2018 REPORT TO THE LEGISLATURE

Status of the California Green Building Standards Code

California Department of Housing and Community Development

September 2018
A Report on:

The California Green Building Standards Code

This report provides the California State Legislature information on updates proposed to the California Green Building Standards Code and related activities conducted by the California Department of Housing and Community Development during the 2017-2018 fiscal year.

Cover and above: State Housing Law Program Staff Photos – Drought Tolerant Landscaping

State of California

Edmund G. Brown Jr., Governor
Alexis Podesta, Secretary
Business, Consumer Services and Housing Agency

Ben Metcalf, Director
California Department of Housing and Community Development

Division of Codes and Standards
2020 W. El Camino Avenue, Suite 200
Sacramento, CA 95833-1829
# TABLE OF CONTENTS

Abbreviations and acronyms.............................................................................................................. 1
Preface.................................................................................................................................................. 2

I. Background and history..................................................................................................................... 4
II. Introduction........................................................................................................................................ 11
III. HCD accomplishments.................................................................................................................... 11
IV. List of activities............................................................................................................................... 13
V. Planned actions and activities.......................................................................................................... 17

Exhibit A – Summary of Pre-Rulemaking Activity 2019 California Green Building Standards Code (CALGreen) ................................................................................................................................. 18
### Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARB</td>
<td>Air Resources Board</td>
</tr>
<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>ACCA</td>
<td>Air Conditioning Contractors of America</td>
</tr>
<tr>
<td>ASHRAE</td>
<td>American Society of Heating, Refrigeration and Air Conditioning Engineers</td>
</tr>
<tr>
<td>CALBO</td>
<td>California Building Officials</td>
</tr>
<tr>
<td>CALGreen</td>
<td>California Green Building Standards Code</td>
</tr>
<tr>
<td>CBIA</td>
<td>California Building Industry Association</td>
</tr>
<tr>
<td>CBSC</td>
<td>California Building Standards Commission</td>
</tr>
<tr>
<td>CEC</td>
<td>California Energy Commission</td>
</tr>
<tr>
<td>CHPS</td>
<td>Collaborative for High Performance Schools</td>
</tr>
<tr>
<td>CPC</td>
<td>California Plumbing Code</td>
</tr>
<tr>
<td>DSA</td>
<td>Division of the State Architect</td>
</tr>
<tr>
<td>DWR</td>
<td>Department of Water Resources</td>
</tr>
<tr>
<td>HCD</td>
<td>Department of Housing and Community Development</td>
</tr>
<tr>
<td>IAPMO</td>
<td>International Association of Plumbing and Mechanical Officials</td>
</tr>
<tr>
<td>IECC</td>
<td>International Energy Conservation Code</td>
</tr>
<tr>
<td>IgCC</td>
<td>International Green Construction Code</td>
</tr>
<tr>
<td>LEED</td>
<td>Leadership in Energy and Environmental Design</td>
</tr>
<tr>
<td>MWELO</td>
<td>Model Water Efficient Landscape Ordinance</td>
</tr>
<tr>
<td>NSF</td>
<td>National Sanitation Foundation</td>
</tr>
<tr>
<td>SHL</td>
<td>State Housing Law Program</td>
</tr>
<tr>
<td>SWRCB</td>
<td>State Water Resources Control Board</td>
</tr>
</tbody>
</table>
Preface

This report is prepared in accordance with California Health and Safety Code (HSC) Section 17928(b), which requires the California Department of Housing and Community Development (HCD) to submit a report to each house of the California Legislature no later than September 1 of each year. HSC Section 17928 has been reprinted below for reference and convenience. The following are the specific topic areas discussed in this report:

1. Green building features proposed as building standards during the prior fiscal year.

2. Green building guidelines or resources reviewed during the development of green building measures proposed as building standards during the prior fiscal year.

Health and Safety Code Section 17928

17928. (a)(1) The Department of Housing and Community Development shall, for building standards submitted to the California Building Standards Commission for adoption in the 2010 California Building Code or later, do all the following:

(A) Review relevant green building guidelines as deemed necessary by the department when preparing proposed building standards for submittal.

