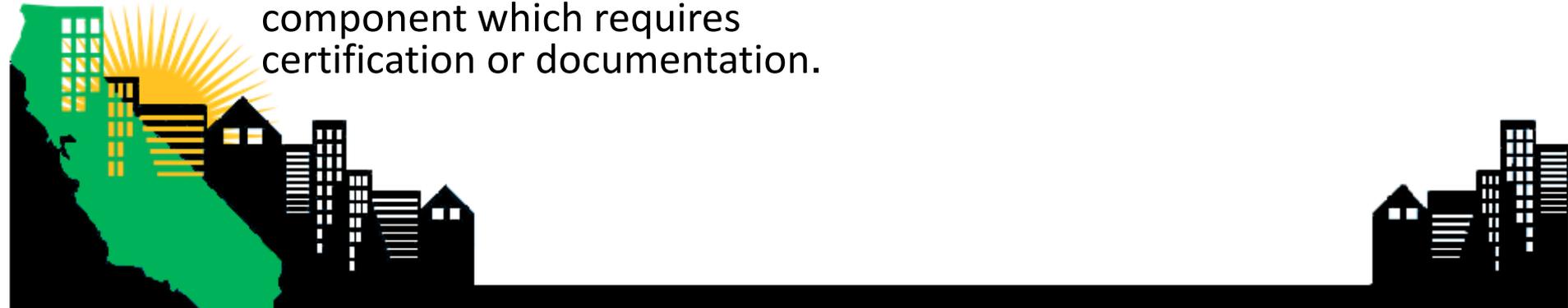
2010

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

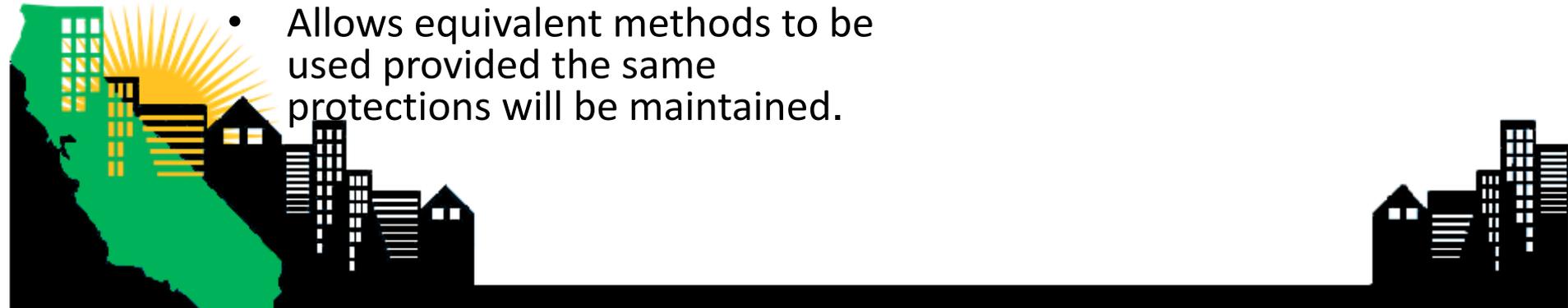
2010

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:

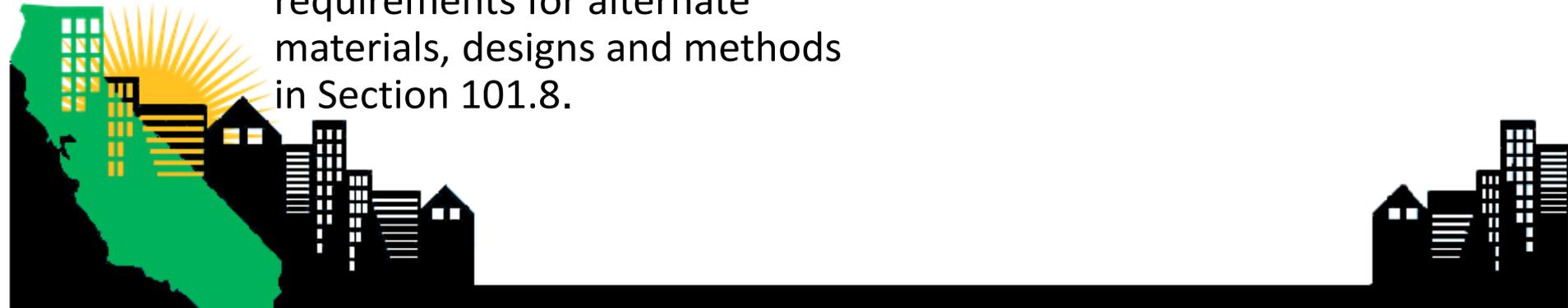
- Either a probe-type or a contact-type moisture meter

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.



Chapter 4 - Division 4.5, Interior Moisture Control

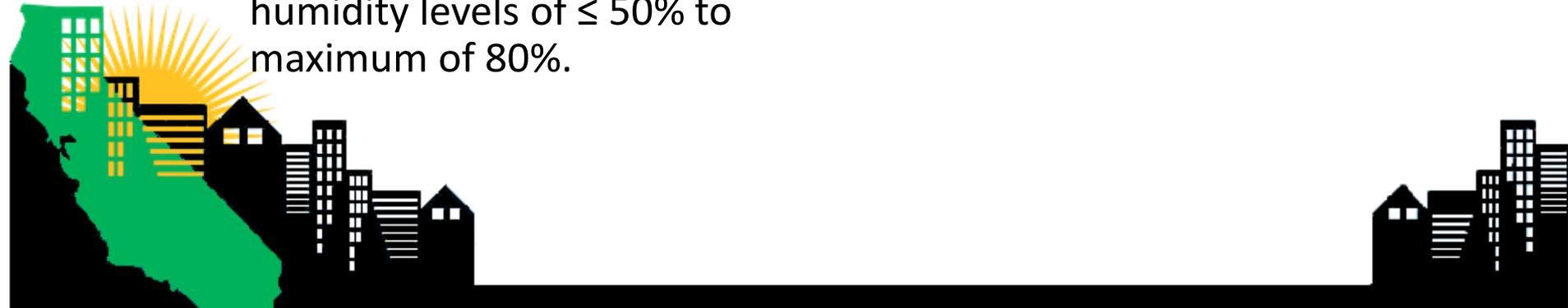
2010

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 $\leq 50\%$ 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

