TABLE OF CONTENTS

INTRODUCTION

Organization and Content

The 2025 Multifamily Compliance Manual is designed to help building owners, architects, engineers, designers, energy consultants, builders, enforcement agencies, contractors and installers, and manufacturers comply with and enforce the California Building Energy Efficiency Standards (Energy Code) for multifamily buildings. The manual is a reference and instructional guide for anyone involved in the design and construction of energy-efficient multifamily buildings.

Nine chapters make up the manual:

- Chapter 1 Introduction, Scope, and General Information
- Chapter 2 Compliance and Enforcement
- Chapter 3 Building Envelope
- Chapter 4 HVAC
- Chapter 5 Water Heating
- Chapter 6 Electrical and Lighting Systems
- Chapter 7 Solar Photovoltaic, Battery Energy Storage Systems, and Solar Readiness
- Chapter 8 Pool and Spa
- Chapter 9 Covered Process and Enclosed Parking Garage

This chapter uses a "code and commentary" style, which shows adopted Title 24, Part 6 code language followed by commentary that provides guidance on the corresponding code section, but that is not adopted code requirements. Table 1-1: Formatting Used in This Chapter to Differentiate Adopted Title 24, Part 6 Code Language From Commentary Provided for Guidance illustrates the formatting that has been used to differentiate between the adopted Title 24, Part 6 code language and the commentary guidance.

Table 1-1: Formatting Used in This Chapter to Differentiate Adopted Title 24, Part 6 Code Language From Commentary Provided for Guidance

Identifier	Example
Part 6 Code Language	3. **New construction in existing buildings (additions, alterations and repairs).** C. **Multifamily buildings.** Section 180.0 applies to new construction in existing multifamily buildings. New construction in existing buildings includes additions, alterations and repairs. Section 180.0 specifies requirements that uniquely apply to additions, alterations or repairs to existing buildings, and specifies which requirements in other sections also apply. For alterations that change the occupancy classification of the building, the requirements specified in Section 180.0 apply to the occupancy after the alterations.
Commentary Guidance	**«» Commentary for Section 100.0(e)3C:** An addition is any change to a building that increases floor area and conditioned volume. Additions involve the: Construction of new conditioned space and conditioned volume. Installation of space conditioning in a previously unconditioned space. Addition of unconditioned space. «Section 100.1»

Source: California Energy Commission

Related Documents

This compliance manual supplements several other documents from the California Energy Commission:

- *2025 California Administrative Code,* Title 24, Part 1. This manual explains and supplements the administrative requirements in Title 1 of the California Administrative Code. This manual does not replace or supersede the California Administrative code.
- *2025 Building Energy Efficiency Standards,* Title 24, Part 6 (Energy Code). This manual explains and supplements the Energy Code, the legal requirements for all covered buildings. This manual explains those requirements in simpler terms but does not replace or supersede the Energy Code. Readers should have a copy of the Energy Code as reference.
- 2025 Reference Appendices. Joint Appendices (JA) contain information common to residential and nonresidential buildings. Residential Appendices (RA) contain

information for residential buildings only. Nonresidential (NA) Appendices contain information for nonresidential buildings only.

- 2025 Alternative Calculation Method (ACM) Reference Manuals. The 2025 Single-Family ACM Reference Manual provides rules and specifications for single-family compliance software. The 2025 Nonresidential and Multifamily ACM Reference Manual provides rules and specifications for nonresidential and multifamily compliance software.
- The *2025 Single-Family Residential Compliance Manual* and *2025 Nonresidential Compliance Manual.* The 2025 Compliance Manuals provide information for stakeholders that are complying with or enforcing the Energy Code. The *2025 Single-Family Residential Compliance Manual* provides information for single-family building requirements. The *2025 Nonresidential Compliance Manual* provides information for nonresidential building requirements.

Material from these documents is not always repeated in this manual.

Why California Needs the Energy Code

Electricity Reliability and Demand

Buildings are a major contributor to electricity demand. The 2000 to 2001 California energy crisis and the East Coast blackout in the summer of 2003 illustrated the fragility of the electric distribution network. System overloads caused by excessive demand from buildings create unstable conditions. Blackouts disrupt business and cost the economy billions of dollars.

Since the California electricity crisis, the CEC has placed more emphasis on demand reduction.

Comfort

Comfort is an important benefit of energy-efficient buildings. Energy-efficient buildings include high-performance windows to reduce solar gains and heat loss, and properly designed HVAC systems, which improve air circulation. Poorly designed building envelopes result in buildings that are less comfortable. Oversized heating and cooling systems do not ensure comfort in older, poorly insulated, or leaky buildings.

Economics

Energy efficiency helps create a more profitable operation for building owners. More broadly, the less that California depends on depletable resources such as natural gas, coal, and oil, the stronger and more stable the economy will remain as energy costs increase. Investing in energy efficiency benefits everyone. It is more cost-effective to invest in saving energy than build new power plants.

Environment

The use of depletable energy has led to oil spills, acid rain, smog, and other forms of environmental pollution that threaten the natural beauty of the planet. California is not

immune to these problems, but the Appliance Efficiency Regulations, the Energy Code, and utility programs that promote efficiency and conservation help maintain environmental quality. Other benefits include increased preservation of natural habitats, which protects animals, plants, and ecosystems.

Greenhouse Gas Emissions and Global Warming

Burning fossil fuel adds carbon dioxide (CO_2) to the atmosphere, a major contributor to global warming. Carbon dioxide and other greenhouse gases create an insulating layer that leads to global climate change. The CEC's research shows that most sectors of California economy face significant risk from climate change, including water resources (from reduced snowpack), agriculture, forests, and the natural habitats of indigenous plants and animals.