(B) Consider proposing as mandatory building standards those green building features determined by the department to be cost effective and feasible to promote greener construction.

(2) Nothing in this subdivision shall be construed to supplant or otherwise change the existing process for approval and adoption of building standards through the California Building Standards Commission.

(b)(1) The department shall also summarize in a report to the Legislature no later than September 1 of each year, both of the following:

(A) Green building features proposed as building standards during the prior fiscal year.

(B) Green building guidelines reviewed pursuant to subdivision (a) during the prior fiscal year.

(2) For those items required by this subdivision already included in other reports provided to the Legislature or generally available, the department may fulfill this requirement by citing where that information can be found.

Note: The California Green Building Standards Code (CALGreen), including updates, and the current and previous CALGreen reports can be viewed on HCD’s website at http://www.hcd.ca.gov. Hardcopies are available upon request. Please contact HCD’s State Housing Law (SHL) program staff at (916) 445-9471.
HCD reviewed the following green building guidelines, programs, and resources related to proposed building standards over the past fiscal year:

- Collaborative for High Performance Schools (CHPS)
- U.S. Green Building Council – Leadership in Energy and Environmental Design (LEED)
- Build it Green – GreenPoint Rated Program
- Green Building Initiative – Green Globes Program
- 2018 International Code Council (ICC) 700, National Green Building Standard
- IAPMO 2015 Green Plumbing and Mechanical Code Supplement
- IAPMO update to Appendices
- 2018 International Energy Conservation Code (IECC)
- Chapter 476, Statutes of 2011 (AB 341) Report to the Legislature: CalRecycle’s 75 percent Initiative, CalRecycle
- Chapter 606, Statutes of 2014 (AB 2282) Building standards: recycled water systems
- Title 20, California Energy Commission’s Appliance Efficiency Regulations

HCD uses an open public process when developing changes to CALGreen. Public focus group meetings gather stakeholder input regarding proposed building standards. Relevant state agencies, concerned stakeholder groups, and others commonly participate, including:

- Building officials / Design professionals
- Construction industry representatives
- Building product manufacturer representatives
- Model code writing representatives
- Environmental community representatives
- Federal and state agency representatives
- Interested individuals
- Public utility representatives
- Disabled access community representatives
I. **Background and History**

California, a longtime leader in green and sustainable building practices, developed CALGreen in order to improve the health, safety, and general welfare of the public by enhancing the design and construction of buildings. CALGreen encourages sustainable construction practices that use building concepts to reduce negative environmental impacts, and/or increase positive impacts, related to the following:

- Planning and design
- Energy efficiency
- Water efficiency and conservation
- Material conservation and resource efficiency
- Environmental quality

*State Housing Law Program Staff Photo: Energy Efficient Kitchen*
Enacted as a Voluntary Code, 2008

The 2008 CALGreen (California Code of Regulations, Title 24, Part 11) was approved by the California Building Standards Commission (CBSC) in January 2008 and went into effect in August 2009. This first edition of CALGreen was a voluntary code authorized by HCD.

No Fees

Unlike some rating systems - such as Leadership in Energy and Environmental Design (LEED) or the Green Globes system - that have additional licensing, certification, rating and/or verification costs, CALGreen does not require fees.

Enforcement

CALGreen, like other building codes, is enforced by existing local enforcement agencies.

State Housing Law Program Staff Photo: Single-Family Permeable Landscape in Sacramento, CA
Updates to 2008 CALGreen

HCD updated the original 2008 CALGreen during the 2009-2010 fiscal year through the 2009 Triennial Code Adoption Cycle. This process involved soliciting public input, and reviewing and analyzing necessary changes. The 2008 CALGreen was voluntary, unless adopted as a mandatory requirement by a local enforcement agency. The most noteworthy proposed update was made by HCD to establish "mandatory minimum requirements." Thus, the 2010 CALGreen became the nation's first state-mandated green building code. Subsequently, the mandatory provisions of the 2010 CALGreen (under development at that time) were discussed in the California Air Resources Board's (ARB's) Climate Change Scoping Plan (first published in 2009) as one of the tools to implement the California Global Warming Solutions Act of 2006, Chapter 488, Statutes of 2006 (AB 32).

