

**NOTICE OF PROPOSED ACTION  
TO BUILDING STANDARDS OF THE  
CALIFORNIA BUILDING STANDARDS COMMISSION  
REGARDING THE 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

**(BSC 03/21)**

Note to agencies: The laws associated with the instructions in this form are found primarily in Government Code Section 11346.5 et sequentes. For clarity during the administrative review process, do not remove the headings or statutory references to applicable sections being completed.

Notice is hereby given that the California Building Standards Commission (CBSC) proposes to adopt, approve, codify, and publish changes to building standards contained in the California Code of Regulations (CCR), Title 24, Part 11. CBSC is proposing building standards related to the 2022 California Green Building Standards Code.

**PUBLIC COMMENT PERIOD**

Reference: Government Code Section 11346.5(a)(17).

A public hearing has not been scheduled; however, written comments will be accepted from August 13, 2021 until midnight on September 27, 2021.

Comments may be submitted to CBSC via:

[e-Comment form](https://dgs.ca.gov/BSC/e-comments): [dgs.ca.gov/BSC/e-comments](https://dgs.ca.gov/BSC/e-comments)

US Mail postmarked no later than September 27, 2021:

California Building Standards Commission  
Michael Nearman, Deputy Executive Director  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833

Note: Only comments received in an accessible format will be viewable via CBSC's website. Use the e-Comment form to ensure accessibility.

Any interested person, or his or her duly authorized representative, may request no later than 15 days prior to the close of the written comment period that a public hearing be held.

The public will have an opportunity to provide both written and/or oral comments regarding the proposed action on building standards at a public meeting to be conducted by CBSC to be scheduled at a date near the end of the current adoption cycle. A meeting notice will be issued announcing the date, time and location of the public meeting.

**POST-HEARING MODIFICATIONS TO THE TEXT OF THE REGULATIONS**

Reference: Government Code Section 11346.5(a)(18).

Following the public comment period, CBSC may adopt the proposed building standards substantially as proposed in this notice or with modifications that are sufficiently related to the original proposed text and notice of proposed changes. If modifications are made, the full text of the proposed modifications, clearly indicated, will be made available to the public for at least 15 days prior to the date on which CBSC adopts, amends, or repeals the regulation(s). CBSC will accept written comments on the modified building standards

during the 15-day period.

NOTE: To be notified of any modifications, you must submit written/oral comments or request that you be notified of any modifications.

## **AUTHORITY AND REFERENCE**

Reference: Government Code Section 11346.5(a)(2).

CBSC proposes to adopt these building standards under the authority granted by Health and Safety Code Sections 18930.5.

The purpose of these building standards is to implement, interpret, or make specific the provisions of Health and Safety Code (H&SC) Sections 18930.5, 18931.7(b), and 18941.10.

## **INFORMATIVE DIGEST**

Reference: Government Code Section 11346.5(a)(3).

### **Summary of Existing Laws**

**H&SC 18930.5** grants CBSC the authority, if no state agency has the authority or expertise to propose green building standards applicable to a particular occupancy, to adopt, approve, codify, update, and publish green building standards for those occupancies.

**H&SC 18931.7(b)** Building Standards Administration Special Revolving Fund; availability of monies

**(b)** Moneys deposited in the fund shall be available, upon appropriation, to the commission, the department, and the Office of the State Fire Marshal for expenditure in carrying out the provisions of this part, and the provisions of Part 1.5 (commencing with Section 17910) that relate to building standards, as defined in Section 18909, with emphasis placed on the development, adoption, publication, and updating of green building standards, the updating of verification guidelines for Tier 1 or Tier 2 green building standards and educational efforts, including, but not limited to, training for local building officials associated with green building standards.

**H&SC 18941.10** Installation of future electric vehicle charging infrastructure for parking spaces in multifamily dwellings and nonresidential development; adoption of mandatory standards; consultation with interested parties.