Energy efficiency is a far-reaching strategy to reducing greenhouse gases. The National Academy of Sciences has urged the United States to follow California's lead on such efforts, saying that conservation and efficiency should be the chief elements in energy and global warming policy. Its first efficiency recommendation was to adopt nationwide energy efficiency building codes.

The Energy Code is expected to significantly reduce greenhouse gas and other air emissions.

Building Decarbonization

California has nearly 14 million homes and 7.5 million square feet of commercial buildings. These buildings produce a quarter of the state’s greenhouse gas (GHG) emissions, making homes and businesses a major factor in climate change. Reducing these emissions, also referred to as building decarbonization, is a key part of California’s climate strategy. Of the many tools in the state’s building decarbonization toolbox, the decarbonizing co-benefits of the California Energy Code stand out as a proven solution of significance.

Chapter 1 Introduction

This chapter covers general requirements for dwelling units and common use areas in multifamily buildings. The requirements cover newly constructed buildings and additions or alterations to existing buildings. Multifamily buildings include:

- A building of Occupancy Group R-2, other than a hotel/motel building or timeshare property.
- A building of Occupancy Group R-3 that is a non-transient congregate residence, other than boarding houses of more than six guests and alcohol or drug abuse recovery homes of more than six guests.
- A building of Occupancy Group R-4.

Single-family homes, duplexes and all townhouses (regardless of number of habitable stories) are subject to the single-family requirements and covered in the 2025 Single-family Residential Compliance Manual.

Occupancy groups are defined in Chapter 3 of the California Building Code (Title 24, Part 2, Volume I). Any buildings of occupancy group R that are not identified under the single-family or multifamily definitions above are considered hotel/motel buildings, covered in the Nonresidential Compliance Manual.

Spaces in multifamily buildings include both dwelling units and common use areas. Dwelling unit requirements apply to living, sleeping, eating, cooking, and sanitation spaces within a single unit. A single dwelling unit may include shared living spaces with multiple sleeping rooms, such as in a dormitory. Common use area requirements apply to spaces outside the dwelling unit that are shared by building owners, residents, and their guests. Spaces used by building managers and maintenance staff qualify as common use areas.

Guidance on administrative requirements is included in the Multifamily Compliance Manual Chapter 2: Compliance and Enforcement. Guidance on building system requirements is included in Chapters 3 through 9.

Table 1-2: Excerpt from Table 100.0-A Application of Standards provides an overview of the location of the general requirements that apply to multifamily buildings in the Energy Code, as covered in this chapter.

Table 1-2: Excerpt From Table 100.0-A Application of Standards

Application	Mandatory	Prescriptive	Performance	Additions/ Alterations
All Buildings-General	100.0, 100.1, 100.2, 110.0	N/A	N/A	N/A
Multifamily Buildings-General	160.0	170.0, 170.2	170.0, 170.1	180.0

Source: California Energy Commission

SECTION 100.0 – SCOPE

(a) Buildings Covered. The provisions of Part 6 apply to all buildings:

1. That are of Occupancy Group A, B, E, F, H, I, L, M, R, S, or U; and
2. For which an application for a building permit or renewal of an existing permit is filed (or is required by law to be filed) on or after the effective date of the provisions, or which are constructed by a governmental agency; and
3. That are:
   A. Unconditioned; or
   B. Indirectly or directly conditioned, or process spaces.

«» Commentary for Section 100.0(a):

Multifamily buildings, as referenced above, include:

1. A building of Occupancy Group R-2, other than a hotel/motel building or timeshare property.
2. A building of Occupancy Group R-3 that is a non-transient congregate residence, other than boarding houses of more than six guests and alcohol or drug abuse recovery homes of more than six guests.
3. A building of Occupancy Group R-4.

The Energy Code applies to any construction that requires a building permit, whether for newly constructed buildings, related outdoor lighting systems and signs, or additions or alterations to them. The primary enforcement mechanism is the building permitting process. The enforcement agency will only approve the building permit or occupancy permit once is satisfied that the building, outdoor lighting, or sign lighting complies with all applicable code requirements, including the Energy Code.

The Energy Code applies only to the construction subject to the building permit application. An existing space that is "conditioned" for the first time is an addition, and all the existing components, whether altered or not, must comply with the Energy Code. (See Section 100.1 for the definition of addition or newly conditioned space.) **«»**

Exception 1 to Section 100.0(a): Qualified historic buildings, as regulated by the California Historic Building Code (Title 24, Part 8). Lighting in qualified historic buildings shall comply with the applicable requirements in Section 140.6(a)3Q.

«» Commentary for Exception 1 to Section 100.0(a):

Exception 1 to Section 100.0(a) states that qualified historical buildings, as regulated by the California Historical Building Code Title 24, Part 8, or California Building Code, Title 24, Part 2, Volume I, Chapter 34, Division II, are not covered by the Energy Code.

Section 140.6(a)3Q and Exception 13 to Section 140.7(a) clarify that indoor and outdoor lighting systems in qualified historical buildings are exempt from the lighting power allowances only if they consist solely of historical lighting components or replicas of historical lighting components. If lighting systems in qualified historical buildings contain some historical lighting components or replicas of historical components, combined with other lighting components, only those historical or historical replica components are exempt.

The California Historical Building Code (CHBC) specifies that all nonhistorical additions must comply with the California Building Code, including the Energy Code. CHBC also specifies that when new nonhistorical mechanical, plumbing, or electrical (including lighting) equipment or appliances or a combination is installed in historic buildings, they must comply with the Energy Code and Appliance Efficiency Regulations unless historical significance or characteristic features are threatened.