ARB's scoping plan contains additional guidance encouraging local jurisdictions to go beyond the mandatory minimum requirements.

Furthermore, the 2009-2010 updates added a tiered system to the 2010 CALGreen to give local enforcement agencies the ability to adopt consistent and streamlined methods for green building construction above and beyond the mandatory minimum requirements. The tiered system, a voluntary portion of CALGreen, has become increasingly popular in jurisdictions that wish to further reduce greenhouse gas emissions and promote additional sustainable construction practices.

Updates to 2010 CALGreen

During the 2011-2012 fiscal year, HCD updated the 2010 CALGreen through the 2012 Triennial Code Adoption Cycle. HCD conducted a comprehensive evaluation of mandatory and voluntary updates before expanding the scope of CALGreen to include all residential buildings, rather than only low-rise residential buildings (three stories or less). HCD also expanded the scope to include additions and alterations that increase the conditioned area, volume, or size of a building. This requirement now captures many additions and alterations to existing buildings, thereby increasing the effectiveness of CALGreen by implementing enforceable, sustainable building standards that have a positive impact on the environment.

Updates to 2013 CALGreen

During the 2013 Intervening Code Adoption Cycle, HCD proposed to adopt the voluntary Electric Vehicle (EV) charging measures as mandatory. These provisions became effective on July 1, 2015.

The code required one- and two-family dwellings and townhouses with attached private garages to install an infrastructure for future installation of EV supply equipment. The code also required new multifamily projects with 17 or more dwelling units to allocate 3 percent of the total number of parking spaces for future installation of EV supply equipment.
During the 2015-2016 fiscal year, HCD proposed emergency amendments to the 2013 CALGreen. Facing historic drought conditions, the State of California and HCD were charged with finding additional ways to further reduce the use of potable water. The directives in the Governor's Executive Order B-29-15, issued on April 1, 2015, stressed the importance of continuing actions to conserve California's water resources. In coordination with other state agencies, HCD proposed the emergency adoption of building standards requiring a water budget for landscape irrigation that conformed to the local water efficient landscape ordinance, or to the California Department of Water Resources' (DWR) Model Water Efficient Landscape Ordinance (MWELO), whichever was more stringent. HCD's emergency provisions in CALGreen also included a modification to the formula for calculating water use for residential landscaped areas, thereby further reducing the allowable use of potable water for landscaped areas beyond the MWELO requirements. On January 20, 2016, the CBSC approved the permanent adoption of these emergency provisions.

Outdoor residential water use is a significant portion of overall residential water use. The emergency amendment requiring a water budget for landscape irrigation and compliance with MWELO helped to conserve potable water, but HCD identified an additional opportunity for water use reduction and proposed emergency regulations for reduced flow faucets and reduced flush volume urinals. On January 20, 2016, the CBSC also approved the permanent adoption of these emergency provisions.

*State Housing Law Program Staff Photo: Residential Electric Vehicle Charger*
2016 CALGreen

During the 2016-2017 fiscal year, HCD updated CALGreen through the 2015 Triennial Code Adoption Cycle. HCD adopted three new definitions related to EV charging regulations. These definitions provided clarity to the code user as to the differences between an electric vehicle charging space and an electric vehicle charging station. HCD replaced the term “electric vehicle charging stations” with “electric vehicle charging spaces” since the term “electric vehicle charging space” better describes a space available for future installation of EV supply equipment, but with no electric vehicle charger installed. The proposed modification in terminology is in alignment with the terminology used by the Division of the State Architect (DSA) in Chapter 11B of the California Building Code.

HCD also increased the required construction waste reduction from 50 percent to 65 percent of the total building site waste. This increase aids in meeting CalRecycle’s statewide solid waste recycling goal of 75 percent for 2020 as stated in Chapter 476, Statutes of 2011 (AB 341). Based on information from CalRecycle and local enforcing agencies, 65 percent is an achievable number that furthers meeting California’s goal of 75 percent.

HCD adopted new regulations requiring recycling areas for multifamily projects of five or more dwelling units. These regulations required developers to provide readily accessible areas adequate in size to accommodate containers for the deposit, storage, and collection of non-hazardous materials (including organic waste) for recycling. This requirement assisted businesses that were required as of April 1, 2016, to meet the requirements of Chapter 727, Statutes of 2014 (AB 1826).

