



## California Energy Commission September 11, 2024 Business Meeting Backup Materials for Item 08: Adoption of Voluntary Standards in the 2025 California Green Building Standards Code

The following backup materials for the above-referenced agenda item are available as described below:

- 1. Proposed Resolution, attached below.
- Proposed Express Terms, attached below and available at <u>https://efiling.energy.ca.gov/GetDocument.aspx?tn=258550&DocumentContentId</u> <u>=94580</u>.
- Notice of Proposed Action, available at <u>https://efiling.energy.ca.gov/GetDocument.aspx?tn=256431-</u> <u>1&DocumentContentId=92247</u>.
- Initial Statement of Reasons, available at <u>https://efiling.energy.ca.gov/GetDocument.aspx?tn=256431-</u> <u>2&DocumentContentId=92246</u>.
- 5. CEQA Exemption Memo, attached below and available at <a href="https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId">https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId</a> <a href="https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId">https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId</a> <a href="https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId">https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId</a> <a href="https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId">https://efiling.energy.ca.gov/GetDocument.aspx?tn=258712&DocumentContentId</a>

All other supporting documentation, including notices, staff analyses, public comments, and other documents can be found in the complete rulemaking record in <u>24-BSTD-02</u>. The Express Terms published on August 16, 2024 ("15-Day Express Terms") are currently subject to a 15-day public review and comment period, which began on August 16, 2024, and concludes on September 3, 2024. Therefore, the 15-Day Express Terms included as backup materials are subject to revisions resulting from consideration of public comment received up until September 3, 2024, and at the September 11, 2024, business meeting. If revisions are made to the 15-Day Express Terms, the backup materials will be updated as soon as possible, or the item will be removed from the agenda and considered at a future business meeting.

To stay informed about this rulemaking and receive documents as they are filed, please subscribe to the Building Energy Efficiency Standards Topic, which can be accessed here: <u>https://public.govdelivery.com/accounts/CNRA/signup/31895</u>. The Topic sends out email notifications and direct links when documents are filed in the proceeding docket.

## STATE OF CALIFORNIA

### STATE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

## **RESOLUTION ADOPTING PROPOSED REGULATIONS**

IN THE MATTER OF:

Docket No. 24-BSTD-02

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE RULEMAKING PROCEEDING CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 11

## I. INTRODUCTION

The State Energy Resources Conservation and Development Commission ("California Energy Commission" or "CEC") has, as directed by Section 25402 of the Public Resources Code, developed and undertaken a proceeding to adopt triennial revisions to voluntary standards, which are more stringent than the Building Energy Efficiency Standards ("California Energy Code" or "Energy Code") in Part 6 of Title 24 of the California Code of Regulations. These voluntary standards are known as the California Green Building Standards Code ("2025 CALGreen") and found in Appendices A4 and A5 to Part 11 of Title 24 of the California Code of Regulations.

The voluntary standards contained in the 2025 CALGreen proposal are changes to model code language that serve as recommendations, examples, and templates for local jurisdictions to use in considering above-code ordinances (also known as "reach codes") and apply to newly constructed buildings and additions or alterations to existing buildings. Additionally, they provide above-code measures a builder could choose to utilize to comply with the Energy Code via performance standards if preferred. The 2025 CALGreen amendments increase the number of available voluntary options that residential buildings may utilize to gain compliance credits and provide recommended Long-term System Cost targets for California Climate Zones 1 through 16. Neither the public nor local jurisdictions are compelled to require or follow these voluntary standards.

Because the 2025 CALGreen proposal is entirely comprised of voluntary energy-saving provisions with no identifiable significant effects on the environment, the CEC staff have determined that the action is exempt from CEQA under the common-sense exemption because it can be seen with certainty that there is no possibility that the proposed amendments will have a significant effect on the environment.

Therefore, the CEC hereby adopts the 2025 CALGreen proposal as posted on August

16, 2024, for 15-day review effective January 1, 2026, following approval by the California Building Standards Commission.

The CEC takes this action under the authority granted by Public Resources Code Sections 25213, 25218, 25218.5, 25402, 25402.1, 25402.4, 25402.5, 25402.8, 25910, 25942, and 25943.

The CEC does so to implement, interpret, or make specific Public Resources Code Sections 25007, 25008, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, 25910, 25942, and 25943, and Health and Safety Code Sections 18390, 18934, and 18935.

## **II. HISTORY OF THE PROCEEDING**

## A. Rulemaking

The CEC developed the 2025 CALGreen amendments concurrently with the amendments to the mandatory 2025 Energy Code, which the CEC adopted at a public hearing on September 11, 2024.

To develop the 2025 CALGreen proposal, the CEC conducted an open, transparent, and extensive public process. Between March 2022 and today, the CEC held and participated in numerous stakeholder meetings and public workshops on the broader topic of the 2025 Energy Code and CALGreen. Nine staff-led, pre-rulemaking workshops were held addressing various aspects of the 2025 Energy Code and CALGreen in detail. Additionally, a Lead Commissioner Hearing for CALGreen was held on June 5, 2024, where staff presented all of the proposed measures to the public. During this process, stakeholder groups submitted comments to help improve versions of the proposed standards, and the CEC staff considered all public comments.

The CEC initiated the formal rulemaking proceeding on May 17, 2024, by posting the following rulemaking documents on its website to formally notify the public of the CEC's proposal to adopt the 2025 CALGreen amendments: a Notice of Proposed Action ("NOPA"), which described the proceeding, summarized the proposed voluntary standards, and explained how interested persons could participate; proposed Express Terms ("45-day language"); an Initial Statement of Reasons ("ISOR"), describing the rationale for the proposal; and the estimated fiscal and economic impact analysis. On May 17, 2024, the NOPA was published in the California Regulatory Notice Register, delivered to the Secretary of the California Natural Resources Agency, and mailed to a representative number of small business enterprises or their representatives that are likely to be affected by the proposed action. The CEC provided each of these documents and notices to every person on the CEC's Building Energy Efficiency Standards list server, the CEC's Efficiency list server, and to every person who had requested notice of such matters. The CEC also posted each of these documents, as well as the 15-day language (discussed below), to its website.

On June 5, 2024, the CEC held a Lead Commissioner Hearing on the 2025 CALGreen proposal. On July 1, 2024, the 45-day comment period established by the NOPA closed. The CEC received several written public comments on the 2025 CALGreen amendments during the 45- day comment period. Accordingly, on August 16, 2024, the CEC issued a Notice of proposed changes to the 45-day language, which was available for 15-day comment from August 16, 2024 through September 3, 2024 ("15-day

Language").

## **III. FINDINGS AND CONCLUSIONS**

Several statutes govern the CEC's adoption of the 2025 CALGreen proposal: the California Environmental Quality Act ("CEQA");<sup>1</sup> the Warren-Alquist State Energy Resources Conservation and Development Act;<sup>2</sup> the administrative rulemaking provisions of the Administrative Procedure Act ("APA");<sup>3</sup> and the State Building Standards Law.<sup>4</sup> Pursuant to these statutes, the CEC has reviewed the entire record of this proceeding, including public comments, reports and other documents, transcripts of public events, and all other materials that have been filed in this proceeding (Docket No. 24-BSTD-02).<sup>5</sup>

Based on that record, the CEC makes the following findings and conclusions.

