

**INITIAL STATEMENT OF REASONS  
FOR PROPOSED BUILDING STANDARDS  
OF THE  
DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT  
REGARDING THE ADOPTION OF THE  
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGreen)  
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11**

**(HCD 06/18)**

The Administrative Procedure Act (APA) requires that an Initial Statement of Reasons be available to the public upon request when rulemaking action is being undertaken. The following information required by the APA pertains to this particular rulemaking action:

**STATEMENT OF SPECIFIC PURPOSE, PROBLEM, RATIONALE and BENEFITS:** (Government Code Section 11346.2(b)(1)) requires a statement of specific purpose of each adoption, amendment, or repeal and the problem the agency intends to address and the rationale for the determination by the agency that each adoption, amendment, or repeal is reasonably necessary to carry out the purpose and address the problem the agency intends to address for which it is proposed. The statement shall enumerate the benefits anticipated from the regulatory action, including the benefits or goals provided in the authorizing statute.)

**1) The Public Problem, Administrative Requirement, or Other Circumstance Addressed.**

**Administrative Requirement:** Health and Safety Code Section 17921 directs the Department of Housing and Community Development (HCD) to propose adoption, amendment or repeal of building standards for the protection of public health, safety and general welfare.

**2) Specific Purpose**

The specific purpose of these regulations is to carry forward and amend the 2016 California Green Building Standards Code (CALGreen) into the 2019 California Green Building Standards Code (CALGreen), Title 24, Part 11, of the California Code of Regulations (CCR) for the following programs:

- a) State Housing Law Program:** relative to residential occupancies, buildings or structures accessory thereto and as provided in Health and Safety Code Section 17921.2.
- b) Employee Housing Program:** relative to any building or structure or outdoors on premises or property in accordance with Health and Safety Code Section 17040.

- c) **Factory-Built Housing Program:** relative to residential buildings, dwellings or portions thereof, or building components, or manufactured assemblies in accordance with Health and Safety Code Section 19990.

### 3) Rationale for Necessity

The proposed actions continue to adopt, amend or repeal portions of the 2016 CALGreen into the 2019 CALGreen as part of the 2018 Triennial Code Adoption Cycle established by the California Building Standards Commission (CBSC). The intent of the 2019 triennial version of CALGreen is to:

- (1) Continue reducing greenhouse gas (GHG) emissions from buildings.
- (2) Result in environmental benefits through reduced use of energy, water, and raw materials; improved public and building occupant health due to improved indoor air quality; and overall reduction in detrimental environmental impacts.
- (3) Continue the Administration's directive to adopt green building standards for residential, commercial, and public building construction as part of the building code adoption process.

Proposed amendments in this rulemaking are also intended to provide further clarity, specificity and direction to the code user, and to implement and make specific existing state laws. Proposed amendments are a result of recommendations developed during the public participation period prior to submittal to the CBSC. The rationale for each proposed amendment by chapter and section is listed below.

#### **Specific Proposed Regulatory Actions:**

HCD proposes to continue adoption of the 2016 CALGreen with amendments into the 2019 CALGreen. The rationale for each regulatory action is listed below.

**Note:** There is no model code language associated with CALGreen; therefore, all language consists of California text.

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## 1. CHAPTER 1 ADMINISTRATION

HCD proposes to continue adoption of Chapter 1 from the 2016 CALGreen into the 2019 CALGreen with modifications as follows:

### SECTION 101 - GENERAL

#### **Section: 101.1 Title.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with new editorial modification. The modification provides consistency with other parts of Title 24, California Building Standards Code. There is no intended change in regulatory effect.

**Section: 101.3.1 State-regulated buildings, structures and applications.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification replaces the term “apartment houses” with “apartments,” as used in other parts of Title 24, California Building Standards Code. The proposed modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

**Section: 101.4 Appendices.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification repeals the reference to state agencies as the appropriate authority to make the voluntary building standards in Appendix A4 and Appendix A5 mandatory. The appendices in CALGreen are adopted by state agencies; however, they are voluntary until adopted by a local jurisdiction. The modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

**Section: 101.8 Alternate materials, designs and methods of construction.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with new editorial modifications for consistency with other parts of Title 24. The modifications correct the reference sections and removes the year from the California Residential Code and the California Building Code, and provide clarity and consistency to the code user. There is no intended change in regulatory effect.

