California Building Standards Commission

CALGreen Updates

Enrique M. Rodriguez, Associate Construction Analyst

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Today's Topics

- CBSC & CALGreen
  - History
  - New Regulations
  - Upcoming Developments

Title 24

The **California Building Standards Code**, Title 24 of the California Code of Regulations

- Contains standards for all buildings and related structures and equipment
- Divided into 13 parts, by discipline/occupancy
- Adopted model codes modified by the state
- Must be reviewed and approved by CBSC
- Re-published every three years

The Commission

- Chairperson – Secretary of GovOps or designee
- 10 members appointed by the governor
  - Architect
  - Mechanical, electrical or fire protection engineer
  - Licensed contractor
  - Local building official
  - Local fire official
  - Organized labor in building trades
  - Structural engineer
  - Person with a disability
  - 2 public members

At least one member familiar with **sustainability** and one with **energy efficiency**

The 2025 Edition of Title 24

- California Building Standards Code, Title 24, California Code of Regulations
- Published July 1, 2025
- Effective January 1, 2026

dgs.ca.gov/BSC/Codes

2022 edition of Title 24 with errata and supplements is enforceable until December 31, 2025

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A Brief History of CALGreen

- 2009 – all voluntary
- 2010 – some mandatory
  - Tiers for local adoption, or voluntary use
- 2013 – triggers for additions and alterations
- Continuous evolution

2022 Intervening Code Adoption Cycle

New and updated regulations

- EV Charging
- Embodied Carbon Reduction
- Voluntary Bird-friendly Design

EV Charging – Definitions

- Some EV charging definitions were adopted and amended by BSC-CG
  - State-owned buildings, colleges and universities
  - Nonresidential buildings for which other agencies do not have authority
- EV Capable, EV Charger, EV Charging Station (EVCS)
- EV Supply Equipment (EVSE)
- Level 1 and Level 2 chargers, receptacles and supply equipment

EV Charging
Alternative Compliance Option #1

EV capable spaces

- Section 5.106.5.3.2 and associated Table 5.106.5.3.1
  - Allows one DCFC to be substituted for five EV capable spaces or five EVCS, using Level 2 chargers
  - Two Low Power Level 2 *receptacles* = one Level 2 EV capable space
- Footnote 3 added to table to clarify requirement to install **at least one Level 2 EVSE** (charger)

EV Charging
Alternative Compliance Option #2

Power allocation method

- Section 5.106.5.3.6 – EVCS power allocation method with associated Table 5.106.5.3.6
  - Provides an alternative pathway using total required kVA at the site to meet requirements for EVCS in any combination of charging equipment options
- Footnote 2 added to table to clarify requirement to install **at least one Level 2 EVSE** (charger)

EV Charging
Additions and Alterations

Section 5.106.5.4 - Additions or alterations to existing buildings or parking facilities

- Three (3) triggers:
  - Increase in power supply to electric service panel in parking facility additions or alterations
  - New photovoltaic system covering existing parking spaces
  - Triggers pursuant to Section 301.3 **and** scope of work includes electrical panel upgrade

EV Charging Additions/Alterations Exceptions

- Case-by-case basis
- Remote parking
- Lighting upgrades with no trenching
- Emergency repairs

EV Charging
Additions and Alterations Compliance

- Existing buildings/parking areas without previously installed EV capable infrastructure.
- Existing buildings/parking areas **with** previously installed EV capable infrastructure.
  - Projects must comply with either Section 5.106.5.3 and associated Table 5.106.5.3.1 or <u>independently</u> Section 5.106.5.3.6 and associated Table 5.106.5.3.6 (Power allocation method) for the total number of actual parking spaces being added or altered.

Option #1
EV Capable Spaces

Table 5.106.5.3.1

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF EVCS (EV CAPABLE SPACES PROVIDED WITH EVSE) [2 & 3]
101-150	25	6

1. …
2. The number of required EVCS (EV capable spaces provided with EVSE) in column 3 count toward the total number of required EV capable spaces shown in column 2.
3. At least one Level 2 EVSE shall be provided.