The California State Historical Building Safety Board has final authority for interpreting the requirements of the CHBC and determining to what extent the requirements of the Energy Code apply to new and replacement equipment and other alterations to qualified historic buildings. In enacting the CHBC legislation, the Legislature wants to encourage energy conservation in alterations to historic buildings (Health and Safety Code Section 18951).

Additional information about the CHBC can be found at https://www.dgs.ca.gov/DSA/Resources/Page-Content/Resources-List-Folder/CHBC.«»

Exception 2 to Section 100.0(a): Building departments, at their discretion, may not require compliance for temporary buildings, temporary outdoor lighting or temporary lighting in an unconditioned building, or structures erected in response to a natural disaster. Temporary buildings or structures shall be completely removed upon the expiration of the time limit stated in the permit.

Exception 3 to Section 100.0(a): Buildings in Occupancy Group I-3 and I-4.

(b) Parts of Buildings Regulated. The provisions of Part 6 apply to the building envelope, space-conditioning systems, water-heating systems, pool and spas, solar ready buildings, indoor lighting systems of buildings, outdoor lighting systems, electrical power distribution systems, and signs located either indoors or outdoors, in buildings that are:

1. Covered by Section 100.0(a); and
2. Set forth in TABLE 100.0-A.

(c) Habitable stories.

1. All conditioned space in a story shall comply with Part 6 whether or not the story is a habitable space.

2. All unconditioned space in a story shall comply with the lighting requirements of Part 6 whether or not the story is a habitable space.

(d) Outdoor lighting and indoor and outdoor signs. The provisions of Part 6 apply to outdoor lighting systems and to signs located either indoors or outdoors as set forth in TABLE 100.0-A.

(e) Sections applicable to particular buildings. TABLE 100.0-A and this subsection list the provisions of Part 6 that are applicable to different types of buildings covered by Section 100.0(a).

1. **All buildings.** Sections 100.0 through 110.12 apply to all buildings.

   Exception to Section 100.0(e)1: Spaces or requirements not listed in TABLE 100.0-A.

2. **Newly constructed buildings.**

   A. **All newly constructed buildings.** Sections 110.0 through 110.12 apply to all newly constructed buildings within the scope of Section 100.0(a). In addition, newly constructed buildings shall meet the requirements of Subsections B, C, D or E, as applicable.

   E. **Multifamily Buildings**.

      i. Sections applicable. Sections 160.0 through 170.2 apply to newly constructed multifamily buildings.

      ii. Compliance approaches. In order to comply with Part 6 newly constructed multifamily buildings must meet the requirements of:

         a. Mandatory measures: The applicable provisions of Sections 110.0 through 110.10, and 160.0; and

         b. Either:

            (i) Performance approach: Section 170.1; or

            (ii) Prescriptive approach: Section 170.2(a) through (f).

3. **New construction in existing buildings (additions, alterations and repairs).**

   C. **Multifamily buildings.** Section 180.0 applies to new construction in existing multifamily buildings. New construction in existing buildings includes additions, alterations and repairs. Section 180.0 specifies requirements that uniquely apply to additions, alterations or repairs to existing buildings, and specifies which requirements in other sections also apply. For alterations that change the occupancy classification of the building, the requirements specified in Section 180.0 apply to the occupancy after the alterations.

«» Commentary for Section 100.0(e)3C:

Additions

An addition is any change to a building that increases floor area or conditioned volume. Additions involve the:

1. Construction of new conditioned space and conditioned volume.
2. Installation of space conditioning in a previously unconditioned space.
3. Addition of unconditioned space.

Mandatory requirements and either prescriptive or performance requirements apply. For conditioned space, the heating, lighting, envelope, and water-heating systems of additions are treated the same as those for new buildings.

Alterations to Existing Conditioned Spaces

An alteration is any change to the water heating system of a building, space-conditioning system, indoor lighting system, outdoor lighting system, sign lighting, or envelope that is not an addition. Alterations or renovations to existing conditioned spaces have separate rules for energy compliance.

In summary, the alteration rules are the following:

1. The Energy Code applies only to those portions or components of the systems being altered (altered component). Untouched portions or components need not comply with the standards.
2. Alterations must comply with the mandatory requirements for the altered components.
3. New systems in the alteration must comply with the current standards.
4. An existing unconditioned building, where evaporative cooling is added to the existing unaltered envelope and lighting, does not need to comply with current standards.
5. Mechanical system alterations are governed primarily by the mandatory requirements.

Beyond meeting all applicable mandatory requirements, alterations must also comply with applicable prescriptive requirements covered in Chapters 3 – 9 for each system type or use the performance approach.

Repairs

A repair is reconstructing or renewing any part of an existing building for maintaining it. Repairs shall not increase the preexisting energy consumption of the required component, system, or equipment. The Energy Code does not apply to repairs.

Change of Occupancy

A change of occupancy alone without any tenant improvements or other changes does not require any action under the Energy Code. If alterations are made to the building, then the rules for alterations or additions for the new occupancy apply.

If no changes are proposed for the building, consider the ventilation requirements of the new occupancy. For example, if a multifamily dwelling unit is converted to a hair salon, with new sources of indoor pollution, existing residential ventilation rates would likely be inadequate. The Energy Code does not require changes in this scenario, but if changes are made, then those alterations are required to comply with the Energy Code. «»

(f) Mixed occupancy. When a building is designed and constructed for more than one type of occupancy (residential and nonresidential), the space for each occupancy shall meet the provisions of Part 6 applicable to that occupancy.

«» Commentary for Section 100.0(f):

When a building includes both residential and nonresidential occupancies, the requirements may depend on the percentages of conditioned floor area for each occupancy type.