**SECTION 102 - CONSTRUCTION DOCUMENTS AND INSTALLATION VERIFICATION**

**Section: 102.3 Verification.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with new amendment. The new amendment, which adds language to the existing section, is intended to require a completed “Residential Occupancies Application Checklist” for all projects under HCD’s authority. Currently the documentation justifying compliance with CALGreen is not consistent. While many jurisdictions require a checklist to be submitted for projects at the time of permit, the use of a checklist is not universal, nor is the content of the checklists consistent. HCD has developed a variety of useful forms and tools to aid in documentation and compliance. A mandatory “Residential Occupancies Application Checklist” with minimum reporting criteria would lead to better documentation in three ways: better consistency, streamlined reviews, and enhanced compliance. Additionally, builders will benefit from more consistent documentation statewide. The new amendment also allows alternate methods of documentation acceptable to the enforcing agency.

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## **2. CHAPTER 2 DEFINITIONS**

HCD proposes to continue adoption of Chapter 2 from the 2016 CALGreen Code into the 2019 CALGreen Code with modifications as follows:

### **SECTION 202 - DEFINITIONS**

#### **Note.**

**Rationale:** HCD proposes to repeal the above referenced note. It is no longer needed since the effective date for the emergency supplement has already passed.

#### **ACCESSORY DWELLING UNIT.**

**Rationale:** HCD proposes to adopt the above referenced definition to provide clarification of the application of Section 4.106.4. The term “Accessory Dwelling Unit” (ADU) is used in Exception 3, which HCD proposes to adopt. The newly proposed definition is consistent with the definition in the Government Code Section 65852.2, which provides sufficient information on what type of structures are considered to be ADUs.

#### **ACCESSORY OCCUPANCIES.**

**Rationale:** HCD proposes to adopt the above referenced definition to provide clarification of the application of Section 302.1. The term “Accessory Occupancies” is used in Exception 1, which HCD proposes to adopt. The newly proposed definition is consistent with the language in Chapter 5, Section 508.2, of the 2019 California Building Code, which provides additional information on what type of structures are considered accessory occupancies.

#### **ACCESSORY STRUCTURE.**

**Rationale:** HCD proposes to adopt the above referenced definition to provide clarification of the application of Section 302.1. The term “Accessory Structure” is used in Exception 1, which HCD proposes to adopt. The newly proposed definition is consistent with the definition in the 2019 California Residential Code.

#### **JUNIOR ACCESSORY DWELLING UNIT.**

**Rationale:** HCD proposes to adopt the above referenced definition to provide clarification of the application of Section 4.106.4. The term “Junior Accessory Dwelling Unit” (JADU) is used in Exception 3, which HCD proposes to adopt. The newly proposed definition is consistent with the language in the Government Code Section 65852.22, which provides additional information on what type of structures are considered JADUs.

## **MERV.**

**Rationale:** HCD proposes to continue adoption of the above referenced definition with revision to remove the reference to ASHRAE 52.2.2007, because there are several locations within the CALGreen code that refer to MERV but reference a different version of ASHRAE, which may cause confusion for the code user. Additionally, the intent of the definition is to spell out the acronym for MERV and should be independent of the version of the ASHRAE standard.

This amendment eliminates confusion for the code user and removes potential conflicts with other code sections that mention MERV with a different version of the ASHRAE standards. This revision has been coordinated with the CBSC and is subsequent to the August 22, 2018, CAC meeting.

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### **3. CHAPTER 3 GREEN BUILDING**

HCD proposes to continue adoption of Chapter 3 from the 2016 CALGreen Code into the 2019 CALGreen Code with modifications as follows:

#### **SECTION 301 - GENERAL**

##### **Section: 301.1.1 Additions and alterations.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification repeals the note, which specifies the date by which noncompliant plumbing fixtures need to be replaced. Due to the effective dates in the law, the information in this note is obsolete and no longer necessary. HCD believes that a reference to the Civil Code requirements is still relevant, but would be better suited in Section 4.303. (See rationale for Section 4.303.).

Senate Bill 407 (Chapter 587/Statutes of 2009), codified in the California Civil Code (Section 1101.1, et seq.), requires replacement of noncompliant plumbing fixtures in all existing single-family residential real property by January 1, 2017, and in all existing multifamily residential real property (including residential hotels) and commercial real property (including hotels and motels) by January 1, 2019. The law also mandates replacement of noncompliant plumbing fixtures in single-family residential buildings (on and after January 1, 2014) for alterations, improvements or additions. The existing note, which was adopted in the 2013 CALGreen, provides a reference to the Civil Code, but addresses only residential buildings undergoing permitted alterations, additions or improvements. A new note is being proposed for Section 4.303.1. The new note is similar to this one as far as being a pointer to the Civil Code requirements for replacement of noncompliant plumbing fixtures. The proposed amendment provides clarity and consistency to the code user. Since the note is not regulatory and only provides a reference to the existing statute, there is no intended change in regulatory effect.