In proposing and adopting mandatory building standards under this section, the Department of Housing and Community Development and the commission shall use Sections A4.106.6, A4.106.6.1, A4.106.6.2, A5.106.5.1, and A5.106.5.3 of the California Green Building Standards Code (Part 11 of Title 24 of the California Code of Regulations) as the starting point for the mandatory building standards and amend those standards as necessary, and shall actively consult with interested parties, including, but not limited to, investor-owned utilities, municipal utilities, manufacturers, local building officials, commercial building and apartment owners, and the building industry.

### **Summary of Existing Regulations**

The California Green Building Standards Code, Part 11 of Title 24 of the California Code of Regulations (CCR), also known as the CALGreen Code, is amended for inclusion into the 2022 CALGreen Code effective January 1, 2023.

The CALGreen Code contains the green building standards for various mandatory and voluntary regulations that will be amended as necessary based on the proposed code changes.

### **Summary of Effect**

This proposed action will implement the proposed modifications to the California Green Building Standards Code for buildings within CBSC authority. The proposed amendments have some editorial and non-substantive changes with no intended change in regulatory effect. However, there are several amendments that are substantive. The substantive changes include increasing the Electric Vehicle infrastructure percentages for both the mandatory and the voluntary provisions and new requirements for the mandatory installed electric vehicle charging stations (EVCS) with the option for using direct current fast chargers. Also proposed are increased percentages for EVCS for both Tier 1 and Tier 2. Another proposed amendment is the requirement for EV infrastructure for medium- and heavy-duty zero emissions vehicles (ZEV).

Once filed with Secretary of State, the standards will be codified and published by July 1, 2022, and will become effective January 1, 2023.

The Initial Statement of Reasons (ISOR) provides a complete description of the proposed building standards and their effect.

### **Comparable Federal Statute or Regulations**

There are no federal statutes or regulations that are comparable to the proposed updates to the CALGreen Code.

### **Policy Statement Overview**

The broad objectives of the regulation are to propose changes to the building standards for electric vehicle infrastructure for statewide application for both light-duty and medium-and heavy duty zero emissions vehicles (ZEV). The specific benefits anticipated by the proposed amendment is to realize substantial environmental benefits through reduction in energy use, greenhouse gas emissions, criteria pollutants, and fossil fuel dependency leading to improved public health.

CBSC is responsible for the development of green building standards for nonresidential occupancies for which no other state agency has authority or expertise.

### **Evaluation of Consistency**

CBSC has determined that the proposed regulations are not inconsistent or incompatible with existing state regulations.

## **OTHER MATTERS PRESCRIBED BY STATUTE APPLICABLE TO THE AGENCY OR TO ANY SPECIFIC REGULATION OR CLASS OF REGULATIONS**

Reference: Government Code Section 11346.5(a)(4).

CBSC has determined that there are no other matters prescribed by statute applicable to the agency or to any specific regulation or class of regulations.

### **MANDATE ON LOCAL AGENCIES OR SCHOOL DISTRICTS**

Reference: Government Code Section 11346.5(a)(5).

CBSC has determined that the proposed regulatory action would not impose a mandate on local agencies or school districts. CBSC does not have authority to impose building standards or regulations on school districts. Further, the proposed regulatory actions are administrative in nature and would not enact a mandate on local agencies or school districts.

### **ESTIMATE OF COST OR SAVINGS**

Reference: Government Code Section 11346.5(a)(6).

An estimate, prepared in accordance with instructions adopted by Department of Finance, of cost or savings to any state agency, local agency, or school district.

- A. Cost or Savings to any state agency: All new state buildings are subject to these amendments. Based on a ten-year sequencing plan for state buildings in Sacramento, CBSC identifies a total of 4 new state buildings that are likely to be constructed between 2023 and 2025. Since Sacramento is the center of State government, these estimates represent total new construction planned in the 2023 to 2025 timeframe. Since the cost to typical businesses is \$675 to \$109,099 the total cost to state government over the 3-year life of the amendments is estimated at \$2,700 to \$436,396.
- B. Cost to any local agency required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4: **No cost or savings**
- C. Cost to any school district required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4: **No cost or savings**
- D. Other nondiscretionary cost or savings imposed on local agencies: **No cost or savings**
- E. Cost or savings in federal funding to the state: **No cost or savings**

Estimate: **NONE**

### **INITIAL DETERMINATION OF NO SIGNIFICANT STATEWIDE ADVERSE ECONOMIC IMPACT ON BUSINESSES**

Reference: Government Code Section 11346.5(a)(8).