Mixed Occupancy

In a building with both residential and nonresidential occupancy, where neither occupancy is greater than 80 percent of the total conditioned floor area, the multifamily requirements apply to the dwelling units and common use areas while the nonresidential requirements apply to the nonresidential occupancy. Separate compliance for each occupancy is an option when one of the occupancies is a minor occupancy. «»

Exception 1 to Section 100.0(f): If one occupancy constitutes at least 80 percent of the conditioned floor area of the building, the entire building envelope, HVAC, and water heating may be designed to comply with the provisions of Part 6 applicable to that occupancy, provided that the applicable lighting requirements in Sections 140.6 through 140.8, 150.0(k), or 160.5 and 170.2(e) are met for each occupancy and space, and mandatory measures in Sections 110.0 through 130.5, 150.0, and 160.0 through 160.9 are met for each occupancy and space.

«» Commentary for Exception 1 to Section 100.0(f):

For a mixed occupancy where one of the occupancies is less than 20 percent of the total conditioned floor area, the smaller occupancy is considered a "minor" occupancy. In mixed use multifamily buildings, the nonresidential occupancy is typically a minor occupancy. Under this scenario, the applicant may choose to treat the entire building as if it is the major occupancy for envelope, HVAC, and water-heating compliance. Lighting requirements in Sections 140.6 through 140.8 or Section 160.5 must be met for each occupancy separately. Any mandatory requirements for the minor occupancy would still apply, if different from the mandatory requirements for the major occupancy. «»

Exception 2 to Section 100.0(f): If one occupancy constitutes at least 90 percent of the combined conditioned plus unconditioned floor area of the building, the entire building indoor lighting may be designed to comply with only the lighting provisions of Part 6 applicable to that occupancy.

(g) Administrative requirements. Administrative requirements relating to permit requirements, enforcement by the Commission, locally adopted energy standards, interpretations, claims of exemption, approved calculation methods, rights of appeal, and certification and labeling requirements of fenestration products and roofing products are specified in California Code of Regulations, Title 24, Part 1, Sections 10-101 to 10-114.

«» Commentary for Section 100.0(g):

See Multifamily Compliance Manual Chapter 2: Compliance and Enforcement for guidance on administrative requirements. **«»**

(h) Certification Requirements for Manufactured Equipment, Products, and Devices. Part 6 limits the installation of manufactured equipment, products, and devices to those that have been certified as specified by sections 110.0 and 110.1. Requirements for manufactured equipment, products, and devices, when not specified in Title 24 Part 6, are specified in California Code of Regulations, Title 20, Sections 1601-1609.

SECTION 100.1 – DEFINITIONS AND RULES OF CONSTRUCTION

(a) Rules of Construction.

1. Where the context requires, the singular includes the plural and the plural includes the singular.
2. The use of "and" in a conjunctive provision means that all elements in the provision must be complied with, or must exist to make the provision applicable. Where compliance with one or more elements suffices, or where existence of one or more elements makes the provision applicable, "or" (rather than "and/or") is used.
3. "Shall" is mandatory and "may" is permissive.

(b) Definitions. Terms, phrases, words and their derivatives in Part 6 shall be defined as specified in Section 100.1. Terms, phrases, words and their derivatives not found in Section 100.1 shall be defined as specified in the "Definitions" chapters of Title 24, Parts 1 through 5 of the California Code of Regulations. Where terms, phrases, words and their derivatives are not defined in any of the references above, they shall be defined as specified in *Webster's Third New International Dictionary of the English Language, Unabridged* (1961 edition, through the 2002 addenda), unless the context requires otherwise.

«» Commentary for Section 100.1(b):

Refer to Section 100.1(b) for definitions that are specific to Title 24, Part 6. Definitions included in Title 24, Parts 1 through 5, also apply to Part 6 but are not repeated in Section 100.1(b). **«»**

SECTION 100.2 – CALCULATION OF ENERGY BUDGETS

Energy budgets are adopted by the Commission to establish the maximum energy consumption that a proposed building, or portion of a building, can be designed to consume. A building complies with the performance standards compliance approach if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software as specified by the Alternative Calculation Methods Reference Manual. The energy budget for newly constructed single-family, multifamily, and nonresidential buildings are expressed in terms of Long-Term System Cost (LSC) and Source Energy. The energy budget for additions and alterations for all building types are expressed in terms of LSC.

Long-term System Cost (LSC) is calculated by multiplying for each hour of the year, the site energy use (electricity kWh, natural gas therms, or fuel oil or LPG gallons) for each energy type by the applicable CEC-published LSC hourly factors. LSC hourly factors vary for each hour of the year and by energy type (electricity, natural gas, or propane), by Climate Zone and by building type (residential, nonresidential). LSC hourly factors are summarized in Reference Joint Appendix JA3. LSC hourly factors for propane are used for all energy obtained from depletable sources other than electricity and natural gas.

Source Energy is calculated by multiplying for each hour of the year, the site energy use (electricity kWh, natural gas therms, or fuel oil or LPG gallons) by Btu factors for fossil fuel consumed either directly at the building site or caused to be consumed to meet the electrical demand of the building considering the long-term marginal hourly resources of Commission-projected electric system resource procurement.

NOTE: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, *Public Resources Code*. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25943, *Public Resources Code*.

«» Commentary for Section 100.2:

Performance Concepts

The Warren-Alquist Act requires "performance standards" that establish an energy budget for the building in terms of energy consumption per square foot of floor space. This requires a complex calculation of the estimated energy consumption of the building. The Energy Commission has developed a compliance manager, public domain computer program for these calculations known as California Building Energy Code Compliance (CBECC). For compliance purposes, the Warren-Alquist Act also authorizes the use of privately developed computer programs that have been approved by the Energy Commission as alternatives to the public domain computer program. The term "compliance software" is used throughout this manual to refer to these programs.