## SECTION 302 - MIXED OCCUPANCY BUILDINGS

### **Section: 302.1 Mixed occupancy buildings.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification adds two exceptions, which are intended to clarify the language in Section 302.1. Exception 1 specifies that accessory structures and accessory occupancies serving residential buildings are not mixed use, and are required to comply with the measures for residential buildings in Chapter 4 and Appendix A.4, as applicable. Accessory structures and occupancies include, but are not limited to, private garages, parking garages, carports, barns, greenhouses, art studios, sheds, fences, pool houses, accessory dwelling units, junior accessory dwelling units, agricultural buildings, and other buildings and occupancies available for use by residents and their guests only (including hotel/motel customers).

Exception 2 specifies that live/work unit, built in compliance with Section 419 of the California Building Code, are also not mixed use and are required to comply with Chapter 4 and Appendix A4, as applicable. The California Residential Code Section 1.1.3, Exception 1, also provides for live/work units to be built as one- or two-family dwellings or townhouses. The modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

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## **4. CHAPTER 4 RESIDENTIAL MANDATORY MEASURES**

HCD proposes to continue adoption of Chapter 4 from the 2016 CALGreen Code into the 2019 CALGreen Code with modifications as follows:

### ***Division 4.1 – PLANNING AND DESIGN***

#### **SECTION 4.106 - SITE DEVELOPMENT**

### **Section: 4.106.2 Storm water drainage and retention during construction.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification adds a note, which provides a reference to the State Water Resources Control Board's website for projects disturbing one acre or more of soil, or projects part of a larger common plan of development, which in total disturbs one acre or more. The modification provides clarity to the code user. There is no intended change in regulatory effect.

### **Section: 4.106.4 Electric vehicle (EV) charging for new construction.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification reorganizes/renumbers the existing exceptions for clarity, and adds Exception 2. The newly proposed exception will exempt ADUs and JADUs (new definitions proposed in Chapter 2) built without additional parking facilities from compliance with the requirements for EV spaces in Section 4.106.4.

Exception 2 is intended to address conditions in which the planning of EV spaces and installation of EV charging equipment is not feasible. The ADU and JADU law recent changes (Government Code, Sections 65852.2 and 65852.22, respectively) do not allow local jurisdictions to require parking for newly constructed ADUs and JADUs if certain conditions are met. Therefore, there is no reason for a requirement for EV spaces to be enforced for new dwelling units without associated facilities to park a vehicle.

**Section: 4.106.4.2 New multifamily dwellings.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. Currently Section 4.106.4.2 clarifies application to only projects with 17 or more multifamily dwelling units. The modification repeals the threshold of 17 or more multifamily dwellings, and increases the required number of EV spaces from 3-percent to 10-percent of the total number of parking spaces on the site. Following a recommendation from the CALGreen Code Advisory Committee (CAC) and stakeholders, HCD proposes to clarify that Section 4.106.4.2 applies only if residential parking is available. In addition, HCD proposes editorial corrections to the existing note, as recommended by the CAC.

After coordinating with the building industry, state agencies and other stakeholders, HCD initially proposed to repeal the threshold, and to increase the percentage to 4 percent. These proposals and the justification for the proposed percentage were discussed during the CALGreen Focus Group meeting on November 2017. However, the California Air Resources Board (CARB) further proposed 10-percent as a mandatory requirement, 15-percent for Tier 1, and 20-percent for Tier 2. The proposal is based on the California Energy Commission's (CEC) projections for needed EV chargers in multifamily dwellings (120,000) and the Governor's Executive Order B-48-18 with a goal for 5 million Zero Emission Vehicles (ZEV) by 2030.

In addition, because the number of ZEVs will more than triple between 2025 and 2030, the CARB suggests that the updated building standards will put California on track to achieving 2030 EV charging infrastructure and climate goals. The revised building standards will also help to improve air quality and reduce an estimated 546,000 to 643,000 tons carbon dioxide equivalent annually between 2020 and 2025.