EV Capable Spaces – Scenario 1 Code Minimum

- Install 19 EV capable spaces and 6 EVCS
- This is the code minimum

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Option #2
Power Allocation Method

Table 5.106.5.3.6

TOTAL NUMBER OF ACTUAL PARKING SPACES	MINIMUM TOTAL kVA @ 6.6 kVA	TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE[3,4], LOW POWER LEVEL 2, LEVEL 2 [1, 2], OR DCFC
101-150	165	165

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.

EV Charging – For MHDV

- Medium- and Heavy-duty Vehicles (MHDV) – EV raceway and electrical panel requirements
- **Added** Manufacturing Facilities and Office Buildings to Section 5.106.5.5 and associated Table 5.106.5.5.1
- Was already required for Grocery, Retail & Warehouses

EV Charging – Voluntary Regulations

- Aligned with mandatory DCFC 1:5 ratio for both EV capable spaces and EVCS
- New sections with new tables for the Power Allocation Method
- Added table footnote to require the installation of **at least one Level 2 EVSE**

Embodied Carbon Reduction Regulations

- **Nonresidential Occupancies (BSC)**
  - 100,000 sf or more (July 2024 – December 2025)
  - **50,000 sf or more (beginning January 2026)**
- **Public Schools and Community Colleges (DSA)**
  - 50,000 sf or more (July 2024)
- **Three alternative compliance pathways**
  - Building Reuse
  - WBLCA Performance Path
  - Prescriptive Path

Building Reuse - Nonresidential

Alterations or Additions

- Maintain a minimum 45% combined of:
  - Primary structural elements: foundations, columns, beams, walls, floors, lateral elements
  - Enclosure: roof framing, wall framing, exterior finishes
- Window assemblies, insulation, and portions of a building deemed structurally unsound or hazardous not included

Whole Building LCA Performance Path

New buildings, Alterations and Additions

- **WBLCA** – Minimum 10% reduction in GWP compared to baseline
  - Operational energy is excluded
- **Building components**
  - Building enclosure - glazing, insulation and exterior finishes
  - Primary and secondary structural members: footings and foundations, and structural columns, beams, walls, roofs and floors

Product GWP Compliance Prescriptive Path

New Buildings, Alterations and Additions

- Products installed and listed in Table 5.409.3
- Shall not exceed the maximum GWP limits
  - **Exception** – Concrete may be considered one product category. Use Exception Equation 5.409.3.1
- Type III Environmental Product Declaration (EPD)
  - Product-specific or factory-specific

Voluntary Embodied Carbon Reduction

- **Projects ≥ 50,000 sf**
  - Tier 1 & Tear 2 – stricter percentage requirements than in mandatory regulations
- **Projects < 50,000 sf**
  - Tier 1 – percentages specified in mandatory regulations for larger buildings
  - Tear 2 – percentages specified in Tier 1 regulations for for larger buildings

2024 Triennial Code Adoption Cycle

- **Adopted new model codes**
  - ICC
  - NFPA
  - IAPMO
- **New California amendments**
- **CALGreen**
  - EV Charging
  - Carbon dioxide monitoring
  - Bicycle parking

2025 CALGreen Changes

- **Bicycle parking**
  - Based on occupants, not parking spaces
- **CO_2 monitoring in classrooms**
  - UC and CSU
  - Private schools
  - Lecture and post-secondary classrooms
- **Pre-rinse spray valves**
  - Refer to California Plumbing Code (Part 5, Title 24)

2025 EV Charging Updates

- Exception for parking lifts
- Split commercial/non-residential into two occupancies
  - Other Than Office and Retail
  - Office and Retail
- Increased number of required EVCS
- New sections for receptables, connectors and raceway capacity requirements

2025 EV Charging Option #1

EV capable spaces (Same as 2022)

- One DCFC equals five EV capable spaces or five EV Charging Stations (EVCS)
- Two Low Power Level 2 receptacles (20 amps each) = One Level 2 EV capable space (40 amps)