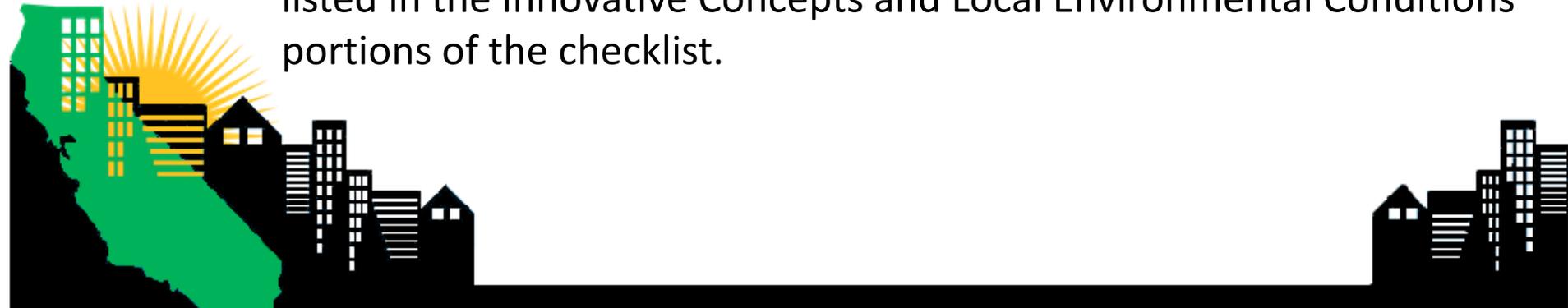
- The measures contained in the Appendix are not mandatory unless adopted by a city, county, or city and county.
- In order to meet one of the tier levels - designers, builders, or property owners are required to incorporate additional green building measures necessary to meet the threshold of each level.



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.



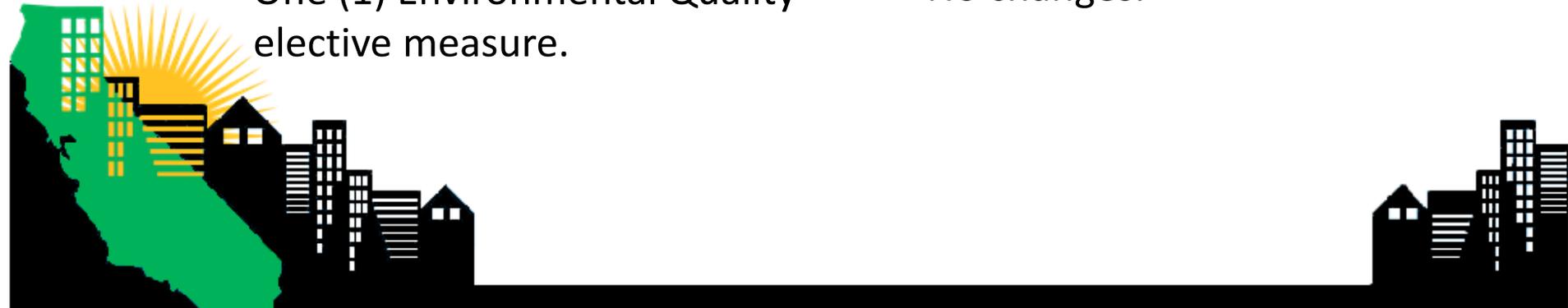
Appendix A4 Number of Electives for Tier 1

2010 Tier 1 Electives:

- Two (2) Planning and Design elective measures.
- Four (4) Energy Efficiency elective measures.
- One (1) Water Efficiency and Conservation elective measure.
- Two (2) Material Conservation and Resource Efficiency elective measures.
- One (1) Environmental Quality elective measure.

2013 Tier 1 Electives (changes)

- No changes.
- All 2010 Energy Efficiency electives repealed and replaced with 2013 prerequisites.
- At least two (2) electives needed for Water Efficiency.
- No changes.
- 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

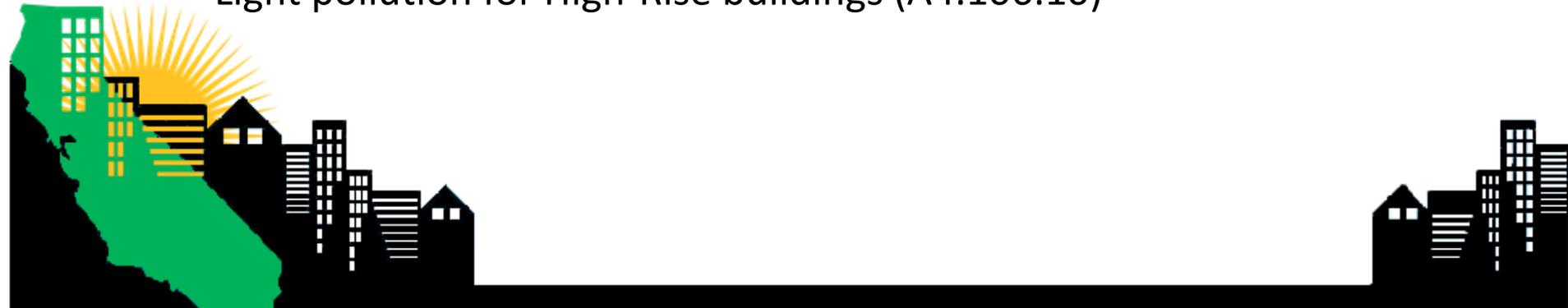
Revised tier item: Cool roof for reduction of heat island effect (A4.106.5)