Long-Term System Cost (LSC)

LSC is the CEC-projected present value of costs to California's energy system over a period of 30 years. LSC does not represent a prediction of individual utility bills.

LSC hourly factors are used to convert predicted site energy use to long-term dollar costs to California's energy system. Since the time that energy is used is as important as the amount of energy used, these factors are generated on an hourly basis for a representative year and created for each of the state's sixteen climate zones.

LSC consists of large data sets that convert electricity, gas and propane to LSC energy. The rate of conversion varies for each hour of the year, for each climate zone and for each energy type (electricity, natural gas and propane). The conversion factors also vary by building type. The complete LSC data can be downloaded from the Energy Commission's website at https://www.energy.ca.gov/files/2025-energy-code-hourly-factors.

Source Energy Metric

Source Energy is defined as the long run hourly marginal source energy of fossil fuels that are combusted as a result of building energy consumption either directly at the building site or caused to be consumed to meet the electrical demand of the building considering the long-term effects of Commission-projected energy resource procurement. For a given hour, the value in that hour for each forecasted year is averaged to establish a lifetime average source energy. **«»**

SECTION 110.0 – SYSTEMS AND EQUIPMENT—GENERAL

Sections 110.1 through 110.12 specify requirements for manufacturing, construction and installation of certain systems, equipment, appliances and building components that are installed in buildings within the scope of Section 100.0(a).

NOTE: The requirements of Sections 110.0 through 110.12 apply to newly constructed buildings. Sections 141.0 and 150.2 specify which requirements of Sections 110.1 through 110.12 also apply to additions and alterations to existing buildings.

(a) General Requirements. Systems, equipment, appliances and building components shall only be installed in a building within the scope of Section 100.0(a) regulated by Part 6 only if:

1. The manufacturer has certified that the system, equipment, appliances or building component complies with the applicable manufacturing provisions of Sections 110.1 through 110.12; and
2. The system, equipment, appliance or building component complies with all applicable installation provisions of Sections 110.1 through 110.12.

(b) Certification Requirements for Manufactured Systems, Equipment, Appliances and Building Components.

1. Appliances that are within the scope of Section 1601 of the Appliance Efficiency Regulations shall only be installed if they have been certified to the Energy Commission by the manufacturer, pursuant to the provisions of Title 20 California Code of Regulations, Section 1606; or
2. Systems, equipment, appliances and building components that are required by Part 6 or the Reference Appendices to be certified to the Energy Commission, which are not appliances that are within the scope of Section 1601 of the Appliance Efficiency Regulations, shall only be installed if they are certified by the manufacturer in a declaration, executed under penalty of perjury under the laws of the State of California, that:
   A. All the information provided pursuant to the certification is true, complete, accurate and in compliance with all applicable requirements of Part 6; and
   B. The equipment, product, or device was tested using the test procedure specified in Part 6 if applicable
3. The certification status of any system, equipment, appliance or building component shall be confirmed only by reference to:
   A. A directory published or approved by the Commission; or

B. A copy of the application for certification from the manufacturer and the letter of acceptance from the Commission staff; or

C. Written confirmation from the publisher of a Commission-approved directory that a device has been certified; or

D. A Commission-approved label on the device.

Note: Part 6 does not require a builder, designer, owner, operator, or enforcing agency to test any certified device to determine its compliance with minimum specifications or efficiencies adopted by the Commission.

Note**:** Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25943, Public Resources Code.

«» Commentary for Section 110.0(b):

Manufacturer Certification for Equipment, Products, and Devices

During the permit application development phase, certain equipment, products, and devices must be selected for installation or use that are certified to be compliant with the Energy Code. These items are identified on the Certificates of Compliance (Nonresidential Certificates of Compliance [NRCC] or Low-rise Multifamily Certificate of Compliance [LMCC]) and are verified during inspection by the enforcement agency.

The equipment, products, and devices must be certified to the CEC by the manufacturer that it meets requirements under the Energy Code. The CEC makes no claim that the listed equipment, products, or devices meet the indicated requirements or, if tested, will confirm the indicated results. Inclusion on these lists confirms only that a manufacturer certification has been submitted to and accepted by the CEC. See the CEC's website for additional information about the required information for manufacturers to certify products and for lists of certified products, http://www.energy.ca.gov/title24/equipment_cert/. «»

SECTION 160.0 – GENERAL

Multifamily buildings shall comply with the applicable requirements of Sections 160.1 through 160.9. Sections 160.1 through 160.9 apply to dwelling units and common use areas in multifamily buildings. Nonresidential occupancies in a mixed occupancy building shall comply with nonresidential requirements in Sections 120.0 through 141.1.

Note: The requirements of Sections 160.1 through 160.9 apply to newly constructed buildings. Sections 180.1 through 180.4 specify which requirements of Sections 160.1 through 160.9 apply to additions or alterations.

Note: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25943, Public Resources Code.

«» Commentary for Section 160.0:

For information on scope, see Commentary for Section 100.0(a), above. For information on and definitions of mixed occupancy buildings, see Commentary for Section 100.0(f), above. **«»**

SECTION 170.0 – GENERAL

Multifamily buildings shall comply with the applicable requirements of Sections 170.0 through 170.2. Sections 170.0 through 170.2 apply to dwelling units and common use areas in multifamily buildings. Nonresidential occupancies in mixed occupancy buildings shall comply with nonresidential requirements in Sections 120, 130, 140 and 141.