HCD is not the author of the document justifying the 10, 15, and 20-percent proposals, or the document justifying the needed EV chargers. The fiscal impact documentation, which supplements the rationale, was provided by CARB as shown in the attached report [Electric Vehicle \(EV\) Charging Infrastructure: Multifamily Building Standards \(CARB Technical and Cost Analysis: 2019 Code Cycle\)](#). The report is dated April 13, 2018.

**Section: 4.106.4.2.1 Electric vehicle charging space (EV space) locations.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification clarifies that residential developments without common use areas (for parking) are exempt from the general requirement and do not require EV spaces to be available for use by all residents.

The text requiring at least one EV space to be available for use by all residents was adopted during the 2013 Intervening Code Adoption Cycle, and became effective on July 1, 2015. At that time, HCD's intent was to address typical developments providing common use parking facilities. However, currently there are many residential developments (transit oriented developments) with limited assigned parking spaces and no common use parking facilities. These buildings/facilities provide access to public transportation and on-street parking (including EV chargers) and do not need additional chargers on the site. Due to the limited space, many of these developments cannot accommodate additional parking/charging spaces.

The newly proposed amendment was discussed in detail during the CALGreen CAC meeting; CAC members recommended modification to the initially proposed language to clarify that the term "common use areas" addresses "common parking." HCD agreed with this recommendation and modified the language.

**Section: 4.106.4.2.1.1 Electric vehicle charging stations (EVCS).**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification separates the existing text (currently in Section 4.106.4.2.1) into a new section with a title in order to clarify that it pertains to EV charging stations, and not to EV spaces with no charging equipment installed.

In addition, HCD proposes to adopt a new exception, referring to Chapter 11B as an option for compliance with the California accessibility requirements when EV charging equipment is installed. Currently Section 4.106.4.2.1 mandates the location of EV spaces (1 in 25) when EV charging equipment is installed; however, the installed charging equipment is also required to comply with the applicable sections in Chapter 11A in order to provide access for persons with disabilities. The Division of State Architect (DSA) developed comprehensive standards for EVCS when EV charging equipment is installed. These standards, located in Chapter 11B, apply to public buildings and public accommodations. Nevertheless, the newly proposed exception allows designers, developers, and owners to design and construct EVCS following the requirements in Chapter 11B, instead of CALGreen and Chapter 11A.

**Section: 4.106.4.2.4 Multiple EV spaces required.**

**Rationale:** HCD proposes to continue adoption of the above referenced section without amendments. For the initial submittal, HCD proposed to add an exception, which recognizes the use of energy management systems. However, HCD did not receive enough support for this proposal and the CAC recommended that the proposal be returned to HCD for short-term further study.



After further evaluation, HCD has determined to withdraw the exception from the express terms for the 45-day public comment period. HCD will continue researching the benefits of energy managements systems, and will reach out to enforcing agencies and professionals for more technical expertise. The energy management systems may be re-introduced during the next intervening code adoption cycle.

**Section: 4.106.4.2.5 Identification.**

**Rationale:** HCD proposes to continue adoption of the above referenced section, and repeal the existing notes. The information from the notes will be relocated to the CALGreen Guide, upon update to the 2019 version. The repeal is necessary since the language in these notes is not regulatory and would be better placed in the Guide. The links provided as part of the notes are also difficult to maintain in an 18-month rulemaking process since HCD has no control over the websites of other state agencies. The modification facilitates easier maintenance and updating of the references. There is no intended change in regulatory effect.

**Section: 4.106.4.3.6 Accessible EV spaces.**

**Rationale:** HCD proposes to continue adoption of the above referenced section and to repeal the existing notes. The information from the notes will be relocated to the CALGreen Guide, upon update to the 2019 version. The repeal is necessary since the language in these notes is not regulatory and would be better placed in the Guide. The links provided as part of the notes are also difficult to maintain in an 18-month rulemaking process since HCD has no control over the websites of other state agencies. The modification facilitates easier maintenance and updating of the references. There is no intended change in regulatory effect.

***Division 4.3 – WATER EFFICIENCY AND CONSERVATION***

**SECTION 4.303 - INDOOR WATER USE**

**Section: 4.303.1 Water conserving plumbing fixtures and fittings.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. HCD proposes to clarify the language in the first sentence, referring to the requirements in Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4. The proposed note refers to the Civil Code, which requires the replacement of all noncompliant plumbing fixtures in residential structures. A similar note, which applies to additions and alterations, is currently being repealed from Section 301.1.1. The Civil Code section also references residential property that is not undergoing alterations or improvements. Therefore, the reference to the Civil Code section is still relevant, but is better suited for this section.