## A. <u>The California Environmental Quality Act (CEQA), Public Resources Code</u> <u>Sections 21000, et seq.</u>

CEQA requires that state agencies consider the environmental impact of their discretionary decisions, including the adoption of regulations. A project is exempt from CEQA where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA. (California Code of Regulations, Title 14, Section 15061(b)(3)). A significant effect on the environment is defined as a substantial, or a potentially substantial, adverse change in the environment, and does not include an economic change by itself. (Public Resources Code Section 21068; California Code of Regulations, Title 14, Section 15382).

The CEC has considered the application of CEQA to the 2025 CALGreen proposal. These energy-saving voluntary standards are intended as model codes and examples for local jurisdictions to use in considering above-code ordinances or for above-code measures a builder could choose to utilize. If adopted by a local jurisdiction, the standards would not result in substantial or potentially adverse changes to the environment, since the adopted standards would apply to newly constructed buildings, alterations, and additions, but would not trigger the construction itself. Adherence to adopted standards would result in benefits to the environment from increased energy efficiency; no significant adverse impacts are foreseeable. Thus, it can be seen with certainty that there is no possibility that the adoption of the 2025 CALGreen proposal may have a significant effect on the environment.

Accordingly, the CEC finds that the adoption of the 2025 CALGreen proposal is exempt from CEQA under the commonsense exemption (California Code of Regulations, Title 14, Section 15061, subdivision (b)(3)) because it can be seen with certainty that there is

<sup>&</sup>lt;sup>1</sup> Pub. Res. Code § 21000, *et seq*.

<sup>&</sup>lt;sup>2</sup> Pub. Res. Code, § 25000, et seq.

<sup>&</sup>lt;sup>3</sup> Gov. Code, 11340, *et seq*.

<sup>&</sup>lt;sup>4</sup> Health & Safety Code, § 18901, *et seq*.

<sup>&</sup>lt;sup>5</sup> The documents and other materials that constitute the rulemaking record can be found online at <u>https://efiling.energy.ca.gov//Lists/DocketLog.aspx?docketnumber=24-BSTD-02.</u>

no possibility that the adoption of the proposed amendments will have a significant effect on the environment.

## B. The Warren-Alquist Act, Public Resources Code Sections 25000, et seq.

The 2025 CALGreen proposal satisfies the requirements of the Warren-Alquist Act, in Public Resources Code Section 25402, which requires the CEC to adopt building design and construction standards that increase the efficiency in the use of energy and water for new residential and new nonresidential buildings, and energy and water conservation design standards.

The 2025 CALGreen amendments fulfill these directives. The 2025 CALGreen proposal includes voluntary measures that exceed the mandatory standards in the 2025 Energy Code, and where adopted by a local jurisdiction would increase energy efficiency and conserve energy by reducing the energy budget otherwise allotted to a building in the 2025 Energy Code. Although it is unclear which standards local jurisdictions may choose to adopt, to the extent that a local jurisdiction does choose to implement any of these voluntary standards without further modifications, they would reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy for appliances that require a significant amount of energy or water on a statewide basis. The reduction in statewide electricity demand would also marginally decrease water consumption in the electricity generation sector.

There are no estimated costs or savings associated with the 2025 CALGreen amendments because they are voluntary standards. However, the voluntary standards in the proposed 2025 CALGreen are designed to be cost-effective if implemented, as well as technologically feasible and attainable. If a local jurisdiction chooses to adopt a local ordinance that requires compliance with any of these voluntary standards, it must submit the local ordinance to the CEC, which must find, under Public Resources Code Section 25402.1, subdivision (h)(2),<sup>6</sup> that the city or county has filed the basis of its determination that standards are cost-effective with the CEC and that the local ordinance would result in a diminution of energy consumption compared to the mandatory provisions of the California Energy Code before the local ordinance becomes enforceable. The local jurisdiction is also responsible for performing its own CEQA analysis and subsequently submitting the required documentation with the CEC, as applicable.

Therefore, the CEC finds the 2025 CALGreen proposal has met all the requirements of the Warren-Alquist Act.

## C. The Administrative Procedure Act, Government Code Sections 11340, et seq.

The California Administrative Procedure Act (APA) requires all state agencies to take certain steps and assess several matters when adopting regulations. Many of these matters, analyses, and findings are required to be addressed in the ISOR, prepared as part of the NOPA, or included in the Final Statement of Reasons (FSOR) that is required to be prepared after the regulations are adopted. In support of those documents, the CEC makes the following findings and determinations in adopting the

<sup>&</sup>lt;sup>6</sup> See also Cal. Code Regs., tit. 24, part 6, § 10-106.

## 2025 CALGreen proposal.

The 2025 CALGreen proposal contains only voluntary measures, clarifying language, references to existing requirements, and other non-substantive changes. Due to this, the 2025 CALGreen amendments do not impact any party's legal rights or responsibilities, and therefore the CEC finds that:

- The 2025 CALGreen amendments will not have a significant statewide economic impact on businesses, will not result in the creation of new businesses, will not result in the elimination of existing businesses, and will not result in a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. Businesses may, but are not required to, comply with the 2025 CALGreen amendments. Consideration of potential future actions is uncertain and is not included in the assessment of the effects of the proposed standards.
- The 2025 CALGreen amendments will not impose any direct costs or savings, or any direct or indirect requirements or mandates, on local agencies or school districts, including but not limited to costs that are required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4 of the Government Code.
- The 2025 CALGreen amendments will not result in the creation or elimination of jobs within California. The 2025 CALGreen proposal is voluntary and has no regulatory effect.
- The 2025 CALGreen amendments will not result in costs or savings in Federal funding to the state of California and will not alter or affect the CEC's receipt of Federal State Energy Program funding for the building standards program or alter or affect the state's ongoing participation in any Federal programs.
- The 2025 CALGreen amendments will not result in any nondiscretionary costs or savings to local agencies or school districts.
- The 2025 CALGreen proposal will not have an impact on housing costs. Although these voluntary measures provide templates and examples that could, if enacted by a local jurisdiction, potentially affect housing prices, any likely effect would be to increase energy efficiency, resulting in energy bill savings over the life of the building that will be greater than any increased construction costs that could result from those heightened standards.
- The 2025 CALGreen amendments will not result in cost impacts to representative private persons or businesses, as these are voluntary standards, templates, examples, and non-substantive changes to the regulations that do not require compliance. Further, the CEC is not aware of any cost impacts that a represented private person or business would necessarily incur in reasonable compliance with the 2025 CALGreen amendments.

- The 2025 CALGreen proposal will not adversely impact the health and welfare of California's residents, worker safety, or the state's environment. The 2025 CALGreen amendments may encourage consideration and adoption of local ordinances relating to energy efficiency in buildings, and such ordinances, if adopted may have positive impacts on health, welfare, and the environment known to result from energy efficiency. However, such impacts are uncertain.
- The 2025 CALGreen amendments have no alternatives that would be more effective in carrying out the purposes of the statutes for which they are proposed, that would be as effective and less burdensome to affected private persons in carrying out those purposes, or that would be more cost-effective to affected private persons and equally effective in implementing those purposes, as neither affect the rights or responsibilities of any individual.
- The 2025 CALGreen proposal will not have a significant adverse economic impact on small businesses, does not differentiate between a small business and a regular business, and no alternatives were proposed that would lessen any adverse economic impact on small business.
- The 2025 CALGreen amendments will not require completion of any new report.