HCD adopted new regulations to require information on solar photovoltaic systems and EV chargers to be included in operation and maintenance manuals. At the time, section 4.410.1 Item 2(a) of the CALGreen required operation and maintenance instructions for equipment and appliances. Photovoltaic systems and EV chargers are systems that play an important role in many households in California, and their importance is increasing every day. HCD incorporated these two terms in the existing language in order to provide clarity to code users as to additional systems requiring operation and maintenance instructions.

HCD updated the reference to Clean Air Standards of the United States Environmental Protection Agency applicable to woodstoves and pellet stoves. HCD also adopted a new requirement for woodstoves and pellet stoves to have a permanent label indicating they are certified to meet the emission limits. This requirement provided clarity to the code user and was consistent with the United States Environmental Protection Agency’s new source performance standards.

HCD updated the list of standards that can be used for verification of compliance for exterior grade composite wood products. This list now includes four standards from the Canadian Standards Association (CSA): CSA O121, CSA O151, CSA O153, and CSA O325.
HCD updated heating and air-conditioning system design references to the ANSI/ACCA 2 Manual J, ANSI/ACCA 1 Manual D, and ANSI/ACCA 3 Manual S to the most recent versions approved by ANSI.

HCD adopted a new elective measure for hot water recirculation systems. The amount of potable water wasted while waiting for hot water to arrive to the point of use in a sink or other plumbing fixture depends upon numerous factors: the distance between the point of use and the water heater, the water heater temperature setting, the location of the fixtures, internal pipe diameter, effective length, pipe insulation, and user behavior. The United States Department of Energy estimates that 3,600 to 12,000 gallons of water per year can be saved by the typical household (with four points of hot water use) if a hot water recirculation system is installed.

During the 2016 Intervening Code Adoption Cycle, HCD proposed new provisions and modified existing provisions to the 2016 CALGreen, which became effective July 1, 2018. HCD adopted new definitions related to reclaimed (recycled) water and electric vehicles. The terms “hotel or motel” provide clarification for the application of EV spaces capable of supporting future installation of EV supply equipment in new hotels and motels. The term “reclaimed (recycled) water” was modified to correctly identify the state entity that establishes the criteria for recycled water.
HCD developed new requirements for EV charging in hotels and motels (new construction). The technical requirements for EV charging in hotels and motels are consistent with the requirements for multifamily dwellings.

HCD amended the maximum flow rate of showerheads from 2.0 gallons per minute (gpm) to 1.8 gpm to align with Title 20, California Code of Regulations, Appliance Efficiency Regulations. This amendment was estimated to save 1.4 billion gallons of water for the first year the standard is in effect.

HCD developed new requirements for outdoor recycled water supply systems for all newly constructed residential developments, including hotels and motels, where disinfected tertiary recycled water is available from a municipal source to a construction site. These areas are required to be provided with both a potable water supply system and a recycled water supply system allowing the use of reclaimed (recycled) water for landscape irrigation systems.

HCD made editorial modifications to Section A4.304.4 (nonwater urinals and waterless toilets). In addition, HCD amended the Residential Occupancies Application Checklist to correspond with changes in Chapter 4 and Appendix A4.
II. **Introduction**

CALGreen, the nation's first state-mandated green building code, has been in effect since January 1, 2011. CALGreen is written as a building standards code with both mandatory and voluntary measures. CALGreen provides for environmentally responsible and resource-efficient activities, from new building design and sustainable construction to full operational use for the built environment.

HCD staff improves CALGreen by analyzing new technologies to complement current building practices that aid in conservation and reduce overall ecological impacts. Due to green building practices becoming more commonly used, technology constantly advancing, and public awareness of the benefits of sustainable building, HCD staff continuously evaluates and updates CALGreen.

Updates to CALGreen require detailed evaluation and analysis of alternatives and proposed changes; historical knowledge of the code, and information on new developments in sustainable building, related standards, and other codes. Changes in state law and regulations must also be evaluated. Sound rationale must accompany all proposed changes.