2025 EV Charging Option #1

(Other Than Office & Retail)

TABLE 5.106.5.3.1— EV CAPABLE SPACES AND EVCS

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIRED EV CAPABLE SPACES	Other than Office and Retail NUMBER OF REQUIRED EVCS[2, 3]	Office and Retail NUMBER OF REQUIRED EVCS[2, 3]
1–9	0	0	0
10–25	4	2	3
26–50	8	4	6
51–75	13	6	8
76–100	17	8	13
101–150	25	12	19
151–200	35	18	26
201 and over	20 percent of actual parking spaces[1]	50 percent of EV capable spaces[1]	75 percent of EV capable spaces[1]

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. Each EVCS shall reduce the number of required EV capable spaces by the same number.
3. At least one level 2 EVSE shall be provided.

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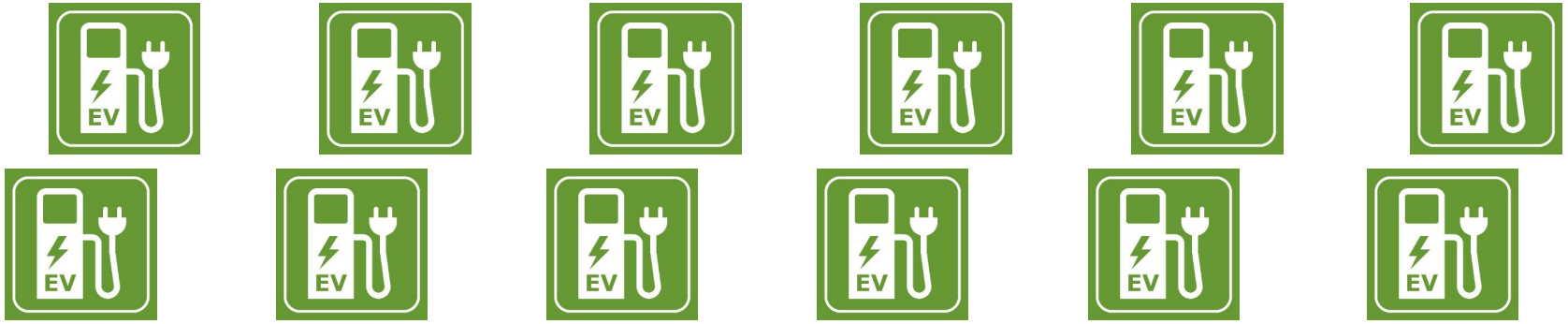
2025 EV Charging Code Minimum

(Other Than Office & Retail)

- Install 13 EV capable spaces and 12 EVCS
- This is the code minimum



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2025 EV Charging Option #1

(Office & Retail)

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101–150	25	12	19
151–200	35	18	26
201 and over	20 percent of actual parking spaces[1]	50 percent of EV capable spaces[1]	75 percent of EV capable spaces[1]

Note: Same table and footnotes as previous slide, but requires more chargers for the workplace