There is nothing else in the record that justifies any changes to the proposed 2025 CALGreen as published on August 16, 2024. Therefore, the CEC finds that the 2025 CALGreen proposal meets the requirements of the APA.

## D. The Building Standards Law, Health and Safety Code Sections 18901, et seq.

The 2025 CALGreen proposal must be submitted to the California Building Standards Commission ("CBSC") for approval and is required to be accompanied by an analysis which will, to the satisfaction of the CBSC, justify its approval. (Health & Safety Code Section 18930, subdivision (a)). For the reasons described below, the CEC finds and concludes that the 2025 CALGreen amendments comply with each one of the applicable criteria.

- 1) The 2025 CALGreen amendments do not conflict with, overlap, or duplicate other building standards. The CEC is the only state agency authorized to set efficiency standards for buildings.
- 2) The 2025 CALGreen proposal is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency. The CEC has statutory authority under Public Resources Code Sections 25213, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25910 to promulgate and update energy and water efficiency standards for residential and nonresidential buildings, including both newly constructed buildings and additions and alterations to existing buildings.
- 3) The public interest requires the adoption of the 2025 CALGreen amendments. California law declares that the welfare of California's citizens and economy depends on an adequate, reasonably priced, and environmentally-sound supply

of energy and that wasteful, uneconomic, inefficient, and unnecessary uses of energy will result in serious depletion or irreversible commitment of energy, land, and water resources, and potential threats to the state's environmental quality. It is the policy of the state to:

- Employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption,
- o Prudently conserve energy resources,
- Assure progress towards statewide environmental, public safety, and land use goals, and
- Reduce wasteful, uneconomic, inefficient and unnecessary uses of energy, including through the use of solar photovoltaics and other renewable energy.

The 2025 CALGreen proposal serves all these public interests by providing voluntary energy- and water-efficiency and conservation standards that go beyond the mandatory standards set forth in the 2025 Energy Code. By providing a blueprint for the public to voluntarily adopt more efficient measures and for local jurisdictions to adopt local ordinances requiring more stringent standards, the 2025 CALGreen proposal makes a major contribution in meeting the state's goals for reductions in greenhouse gas emissions in buildings. The 2025 CALGreen amendments, where adopted by local jurisdictions, will continue to improve upon the existing building standards and continue to address past and new policy directives.

- 4) The 2025 CALGreen proposal is not unreasonable, arbitrary, unfair, or capricious, in whole or in part. The proposed voluntary standards, as a whole and with respect to each part, were carefully developed through an open, transparent, data-driven process that necessarily responds to, incorporates, and reasonably balances a broad array of interests, state policy goals, and legal requirements. The proposed voluntary standards originated with proposals that were vetted during the public rulemaking process, including public workshops, during which time CEC staff received stakeholder input and refined the proposed voluntary standards based on evidence in the record.
- 5) There are no costs associated with the 2025 CALGreen proposal because it is voluntary, and therefore, the cost to the public is reasonable.
- 6) The 2025 CALGreen amendments are not unnecessarily ambiguous or vague, in whole or in part. These standards include changes that improve clarity and prevent ambiguity. Proposals or comments suggesting clarifying improvements were incorporated into the voluntary standards where it was determined that they provide a benefit to clarity without otherwise changing the application or effect of the intended regulatory change.
- 7) The applicable national specifications, published standards, and model codes have been incorporated into the 2025 CALGreen amendments as required by the State Building Standards Law, where appropriate. The 2025 CALGreen amendments incorporate Federal energy standards for particular appliances that may be installed in buildings. In addition, the CEC included model and national

codes and specifications in the 2025 CALGreen proposal wherever appropriate.

- 8) The format of the 2025 CALGreen proposal is consistent with that adopted by the CBSC. The proposed standards continue to use the format of the other building standards in the California Building Standards Codes.
- 9) The 2025 CALGreen proposal has the written approval of the State Fire Marshal. On July 17, 2024, the State Fire Marshal sent a letter to the CEC stating that the Office of the State Fire Marshall reviewed the 2025 CALGreen amendments, finding no conflict in the proposed regulations, and therefore granting written approval.

Therefore, the CEC finds that the 2025 CALGreen proposal complies with the requirements of the California Building Standards Law.

## IV. ADOPTION OF 2025 CALGREEN; DELEGATION TO EXECUTIVE DIRECTOR

Based on the entire record of this proceeding, including all comments received and the staff's responses, the CEC finds that the 2025 CALGreen proposal is exempt from CEQA and meets all statutory requirements. Therefore, the CEC hereby adopts the amendments in the 2025 CALGreen proposal, as set forth in the 15-day language.

The CEC delegates the authority and directs CEC staff to take, on behalf of the CEC, all actions reasonably necessary to have the 2025 CALGreen proposal go into effect, including but not limited to making any appropriate non-substantive changes to the regulations; preparing all appropriate documents, such as the Final Statement of Reasons; compiling and submitting the rulemaking file to the CBSC or Office of Administrative Law (OAL); making any changes to the rulemaking file required by CBSC or OAL; and preparing and filing all necessary CEQA documentation.

## **CERTIFICATION**

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted at a meeting of the CEC held on September 11, 2024.

AYE: NAY: ABSENT: ABSTAIN:

Dated:

Kristine Banaag Secretariat



# **California Energy Commission**

California Energy Commission's Proposed 15-Day Express Terms for 2025 California Green Building Code, Title 24, Part 11 (CALGreen), Appendices A4.2 & A5.2

Prepared by: Michael Shewmaker Efficiency Division – Building Standards Branch California Energy Commission August 16, 2024

#### California Green Building Standards Code (CALGreen)

#### Title 24, Part 11, Appendices A4.2 & A5.2

#### **Proposed Definitions**

Section A4.202.1 – Definitions. The following terms are defined in Chapter 2.

ENERGY BUDGET.

ENERGY DESIGN RATING (EDR).

ENERGY DESIGN RATING, ENERGY EFFICIENCY.

ENERGY DESIGN RATING, SOLAR ELECTRIC GENERATION AND DEMAND FLEXIBILITY.

ENERGY DESIGN RATING, TOTAL.

TIME DEPENDENT VALUATION (TDV) ENERGY.

LONG-TERM SYSTEM COST (LSC).

ON-SITE RECOVERED ENERGY.

SOLAR POOL HEATING SYSTEM.

Section A5.202.1 – Definitions. The following terms are defined in Chapter 2.

ENERGY BUDGET.

GEOTHERMAL.

LONG-TERM SYSTEM COST (LSC).

ON-SITE RECOVERED ENERGY.

PROCESS.

SOLAR ACCESS.

TIME DEPENDENT VALUATION (TDV).

SOLAR POOL HEATING SYSTEM.

Chapter 2, Section 202 – Definitions

ENERGY DESIGN RATING (EDR). The sum of the annual TDV energy consumption for energy us component included in the performance compliance approach for the Standard Design Building (Energy Budget) and the annual time dependent valuation (TDV) energy consumption for lighting and component not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics) and accounting for the annual TDV energy offset by an on-site renewable energy system. The Design Rating is calculated by Compliance Software certified by the Energy Commission.