As green building practices become more routine, and with technological advances, the public becomes aware of the additional benefits of sustainable building. As a result, CALGreen must be continuously evaluated. This ensures its validity, cost effectiveness, and feasibility to improve both indoor and outdoor environments for current and future Californians and to meet the environmental and conservation goals of CALGreen.

CALGreen is an evolving code, and new technologies and methods will continue to advance in the building industry, thus continued training is necessary to ensure that an up-to-date knowledge base is established and maintained within HCD and the industry.

III. **HCD Accomplishments (2017-2018)**

**Proposed amendments for the 2019 CALGreen**

Currently, HCD is developing its proposals for the 2019 California Building Standards Codes (2018 Triennial Code Adoption Cycle). State Housing Law (SHL) program staff developed the 2019 CALGreen proposals after months of research and consultation with local agencies, environmental advocates, other stakeholders, and interested parties. The most important new proposals include:

- Added a paragraph to Section 102.3 (Verification) to clarify that all projects shall submit a completed residential checklist that includes mandatory measures and Tier 1 or Tier 2, as applicable.
- Added Exceptions 1 and 2 to Section 302.1. Exception 1 clarifies that accessory structures serving residential buildings are required to comply with the measures for residential buildings in Chapter 4 and Appendix A4 of CALGreen, as applicable. Exception 2 clarifies that live/work units must comply with Section 419 of the California Building Code (CBC) and shall not be considered mixed.
occupancies. Exception 2 also clarifies that live/work units must comply with Chapter 4 and Appendix A4 of CALGreen, as applicable.

- Modified EV charging requirements for multifamily dwellings in coordination with the California Air Resources Board (ARB) as follows:
  - Added Exception 3 to Section 4.106.4. Exception 3 exempts Accessory Dwelling Units (ADU) without additional parking from compliance with the requirements for EV-capable parking spaces.
  - Modified the EV-capable parking space requirement for new multifamily dwellings in Section 4.106.4.2. This modification repeals the threshold of “17 or more” dwelling units and increases the required number of EV-capable parking spaces from 3 percent to 10 percent for all multifamily dwelling units.
  - Modified Section 4.106.4.2.1 to clarify that new residential developments with common use areas (for parking) provide at least one EV-capable parking space in the common use area and the space shall be available for use by all residents.
  - Added a new exception to Section 4.106.4.2.1.1 to clarify that the design and construction of EV charging stations comply with the CBC, Chapter 11B.
  - Added a new exception to Section 4.106.4.2.4 to clarify the use of energy management systems for EV-capable parking spaces. Energy management systems allow design flexibility when a large number of EV spaces are required.
  - Modified Section A4.106.8.2 in Appendix A4 to clarify the requirements for Tier 1 and Tier 2 EV-capable parking spaces. Tier 1 increases the EV-capable parking space requirement from 5 percent to 15 percent. Tier 2 increases the EV-capable parking space requirement from 5 percent to 20 percent.
- Added Section A4.106.8.3 to Appendix A4 to clarify Tier 1 and Tier 2 requirements for EV-capable parking spaces for hotels and motels.
- Modified the metering faucets flow rate requirement in Section 4.303.1.4.3. This modification reduces the flow rate for metering faucets from 0.25 gallons per cycle to 0.2 gallons per cycle.
IV. List of Activities

Code Development Work and Outreach during the 2017-2018 Fiscal Year

HCD continued to evaluate and research possible amendments to the 2019 CALGreen during the 2018 Triennial Code Adoption Cycle based on enacted legislation, executive orders, new technology, completed studies, and stakeholder input. HCD also continued its efforts to provide educational outreach to stakeholders and assistance to code users throughout the state.