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

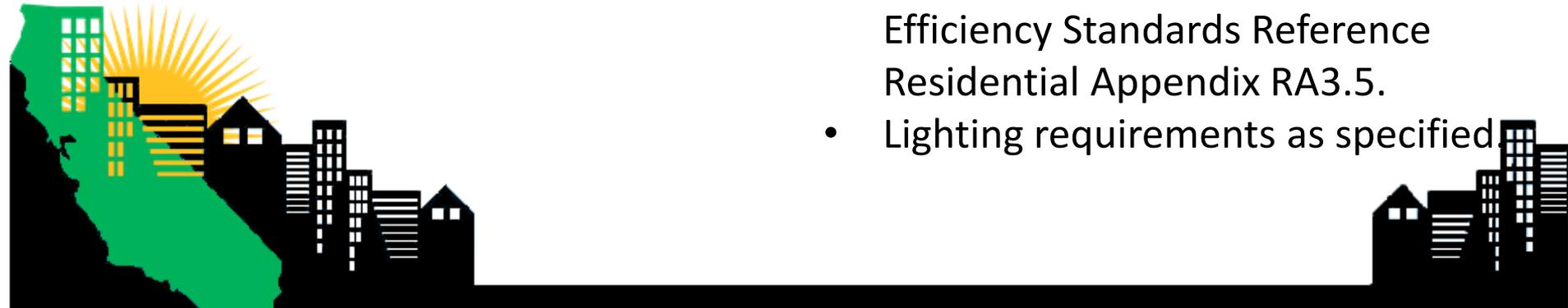
New construction Low-Rise

- 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:

Additions and alterations Low-Rise

- None

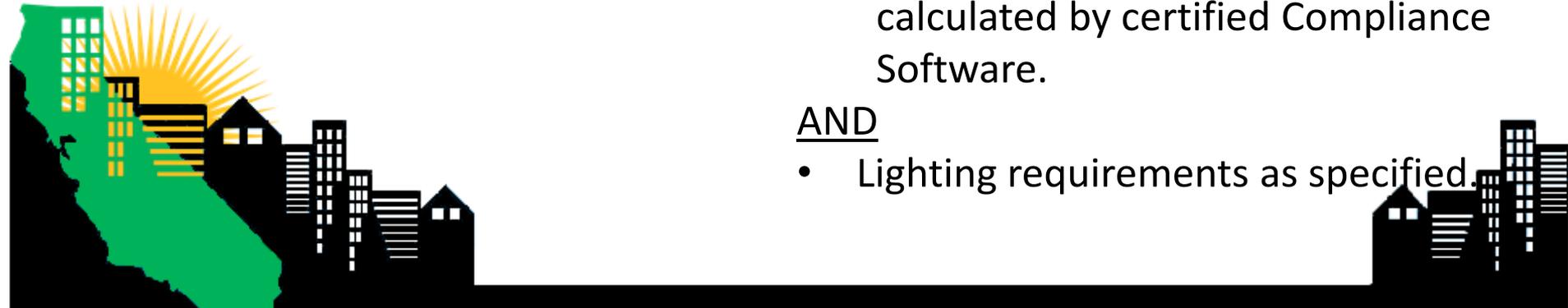
2013 Tier 1 Prerequisites (changes)

Additions and alterations Low-Rise

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.

AND

- Lighting requirements as specified.



Appendix A4.2, Energy Efficiency

2010 Tier 2 Prerequisites

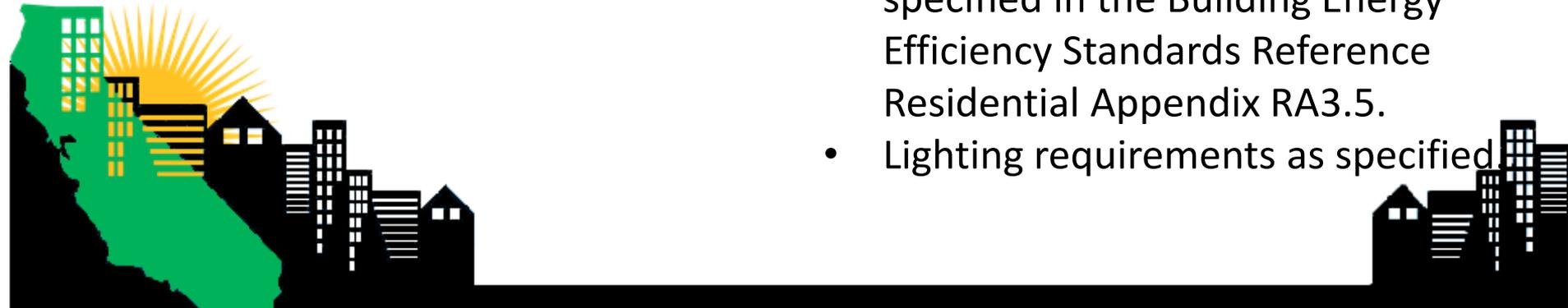
New construction Low-Rise

- 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:

Additions and alterations Low-Rise

- None

2013 Tier 2 Prerequisites (changes)
Additions and alterations Low-Rise

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.

AND

- Lighting requirements as specified.



Appendix A4

Revisions to Division A4.3

Water Efficiency and Conservation

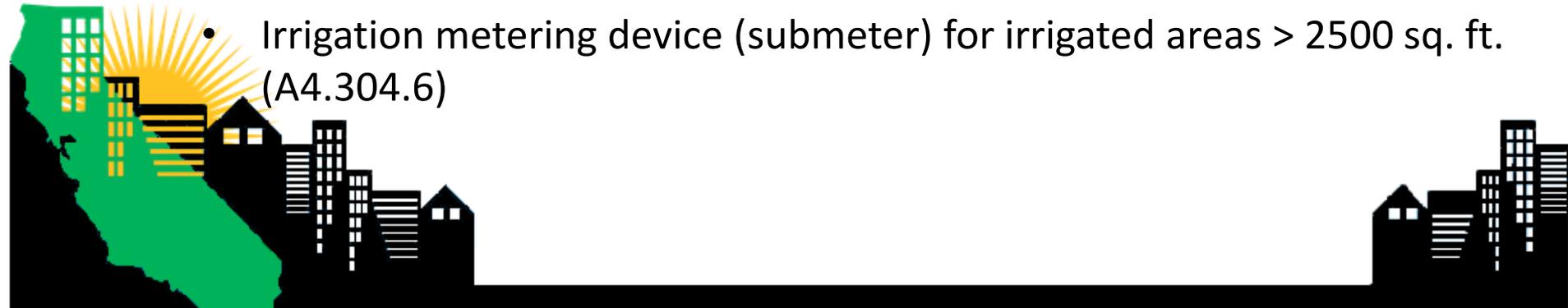
Repealed tier item: Kitchen faucets and dishwashers (A4.303.1)