ENERGY BUDGET. The sum of the annual TDV energy consumption for energy us components included in the performance compliance approach for the Standard Design Building, as established in the Alternative Calculation Method Reference Manual approved by the Energy Commission and calculated by Compliance Software certified by the Energy Commission. [CEC] The maximum energy consumption that a proposed building, or portion of a building, can be designed to consume, calculated using CEC approved compliance software as specified in Section 10-109 of the Energy Code (Title 24, Part 6) and the Alternative Calculation Method (ACM) Reference Manual. The Energy Budget for the newly constructed buildings is expressed in terms of the Long-term System Cost (LSC) and Source Energy. The energy budget for additions and alterations is expressed in terms of LSC.

**LONG-TERM SYSTEM COST (LSC). [CEC]** The CEC projected present value of costs to California's energy systems over a period of 30-years. LSC does not represent a prediction of individual utility bills.

**RECOVERED ENERGY. [CEC]** The energy used in a building that (1) is recovered from space conditioning, service water heating, lighting, or process equipment after the energy has performed its original function; (2) provides space conditioning, service water heating, or lighting; and (3) would otherwise be wasted.

**RECOVERED ENERGY, ON-SITE.** [CEC] The recovered energy that is captured at the building site.

**SOLAR POOL HEATING SYSTEM. [CEC]** An assembly of components designated to heat water for swimming pools, spas, or swimming pool and spa combinations by solar thermal means, excluding pool recirculation components.

**TIME DEPENDENT VALUATION (TDV) ENERGY.** The time varying energy caused to be used by the building to provide space conditioning and water heating and for specified buildings lighting. TDV energy accounts for the energy used at the building site and consumed in producing and in delivering energy to a site, including, but not limited to, power generation, transmission, and distribution losses.

#### **APPENDIX A4**

## **RESIDENTIAL VOLUNTARY MEASURES**

#### **Division A4.2 – ENERGY EFFICIENCY**

#### SECTION A4.201 GENERAL

**A4.201.1 Scope.** For the purposes of mandatory energy efficiency standards in the *California Building Standards Code* (Title 24), the California Energy Commission will continue to adopt mandatory standards in the *California Energy Code* (Title 24, Part 6). It is the intent of these voluntary provisions to encourage local jurisdictions through codification to achieve exemplary performance in the area of building energy efficiency. Local jurisdictions adopting these voluntary provisions as mandatory local energy efficiency standards shall submit the required application and receive the required approval of the California Energy Commission in compliance with Title 24, Part 1, Section 10-106 prior to enforcement. Once the required filing has been verified and finding has been made by the Energy Commission, local jurisdictions shall file an ordinance expressly marking the local modification along with findings and receive the required acceptance from the California Building Standards Commission in compliance with Section 101.7 of this code, prior to enforcement. (Title 24, Part 1, Section 10-106 is available at http://www.energy.ca.gov/title24/2025standards/)

#### SECTION A4.202 DEFINITIONS

A4.202.1 Definitions. The following terms are defined in Chapter 2.

**ENERGY BUDGET.** 

ENERGY DESIGN RATING (EDR).

**ENERGY DESIGN RATING, ENERGY EFFICIENCY.** 

ENERGY DESIGN RATING, SOLAR ELECTRIC GENERATION AND DEMAND FLEXIBILITY.

**ENERGY DESIGN RATING, TOTAL** 

TIME DEPENDENT VALUATION (TDV) ENERGY.

LONG-TERM SYSTEM COST (LSC).

**ON-SITE RECOVERED ENERGY.** 

SOLAR POOL HEATING SYSTEM.

#### SECTION A4.203 PERFORMANCE APPROACH FOR NEWLY CONSTRUCTED BUILDINGS

**A4.203.1 Energy efficiency.** Newly constructed low-rise residential buildings shall comply with Sections A4.203.1.1 through A4.203.1.4<del>3</del>.

A4.203.1.1 Hourly Source Energy Design RatingLong-term System Cost (EDR1LSC). EDR1-LSC rating for the building's Proposed Design shall be computed by Compliance Software certified by the Energy Commission as specified in Title 24, Part 6, Section 100.1 and 150.1(b), and shall reduce the EDR1-LSC required in the Compliance Software for minimum performance-based compliance with the *California Energy Code* by the compliance margin specified in Table A4.203.1.1. The rating shall be included in the Certificate of Compliance documentation.

## TABLE A4.203.1.1 RECOMMENDED EDR1\_LSC\_MARGINS BY CLIMATE ZONES

| CALIFORNIA ENERGY CODE<br>CLIMATE ZONE | TOTAL LSCEDR1<br>COMPLIANCE MARGIN |
|--|------------------------------------|
| 1                                      | 4 <u>.3</u> 2.70                   |
| 2                                      | 4.4 <u>1.62</u>                    |
| 3                                      | <u>6.01.10</u>                     |
| 4                                      | <u>5.81.11</u>                     |
| 5                                      | <u>5.81.01</u>                     |
| 6                                      | <del>3.5<u>0.24</u></del>          |
| 7                                      | <del>2.9<u>0.24</u></del>          |
| 8                                      | <del>2.1<u>0.21</u></del>          |
| 9                                      | <del>3.6<u>0.20</u></del>          |
| 10                                     | <u>6.50.18</u>                     |
| 11                                     | 4 <u>.3</u> 1.11                   |
| 12                                     | 4.4 <u>1.05</u>                    |
| 13                                     | 4 <del>.9</del> <u>0.96</u>        |
| 14                                     | <u>5.81.21</u>                     |
| 15                                     | <u>1.80.59</u>                     |
| 16                                     | 4 <u>.3</u> 1.68                   |

Note: Community shared options complying with Title 24, Part 1, Section 10-115 may be used to achieve EDR1\_LSC targets.

**A4.203.1.2 Prerequisite options.** In addition, a minimum of TWO of the efficiency measures specified in Sections A4.203.1.2.1 through A4.203.1.2.8-7 must be met.

A4.203.1.2.1 Roof deck insulation, or ducts in conditioned space. Meet one of the three options for the location of ducts and air handlers as well as insulation R-values and installation of a radiant barrier as specified in Title 24, Part 6, Section 150.1(c)9A or B:

- 1. Below roof deck insulation with a minimum *R*-value of 19; or,
- 2. Continuous above deck insulation with a minimum R-8 and with an air space present between the roofing and the roof deck; or,
- 3. All ducts and air handlers in conditioned space as specified in the Title 24, Part 6, Reference Appendix RA3.1.

A4.203.1.2.2 High performance walls. Meet the climate zone dependent *U*-factor or insulation *R*-value for either 2x6 or 2x4 framing as specified in Title 24, Part 6, Section 150.1(c)1B: maximum *U*-factor of 0.048.

A4.203.1.2.3 Compact hot water distribution system. Meet the requirements for installation of Compact Hot Water Distribution Systems specified in the Title 24, Part 6, Reference Appendix RA3.6.5.

A4.203.1.2.4 Drain water heat recovery. Meet the requirements for installation of Drain Water Heat Recovery specified in Title 24, Part 6, Reference Appendix RA4.4.21.

A4.203.1.2.5 High performance vertical fenestration. Meet the climate zone dependent U-factor and Solar Heat Gain Co-efficient (SHGC) specified as rated in accordance inwith Title 24, Part 6, Section 110.6, and shall have a <u>Mmaximum U-factor of 0.21 in Climate Zones 1-16</u>, <u>maximum SHGC of 0.23 in Climate Zones  $\pm 2, 4$ </u>, and <u>6-14-and-16</u>, and maximum SHGC of 0.20 in Climate Zone 15.