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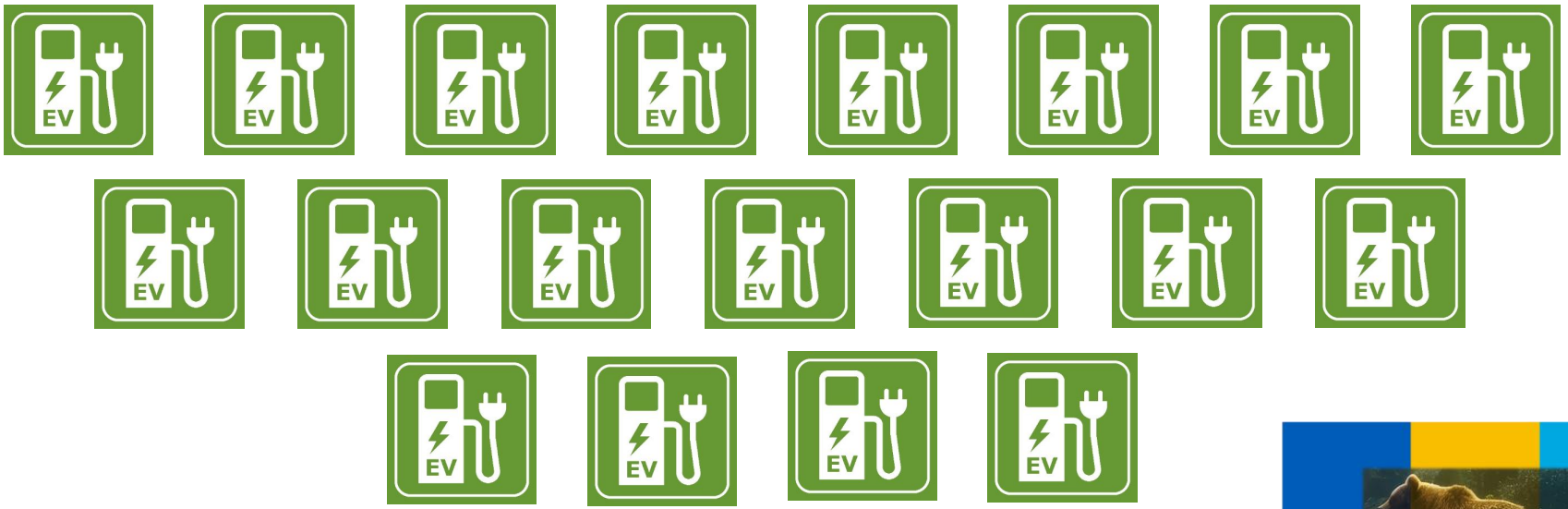
2025 EV Charging Code Minimum
(Office & Retail)

- Install 6 EV capable spaces and 19 EVCS
- This is the code minimum



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2025 EV Charging Substitute DCFC
(Office & Retail)

- Required: 6 EV capable spaces + 19 charging stations
- Substitute DCFC on 1 to 5 ratio for EV capable and, independently, EVCS
  - Install 4 DCFCs credit for 20 EV capable & 20 EVCS
  - Results: 6-20 credit = Zero EV capable &
    19-20 credit = Zero additional EVCS
  - Final: Install 4 DCFC, and 1 Level 2 EVSE

Using this scenario may be more suitable for retail/grocery stores with short dwell times.

2025 EV Charging Option #2

Power allocation method

- Tables provide total required kVA (electrical power) at the site needed to create EV charging stations
- 2025 increases for installed charging stations:
  - Other Than Office & Retail – from 25% to 50% of the EV capable kVA
  - Office & Retail – 75% of EV capable kVA

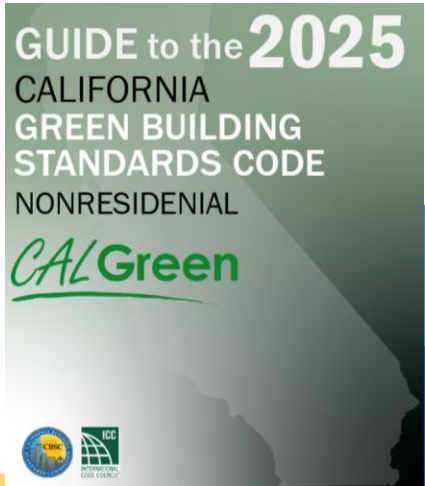
Other CALGreen Amendments

- **Department of Housing and Community Development**
  - Residential
- **Division of the State Architect**
  - Public Schools and Community Colleges
- **California Energy Commission**
  - Voluntary (appendix) regulations for both residential and non-residential occupancies

Resources: Videos & Guidebooks

- Summary of California Code Changes (7/1/25)
- 2025 CALGreen Guide
- Videos: About CALGreen, Title 24, Public Participation
- Guide to Title 24, Guide to Local Amendments, & MORE!

dgs.ca.gov/BSC/Resources



Contact Information

- Call CBSC at (916) 263-0916
- Email cbsc@dgs.ca.gov
- Website dgs.ca.gov/BSC

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