2017

- On July 18, SHL program staff participated in the California Energy Commission (CEC) webinar on Residential Heating Ventilation and Cooling Measures and Acceptance Test Technician Certification Provider Requirements for the 2019 Standards.
- On July 20, SHL program staff participated in the CEC webinar on Phase 2 Appliance Efficiency Regulations & Roadmaps: Spray Sprinkler Bodies, Tub-spout Diverters, and Irrigation Controllers.
- On July 21, SHL program staff participated in the CEC webinar on Phase 2 Appliance Efficiency Regulations & Roadmaps: Set Top Boxes, Low Power Modes and Power Factor, Solar Inverters, and General Service Lamps.
- On July 26, SHL program staff participated in the CEC webinar on California Microgrid Roadmap Scoping Workshop.
- On July 31, SHL program staff participated in the CEC webinar on Concepts for Renewable Hydrogen Transportation Fuel Production Facilities & Systems.
- On August 3, SHL program staff participated in the CEC webinar on Appliance Efficiency Regulations for pool pumps and motors, portable electric spas, commercial clothes dryers, and air filter labeling.
- On August 8, SHL program staff participated in the CEC webinar on Demand Response.
- On August 15, SHL program staff participated in the CEC webinar on Title 20, the Appliance Efficiency Regulations.
- On August 16, SHL program staff participated in the CEC webinar on Emerging Technologies: Phase Change Materials.
- On August 22, SHL program staff participated in the CEC webinar on Residential Solar Photovoltaic, Storage, the Energy Design Rating and Grid Integration Impacts for the 2019 Building Energy Efficiency Standards.
- On August 30, SHL program staff participated in the CEC webinar on the 2019 CALGreen Voluntary Energy Efficiency Standards.
- On August 30, SHL program staff attended the CEC workshop on the 2019 CALGreen Voluntary Energy Efficiency Standards.
- On August 30, SHL program staff met with Gary Klein and Associates, Inc. as a follow-up discussion for Hot Water Distribution.
- On September 11, SHL program staff participated in the webinar for Model Water Efficient Landscape Ordinance (MWELO): California Department of Water Resources (DWR) Landscape Stakeholder Advisory Group (LSAG).
• On September 21, SHL program staff attended the 2016 Zero-Emission Vehicle Action Plan Interagency convened by the Governor’s Office. This meeting was to revisit priorities from July and planning for the end of the year.
• On October 4 and 5, SHL program staff participated in the CEC webinar on updates to the 2019 Building Energy Efficiency Standards.
• On October 5, SHL program staff attended the CEC workshop on updates to the 2019 Building Energy Efficiency Standards.
• On October 9, SHL program staff attended a meeting with the CEC to discuss their proposed regulations.
• On October 19, SHL program staff participated in the Energy Star webinar Tackle Energy Efficiency and Indoor Air Quality Together.
• On October 24, SHL program staff attended the BayREN October Regional Forum: Matching Supply with Demand webinar on Solar – “Matching Supply with Demand: Preparing Local Governments for the Rise of Renewables and Its Impact on the Grid.”
• On November 2, SHL program staff attended the California Building Standards Commission (CBSC) rulemaking training.
• On November 6, SHL program staff participated in the second Fixing America’s Surface Transportation (FAST) Act Corridor Update interagency meeting convened by the Governor’s Office. This meeting was a discussion of California roadways nominated for designation as alternative fuel corridors.
• On November 13, SHL program staff attended the CBSC meeting with Division of the State Architect (DSA) staff to discuss CALGreen provisions for EV and considerations for the 2018 Triennial Code Adoption Cycle.
• On November 14, SHL program staff attended the CBSC Coordinating Council meeting.
• On November 16, SHL program staff participated in the 2016 Zero-Emission Vehicle Action Plan meeting convened by the Governor’s Office.
• November 21, SHL program staff and legal counsel attended a meeting with the CEC to discuss its proposed regulations.
• On November 29, SHL program staff conducted a focus group meeting for the 2019 CALGreen proposals.
• On December 18, SHL program staff met with California Air Resources Board (ARB) and the California Building Industry Association (CBIA) to discuss EV charging for multifamily buildings.

2018
• On January 8, SHL program staff had a conference call with the Office of Planning and Research (OPR) to discuss energy storage.
• On January 10, SHL program staff met with ARB to discuss an EV proposal.
• On January 16, SHL program staff met with DSA to discuss code change proposals.
On January 16, HCD staff held a conference call with CBSC to discuss AB 2282.

On January 19, SHL program staff had a conference call with ARB to discuss EV charging.

On January 23, SHL program staff toured the Tesla factory in Fremont and met with the Tesla technical team to discuss EV and EV charging.

