

GUIDE TO THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE

Includes Verification Guidelines

NONRESIDENTIAL



*CAL*Green®



Guide to the 2019 California Green Building Standards Code Nonresidential

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Preface



This is the 4th edition of the *Guide to the California Green Building Standards Code Nonresidential* prepared by the California Building Standards Commission (CBSC).

This edition reflects regulatory changes that were made to the *California Green Building Standards Code*, Part 11, Title 24, during the 2016 Intervening and 2018 Triennial Code Adoption Cycles. The guide is intended to highlight and clarify both mandatory and voluntary nonresidential standards in the 2019 *California Green Building Standards Code (CALGreen)* for use by local building departments, builders and designers. The effective date of the *CALGreen* Code is January 1, 2020.

Comments and suggestions regarding the 2019 *CALGreen Guide Nonresidential* are welcomed in order to make future editions more beneficial to code users. Written comments may be submitted via email to cbsc@dgs.ca.gov, or regular mail addressed to:

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About the California Building Standards Commission (CBSC)

Established in 1953 by California Building Standards Law, CBSC is a commission within the Department of General Services. Members of the commission are appointed by the governor and confirmed by the state senate, and serve four-year terms.

CBSC's mission is to produce sensible and usable state building standards and administrative regulations that implement or enforce those standards. Specifically, CBSC administers the adoption, approval and implementation processes for the *California Building Standards Code* as follows:

- Manages the regulatory triennial and intervening code adoption cycles, and respective Title 24 publications;
- Coordinates and collaborates with all code-proposing and code-adopting state agencies regarding the code cycles and model code revisions to ensure uniformity throughout California's building standards;
- Promotes transparency and public participation throughout the code development processes;
- Administers a public appeal process;
- Educates the public and stakeholders about the nonresidential green building code to ensure understanding and compliance; and
- Develops building standards for state buildings and universities, and nonresidential green building standards where no other state agency has authority, and any other occupancies as directed by the legislature and/or executive order.

About the International Code Council® (ICC)

The International Code Council is a member-focused association. It is dedicated to developing model codes and standards used in the design, build and compliance process to construct safe, sustainable, affordable and resilient structures. Most U.S. communities and many global markets choose the International Codes. ICC Evaluation Service (ICC-ES) is the industry leader in performing technical evaluations for code compliance fostering safe and sustainable design and construction.

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To purchase all or part of the 2019 edition of Title 24 or the 2019 *Guide to the Green Building Standards Code* (nonresidential or residential) contact ICC at 888-ICC-SAFE (888-422-7233) or www.iccsafe.org.

Title 24, California Code of Regulations

The 2019 *California Building Standards Code*, Title 24, California Code of Regulations consists of the following thirteen parts. *CALGreen* is Part 11 of Title 24.

Part 1 *California Administrative Code*

Part 2 *California Building Code* Volume 1 and Volume 2 are based on the 2018 *International Building Code*

Part 2.5 *California Residential Code* is based on the 2018 *International Residential Code*

Part 3 *California Electrical Code* is based on the 2017 *National Electrical Code*

Part 4 *California Mechanical Code* is based on the 2018 *Uniform Mechanical Code*

Part 5 *California Plumbing Code* is based on the 2018 *Uniform Plumbing Code*

Part 6 *California Energy Code*

Part 7 Vacant

Part 8 *California Historical Building Code*

Part 9 *California Fire Code* is based on the 2018 *International Fire Code*

Part 10 *California Existing Building Code* is based on the 2018 *International Existing Building Code*

Part 11 *California Green Building Standards Code (CALGreen)*

Part 12 *California Referenced Standards Code*

CBSC Education and Outreach

CBSC offers *CALGreen* nonresidential training along with a variety of resources and educational publications available on its website: www.dgs.ca.gov/BSC/Resources. For information on *CALGreen* training, contact the commission via email at cbsectraining@dgs.ca.gov, or complete the Education and Outreach contact form located on the website at www.dgs.ca.gov/BSC/Education-and-Outreach. The following industry organizations may also offer *CALGreen* educational programs:

- International Code Council—(www.iccsafe.org)
- Green Technology—(www.green-technology.org)
- California Building Officials—(www.calbo.org)
- American Institute of Architects—California Council (aiacalifornia.org)

History of *CALGreen*

CALGreen is the first-in-the-nation mandatory green building standards code. In 2007, the California Building Standards Commission was directed to develop green building standards in an effort to meet the goals of California's landmark initiative Assembly Bill 32 (AB 32, Chapter 488, Statutes of 2006), which added Division 25.5 to the California Health and Safety Code. Known as the California Global Warming Solutions Act, AB 32 established a comprehensive program of cost-effective reductions of greenhouse gases (GHG) to 1990 levels by 2020, including mandatory emissions reporting and an ongoing market-based compliance program. Other green building legislation proposed in the 2007–2008 legislative session (AB 35 concerning state-owned buildings, AB 888 concerning commercial B-occupancy buildings, and AB 1035 concerning residential construction) was vetoed by the governor. In his veto messages, the governor expressed his support for development of green building standards, but that they should not be statutory, conflict with current safety standards or rely on private entities to set the standards.