(a) Multifamily buildings shall meet all of the following:

1. The applicable requirements of Sections 110.0 through 110.10.
2. The applicable requirements of Section 160.0 (mandatory features).
3. Either the performance standards Section 170.1 or the prescriptive standards Section 170.2 set forth in this subchapter for the climate zone in which the building is located. Climate zones are shown in Reference Joint Appendix JA2—Weather/Climate Data.

   Exception to Section 170.0(a)3: If a single development falls in more than one climate zone, all buildings in the subdivision or tract may be designed to meet the performance or prescriptive standards for the climate zone that contains 50 percent or more of the dwelling units.

   NOTE: The Commission periodically updates, publishes and makes available to interested persons and local enforcement agencies precise descriptions of the climate zones, as specified in Reference Joint Appendix JA2—Weather/Climate Data.

NOTE: The requirements of Sections 170.1(a) through 170.2(e) apply to newly constructed buildings and Sections 180.1 and 180.2 specify changes to the requirements of Sections 170.1(a) through 170.2(e) that apply to additions or alterations.

NOTE: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8 and 25943, Public Resources Code.

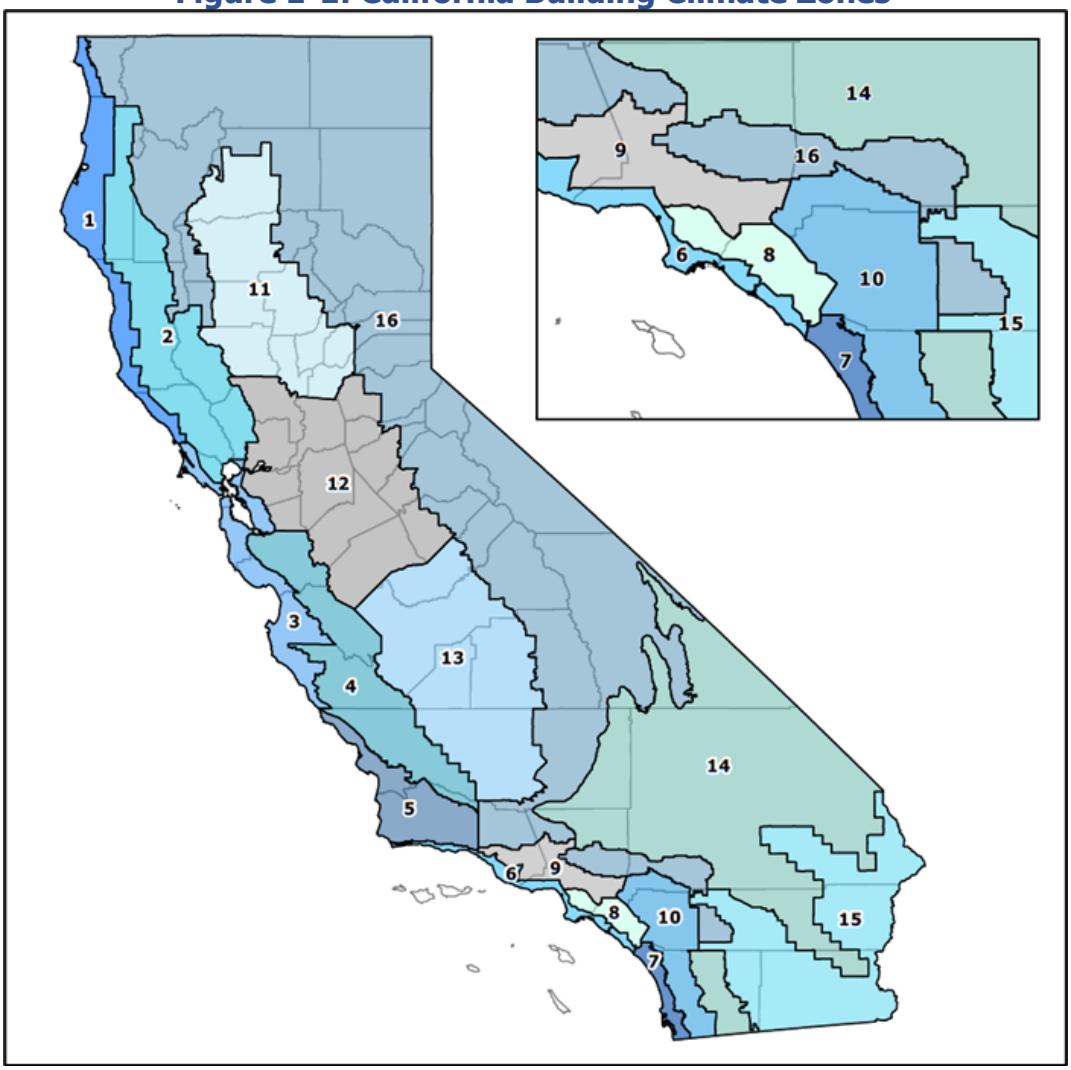
«» Commentary for Section 170.0:

Since energy use depends partly upon weather conditions, the CEC established 16 climate zones representing distinct climates within California. Information is available by zip code and in several formats (https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/climate-zone-tool-maps-and).

Cities may occasionally straddle two climate zones. In these instances, the exact building location and correct climate zone should be verified before any calculations are performed. In cases where a multibuilding development or subdivision crosses a climate zone boundary, the developer and designer may choose to design all of the buildings in the development to the requirements of the climate zone with 50 percent or more of the

dwelling units, rather than designing individual buildings to the distinct prescriptive or performance requirements of each climate zone.

Figure 1-1: California Building Climate Zones



Source: California Energy Commission

«»

SECTION 170.1 – PERFORMANCE APPROACH

A building complies with the performance approach if the energy consumption calculated for the proposed design building is no greater than the energy budget calculated for the standard design building using Commission-certified compliance software as specified by Sections 10-109, 10-116 and the Alternative Calculation Method Reference Manual.