On January 30, SHL program staff met with the Governor’s Office and ARB to discuss EV charging for multifamily dwelling units and zero-emission vehicle parking spaces.

On February 1, SHL program staff met with the CEC to discuss Minimum Efficiency Rating Value (MERV) 13 air filters and indoor air quality.

On February 6, SHL program staff met with ARB to discuss multifamily EV charging.

On February 23, SHL program staff had a conference call with ARB concerning EV charging.

On February 26, SHL program staff presented CALGreen’s EV charging provisions at HCD’s Climate Change Policy Meeting.

On March 1, SHL program staff met with CBSC to discuss CBSC formatting for the current rulemaking.

On March 9, SHL program staff met with ARB and CBIA to discuss EV charging proposals.

On March 19, SHL program staff participated in a meeting convened by the CEC addressing Distributed Energy Resources for Multifamily and various HCD programs, including SHL.

On March 20, SHL program staff participated in the Zero-Emission Vehicle Action Plan Interagency meeting convened by the Governor’s Office.

On March 20, SHL program staff participated in an interagency meeting with the ARB and California Building Officials (CALBO).

On March 27 and 28, SHL program staff attended the CALBO annual business meeting.

On April 2, SHL program staff met with ARB concerning their EV proposals and the fiscal impacts.

On April 4, SHL program staff met with CBSC staff to discuss CALGreen presentations for the Green California Summit.

On April 9 and 10, SHL program staff participated in the 2018 Green California Summit and Exposition where they shared an exposition booth with the CBSC.

On April 26, SHL program staff attended the CBSC Coordinating Council meeting.

On June 27 and 28, SHL program staff attended the 2018 Pacific Coast Builders Conference (PCBC), which is the largest homebuilding tradeshow on the West
Coast. SHL program staff conducted program outreach, including dissemination of information on CALGreen requirements.
V. **Planned Actions and Activities**

During the 2018-2019 fiscal year, HCD anticipates the following actions and activities:

- Submit proposed amendments for CALGreen through a formal 2018 Triennial Code Adoption Cycle rulemaking process. These proposals will be based on enacted legislation, executive orders, new technology, completed studies and stakeholder input. This will result in the 2019 CALGreen, effective January 1, 2020.
  - Present proposed express terms, initial statement of reasons, and notice of proposed action to the Code Advisory Committee for review in August 2018.
  - Initiate 45-day and 15-day (as needed) comment periods, which allow our stakeholders to submit comments regarding the proposed amendments.
  - Make any subsequent and necessary changes to proposed express terms; present the final package at the CBSC meeting in December 2018.
- Continue CALGreen outreach and education to the general public, local enforcement agencies, industry professionals, and other stakeholders throughout the state.
- Consult with local enforcement agencies to verify implementation and enforcement, as well as the successes and challenges of CALGreen within the communities as the economy continues to improve and construction of single and multifamily dwellings increases.
- Continue to update forms and worksheets associated with the compliance of CALGreen; including the Residential Occupancies Application Checklist, Residential Mandatory Measures Installation Certificate, Residential Mandatory Measures Checklist, Tier 1 Residential Measures Checklist and Tier 2 Residential Measures Checklist.
- Update the CALGreen guide and commentary with the proposed language for the “Guide to the 2019 California Green Building Standards: Residential.”

*State Housing Law Program Staff Photo: Solar Monitoring System*
Exhibit A

Summary of Pre-Rulemaking Activity
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.

Specific Proposed Regulatory Actions:

HCD proposes to continue adoption of the 2016 CALGreen with amendments into the 2019 CALGreen.

Note: There is no model code language associated with CALGreen; therefore, all language consists of California text.
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: 102.3 Verification.
Rationale: HCD proposes to continue adoption of the above referenced section with a 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.

2. CHAPTER 2
DEFINITIONS

HCD proposes to amend Chapter 2 of the 2019 CALGreen as follows:

SECTION 202 – DEFINITIONS

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.