In response to the above actions, CBSC worked closely with the Department of Housing and Community Development, the Division of the State Architect and the Office of Statewide Health Planning and Development to establish the green building standards, with the goals of (1) reducing greenhouse gas emissions (GHG) from buildings; (2) promoting environmentally responsible, cost-effective, healthier places to live and work; (3) reducing energy and water consumption; and (4) responding to the environmental directives of the administration. State agency representatives, industry stakeholders and interested parties were enthusiastic contributors to the initial code development process and remain active participants in the evolution of *CALGreen* measures today.

The first edition of *CALGreen* contained only voluntary measures and was published in 2008 with an effective date of August 2009. It established Administration, Definitions and Green Building chapters and created the code categories of planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, environmental air quality, referenced standards, installer and inspector qualifications, and appendices for residential, nonresidential and referenced standards. Mandatory measures were then adopted in the 2010 *CALGreen* edition, which went into effect in January 2011.

The California Air Resources Board announced in a press release on July 11, 2018 that “greenhouse gas pollution in California fell below 1990 levels for the first time since emissions peaked in 2004 – an achievement roughly equal to taking 12 million cars off the road or saving 6 billion gallons of gasoline a year.” The establishment of *CALGreen* has been an important step toward more efficient and responsible building design, which has helped California meet the GHG reduction goal ahead of schedule.

Timeline

The 2010 *CALGreen* Code established chapters for residential and nonresidential mandatory measures. A 20 percent reduction of indoor water use and a 50 percent construction waste reduction were required along with waste management plan requirements. Building commissioning for new buildings 10,000 square feet and over was also introduced along with requirements for temporary construction ventilation and finish materials.

The 2013 *CALGreen* Code clarified and expanded a number of requirements that included upgrade triggers for nonresidential additions and alterations. New sections were added in the areas of water efficiency and conservation, which included a 20 percent reduction of indoor water use. References to the California Energy and Plumbing Codes were also included. Demolition and recycling requirements were further defined.

The 2016 *CALGreen* Code addressed clean air vehicles and increased requirements for electric vehicle charging infrastructure. A new universal waste code section was incorporated for additions and alterations. Organic waste was defined and included an exception for rural jurisdictions. Clarification was added for commissioning ‘I’ and ‘L’ occupancies not currently regulated by the Office of Statewide Health Planning and Development or California Energy Commission. Water efficiency and conservation included a new section for food waste disposers, and outdoor water use remained subject to the Model Water Efficient Landscape Ordinance (MWELO) emergency standards of 2015. Pursuant to Executive Order No. B-29-15, addressing California’s ongoing emergency drought conditions, state agencies proposed water-related emergency standards that were immediately enforceable in June 2015 and later adopted as amendments to the 2013 *CALGreen* Code. Those amendments were carried over into the 2016 *CALGreen* Code.

CALGreen 2019 clarifies and updates many previously implemented regulations, including: Storm Water Pollution Prevention Plan; backlight, uplight and glare reference standards; showerhead flow rates; resilient flooring systems; Minimum Efficiency Reporting Value (MERV) ratings for air filters; and commissioning reference standards. Details regarding these updates and changes can be found in Chapter 5 and Appendix A5.

Effective Use of This Guide

This guide is intended to assist code users and local enforcement authorities with nonresidential applications of the 2019 edition of *CALGreen*. This guide corresponds with the chapters in *CALGreen*, with an emphasis on the nonresidential mandatory requirements located in Chapter 5 and the nonresidential voluntary measures located in Appendix A5. The intent of each code section, along with compliance and enforcement recommendations, is explained. The guide is formatted as follows:

- **Code section:** Code sections reprinted from the 2019 *CALGreen* Code are shown in green text.
- **Intent:** Many of the code sections are followed by language explaining the intent of the requirement. In some instances, an explanation of other laws or regulations that served as a catalyst for the regulation is included.
- **Change for 2019:** Identifies new code language or amendments made during the development of the 2019 *CALGreen* Code.
- **Compliance method:** The recommended compliance method is identified, which may include design team information, suggestions or examples.
- **Enforcement:**
 - **Plan intake:** Recommendations for the plan reviewer concerning the construction documents; and
 - **On-site enforcement:** Recommendations for the local inspector during construction inspection.

Sections in *CALGreen* marked “Reserved” are not shown in this guide.

New in 2019

Sections 5.106.1 and 5.106.1.2 contain clarifications regarding project size in compliance with the Storm Water Pollution Prevention Plan and best management practices. New Section 5.106.2 references the State Water Resources Control Board's requirements.

Several changes were made to *CALGreen* to align with the *California Energy Code* (CEC), which is Part 6 of Title 24. In Section 5.106.8, Note 3 was added to reference Part 6 for additions and alterations requirements. Section 5.504.5.3 contains updated MERV ratings for air filters to align with the CEC. Finally, some voluntary measures were removed from *CALGreen* to avoid conflict with the CEC. They are A5.504.5.3.1 Filters, Tier 1 and A5.504.5.3.1, Filters, Tier 2.

Section 5.410.2 has been updated to clarify that it applies to non-energy related systems only. Forms and templates to assist with Commissioning Referenced Standards for Non-Energy Systems can be found in Chapter 8 of this guide.

Details regarding these updates, and all others made for the 2019 edition of *CALGreen*, can be found in Chapter 5 and Appendix A5 of this guide.