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)

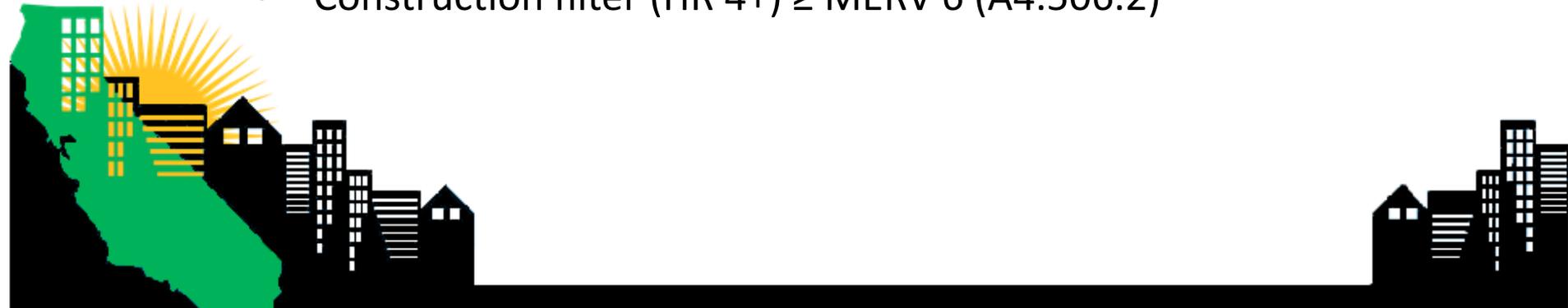
- Tier 1 increased from 80% to 90%
- Tier 2 increased from 90% to 100% with allowance for specialty flooring

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+) \geq MERV 6 (A4.506.2)



Appendix A4

Division A4.6 Tier 1 and Tier 2

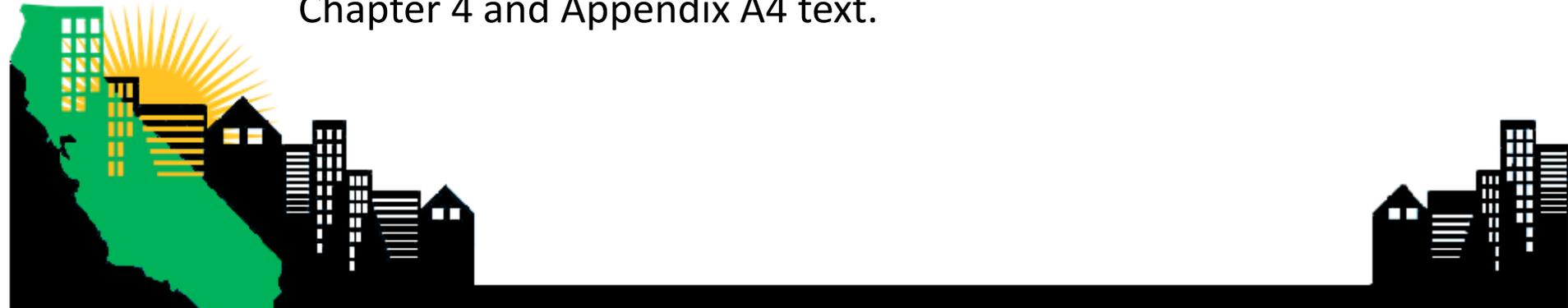
A4.601.4.2 Prerequisite and elective measures for Tier 1

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.



BSC Non-Residential Measures



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 (Best management practices)
- Bicycle parking (short term & Long Term)

Designated parking

2013 CALGreen

- Clarifies that it also applies to additions
- Clarifies that it also applies to additions or alterations
- Clarifies that it also applies to additions or alterations



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. Fixed code references
- Exception: for Additions and alterations not altering the drainage path.



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

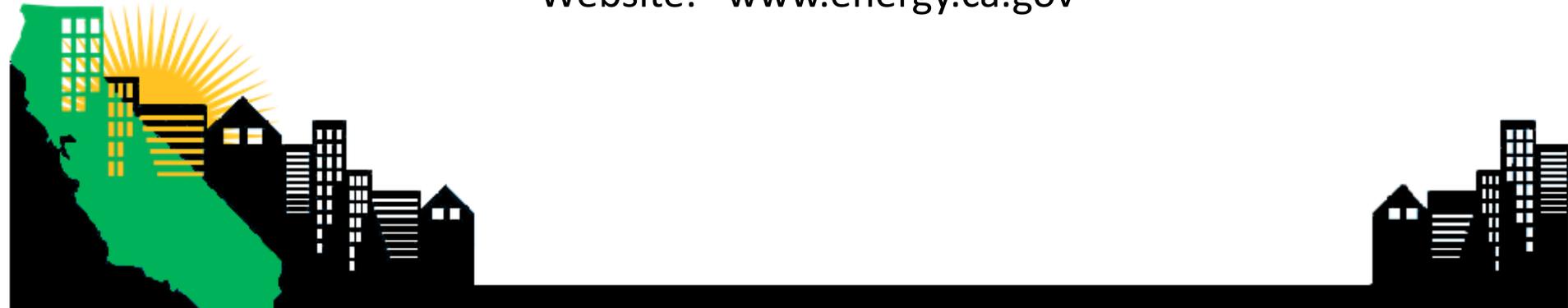
California Energy Efficiency Hotline

Telephone: (916) 654-5106

1-800-772-3300 (toll free in CA)