ALTERNATE WATER SOURCE.
Rationale: HCD proposes to adopt the above referenced definition to provide clarification of the application of Section A4.303.2. The term “Alternate Water Source” is used in this section, but it is not defined. The newly proposed definition is consistent with the definition in the California Plumbing 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 Government Code Section 65852.22, which provides additional information on what type of structures are considered JADUs.

ON-SITE TREATED NON-POTABLE GRAY WATER.
Rationale: HCD proposes to adopt the above referenced definition to provide clarification. The term “on-site treated non-potable gray water” is defined in this section. The newly proposed definition is consistent with the definition in the California Plumbing Code.

3. SECTION 301 and 302 GREEN BUILDING

HCD proposes to amend Section 301 and 302 of the 2016 CALGreen as follows:

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.).

SB 407, 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 cross-reference 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 A4, 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 units, 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.

4. CHAPTER 4
   RESIDENTIAL MANDATORY MEASURES

HCD proposes to continue adoption of Chapter 4 from the 2016 CALGreen into the 2019 CALGreen 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 adds Exception 3, which 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 3 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 capable parking spaces from 3 percent to 10 percent of the total number of parking spaces on the site.

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 in 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’s) 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 (ZEVs) 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 of carbon dioxide equivalent annually between 2020 and 2025.

HCD is not the author of the documents justifying the 10-, 15-, and 20-percent proposals, or the documents justifying the number of needed EV chargers. HCD has relied on CARB, as a state agency with expertise in green building subjects, to provide the rationale and the fiscal impact documentation as required by the California Code of
Regulations, Title 1, Section 1-404(c) (see Attachments A), and has accepted these documents as submitted.

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.

Section: 4.106.4.2.1.1 Electric vehicle charging stations (EVCS).
Rationale: HCD proposes to continue adoption of the above referenced section with a 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 the 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 with a new modification. HCD proposes to adopt an exception, which permits 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 spaces are required.

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 (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 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. The modification adds a note referencing the Civil Code. The Civil Code 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 also 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 a more generic link to the DWR website.

Chapter 576, Statutes of 2016 (AB 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).

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.

---

**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.

---

**6. APPENDIX A4**

**RESIDENTIAL VOLUNTARY MEASURES**

HCD proposes to continue adoption of Chapter A4 from the 2016 CALGreen into the 2019 CALGreen 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 and motels was submitted to HCD by the California Air Resources Board (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 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.

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 retrofit costs of $3,750 to $6,975 per charging space could be avoided. Statewide, retrofit costs of $9.6 to $21.3 million can be avoided by installing EV
charging infrastructure in new construction, which would result in a benefit of $7.5 to $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 modification 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 continue adoption of the above referenced section with modification. The modification adds two terms that are proposed to be defined in Chapter 2, and repeals a term that is no longer used in CALGreen. The modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

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 editorial modification. The proposed modification provides 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.

The proposed modification provides clarity and consistency to the code user. There is no intended change in regulatory effect.

SECTION A4.506 - INDOOR AIR QUALITY AND EXHAUST

Section: A4.506.1 Reserved.
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 press 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.

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.

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.
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).)


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, 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 reason 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 an alternative. 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’s) 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.)

As part of the EV charging proposal, HCD proposes to adopt an exception in Section 4.106.4.2.4 (Multiple EV spaces required) that permits 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; however, conversion to actual EV charging stations will not occur in the near future. This exception, if adopted, 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.

FACTS, EVIDENCE, DOCUMENTS, TESTIMONY, OR OTHER EVIDENCE OF NO SIGNIFICANT ADVERSE ECONOMIC 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, March 19, 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)).

HCD 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 businesses 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 regulations 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 THAT IMPACT HOUSING**

(Government Code Section 11346.2(b)(5)(B)(i) states if a proposed regulation that is a building standard impacts housing, 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.)

- Pursuant to Government Code Section 11346.2(b)(5)(B)(ii) adoption of the model codes is exempt from identification of the estimated cost of compliance, the estimated potential benefits, and the related assumptions used to determine the estimates in the Initial Statement of Reasons.

- No increased cost of compliance for those regulations.

- The potential benefits include, but are not limited to:
  - Continue to reduce greenhouse gas (GHG) emissions.
  - 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.
  - Protection of public health and safety.
  - 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.
  - 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.