If the agency makes an initial determination that the adoption/amendment/repeal of this regulation will not have a significant, statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states, it shall make a declaration to that effect.

CBSC has made an initial determination that the adoption of this regulation will not have a significant statewide adverse economic impact on businesses, including the ability of California businesses to compete with businesses in other states.

## DECLARATION OF EVIDENCE

Reference: Government Code Section 11346.5(a)(8).

In making the declaration, the agency shall provide in the record of facts, evidence, documents, testimony, or other evidence that the agency relies upon to support its initial determination of no effect.

Regarding the proposal to increase the electric vehicle infrastructure for both light-duty vehicle percentages in both the mandatory and voluntary code provisions and the proposed medium- and heavy-duty EV capable infrastructure, CBSC conducted two stakeholder workshops on January 7, 2021 and March 30, 2021, which were attended by state agencies, interested parties and stakeholder representatives such as the California Air Resources Board (CARB), California Energy Commission, Department of Housing and Community Development, California Department of Public Health, California Building Industry association, Electric Vehicle Charging Association, Tesla, Southern California Edison, Underwriters Laboratory, Energy Solutions, various local enforcing agencies, and private consultants. Based on testimony presented at the workshop and comments received from various stakeholders, CBSC proposes to increase the percentages as suggested at the workshop.

CBSC has made an initial determination of no significant adverse economic impact on businesses. However, this regulatory action for light-duty vehicles would marginally increase costs to California business enterprises representing up to 0.9 percent of the total new construction costs of nonresidential buildings over the 3-year life of the amendments and with significant benefits to Californians due to improved air quality and greenhouse gas (GHG) emissions reduction. The proposal will also help to alleviate expensive future retrofit costs for applicable building owners, saving them more than six times the cost of adding panel capacity and conduit in standalone retrofits of existing buildings. See rulemaking file number BSC-03-21-ISOR-PT11-45day.

CBSC has made an initial determination that this regulatory action for medium-and heavy-duty vehicles would have no significant increase costs to California business enterprises. These costs represent less than 0.5 percent of the total new construction costs of nonresidential buildings over the 8-year life of the amendments and with significant benefits to Californians due to improved air quality and GHG emissions reduction. The proposal will also help to alleviate expensive future retrofit costs for applicable building owners, saving them up to seven times the cost of the proposed requirements.

This determination is based on comments received at the workshop and the cost benefit analysis provided by the California Air Resources Board. This analysis is based on the following: ["Electric Vehicle \(EV\) Charging Infrastructure: Nonresidential Building Standards, CARB Technical and Cost Analysis, September 30, 2019"](https://ww2.arb.ca.gov/sites/default/files/2020-)  
[ww2.arb.ca.gov/sites/default/files/2020-](https://ww2.arb.ca.gov/sites/default/files/2020-)

08/CARB\_Technical\_Analysis\_EV\_Charging\_Nonresidential\_CALGreen\_2019\_2020\_Inter  
vening\_Code.pdf ;

“2021 National Construction Estimator 68th Edition”

“[2012 Commercial Buildings Energy Consumption Survey Preliminary Results](https://www.eia.gov/consumption/commercial/data/2012/index.php?view=characteristics)”;  
[eia.gov/consumption/commercial/data/2012/index.php?view=characteristics](https://www.eia.gov/consumption/commercial/data/2012/index.php?view=characteristics)

“[Benefits and Considerations of Electricity as a Vehicle Fuel](https://afdc.energy.gov/fuels/electricity_benefits.html)”;  
[afdc.energy.gov/fuels/electricity\\_benefits.html](https://afdc.energy.gov/fuels/electricity_benefits.html)