Email: title24@energy.state.ca.us

Website: www.energy.ca.gov



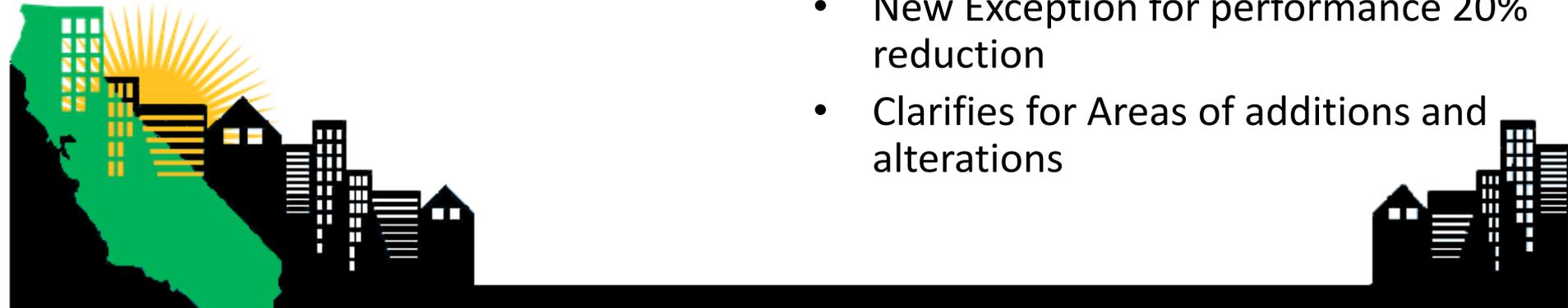
Chapter 5- Division 5.3 Indoor Water Use

2010 CALGreen

- Separate water submeters and 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 over 50,000 sf
- ***New section*** “*Water Reduction*”: Comply with reduced flow rates in new table;
- “Water conserving plumbing fixtures and fittings”: Prescriptive reduced flow rates for: water closets, Urinals, and Showerheads
- 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
- Modified section that references the *California Plumbing Code*



Chapter 5- Division 5.3

Outdoor Water Use

2010 CALGreen

- Water budget
- Separate submeter for outdoor potable water use (with Clarifications) area 1,00-5,000 sf
- Irrigation design 1,000-2,500sf
- Irrigation Controllers -Weather or soil moisture-based irrigation controllers (with minor clarifications)

2013 CALGreen

- Clarifies that it also applies to additions or alterations
- Clarifies that it also applies to additions or alterations
- Clarifies that it also applies to additions or alterations
- No Change



Chapter 5- Division 5.4

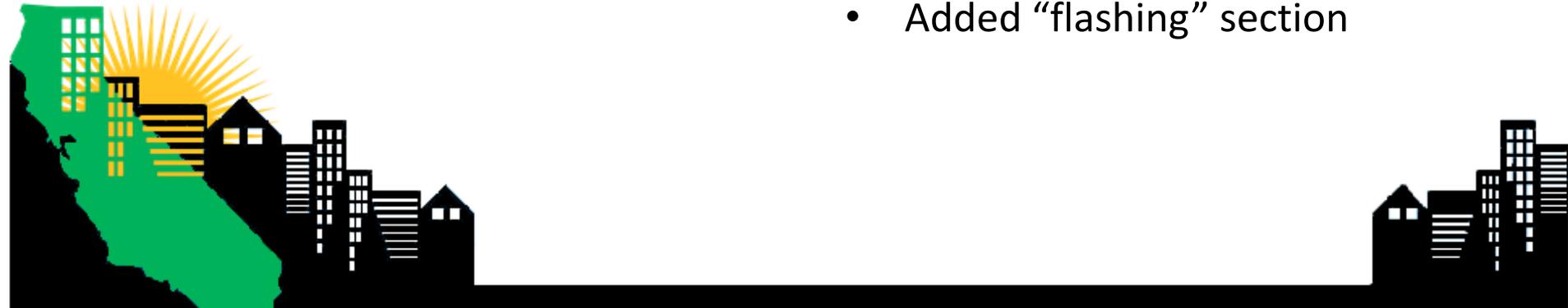
Water Resistance & Moisture Management

2010 CALGreen

- Exterior weather protection by Title 24 or local ordinance
- Design for moisture control
 - Sprinklers
 - Entries and openings

2013 CALGreen

- No change (editorial code reference)
- No change
- Exterior door protection: Removed notes and made them requirements with modifications
- Added “flashing” section



Chapter 5- Division 5.4

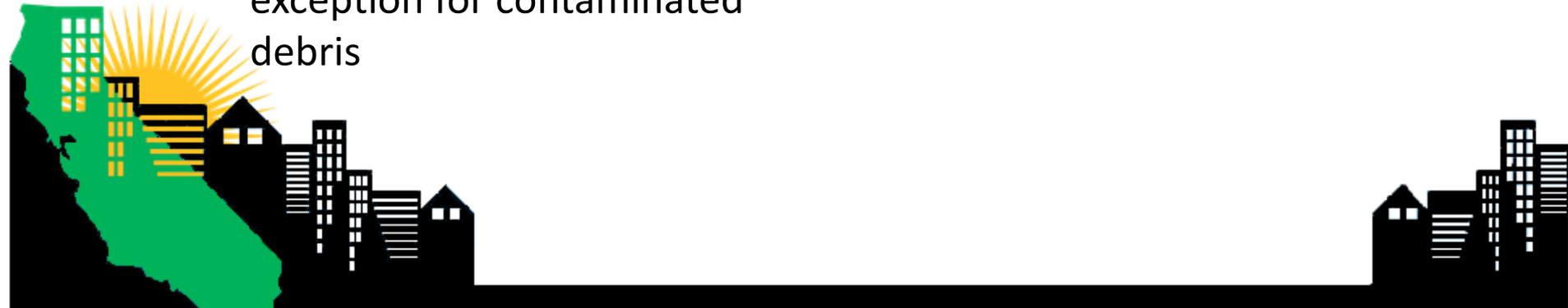
Construction Waste Reduction, Disposal & Recycling

2010 CALGreen

- Construction waste reduction of 50%
- Waste management plan required, or meet local ordinance added options
- Exception for isolated jobsites
- Waste stream reduction alternative and documentation
- Recycle or reuse 100% of land clearing debris with added exception for contaminated debris

2013 CALGreen

- Added demolition waste requirement
- Added demolition waste requirement
- Removed exception
- No Change
- 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 commissioning requirements are 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 of systems for new buildings less than 10,000 s.f.
- HVAC balancing and reporting
- Operation & Maintenance (O&M) manual and inspections/reports