**Exception to A4.203.1.2.5:** Fenestration in Climate Zones 1, 3, 5, and 16 is not required to comply with the maximum SHGC requirements.

A4.203.1.2.6 Heat pump water heater demand management. For buildings with heat pump water heating, meet the requirements for installation of controls specified by Title 24, Part 6, Reference Appendix JA13.3.3.

A4.203.1.2.7 Battery storage system controls. For buildings with battery storage systems, meet the requirements for installation of controls specified by Title 24, Part 6, Reference Appendix JA12 for either the Time-of-Use Control or Advanced Demand Flexibility Control option.

A4.203.1.2.8 Heat pump space and water heating. Meet the space heating and water heating loads using heat pump equipment.

**A4.203.1.3 Consultation with local electric service provider.** Local jurisdictions considering adoption of reduced EDR targets based on using solar photovoltaic (PV) systems larger than required by the *California Energy Code* shall consult with the local electric service provider to ensure that PV system sizing required to comply with the EDR targets will be acceptable to the local electric service provider. The local jurisdiction shall not require onsite PV systems that are larger than the local electric service provider will allow to be interconnected.

A4.203.1.4 Outdoor Luminaires. Outdoor luminaires installed for new multifamily buildings, hotels, and hmotels shall meet the following requirements are as follows.

A4.203.1.4.1 Outdoor building mounted luminaires intended solely to illuminate any surface including walls and signs shall be mounted above the surface and face downward to prevent uplight or shall be shielded for the direct light emitted from the luminaire to be confined to the surface. Security luminaires shall be mounted and oriented to avoid glare onto adjacent rights-of-way or property.

A4.203.1.4.21 Outdoor pole-mounted and arm-mounted luminaires should shall be installed with tilting not greater than 10 degrees, or the outdoor luminaires shall be installed with arm-mount or tenon-mount capable of tilting less than or within 10 degrees.

#### Exception to Section A4.203.1.4:

- 1. Luminaires that qualify as exception in Sections 160.5(c)1 of Title 24, Part 6. Lighting for one- and twofamily dwellings and townhouses with attached private garages.
- 2. Lighting for building facades, public monuments, public art, statues and vertical surfaces of bridges.
- 3. Lighting not permitted by a health or life safety statute, ordinance or regulation to be a cutoff luminaire.
- 4. Temporary outdoor lighting.
- 5. Lighting required and regulated by the Federal Aviation Administration, or the Coast Guard.
- 6. Lighting for public streets, roadways, highways, and traffic signage lighting, including lighting for driveway entrances occurring in the public right-of-way. Luminaires that illuminate the public right of way including publicly maintained or utility-maintained sidewalks and bikeways.
- 7. Lighting for sports and athletic fields, and children's playgrounds.
- 8. Lighting for industrial sites, including but not limited to, rail yards, maritime shipyards and docks, piers and marinas, chemical and petroleum processing plants, and aviation facilities.
- 9. Lighting of tunnels, bridges, stairs, wheelchair elevator lifts for American with Disabilities Act (ADA) compliance, and ramps that are not parking garage ramps.
- 10. In theme parks: outdoor lighting only for themes and special effects.
- 11. Lighting for outdoor theatrical and other outdoor live performances, provided that these lighting systems are additions to area lighting systems and are controlled by a multi- scene or theatrical cross-fade control station accessible only to authorized operators.
- 12. Outdoor lighting systems for qualified historic buildings, as defined in the California Historic Building Code (Title 24, Part 8), if they consist solely of historic lighting components or replicas of historic lighting components. If lighting systems for qualified historic buildings contain some historic lighting components or replicas of historic components, combined with other lighting components, only those historic or historic replica components are exempt. All other outdoor lighting systems for qualified historic buildings shall not be exempted.

#### SECTION A4.204

#### **REQUIREMENTS FOR**

#### **ALTERATIONS TO EXISTING BUILDINGS**

A4.204.1 Energy Efficiency. Alterations to existing residential buildings shall comply with Sections A4.204.1.1 and A4.204.1.2.

A4.204.1.1 Altered Space-Conditioning System Serving Existing Single-Family Dwelling Units – Mechanical Cooling. When a space-conditioning system serving an existing single-family dwelling unit is altered in climate zones 1 through 14 and 16 by installation or replacement of an air conditioner, the altered system shall comply with either a or b below in addition to the requirements for installation specified by Title 24, Part 6, Sections 150.2(b)1E and 150.2(b)1F:

<u>a. A heat pump as shall be the primary heating source and sized according to the system selection requirements</u> specified by Title 24, Part 6 of Section 150.0(h)5. Supplemental heating may be provided by an existing gas furnace or existing electric resistance heating; or

b. An air conditioner that shall meets the following requirements:

- I. R-8 duct insulation for ducts located in unconditioned space; and
- II. The duct system measured air leakage shall be equal to or less than 5 percent of the system air handler airflow as confirmed through field verification and diagnostic testing, per the requirements in Title 24, Part 6, Reference Residential Appendix Section RA3.1.4.3.1; and
- III. Demonstrate, in every control mode, airflow greater than or equal to 400 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy less than or equal to 0.35 W/CFM. The airflow rate and fan efficacy requirements in this section shall be confirmed through field verification and diagnostic testing, following the procedures outlined in Title 24, Part 6, Reference Residential Appendix RA3.3; and
- IV. In all climate zones refrigerant charge verification requirements shall meet the requirements in Title 24, Part 6 Section 150.2(b)1Fiib; and
- V. Vented attics shall have insulation installed to achieve a U-factor of 0.020 or insulation installed at the ceiling level shall result in an insulated thermal resistance of R-49 or greater for the insulation alone; and
- VI. Air seal all accessible areas of the ceiling plane between the attic and the conditioned space in accordance with the requirements in Title 24, Part 6 Section 150.2(b)1Jii.

**Exception 1 to Section A4.204.1.1:** Where the capacity of the existing main electrical service panel is insufficient to service supply the additional electrical capacity of a heat pump relative to and where the existing main electrical service panel is sufficient to supply a new or replacement air conditioner, as calculated according to the requirements of California Electrical Code Article 220.83 or 220.87. Documentation of electrical load calculations in accordance with Article 220 must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

**Exception 2 to Section A4.204.1.1:** Where the required capacity of a heat pump to meet the system selection requirements of Section 150.0(h)5 is greater than or equal to 12,000 Btu/h more than the required capacity of an air conditioner to meet the design cooling load. Documentation of heating and cooling load calculations in accordance with 150.0(h) must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

A4.204.1.2 Altered Pool and/or Spa Heating for Existing Multifamily Buildings. Alteration of existing multifamily pool and/or spa heating system shall meet the following.