**Section: 4.303.1.4.3 Metering Faucets.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification reduces the allowable gallons per cycle for metering faucets from 0.25 to 0.2. The proposed modification provides consistency with the requirements for commercial buildings; the same modification is proposed in the 2019 California Plumbing Code.

## **SECTION 4.304 - OUTDOOR WATER USE**

### **Section: 4.304.1 Outdoor potable water use in landscape areas.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification provides a more generic reference to the Model Water Efficient Landscape Ordinance (MWELO) for purposes of mandatory landscape irrigation requirements for residential developments, and repeals details on specific conditions, such as square footage of landscaped areas. Notes for the section will be modified to replace current references to MWELO resources with a reference to the California Code of Regulations, Title 23, where MWELO is located, and more generic link to the DWR website.

Chapter 576/Statutes of 2016 (Assembly Bill 2515) requires DWR to update the MWELO on or before January 1, 2020, and every three years thereafter. However, based upon information from the CBSC, these regulations will not be adopted by the California Water Commission and will not be suitable for referencing in CALGreen during the 2018 Triennial Code Adoption Cycle. HCD coordinated with the BSC and concluded that there was no other option but to repeal the specific details related to scope and application of MWELO (square footage of landscaped areas).

HCD submitted an addendum to this section at the CALGreen CAC meeting. The modification proposed a more generalized reference to the MWELO to automatically reference the most current MWELO and requirements in the event that the MWELO is revised or updated between code adoption cycles. The CAC recommended that the addendum be approved for the 2019 CALGreen.

The proposed modification provides clarity to the code user and prevents potential conflicts if the MWELO is updated after the adoption of 2019 CALGreen.

## ***Division 4.5 – ENVIRONMENTAL QUALITY***

## **SECTION 4.507 - ENVIRONMENTAL COMFORT**

### **Section: 4.507.2 Heating and air-conditioning system design.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification updates references to include the current version of the standards. The modification provides clarity and consistency to the code user.

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## **5. CHAPTER 6 REFERENCED ORGANIZATIONS AND STANDARDS**

**Rationale:** HCD proposes to continue adoption of Chapter 6 with modification. The modification updates the language to include the current version of the standards. The modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

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## **6. CHAPTER 7 INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS**

**Rationale:** HCD proposes to continue adoption of Chapter 7. HCD is not proposing any modifications to Chapter 7.

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## **7. CHAPTER 8 COMPLIANCE FORMS, WORKSHEETS AND REFERENCE MATERIALS**

**Rationale:** HCD proposes to continue to **not** adopt Chapter 8. HCD proposes to update the link to HCD's website page with sample forms for CALGreen compliance.

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## **8. APPENDIX A4 RESIDENTIAL VOLUNTARY MEASURES**

HCD proposes to continue adoption of Chapter A4 from the 2016 CALGreen Code into the 2019 CALGreen Code with modifications as follows:

### ***Division A4.1 – PLANNING AND DESIGN***

#### **SECTION A4.106 - SITE DEVELOPMENT**

**Section:** **A4.106.5.3 Solar reflectance index alternative.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification corrects the reference to the applicable version of the California Energy Code. The modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

**Section:** **A4.106.8 Electric vehicle (EV) charging for new construction.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The modification includes the new Section A4.106.8.3 in the list of sections that new construction must comply with for EV charging.

**Section:** **A4.106.8.2 New multifamily dwellings.**

**Rationale:** See rationale for Section 4.106.4.2 HCD also proposes to repeal the existing notes. The information from the notes will be relocated to the CALGreen Guide upon update to the 2019 version. The repeal is necessary since the language in these notes is not regulatory and would be better placed in the Guide. The links provided as part of the notes are also difficult to maintain in an 18-month rulemaking process since HCD has no control over the websites of other state agencies. The modification facilitates easier maintenance and updating of the references.

**Section: A4.106.8.2.1 Technical requirements.**

**Rationale:** HCD proposes to adopt the above referenced section. The new section provides specific references for technical requirements and provides clarity to the code user. There is no intended change in regulatory effect.

**Section: A4.106.8.3 New hotels and motels.**

**Rationale:** HCD proposes to adopt the above referenced section. The new section includes new voluntary Tier 1 and Tier 2 provisions for newly constructed hotels and motels, continuing its effort from the previous code adoption cycle. The proposal for Tier 1 and Tier 2 is consistent with the requirement for non-residential structures in Section A5.106.5.3.1.