2013 CALGreen

- ***New section***: Clarifies requirements for new buildings or new systems designed to serve an addition or an alteration
- No change
- No Change



ENVIRONMENTAL QUALITY

Chapter 5- Division 5.5

Pollutant Control

2010 CALGreen

- Fireplaces
- Temp. const. ventilation If HVAC is used for temp. const. ventilation (replace filters)
- Covering of duct openings and protection of equipment during construction

2013 CALGreen

- Minor clarification
- Clarifies requirements for “areas of additions or alterations”
- No change



Chapter 5- Division 5.5

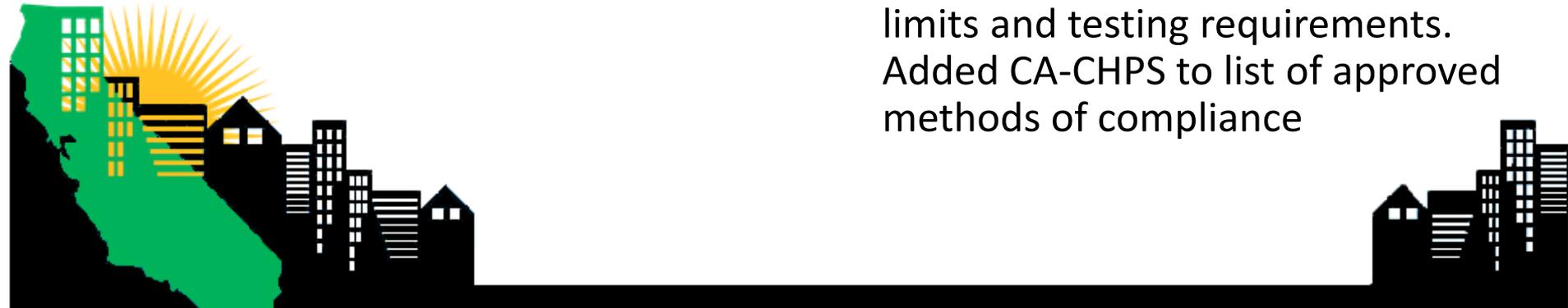
Pollutant Control

2010 CALGreen

- Finish materials-(adhesives, sealants, caulks, paints and coatings)
- 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 and updated product requirements
- 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

Fitters (MERV)

Filters Referenced standards with Exception for small, H.E. ductless units

- Environmental tobacco smoke with clarification of authority to regulate

2013 CALGreen

- No Change
- Clarifies MERV exceptions for H.E. Units and added new exception for existing mechanical equipment
- ***New section***: labeling requirements
- No change



Chapter 5- Division 5.5

Indoor Air Quality

2010 CALGreen

- Outside air delivery
 - Ventilation-Editorial changes
- CO2 monitoring

2013 CALGreen

- No change
- Clarifies that it also applies to additions



Chapter 5- Division 5.5 Environmental Comfort

2010 CALGreen

- Acoustical control based on ASTM E90
- Exterior noise transmission
With added performance & prescriptive methods
- Interior sound transmission
- Ozone depletion and greenhouse gas reductions no GFC's or Halons

2013 CALGreen

- No change
- 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
- No change



Chapter 5- Division 5.5

Outdoor Air Quality

2010 CALGreen

Not in current code

2013 CALGreen

- Supermarket refrigerant
 - Leak reduction
 - Refrigerant piping
 - Valves
 - Refrigerated service cases
 - Refrigerant receivers
 - Pressure testing
 - Evacuation



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.



HCD Intervening Code Changes



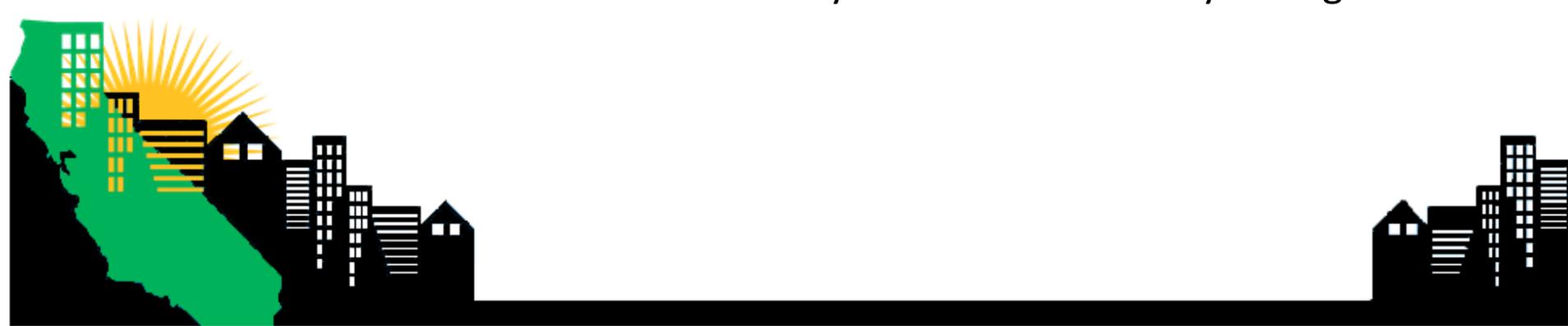
Proposed Changes 2013 Intervening Cycle

- Implementation of any new statutory or legislative mandates.
- Any nonsubstantive or editorial changes to provide further clarity.
- Emphasis is to minimize changes during the intervening cycle. However...



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.



- 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.