Heating Source Sizing. Heating systems or equipment for pool and/or spa shall meet the sizing requirements of 1, 2, or 3 below:

1. A solar pool heating system with a solar collector surface area that is equivalent to 65 percent or greater of the surface areas of the pool or spa or a combination of both respectively; or

- <u>2.</u> <u>A heat pump pool heater as the primary heating system that meets the sizing requirements of Reference Joint Appendix JA16.3. The control for the heat pump pool heater shall meet the requirements specified in Title 24, Part 6, <u>eSection 110.2(bd)</u>. The <u>backup</u>-supplementary heater can be of any energy source; or</u>
- 3. A heating system that derives at least 60 percent of the annual heating energy from on-site renewable energy or on-site recovered energy.
- <u>4. A combination of a solar pool heating system and heat pump pool heater without any additional supplementary heater; or</u>
- 5. A pool heating system determined by the Energy Commission Executive Director to use no more energy than the systems specified in Items 1, 2, 3, or 4 above.

Exception 1 to A4.204.1.2: Portable electric spas compliant with the Appliance Efficiency Regulations.

Exception 2 to A4.204.1.2: A pool or spa that is heated solely by a solar pool heating system without any backup-supplementary heater.

**Exception 3 to A4.204.1.2:** An existing building with inadequate Solar Access Roof Area (SARA) as specified in Title 24, Part 6, Section 170.2(f) for a solar pool heating system to be installed.

**Exception 4 to A4.204.1.2:** Heating systems which are used exclusively for permanent spa applications in existing buildings with gas availability.

Note: Authority: Sections 25213, 25218, 25218.5, 25402 and 25402.1, Public Resources Code. Reference: Sections 25402, 25402.1, 25402.4 and 25402.8, Public Resources Code.

### CALIFORNIA GREEN BUILDING STANDARDS CODE – MATRIX ADOPTION TABLE APPENDIX A5 – NONRESIDENTIAL VOLUNTARY MEASURES DIVISION A5.2 – ENERGY EFFICIENCY

(Matrix Adoption Tables are nonregulatory, intended only as an aid to the code user. See Chapter 1 for state agency authority and building applications.)

**APPENDIX A5** 

## NONRESIDENTIAL VOLUNTARY MEASURES

**Division A5.2 – ENERGY EFFICIENCY** 

#### SECTION A5.201 GENERAL

**A5.201.1 Scope.** For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards. It is the intent of these voluntary provisions to encourage local jurisdictions through codification to achieve exemplary performance in the area of building energy efficiency. Local jurisdictions adopting these voluntary provisions as mandatory local energy efficiency standards shall submit the required application and receive the required findings of the California Energy Commission in compliance with Title 24, Part 1, Section 10-106, prior to enforcement. Once the required filing has been verified and finding has been made by the Energy Commission, local jurisdictions shall file an ordinance expressly marking the local modifications along with findings and receive the required acceptance from the California Building Standards Commission in compliance with Section 101.7 of this code, prior to enforcement (Title 24, Part 1, Section 10-106 is available at http://www.energy.ca.gov/title24/2025standards/).

#### SECTION A5.202 DEFINITIONS

A5.202.1 Definitions. The following terms are defined in Chapter 2. ENERGY BUDGET. GEOTHERMAL. LONG-TERM SYSTEM COST (LSC). ON-SITE RECOVERED ENERGY. PROCESS. SOLAR ACCESS. TIME DEPENDENT VALUATION (TDV). SOLAR POOL HEATING SYSTEM.

#### SECTION A5.203 PERFORMANCE APPROACH

**A5.203.1 Energy efficiency.** Nonresidential, high-rise residential and hotel/motel buildings that include lighting and/or mechanical systems shall comply with Sections A5.203.1.1 and A5.203.1.2. Newly constructed buildings and additions are included in the scope of these sections. Buildings permitted without lighting or mechanical systems shall comply with Section A5.203.1.1 but are not required to comply with Section A5.203.1.2.

**A5.203.1.1 Tier 1 and Tier 2 prerequisites.** To comply with Tier 1, ONE of the following efficiency measures is required for all applicable components of the building project. To comply with Tier 2, TWO of the following efficiency measures are required.

A5.203.1.1.1 Outdoor lighting. Outdoor lighting requirements are described below.

<u>A5.203.1.1.1.</u> Newly installed outdoor lighting power shall be no greater than 90 percent of the Allowed Outdoor Lighting Power, and general hardscape lighting within the scope of Title 24, Part 6, Section 140.7(b)1 shall have a color temperature no higher than 3000K. The Allowed Outdoor Lighting Power calculation is specified in Title 24, Part 6, Section 140.7, Requirements Forfor Outdoor Lighting.

A5.203.1.1.1.2 Outdoor building mounted luminaires intended solely to illuminate any surface including walls and signs shall be mounted above the surface and face downward to prevent uplight or shall be shielded for the direct light emitted from the luminaire to be confined to the surface. Security luminaires shall be mounted and oriented to avoid glare onto adjacent rights of way or property.

A5.203.1.1.1.32 Outdoor pole-mounted and arm-mounted luminaires should-shall be installed with tilting not greater than 10 degrees, or the outdoor luminaires shall be installed with arm-mount or tenon-mount capable of tilting less than or within 10 degrees.

#### Exceptions to Section A5.203.1.1.1:

 The color temperature requirement is not applicable to the applications identified in the exceptions to Section 140.7(a) of Title 24, Part 6, nor to the applications identified as "specific applications" in Section 140.7(b)2 and Table 140.7-<u>B of Title 24, Part 6</u>.

#### Exceptions to Section A5.203.1.1.2:

- 1. <u>Luminaires that qualify as exception in Sections 130.2(b) of Title 24, Part 6</u> Lighting for building facades, public monuments, public art, statues and vertical surfaces of bridges.
- 2. <u>Lighting not permitted by a health or life safety statute, ordinance or regulation to be a cutoff</u> <u>luminaire.</u>
- 3. <u>Temporary outdoor lighting.</u>
- 4. Lighting required and regulated by the Federal Aviation Administration, or the Coast Guard.
- Lighting for public streets, roadways, highways, and traffic signage lighting, including lighting for driveway entrances occurring in the public right-of-way. Luminaires that illuminate the public right of way including publicly-maintained or utility-maintained sidewalks and bikeways.
- 6. Lighting for sports and athletic fields, and children's playgrounds.
- 7. <u>Lighting for industrial sites, including but not limited to, rail yards, maritime shipyards and docks,</u> piers and marinas, chemical and petroleum processing plants, and aviation facilities.
- 8. <u>Lighting of tunnels, bridges, stairs, wheelchair elevator lifts for American with Disabilities Act</u> (ADA) compliance, and ramps that are not parking garage ramps.
- 9. In theme parks: outdoor lighting only for themes and special effects.
- 10. <u>Lighting for outdoor theatrical and other outdoor live performances, provided that these lighting</u> systems are additions to area lighting systems and are controlled by a multi- scene or theatrical cross-fade control station accessible only to authorized operators.
- 11. Outdoor lighting systems for qualified historic buildings, as defined in the California Historic Building Code (Title 24, Part 8), if they consist solely of historic lighting components or replicas of historic lighting components. If lighting systems for qualified historic buildings contain some historic lighting components or replicas of historic components, combined with other lighting components, only those historic or historic replica components are exempt. All other outdoor lighting systems for qualified historic buildings shall not be exempted.

A5.203.1.1.2 Service water heating in restaurants. Newly constructed restaurants 8,000 square feet or greater and with service water heaters rated 75,000 Btu/h or greater shall install a solar water-heating system with a minimum solar savings fraction of 0.15.