“[2018 Grid Average Electricity Emissions Factor; EMFAC \(ca.gov\)](https://arb.ca.gov/emfac/emissions-inventory/e2e58e924ef97f439a293441205c5121af7360e9),”  
[arb.ca.gov/emfac/emissions-inventory/e2e58e924ef97f439a293441205c5121af7360e9](https://arb.ca.gov/emfac/emissions-inventory/e2e58e924ef97f439a293441205c5121af7360e9)

[Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment](https://efiling.energy.ca.gov/getdocument.aspx?tn=236237),  
[efiling.energy.ca.gov/getdocument.aspx?tn=236237](https://efiling.energy.ca.gov/getdocument.aspx?tn=236237), and CARB staff estimated  
nonresidential new construction building projections from CEC. CBSC has shown in the  
Economic and Fiscal Impact Statement (399) and the Initial Statement of Reasons (ISOR)  
that the zero emissions vehicle infrastructure adjustments pose a marginal increase but do  
not pose a significant, statewide adverse economic impact directly affecting business in  
California and their ability to compete with businesses in other states.

## **FINDING OF NECESSITY FOR THE PUBLIC'S HEALTH, SAFETY, OR WELFARE**

Reference: Government Code Section 11346.5(a)(11).

Any regulation that requires a report shall not apply to businesses, unless the agency  
makes a finding that it is necessary for the health, safety, or welfare of the public that the  
regulations apply to businesses.

CBSC has assessed the proposed code changes and has determined that these changes  
do not require a report.

## **COST IMPACT ON REPRESENTATIVE PRIVATE PERSON OR BUSINESS**

Reference: Government Code Section 11346.5(a)(9).

Describe all cost impacts that a representative private person or business would  
necessarily incur in reasonable compliance with the proposed action. If no cost impact,  
provide the following statement:

CBSC is aware of initial cost impacts that a representative private person or business  
could incur in reasonable compliance with the proposed action. The cost impact has been  
determined to be less than 0.5 percent of all new applicable construction totals for  
medium-and-heavy duty vehicle infrastructure provisions, and up to 0.9 percent of all new  
applicable construction totals for the light-duty vehicle infrastructure provisions.  
However, it is also anticipated that such costs would be recouped in long-range savings  
expressed in utility and transportation costs, worker productivity, health costs, and  
goodwill. The Initial Statement of Reasons and the Economic and Fiscal Impact Statement  
support this statement.

## **ASSESSMENT OF EFFECT OF REGULATIONS UPON JOBS AND BUSINESS EXPANSION, ELIMINATION OR CREATION**

Reference: Government Code Section 11346.5(a)(10).

The California Building Standards Commission has assessed whether and to what extent this proposal will affect the following:

**A. The creation or elimination of jobs within the State of California.**

These regulations may cause some jobs to be created for the installation, maintaining and manufacturing of Electric Vehicle Supply Equipment (EVSE). These regulations will not affect the elimination of jobs within the State of California.

**B. The creation of new businesses or the elimination of existing businesses within the State of California.**

These regulations may cause the creation of businesses that expand the EV market. These regulations will not affect the elimination of jobs within the State of California.

**C. The expansion of businesses currently doing business within the State of California.**

These regulations will likely promote the expansion of businesses currently involved with EV manufacturing, installation, maintenance and technology development within the State of California.

**D. The benefits of the regulation to the health and welfare of California residents, worker safety, and the state's environment.**

These regulations will increase the sustainability of California's natural resources by reducing fuel use, GHG emissions, criteria pollutants, and fossil fuel dependence, and provide increased protection of public health and safety, worker safety and the environment.

Adopting proposed code changes for medium-and heavy duty vehicles would also support the reduction of 19 million metric tons of carbon dioxide equivalent (MMTCO<sub>2e</sub>) total by 2050 from the Innovative Clean Transit Regulation, 0.5 MMTCO<sub>2e</sub> total by 2040 from the Zero-Emission Airport Shuttle Regulation, and 1.7 MMTCO<sub>2e</sub> per year by 2040 from the Advanced Clean Trucks Regulation.