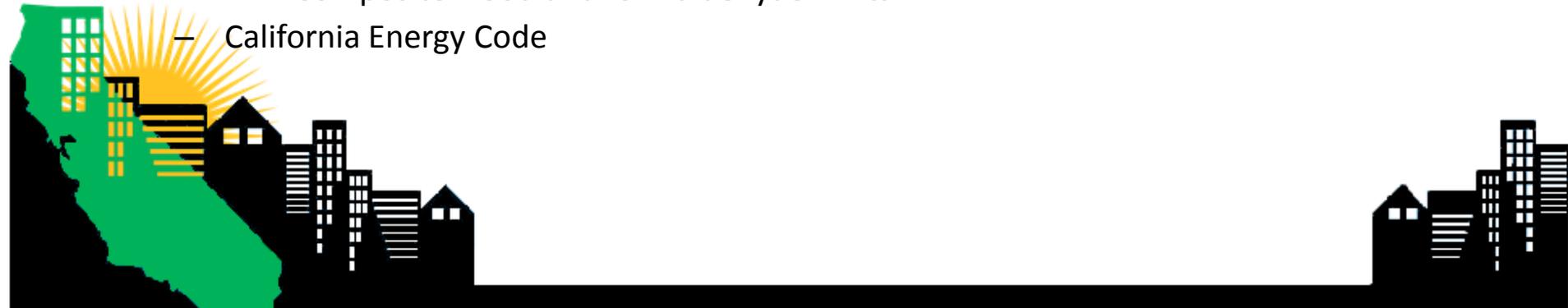
Proposed Changes 2013 Intervening Cycle

- Mandatory infrastructure installation for electric vehicle charging in all one- and two-family homes and townhomes. A Tier 1 prerequisite is proposed for installation of a minimum 40-amp branch circuit and supporting infrastructure.
- Mandatory infrastructure installation for electric vehicle charging in 3 percent of total parking spaces for multifamily buildings. A Tier 1 prerequisite is proposed to for an increase in the requirement to 5 percent of total parking spaces.
- Simplified permit and inspection processes for small (under 10 kW) photovoltaic systems.



Changes 2015 Triennial Cycle

- Review and evaluation of new model codes
 - 2015 “International” Codes, including Green Construction Code
 - 2014 National Electric Code
 - 2015 IAPMO Plumbing and Mechanical Codes
- Review and evaluation of non-model codes
 - CALGreen
 - Revisiting actual implementation of electric vehicle charging requirements
 - Construction waste requirements
 - Outdoor water use
 - Composite wood and formaldehyde limits
 - California Energy Code



Changes 2015 Triennial Cycle

- Implementation of any new statutory or legislative mandates.
- Proposed changes, including adoption of new provisions, through review of other sustainable building codes and standards, and through identification of issues by stakeholders.
- Review and evaluation of other issues identified by stakeholders
- Any recommendations?



How to stay informed and involved?

- Know the current state codes and local amendments
- Identify code areas that are unclear or need correction
- Share concerns with model code publishers, local enforcing agencies or HCD
- Keep up on HCD rulemaking activities and provide comments during appropriate time periods
- Q&A





HCD Contact Information

California Department of Housing and Community Development
State Housing Law Program (new address as of June 2013)
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





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Edmund G. Brown Jr.

Secretary
Business, Consumer Services,
and Housing Agency



Anna M. Caballero



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- [Manufactured Home/Mobilehome Registration Renewal](#)
- [Occupational Licensing Query](#)
- [Redevelopment Agency Reporting System \(RDA\)](#)
- [Requestor Account Title Search](#)
- [Title Search and Escrow Opening](#)

IMPORTANT INFORMATION

**Enterprise
Zone**

**2013
Income**

**New State Income
Limits Hold
Harmless Policy**



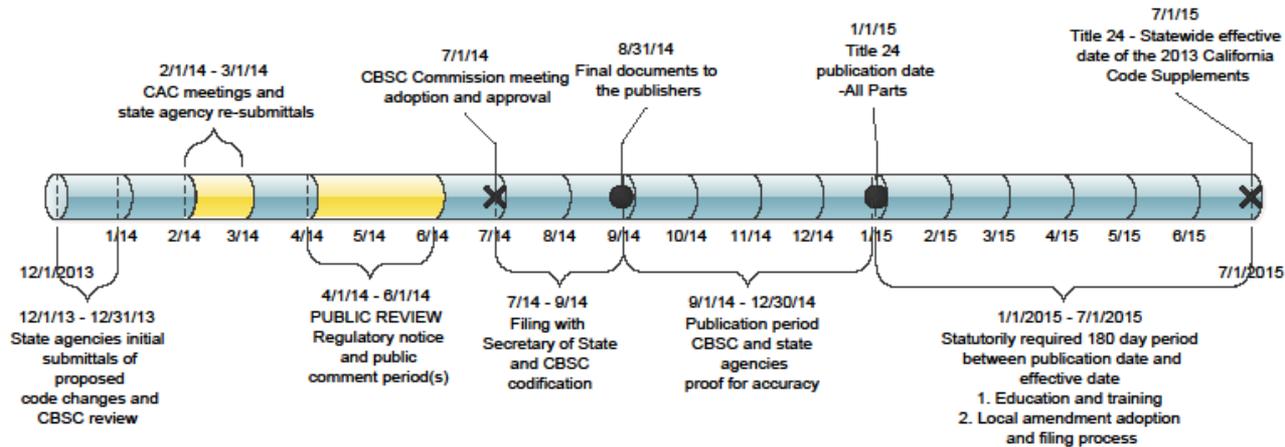
BSC Intervening Code Changes



What's Next?

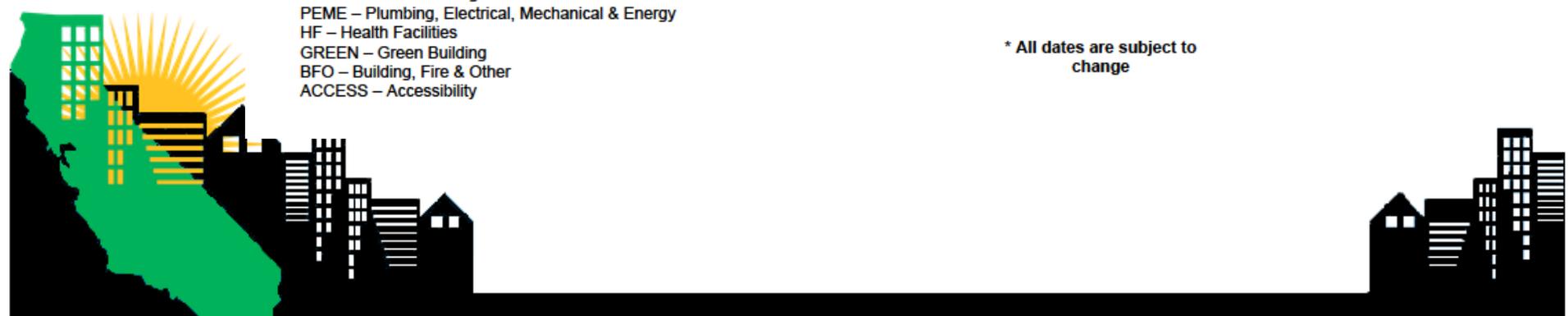
July 1, 2015 Effective Date

2013 Intervening Code Cycle



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



Chapter 5- Division 5.1

Site Development

2013 CALGreen

- Chapter 3-Green Building
- 301.3 Nonresidential additions and alteration

2013 CALGreen Intervening Code

- Added a new section with a note that references Civil Code Section 1101.3 for non-compliant plumbing fixtures