#### **Exceptions:**

1. Buildings with a natural gas service water heater with a minimum of 95-percent thermal efficiency.

2. Buildings where greater than 75 percent of the total roof area has annual solar access that is less than 70 percent. Solar access is the ratio of solar insolation, including shade, to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

**A5.203.1.1.3 Warehouse dock seal doors.** Exterior loading dock doors that are adjacent to conditioned or indirectly conditioned spaces shall have dock seals or dock shelters installed at the time of permitting. This requirement shall apply to newly constructed buildings and to loading dock doors added to existing buildings.

A5.203.1.1.4 Daylight Design Power Adjustments Factors (PAFs). Daylighting devices shall be installed as specified in Title 24, Part 6, Section 140.3(d).

A5.203.1.1.5 Exhaust air heat recovery. Heat recovery requirements based on ASHRAE 90.1, Section 6.5.6.1 are adapted and modified for California climate zones as described below.

- 1. Systems with minimum design outdoor air fraction of 80 percent or greater and supply air flow of 200 cfm or greater in climate zones 2, 9, 10, 11, 12, 13, 14, 15 shall have a heat recovery system.
- 2. Heat recovery systems required by this section shall result in a net sensible energy recovery ratio of at least 60 percent for both heating and cooling as tested using AHRI 1060-2014 or 1061-2014 and certified by AHRI. A 60 percent sensible energy recovery ratio shall mean a change in the dry-bulb of the outdoor air supply equal to 60 percent of the difference between the outdoor air and exhaust air dry-bulb at design conditions. Provisions shall be made to bypass or control the energy recovery system to permit air economizer operation as required by Title 24, Part 6, Section 140.4(e), Economizers.

#### **Exceptions:**

- 1. Systems serving spaces that are not cooled and that are heated to less than 60°F.
- 2. Where more than 60 percent of the outdoor air heating energy is provided from site-recovered energy.
- 3. Where the sum of the airflow rates exhausted and relieved within 20 feet of each other is less than 75 percent of the design outdoor airflow rate, excluding exhaust air that is:
  - 1. Used for another energy recovery system;
  - 2. Not allowed by ASHRAE Standard 170 for use in energy recovery systems with leakage potential; or
  - 3. Of Class 4 as defined in ASHRAE Standard 62.1.
- 4. Systems expected to operate less than 20 hours per week.

A5.203.1.2 Performance standard. Comply with one of the advanced efficiency levels indicated below.

**A5.203.1.2.1 Tier 1.** Buildings complying with the first level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on building type and the type of energy systems included in the building project. If the newly constructed building or addition does not include indoor lighting or mechanical systems, then no additional performance requirements above Title 24, Part 6 are required.

- 1. For nonresidential building projects that include indoor lighting or mechanical systems, but not both: No greater than 95 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.
- For nonresidential building projects that include indoor lighting and mechanical systems: No greater than 90 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.
- For high-rise residential and hotel/motel building projects: No greater than 95 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.

**A5.203.1.2.2 Tier 2.** Buildings complying with the second level of advanced energy efficiency shall have an Energy Budget that is no greater than indicated below, depending on building type and the type of energy systems included in the building project. If the newly constructed building or addition does not include indoor lighting or mechanical systems, then no additional performance requirements above Title 24, Part 6 are required.

- 1. For nonresidential building projects that include indoor lighting or mechanical systems, but not both: No greater than 90 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.
- 2. For nonresidential building projects that include indoor lighting and mechanical systems: No greater than 85 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.
- 3. For high-rise residential and hotel/motel building projects: No greater than 95 percent of the Title 24, Part 6, Energy Budget for the Standard Design Building as calculated by compliance software certified by the Energy Commission.

Note: For Energy Budget calculations, high-rise residential and hotel/motel buildings are considered nonresidential buildings.

#### SECTION A5.204 REQUIREMENTS FOR ALTERATIONS TO EXISTING BUILDINGS

A5.204.1 Energy Efficiency. Alterations to existing nonresidential buildings shall comply with Section A5.204.1.1.

A5.204.1.1 Altered Pool and/or Spa Heating for Existing Nonresidential Buildings. Alteration of existing nonresidential pool and/or spa heating system shall meet the following.

Heating Source Sizing. Heating systems, or equipment for pool or spa, shall meet the sizing requirements of 1, 2, or 3 below:

- 1. <u>Solar pool heating system with a solar collector surface area that is equivalent to 65 percent or greater of the surface areas of the pool or spa or a combination of both respectively; or</u>
- <u>A heat pump pool heater as the primary heating system that meets the sizing requirements of Reference Joint</u> <u>Appendix JA16.3. The control for the heat pump pool heater shall meet the requirements specified in section</u> <u>110.2(bd). The backup-supplementary heater can be of any energy source; or</u>
- 3. <u>A heating system that derives at least 60 percent of the annual heating energy from on-site renewable energy or on-site recovered energy.</u>
- 4. <u>A combination of a solar pool heating system and heat pump pool heater without any additional</u> <u>supplementary heater; or</u>
- 5. <u>A pool heating system determined by the Energy Commission Executive Director to use no more energy</u> <u>than the systems specified in Items 1, 2, 3, or 4 above.</u>

Exception 1 to A5.204.1.1: Portable electric spas compliant with the Appliance Efficiency Regulations.

**Exception 2 to A5.204.1.1:** A pool or spa that is heated solely by a solar pool heating system without any supplementary backup heater.

**Exception 3 to A5.204.1.1:** An existing building with inadequate Solar Access Roof Area (SARA) as specified in Section 140.10(a) for a solar pool heating system to be installed.

Exception 4 to A5.204.1.1: Heating systems which are used exclusively for permanent spa applications in existing buildings with gas availability.

#### SECTION A5.211 RENEWABLE ENERGYRESERVED

A5.211.1 On site renewable energy. Use on site renewable energy sources such as solar, wind, geothermal, lowimpact hydro, biomass and bio gas for at least 1 percent of the electric power calculated as the product of the building service voltage and the amperage specified by the electrical service overcurrent protection device rating or 1kW, (whichever is greater), in addition to the electrical demand required to meet 1 percent of the natural gas and propane use. The building project's electrical service overcurrent protection device rating shall be calculated in accordance with the *California Electrical Code*. Natural gas or propane use is calculated in accordance with the *California Plumbing Code*.

A5.211.1.1 Documentation. Using a calculation method approved by the California Energy Commission, calculate the renewable onsite energy system to meet the requirements of Section A5.211.1, expressed in kW. Factor in netmetering, if offered by local utility, on an annual basis.

A5.211.3 Green power. If offered by local utility provider, participate in a renewable energy portfolio program that provides a minimum of 50-percent electrical power from renewable sources. Maintain documentation through utility billings.

#### SECTION A5.212 ELEVATORS, ESCALATORS AND OTHER EQUIPMENT

A5.212.1 Elevators and escalators. In buildings with more than one elevator or two escalators, provide systems and controls to reduce the energy demand of elevators and escalators as follows. Document systems operation and controls in the project specifications and commissioning plan.

A5.212.1.1 Elevators. Traction elevators shall have a regenerative drive system that feeds electrical power back into the building grid when the elevator is in motion.

A5.212.1.1.1 Car lights and fan. A parked elevator shall turn off its car lights and fan automatically until the elevator is called for use.

**A5.212.1.2 Escalators.** An escalator shall have a <u>Variable Voltage Variable Frequency (VVVF)</u> motor drive system that is fully regenerative when the escalator is in motion.