## **ESTIMATED COST OF COMPLIANCE OF STANDARDS THAT WOULD IMPACT HOUSING**

Reference: Government Code Section 11346.5(a)(12).

CBSC has determined there would be no cost to comply with these proposed building standards. CBSC does not have authority to impose building standards or regulations applicable to housing.

## **CONSIDERATION OF ALTERNATIVES**

Reference: Government Code Section 11346.5(a)(13).

1. CBSC considered the following alternative for EV vehicles in Sections 5.106.5.3 and A5.106.5.3 in an effort to further advance the potential for EV

preparedness for EV vehicles. CBSC conducted a stakeholder workshop on January 7, 2021 in which it proposed to include a mandatory requirement for level 2 charging stations in new nonresidential buildings requiring one Level 2 charger for parking lots that had 10 or more parking spaces. Additionally, CBSC proposed a voluntary Tier 1 and Tier 2 requirement for Level 2 chargers. Tier 1 requires Level 2 chargers in 3 percent of the total parking spaces and 5 percent for Tier 2. Based on comments received at the workshop, this initial EV proposal was superseded by the more stringent current proposal which is needed further advance EV preparedness.

2. CBSC considered the following two alternatives for EV vehicle charging in voluntary Sections A5.106.5.3.1 and A5.106.5.3.2 in an effort to further advance the potential for EV preparedness for EV vehicles as voluntary tier options which are currently being proposed for adoption in this rulemaking.

**Alternative 1 Tier 1:** Adopt an additional 5% Level 2 EV charging requirement for new nonresidential buildings with 10 or more actual parking spaces and adopt an additional 5% Level 2 EV capable space requirement.

**Alternative 1 Tier 1 analysis:** The proposed amendments require new nonresidential buildings with 0-9 actual parking spaces to install EV capable infrastructure in 30% of the total number of actual parking spaces with no requirement for EVSE. New nonresidential buildings with 10 or greater actual parking spaces shall install EV capable infrastructure in 30% of the total number of actual parking spaces and 33% of the number of required EV capable spaces need to be provided with electric vehicle supply equipment (EVSE). The net resulting percentage for the required EV capable infrastructure is 20% for 10 or more actual parking spaces. The net resulting percentage for the required EVSE is 10% for 10 or more actual parking spaces. The incremental percentage increase for EV capable spaces above the proposed mandatory respective code in Table 5.106.5.3.1 is from 20% (net 15%) to 30% (net 20%) and the incremental percentage increase for Level 2 EVSE above the proposed mandatory respective code in Table 5.106.5.3.1 is from net 5% to net 10%. This alternative was rejected at this time as a mandatory requirement at the state level because it is more costly. However, this alternative can still be adopted by local governments as mandatory at the local level as a Tier 1 option and is being proposed in this rulemaking by CBSC. This alternative would add 0.3 – 1.0 percent to total costs for nonresidential new construction above the proposed mandatory provisions. This requirement would result in the installation of an additional 56,135 to 69,248 Level 2 EV capable spaces and 62,924 to 75,778 Level 2 EV chargers over the proposed mandatory provisions during the 3-year life of the amendments. Initial construction costs for Alternative 1 were estimated to total an additional \$188 to \$353 million with avoided retrofit costs of \$833 to \$1,160 million resulting in a statewide benefit of \$481 to \$972 million over the 3-year life of the amendments compared to the proposed mandatory provisions. An additional 492,000 to 597,000 metric tons CO<sub>2</sub>e emission reduction annually could be achieved compared to the proposed mandatory provisions.

**Alternative 2 Tier 2:** Adopt an additional 10% Level 2 EV charging requirement for new nonresidential buildings with 10 or more actual parking spaces and adopt an additional 15% Level 2 EV capable space requirement.