(a) Energy budget. The Energy budget is expressed in terms of long-term system cost (LSC) and source energy:

1. **Long-term system cost (LSC).** The LSC energy budget is determined by applying the mandatory and prescriptive requirements of the standard design to the proposed design building and has two components, the Efficiency LSC and the Total LSC.
    A. The Efficiency LSC energy is the sum of the LSC energy for space-conditioning, water heating, mechanical ventilation, lighting and the self-utilization credit.
    B. The Total LSC energy is the sum of the Efficiency LSC energy and LSC energy from the photovoltaic system, battery energy storage systems (BESS), and demand flexibility.
2. **Source energy.** The source energy budget is determined by applying the mandatory and prescriptive requirements of the standard design, except with a consumer gas or propane water heater, to the proposed design building.

Exception to Section 170.1(a): A community shared solar electric generation system, or other renewable electric generation system, and/or community shared BESS, that provides dedicated power, utility energy reduction credits or payments for energy bill reductions to the permitted building and is approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115, may offset part or all of the solar electric generation system or BESS LSC energy required to comply with the standards, as calculated according to methods established by the Commission in the Nonresidential ACM Reference Manual.

«» Commentary for Section 170.1(a)1:

Under the performance approach, energy use of the building is modeled by compliance software approved by the Energy Commission. The compliance software simulates the LSC energy budget of the proposed building, including a detailed accounting of envelope heat transfers using the assemblies and fenestration input, and the precise geometry of any exterior overhangs or side fins. The most accurate tradeoffs between different envelope components — and among the envelope, the space-conditioning system, and the installed common area lighting — are accounted for and compared with the standard design version of the building. The proposed design must have LSC energy

less than or equal to the standard design. As noted above, the LSC is the present value of costs over a 30-year period related to California's energy system. The LSC does not represent a prediction of individual utility bills. **«»**

(b) Compliance demonstration requirements for performance standards.

1. Certificate of Compliance and Application for a Building Permit. The application for a building permit shall include documentation pursuant to Sections 10-103(a)1 and 10-103(a)2 that demonstrates, using an approved calculation method, that the building has been designed so that its source energy and LSC energy consumption do not exceed the standard design energy budgets for the applicable climate zone.

«» Commentary for Section 170.1(b)1:

Some residential projects may not wish to use or do not meet the requirements for prescriptive compliance. The performance approach offers increased flexibility as well as compliance credits for certain assemblies, usually those requiring verification. The proposed design used under the performance approach is compared to the standard design, which is determined by the prescriptive requirements. When using the performance approach, all applicable mandatory requirements must still be met.

When applying for the building permit, certificate of compliance forms are required to be integrated into the drawing set per Title 24 Part 1, the Administrative Code and signed by the person who is eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design (responsible person). If more than one person has responsibility for the building design, each person shall sign the Certificate of Compliance document(s) applicable to that portion of the design for which the person is responsible. Alternatively, the person with chief responsibility for the building design may sign the certificate of compliance for the entire building design.

The certificate of compliance shall contain compliance documentation for features consistent with the building design features identified on the other applicable compliance documents, worksheets, calculations, plans, and specifications submitted to the enforcement agency for approval with the building permit application. The performance approach certificate of compliance must support that the proposed design features included within the certificate of compliance is equal or better than those included within the design documents.

Multifamily buildings, including mixed use, with three or fewer habitable stories, use the LMCC-PRF-01-E Certificate of Compliance, to be registered with an Energy Code Compliance (ECC) Provider when there are field verification and diagnostic testing-supported measures associated with the project scope.

Multifamily buildings, including mixed use, with four or more habitable stories use the NRCC-PRF-01-E Certificate of Compliance and are not registered via an ECC provider even if there are ECC measures associated with the project scope.

When using the performance approach, the certificate of compliance can include all, or only some, of the building features supporting the conditioned areas of the building. Any features applicable to the scope of the project not included in the performance approach must show compliance via the prescriptive pathway and be documented with separate certificate of compliance forms. «»

2. Field verification of individual dwelling unit systems. When performance of installed features, materials, components, manufactured devices or systems above the minimum specified in Section 170.2 is necessary for the building to comply with Section 170.1, or is necessary to achieve a more stringent local ordinance, field verification shall be performed in accordance with the applicable requirements in the following subsections, and the results of the verification(s) shall be documented on applicable Certificates of Installation pursuant to Section 10-103(a)3 and applicable Certificates of Verification pursuant to Section 10-103(a)5.

«» Commentary for Section 170.1(b)2:

When using the performance approach, there are nonmandatory verification measures that can be used for compliance flexibility. If these verification measures are reported within the certificate of compliance, they will be required to be installed and tested by the contractor (documented with the certificate of installation) then verified by the ECC-Rater (documented with the certificate of verification), with the exception of thermal balancing valves, which is verified by the installing contractor. If the installed equipment or building feature is unable to meet the requirements supported in the certificate of compliance, the certificate of compliance must be revised, which may bring the project out of compliance. «»

A. EER2/SEER2/CEER/HSPF2 Rating. When performance compliance requires installation of a space-conditioning system with a rating that is greater than the minimum rating required by Table 170.2-K or specified for the standard design, the installed system shall be field verified in accordance with the procedures specified in the applicable sections of Reference Residential Appendix RA3.

«» Commentary for Section 170.1(b)2A:

Mechanical equipment efficiency greater than federal minimums, as is supported with the certified rating data from the AHRI Directory of Certified Product Performance (http://www.ahridirectory.org) or another directory of certified product performance ratings approved by the Energy Commission for determining compliance, can be used in the performance approach.