**A5.212.1.4 Controls.** Controls that reduce energy demand shall meet requirements of CCR, Title 8, Chapter 4, Subchapter 6 and shall not interrupt emergency operations for elevators required in CCR, Title 24, Part 2, *California Building Code*.

#### SECTION A5.213 ENERGY EFFICIENT STEEL FRAMING

A5.213.1 Steel framing. Design steel framing for maximum energy efficiency. Techniques for avoiding thermal bridging in the envelope include:

1. Exterior rigid insulation;

- 2. Punching large holes in the stud web without affecting the structural integrity of the stud;
- 3. Spacing the studs as far as possible while maintaining the structural integrity of the structure; and
- 4. Detailed design of intersections of wall openings and building intersections of floors, walls, and roofs.

## Memorandum

To: Docket 24-BTSD-02

Date: August 27, 2024

## From: Chief Counsel's Office

California Energy Commission

**Subject:** Basis for Finding the 2025 CALGreen Rulemaking is Exempt from the California Environmental Quality Act under the Common Sense Exemption

## I. CEQA

The California Environmental Quality Act (CEQA) (Pub. Resources Code (PRC), §21000 et seq.; see also CEQA Guidelines, Cal. Code Regs. (CCR), tit. 14, §15000 et seq.) requires that state agencies consider the environmental impact of their discretionary decisions. CEQA allows for certain projects to be exempted from its requirements. Of relevance here is the common sense exemption (CCR, tit. 14, §15061(b)(3)).

## II. CALGreen, Title 24, Part 11

The Warren-Alguist Act establishes the California Energy Commission (CEC) as California's primary energy policy and planning agency. Most, if not all, actions taken by the CEC are intended to protect the environment and natural resources, either in the near term with, for example, specific regulatory actions or the long term with, for example, long-term planning and investments in research. The Legislature over the years has made specific findings concluding that the CEC's work in regulating the electricity sector is imperative for environmental protection. Notably, the Legislature has found the following: "it is the responsibility of state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of general welfare, and for environmental quality protection" (PRC, §25001); "the present rapid rate of growth in demand for electric energy is in part due to wasteful, uneconomic, inefficient, and unnecessary uses of power and a continuation of this trend will result in serious depletion or irreversible commitment of energy, land and water resources, and potential threats to the state's environmental quality (PRC, §25002); and "[i]t is further the policy of the state and the intent of the Legislature to employ a range of measures to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, prudently conserve energy resources, and assure statewide environmental, public safety, and land use goals." (PRC, §25007).

With regard to this specific project, Section 25402 of the PRC authorizes and mandates that the CEC adopt rules and regulations, as necessary, "to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy and water" in new residential and nonresidential buildings.

One of the ways the CEC satisfies this requirement is through the California Green Building Standards Code (CALGreen) (CCR, Title 24, Part 11) found in the California Building Standards Code, which are adopted pursuant to Health and Safety Code Sections 18930, 18934, and 18935. As a part of the California Building Standards Code, CALGreen follows the same three-year update cycle.

## **III. The Proposed Action**

The changes proposed in this rulemaking are updates to the voluntary energy efficiency provisions of CALGreen. These voluntary guidelines, contained in Title 24, Part 11 of the California Code of Regulations, go beyond the mandatory building energy efficiency standards in Title 24, Part 6 of the California Code of Regulations (California Energy Code). Because they are voluntary, it is unknown which jurisdictions will choose to adopt standards that exceed the minimum efficiency requirements contained in the California Energy Code and, if so, to what extent those local jurisdictions may utilize the voluntary provisions in CALGreen.

To facilitate the adoption of reach codes at the local level, the CEC proposes to update the voluntary energy efficiency provisions of CALGreen. Local jurisdictions are not compelled to use or follow these examples. The CEC proposes to adopt the following amendments:

- Introduce new sections for alterations to existing residential buildings and nonresidential buildings.
- Introduce new standards for altered space conditioning systems in existing single-family homes.
- Introduce new standards for altered pool and/or spa heating equipment in both multifamily and nonresidential existing buildings.
- Update performance compliance margins for newly constructed single-family homes.
- Introduce outdoor lighting standards for newly constructed residential buildings and residential additions.
- Update outdoor lighting standards for newly constructed nonresidential buildings and nonresidential additions.
- Remove Renewable Energy Section from the nonresidential appendix A5.
- Rename Energy Efficient Steel Framing section to Energy Efficient Framing.

Reducing energy demand via energy efficiency, if adopted by local jurisdictions, benefits the state by slowing demand growth, reducing depletion of resources, improving reliability, minimizing costs, and mitigating threats to the state's environmental quality – that is, by directly addressing the problems the legislature observed when creating the CEC. Based on the evidence in the record, the CEC has determined that the proposed changes are necessary to provide these benefits by establishing or improving standards, including voluntary and model standards, for building energy efficiency and improving the likelihood of successful deployment of building design and construction measures that directly cause or indirectly enable improved efficiency during occupancy and operation.

## IV. Common Sense Exemption

The development and adoption of these amendments to the CEC's portions of CALGreen are exempt from CEQA under the common sense exemption. CEQA only applies to projects that have the potential for causing a significant effect on the environment. (CCR, tit. 14, §15061(b)(3)). A significant effect on the environment is defined as a substantial, or a

potentially substantial, adverse change in the environment, and does not include an economic change by itself. (Pub. Resources Code, §21068; CCR, tit. 14, §15382) The goal of the proposed amendments to CALGreen is to provide voluntary model provisions for local jurisdictions to adopt reach codes that save more energy than the mandatory California Energy Code. Adoption of these model provisions by local jurisdictions will not result in any significant adverse effects because these are energy-saving measures with no significant negative side effects.

Upon CEC adoption of CALGreen, local jurisdictions may decide not to adopt these voluntary provisions, or they may adopt one, all, or a unique combination of CALGreen's provisions. If adopted by local jurisdictions as a local ordinance, these energy-saving standards would apply to newly constructed buildings as well as alterations and additions in existing buildings (see details in bullet points above). These standards do not, however, trigger the construction or alteration activities themselves, and thus would not have a foreseeable significant effect on the environment for CEQA purposes.

As provided in detail above, the CALGreen provisions proposed are clarifications of existing voluntary measures, updated efficiency standards for certain nonresidential buildings, and updated performance compliance margins for specific buildings that reflect industry best practices. New provisions introduced, such as those for pool and/or spa heating equipment and altered space conditioning systems seek to replace old equipment with more efficient technology. No foreseeable significant adverse effects to the environment have been identified resulting from a local jurisdiction's adoption of any, or all, of these voluntary provisions. Additionally, if a local jurisdiction does adopt an ordinance that requires any of the CALGreen provisions, it would be responsible for complying with any applicable CEQA requirements at that time.

## VI. Conclusion

The provisions are voluntary energy-saving measures with no identifiable significant effects on the environment. If adopted by local jurisdictions, the measures would be applied to already contemplated new construction or alteration activities; the measures themselves do not incentivize these activities or make them more likely to occur. For these reasons, and those identified above, it can be seen with certainty that there is no possibility that adoption of these model provisions may have a significant effect on the environment, therefore, this project is exempt from CEQA, pursuant to the common sense exemption under Section 15061(b)(3) of the CEQA Guidelines.