**Alternative 2 Tier 2 analysis:** The proposed amendments would require new nonresidential buildings with parking lots between 0-9 spaces to install EV capable infrastructure in 45% of the total number of actual parking spaces with no requirement for EVSE. Parking lots with 10 or greater parking spaces shall install EV capable infrastructure in 45% of the total number of actual parking spaces. 33% of the number of required EV capable spaces need to be provided with electric vehicle supply equipment (EVSE) triggered at 10 or greater parking spaces. The net resulting percentage for the required EV capable infrastructure is 30% for parking lots with 10 or more spaces. The net resulting percentage for the required EVSE is 15% for parking lots with 10 or more spaces. The incremental percentage increase for EV capable spaces above the proposed mandatory respective code in Table 5.106.5.3.1 is from 20% (net 15%) to 45% (net 30%) and the incremental percentage increase for Level 2 EVSE above the proposed mandatory respective code in Table 5.106.5.3.1 is from net 5% to net 15%. This alternative was rejected at this time as a mandatory requirement at the state level because it is more costly. However, this alternative can still be adopted by local governments as mandatory at the local level as a Tier 2 option and is being proposed in this rulemaking by CBSC. This alternative would add 0.6 – 2.1 percent to total costs for nonresidential new construction above the proposed mandatory provisions. This requirement would result in the installation of an additional 168,404 to 207,745 Level 2 EV capable spaces and 119,058 to 145,027 Level 2 EV chargers over the proposed mandatory provisions during the 3-year life of the amendments. Initial construction costs for Alternative 2 were estimated to total an additional \$398 to \$752 million with avoided retrofit costs of \$2,012 to \$2,822 million resulting in a statewide benefit of \$1,260 to \$2,424 million over the 3-year life of the amendments compared to the proposed mandatory provisions. An additional 1,047,000 to 1,280,000 metric tons CO<sub>2</sub>e emission reduction annually could be achieved compared to the proposed mandatory provisions.

## AVAILABILITY OF RULEMAKING DOCUMENTS

Reference: Government Code Sections 11346.5(a)(16) and 11346.5(a)(20).

All of the information upon which the proposed regulations are based is contained in the rulemaking file, which is available for public review, by contacting the person named below. This notice, the express terms and initial statement of reasons can be accessed from the [CBSC website](https://dgs.ca.gov/BSC): [dgs.ca.gov/BSC](https://dgs.ca.gov/BSC).

Reference: Government Code Section 11346.5(a)(19).

Interested parties may obtain a copy of the final statement of reasons, once it has been prepared, by making a written request to the contact person named below or at the [CBSC website](https://dgs.ca.gov/BSC): [dgs.ca.gov/BSC](https://dgs.ca.gov/BSC).

Reference: Government Code Section 11346.5(a)(21).

CBSC shall provide, upon request, a description of proposed changes included in the proposed action, in the manner provided by Section 11346.6, to accommodate a person with a visual or other disability for which effective communication is required under state or federal law and that providing the description of proposed changes may require extending the period of public comment for the proposed action.

**CBSC CONTACT PERSON FOR PROCEDURAL AND ADMINISTRATIVE QUESTIONS**

Reference: Government Code Section 11346.5(a)(14).

General questions regarding procedural and administrative issues should be addressed to:

Michael L. Nearman, Deputy Executive Director  
California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833  
Telephone No.: (916) 263-0916  
michael.nearman@dgs.ca.gov

**PROPOSING STATE AGENCY CONTACT PERSON FOR SUBSTANTIVE AND/OR TECHNICAL QUESTIONS ON THE PROPOSED CHANGES TO BUILDING STANDARDS**

Specific questions regarding the substantive and/or technical aspects of the proposed changes to the building standards should be addressed to:

Primary Contact:

Enrique M. Rodriguez, Associate Construction Analyst  
California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833  
Telephone No.: (916) 263-0916  
enrique.rodriguez@dgs.ca.gov

Back up Contact:

Michael L. Nearman, Deputy Executive Director  
California Building Standards Commission  
2525 Natomas Park Drive, Suite 130  
Sacramento, CA 95833  
Telephone No.: (916) 263-0916  
michael.nearman@dgs.ca.gov