The initial proposal related to EV charging infrastructure for hotels/motels was submitted to HCD by the CARB for inclusion in the 2016 Intervening Code Adoption Cycle. After research and coordination with stakeholders and other state agencies, HCD proposed the measures, which were approved for adoption by the Building Standards Commission. Currently the number of parking spaces required to have capability for EV charging mirrors the requirement for non-residential structures in Section 5.106.5.2. The space dimensions, identification and design are similar to the requirements for multifamily charging infrastructure. A reference to Chapter 11B of the California Building Code directs the code user to the accessibility provisions related to EV chargers and use for public accommodations.

According to CARB, EV charging infrastructure in CALGreen supports the California's Zero Emission Vehicle Program, which aims to improve air quality and reduce greenhouse gas emissions. Although CALGreen has increased the number of required EV spaces from 3 percent (2013 code) to 6 percent (2016 code) for nonresidential uses, and requires EV charging infrastructure in 100 percent of new one- and two-family homes and townhomes with attached private garages, and 3 percent of multifamily homes (2013 and 2016 codes); there was no requirement to facilitate EV charging for hotels and motels. The availability of EV charging (when installed) at hotels and motels provides charging service to EV users traveling between their homes and vacation or other travel locations. This helps reduce range anxiety for some EV users and also provides charging while in a safe and comfortable location or even overnight.

Based upon the cost estimates, provided by the CARB, the cost to install a raceway with an adequate panel capacity is approximately \$800 per EV charging space. This represents a cost increase of only 0.1 percent. By installing EV charging infrastructure in new construction a retrofit costs of \$3,750 to \$6,975 per charging space could be avoided. Statewide, a retrofit costs of \$9.6–\$21.3 million can be avoided by installing EV charging infrastructure in new construction, which results in a benefit of \$7.5–\$18.8 million.

The technical and cost analysis, provided by CARB, is based on the need for California's Zero Emission Vehicle (ZEV) infrastructure to support up to 1 million vehicles by 2020. CARB staff used the National Renewable Energy Laboratory (NREL) plug-in electric vehicle (PEV) infrastructure assessment as the source of information on projected EV charging needs. CARB staff also gathered information on existing, funded and proposed EV charging infrastructure to determine the gap in needed charge points remaining for 2020.

**Section: A4.106.8.3.1 Technical requirements.**

**Rationale:** HCD proposes to adopt the above referenced section. This new section directs the code user to the specific sections related to the design and construction of EV spaces and EV charging stations. The proposed section provides clarity and consistency to the code user.

***Division A4.3 – WATER EFFICIENCY AND CONSERVATION***

**SECTION A4.302 - DEFINITIONS**

**Section: A4.302.1 Definition.**

**Rationale:** HCD proposes to repeal the existing text in the above referenced section and replace it with “reserved.” HCD proposes to repeal the term “Reference evapotranspiration (ET<sub>o</sub>)” because it is no longer used in CALGreen. Since “Reference evapotranspiration (ET<sub>o</sub>)” is the only term in this section, there is no need for the introductory text to remain.

**SECTION A4.304 - OUTDOOR WATER USE**

**Section: A4.304.2 Potable water elimination.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. As recommended during the CALGreen CAC meeting, HCD proposes to add the use of drought tolerant plants as an option for potable water elimination.

HCD also proposes an editorial modification to the text for consistency with other parts of Title 24. The term “shall” is used in the California Building Standards Code to denote a mandatory specification or requirement.

**SECTION A4.506 – INDOOR AIR QUALITY AND EXHAUST**

**Section: A4.506.1 Filters.**

**Rationale:** HCD proposes to repeal the above referenced section. Section A4.506.1 offers an enhanced compliance option (elective) for use of return air filters with value greater than MERV 6 with associated pressure drop requirements. Since the California Energy Commission has adopted air filter requirements of MERV 13 (greater efficiency) for both return and incoming air, the MERV 6 enhanced option is no longer valid. HCD proposes to reserve this section if new requirements related to filters are needed in the future.

This new proposed change was submitted as an addendum at the CALGreen CAC meeting. The CAC approved HCD's proposal for leaving this section as revised to "Reserved."

**Section: A4.506.2 Construction filter.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. HCD proposes to modify the requirements for construction filters by correcting the MERV value from 6 to 8. The proposed modification provides consistency with Section 5.504.1 of CALGreen, applicable to commercial buildings.

This new proposed change was submitted as an addendum at the CALGreen CAC meeting. The CAC approved HCD's proposal for changing the MERV value.