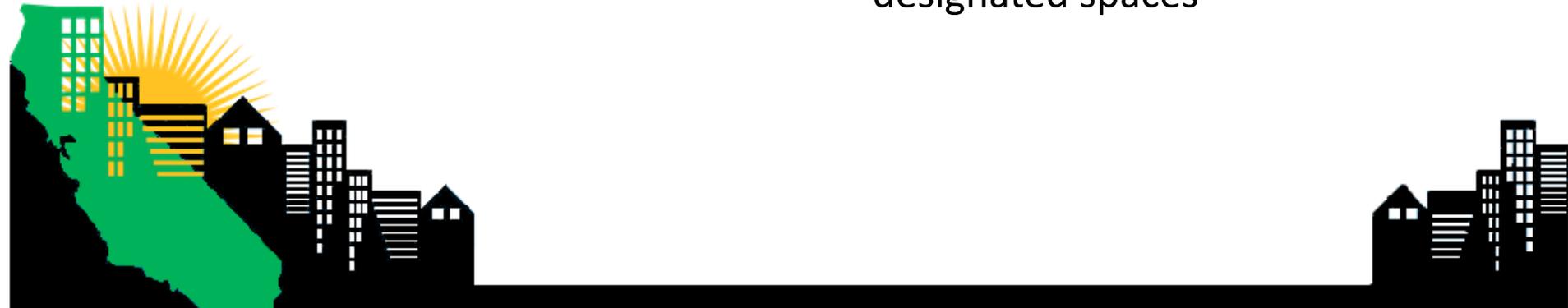


Chapter 5- Division 5.3 Site Development

2013 CALGreen
NONE

2013 CALGreen Intervening Code

- ***New sections***
- “Single Electric vehicle (EV) charging space requirements
- “Multiple Electric vehicle (EV) charging space requirements
- EV charging calculation
- Identification w/ future charging designated spaces



Indoor Water Use

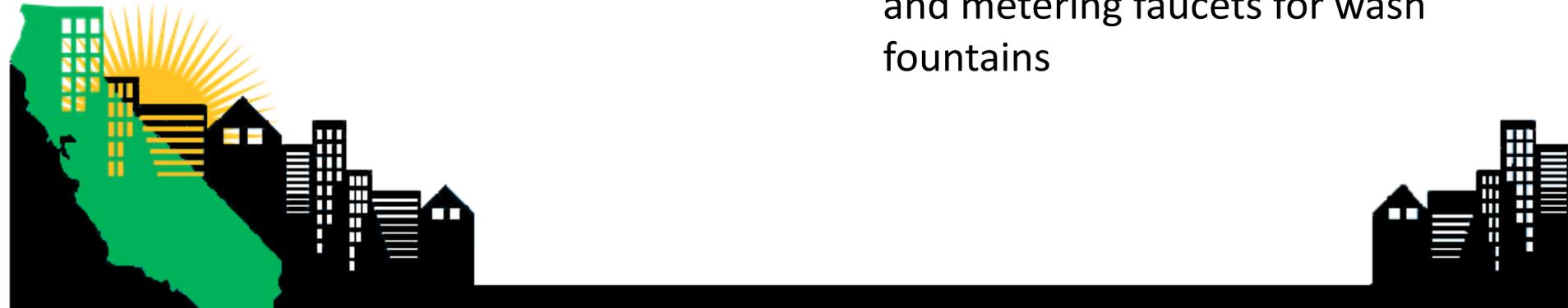
2013 CALGreen

Indoor water use

Water reduction and water use
baseline tables

2013 CALGreen Intervening Code

- Repeals the water reduction table and the option for a 20% reduction via the performance method
- Moves the fixture flow rates out of the “water reduction table” and into separate code sections for:
Lavatory faucets, kitchen faucets, wash fountains, metering faucets , and metering faucets for wash fountains



Chapter 5- Division 5.4 Building Maintenance and Operation

2013 CALGreen

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

Clarified requirements for New construction only

Note: All energy related requirements for Commissioning, OPR & BOD now have a reference to the Energy Code

2013 CALGreen Intervening Code

- Further Clarifies the exception for Dry warehouses with added exceptions
- ***New Informational Note:*** for IAS AC476 for Cx certification criteria





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



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



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Edmund G. Brown Jr.

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2013 CODE

TRIENNIAL EDITION

PUBLICATION DATE: JUL 1, 2013
EFFECTIVE DATE: JAN 1, 2014

NOW!

AVAILABLE!

The 2013 California Building Standards Code (Title 24) is now available online!
[Click here to view all parts of the Code.](#)

2013 Code Training in December

International Code Council (ICC):

[Understanding and Effective Use of the 2013 CBC Chapter 11B California Accessibility Standards](#)

International Association of Plumbing and Mechanical Officials (IAPMO):

[California Code Update Seminars for the 2013 Plumbing and Mechanical Codes](#)

Zero-Emission Vehicles (ZEVs)

The Governor's Office of Planning and Research, in cooperation with numerous state agencies and stakeholders across California, has created several resources to help achieve the goals of Governor Brown's [Executive Order B-16-2012](#), which directs state government to meet a series of milestones toward a long-term target of 1.5 million ZEVs on California's roadways by 2025. Among these resources is the [Zero-Emission Vehicles in California: Community Readiness Guidebook](#). To view the Guidebook and other ZEV resources, visit the [OPR website](#).

Are there any questions?



Nonresidential: cbsc@dgs.ca.gov

Residential: www.hcd.ca.gov