1. Heat pumps cooling efficiency (SEER2) and heating efficiency (HSPF2).
2. Central air conditioners cooling efficiency (SEER2 and EER2).
3. Window air conditioners cooling efficiency (CEER). «»

B. Variable capacity heat pump (VCHP) compliance option. When performance compliance requires installation of a heat pump system that meets all the requirements of the VCHP compliance option specified in the ACM Reference Manual, the system shall be field verified in accordance with the procedures in Reference Residential Appendix RA3.4.4.3.

«» Commentary for Section 170.1(b)2B:

Variable-capacity heat pump (VCHP) can be used for dwelling unit mechanical equipment when the equipment and design meets the requirements of RA3.4.4.3 "Variable Capacity Heat Pump Performance Compliance Option Eligibility Verification," which includes ducted and ductless system component and wall-mounted thermostat zoning requirements. **«»**

C. Low leakage air handler. When performance compliance requires installation of a low leakage air-handling unit, the installed air handling unit shall be field verified in accordance with the procedures specified in Reference Residential Appendix RA3.1.4.3.9.

«» Commentary for Section 170.1(b)2C:

When low leakage air handlers are used, those systems must meet the qualification requirements of JA9. This includes being included in the CEC list of Low Leakage Air Handling Units https://www.energy.ca.gov/rules-and-regulations/building-energy-efficiency/manufacturer-certification-building-equipment/low.

Additionally, the qualified air handler must be verified to leak less than or equal to the leakage rates specified on the Certificate of Compliance per RA3.1.4.3.1 to receive the credit. **«»**

D. Thermal Balancing Valve. When performance compliance requires installation of thermal balancing valves with variable speed circulation pump(s), the installation shall meet the procedures specified in Reference Residential Appendix RA4.4.3.

«» Commentary for Section 170.1(b)2D:

When a thermal balancing valve is incorporated into the water-heating distribution design and supported in the performance approach, then the design criteria of RA4.4.3 "Thermostatic Balancing Valve" will apply and must be verified by the installing contractor. This is not an ECC-verified measure. **«»**

E. Heat pump—rated heating capacity. When performance compliance requires installation of a heat pump system, the heating capacity values at 47°F and 17°F shall be field verified in accordance with the procedures specified in Reference Residential Appendix RA3.4.4.2.

«» Commentary for Section 170.1(b)2E:

When the performance approach includes heat pumps, those heat pumps must be verified by an ECC-Rater, confirming that the heating capacities at 47°F and at 17°F

used in the certificate of compliance match the equipment installed in the field via the certified rating data referenced from the AHRI Directory of Certified Product Performance (http://www.ahridirectory.org) or another directory of certified product performance ratings approved by the Energy Commission for determining compliance.

The heating capacity at 17°F reflects how much of the heating load is supported by the heat pump equipment versus the supplemental heating source (which is typically electric resistance) on a cold day. «»

F. Dwelling unit enclosure air leakage. When performance compliance requires a building enclosure leakage rate that is lower than the standard design, the building enclosure shall be field verified in accordance with the procedures specified in Reference Residential Appendix RA3.8.

«» Commentary for Section 170.1(b)2F:

Dwelling unit enclosure air leakage testing is also referred to as compartment leakage or "blower door" testing. «»

G. Quality insulation installation (QII). When performance compliance requires field verification of QII, the building insulation system shall be field verified in accordance with the procedures in Reference Residential Appendix RA3.5.

«» Commentary for Section 170.1(b)2G:

For multifamily buildings with three or fewer habitable stories, when the performance approach includes prescriptive Quality Insulation Installation (QII) verification, an ECC-Rater will be required to confirm the installed air barrier and insulation meets the requirements of RA3.5. See 2025 Multifamily Compliance Manual, Chapter 3 for more information. «»

NOTE: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25943, Public Resources Code.

SECTION 170.2 – PRESCRIPTIVE APPROACH

Multifamily buildings, including both dwelling units and common use areas, that comply with the prescriptive standards shall be designed, constructed and equipped to meet all of the requirements for the appropriate climate zone shown in Table 170.2-A. In Table 170.2-A, NA (not allowed) means that feature is not permitted in a particular climate zone and NR (no requirement) means that there is no prescriptive requirement for that feature in a particular climate zone.

«» Commentary for Section 170.2:

Guidance on prescriptive requirements for building systems are included in Chapters 3–9 of this Compliance Manual. **«»**

SECTION 180.0 – GENERAL

Additions, alterations and repairs to existing attached dwelling units and common use areas in multifamily buildings, existing outdoor lighting for these occupancies, and internally and externally illuminated signs shall meet the requirements specified in Sections 100.0 through 110.10, 160.1, and 160.3 through 170.2 that are applicable to the building project, and either the performance compliance approach (energy budgets) in Section 180.1(b) (for additions) or 180.2(c) (for alterations), or the prescriptive compliance approach in Section 180.1(a) (for additions) or 180.2(b) (for alterations), for the climate zone in which the building is located. Climate zones are shown in Figure 100.1-A. Covered process requirements for additions, alterations and repairs to existing multifamily buildings are specified in Section 141.1. Nonresidential occupancies in mixed occupancy buildings shall comply with nonresidential requirements in Sections 120.0 through 141.1.

NOTE: For alterations that change the occupancy classification of the building, the requirements specified in Section 180.2 apply to the occupancy after the alterations.

NOTE: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8 and 25943, Public Resources Code.

«» Commentary for Section 180.0:

For information on definitions of Additions, Alterations, and Repairs, see the Commentary for Section 100.0(e)3C, above. **«»**