***Division A4.6 – TIER 1 AND TIER 2***

**SECTION A4.601 – GENERAL**

**Section: A4.601.4.2 Prerequisite and elective measures for Tier 1.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The proposed modification specifies compliance with the Tier 1 requirements in Section A4.106.8. Previously the Tier 1 and Tier 2 requirements in Section A4.106.8 were the same. HCD is proposing separate Tier 1 and Tier 2 requirements in Section A4.106.8 during this rulemaking. Therefore, Section A4.601.4.2 and A4.601.5.2 both need to be modified to specify either Tier 1 or Tier 2 compliance. HCD also proposes to modify the language to align the energy efficiency requirements in the above referenced section with the changes the Energy Commission proposed for Division A4.2-Energy Efficiency.

**Section: A4.601.5.2 Prerequisite and elective measures for Tier 2.**

**Rationale:** HCD proposes to continue adoption of the above referenced section with modification. The proposed modification specifies compliance with the Tier 2 requirements in Section A4.106.8. Previously the Tier 1 and Tier 2 requirements in Section A4.106.8 were the same. HCD is proposing separate Tier 1 and Tier 2 requirements in Section A4.106.8 during this rulemaking. Therefore, Section A4.601.4.2 and A4.601.5.2 both need to be modified to specify either Tier 1 or Tier 2 compliance. HCD also proposes to modify the language to align the energy efficiency requirements in the above referenced section with the changes the Energy Commission proposed for Division A4.2-Energy Efficiency.

**Section: A4.602 - RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST**

**Rationale:** HCD proposes to modify the above referenced checklist to correspond with the proposed changes in Chapter 4 and Appendix A4.

The proposed changes to the checklist have been developed after the CALGreen CAC meeting to align with approved changes. There is no change in regulatory effect since the checklist is only identifying mandatory and voluntary CALGreen provisions.

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## **TECHNICAL, THEORETICAL, AND EMPIRICAL STUDY, REPORT, OR SIMILAR DOCUMENTS:**

(Government Code Section 11346.2(b)(3)) requires an identification of each technical, theoretical, and empirical study, report, or similar document, if any, upon which the agency relies in proposing the regulation(s).

For provisions related to electric vehicle charging only: *Electric Vehicle (EV) Charging Infrastructure: Multifamily Building Standards (CARB Technical and Cost Analysis, April 13, 2018)*. The document was prepared by the California Air Resources Board and is attached to this ISOR.

## **STATEMENT OF JUSTIFICATION FOR PRESCRIPTIVE STANDARDS:**

(Government Code Section 11346.2(b)(1)) requires a statement of the reasons why an agency believes any mandates for specific technologies or equipment or prescriptive standards are required.)

HCD is statutorily required to adopt by reference model building codes for other parts of the California Building Standards Code, which contain prescriptive standards. However, there are no model codes addressing green building standards specific to California. Prescriptive standards provide the following: explicit guidance for certain mandated requirements; consistent application and enforcement of building standards while also establishing clear design parameters; and ensure compliance with minimum health, safety and welfare standards for owners, occupants and guests.

Performance standards are permitted by state law; however, they must be demonstrated to the satisfaction of the proper enforcing agency.

## **CONSIDERATION OF REASONABLE ALTERNATIVES**

(Government Code Section 11346.2(b)(4)(A)) requires a description of reasonable alternatives to the regulation and the agency's reasons for rejecting those alternatives. In the case of a regulation that would mandate the use of specific technologies or equipment or prescribe specific action or procedures, the imposition of performance standards shall be considered as an alternate. It is not the intent of this paragraph to require the agency to artificially construct alternatives or describe unreasonable alternatives.)

After coordinating with the building industry, state agencies and other stakeholders, HCD initially proposed to repeal the 17-unit threshold related to application of EV chargers, and to increase the percentage for EV-capable parking spaces to 4 percent. These proposals and the justification for the proposed percentage were discussed during the CALGreen Focus Group meeting in November 2017. HCD further coordinated with CARB and proposed to increase the minimum requirement for EV-capable parking spaces to 5 percent. However, CARB further proposed 10 percent as a mandatory requirement, 15 percent for Tier 1, and 20 percent for Tier 2. The proposal was based on the California Energy Commission's (CEC) projections for needed EV chargers in multifamily dwellings

(120,000) and the Governor's Executive Order B-48-18 with a goal for 5 million Zero Emission Vehicles by 2030. Based on this information, the CARB proposal was accepted.

**REASONABLE ALTERNATIVES THE AGENCY HAS IDENTIFIED THAT WOULD LESSEN ANY ADVERSE IMPACT ON SMALL BUSINESS.**

(Government Code Section 11346.2(b)(4)(B)) requires a description of any reasonable alternatives that have been identified or that have otherwise been identified and brought to the attention of the agency that would lessen any adverse impact on small business.)

For the initial submittal, as part of the EV charging proposal, HCD proposed to adopt an exception in Section 4.106.4.2.4 (Multiple EV spaces required), which recognized the use of energy management systems. An energy management system, installed in accordance with the California Electrical Code, will allow some design flexibility when a large number of EV-capable parking spaces are required, and conversion to actual EV charging stations will not occur in the near future. This exception would lessen adverse impact on small businesses and/or owners required to provide or purchase additional power and upgrade the electrical service due to the large number of EV-capable parking spaces, but are not going to install chargers due to climatic, geographical, or other conditions. In addition, energy management systems have the potential to optimize a building's energy use.

However, HCD received comments recommending withdrawal or deletion for this proposal prior to and during the CALGreen CAC meeting, and withdrew the exception from the Express Terms for the 45-day public comment period. HCD will continue researching the benefits of energy management systems, and will reach out to enforcing agencies and professionals for more technical expertise. The energy management systems may be re-introduced during the next intervening code adoption cycle.

**FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE IMPACT ON BUSINESS.**

(Government Code Section 11346.2(b)(5)(A)) requires the facts, evidence, documents, testimony, or other evidence on which the agency relies to support an initial determination that the action will not have a significant adverse economic impact on business)

California Air Resources Board, Electric Vehicle (EV) Charging Infrastructure: Multifamily Building Standards, CARB Technical and Cost Analysis, April 13, 2018, address impact on businesses. This document concluded that avoided retrofit costs exceed minimal cost of implementation.



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

(Government Code Sections 11346.3(b)(1) and 11346.5(a)(10))

The Department of Housing and Community Development has assessed whether or not and to what extent this proposal will affect the following:

- ☐ The creation or elimination of jobs within the State of California.

**These regulations will not affect the creation, or cause the elimination, of jobs within the State of California.**

- ☐ The creation of new businesses or the elimination of existing businesses within the State of California.

**These regulations will not affect the creation or the elimination of existing business within the State of California since the EV charging regulations require infrastructure for EV charging capacity and not installation of chargers and networks.**

- ☐ The expansion of businesses currently doing business with the State of California.

**These regulations will not affect the expansion of businesses currently doing business within the State of California.**

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

**These regulations will update and improve minimum existing building standards, which will provide increased protection of public health and safety, worker safety and the environment.**

## **ESTIMATED COST OF COMPLIANCE, ESTIMATED POTENTIAL BENEFITS, AND RELATED ASSUMPTIONS USED FOR BUILDING STANDARDS**

(Government Code Section 11346.2(b)(5)(B)(i)) states if a proposed regulation is a building standard, the initial statement of reasons shall include the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates.)

In its fiscal analysis related to EV charging, the CARB identifies the following:

- The cost for installing EV charging infrastructure in 10 percent of new parking facilities is an estimated cost increase of about 0.1 percent to 0.6 percent compared to total construction costs of new multifamily housing units.

- Annual initial construction costs of \$43 million to \$76 million may be incurred between 2020 and 2025 due to adoption of revisions to this mandatory measure. However, annual retrofits costs of \$272 million to \$386 million would be avoided by installing EV charging infrastructure during new construction. An estimated annual statewide cost savings of \$229 million to \$310 million may be achieved by adopting revisions to the EV charging infrastructure provisions.
- Estimated benefits include protection of public health and safety, worker safety and the environment and improving the general welfare of California residents.

### **DUPLICATION OR CONFLICTS WITH FEDERAL REGULATIONS**

(Government Code Section 11346.2(b)(6)) requires a department, board, or commission within the Environmental Protection Agency, the Resources Agency, or the Office of the State Fire Marshal to describe its efforts, in connection with a proposed rulemaking action, to avoid unnecessary duplication or conflicts with federal regulations contained in the Code of Federal Regulations addressing the same issues. These agencies may adopt regulations different from these federal regulations upon a finding of one or more of the following justifications: (A) The differing state regulations are authorized by law and/or (B) The cost of differing state regulations is justified by the benefit to human health, public safety, public welfare, or the environment.)

These regulations do not duplicate nor conflict with federal regulations. The State of California has preemptive authority to adopt more restrictive mandatory standards for the appliances addressed in these regulations.