

CALIFORNIA ENERGY COMMISSION

1516 Ninth Street
Sacramento, California 95814

Main website: www.energy.ca.gov

CEC-70 (Revised 06/18)

Item 2

In the matter of:)	Docket No. 17-BSTD-03
)	
2019 Title 24, Part 11, CALGreen)	HEARING
Rulemaking)	RE: 2019 Title 24, Part 11,
)	(CALGreen)

Notice of Hearing for Possible Adoption of 2019 Title 24, Part 11, CALGreen Rulemaking; Availability of Revised Draft Express Terms (15-day Language)

The California Energy Commission will conduct a hearing during its regularly scheduled October business meeting to consider adopting the proposed update to the voluntary *Building Energy Efficiency Standards*, also published as CALGreen, in the California Code of Regulations, Title 24, Part 11, Appendices 4.2 and 5.2.

The hearing is scheduled for:

Wednesday, October 3, 2018
10:00 AM
CALIFORNIA ENERGY COMMISSION
1516 Ninth Street
1st Floor, Rosenfeld Hearing Room
Sacramento, California
(Wheelchair Accessible)

Remote Access Available by Computer or Phone via WebEx™
(Instructions below)

Concurrent with this notice, the Energy Commission has published modifications to the proposed voluntary Standards in Title 24, Part 11. The modifications are known as the 15-day language and are the proposed revisions to the voluntary standards that the Energy Commission will consider adopting.

Agenda

Notice is hereby given that the Energy Commission proposes to adopt revisions to the voluntary standards in the California Code of Regulations, Title 24, Part 11. The proposed amended voluntary standards are published as CALGreen Appendices 4.2

and 5.2 and would go into effect on January 1, 2020, following approval of the California Building Standards Commission.

Background

On January 19, 2018, the Energy Commission published a Notice of Proposed Action (NOPA) regarding these proposed revisions to CALGreen. In the NOPA, the Energy Commission specified a 45-day public comment period ending on March 5, 2018, and listed March 21, 2018, as a potential adoption date for the proposed language.

Staff has considered comments submitted during the 45-day public comment period and have made substantive and sufficiently related changes to the draft express terms based on these comments. The Energy Commission is therefore releasing a revision of the draft express terms for 15-day public review and comment, and continuing the public hearing for adoption at the date specified in this notice, consistent with the above.

The 15-day language and related documents can be obtained from the contact persons designated below or from the Energy Commission website at:

<http://www.energy.ca.gov/title24/2019standards/rulemaking/documents/>.

Should the Energy Commission determine that substantial and sufficiently related changes to the 15-day language are needed, this item will be continued to a future public hearing, a revised set of 15-day language documents will be prepared, and a future public hearing will be separately noticed.

Public Comment

Oral comments. The Energy Commission will accept oral comments during the hearing. Comments may be limited to three (3) minutes per speaker. Any comments will become part of the public record in this proceeding.

Written comments. Written comments should be submitted to the Dockets Unit by 5:00 p.m. on October 2, 2018. Written comments will be also accepted at the hearing; however, the Energy Commission may not have time to review them before the conclusion of the meeting.

Please note that your written and oral comments, attachments, and associated contact information (e.g., your address, phone number, email address, etc.) become part of the viewable public record. This information may become available via Google, Yahoo, and any other search engines.

The Energy Commission encourages use of its electronic commenting system. Visit the website at <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=17-BSTD-03>.

This will take you to the page for adding comments to this docket. Please enter your contact information, any organization name, and a comment title describing the subject

of your comments. You may include comments in the box titled "Comment Text" or attach a file in a downloadable, **searchable format** in Microsoft® Word (.doc, .docx) or Adobe® Acrobat® (.pdf). Maximum file size is 10 MB.

Written comments may also be submitted by e-mailing them (include the docket number 17-BSTD-03 and 2019 Title 24, Part 11, CALGreen Rulemaking in the subject line) to the Docket Unit at:

docket@energy.ca.gov

If you prefer, you may send a paper copy of your comments to:

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 17-BSTD-03
1516 Ninth Street
Sacramento, CA 95814-5512

Public Adviser and Other Commission Contacts

The Energy Commission's Public Adviser's Office provides the public assistance in participating in Energy Commission proceedings. If you want information on how to participate in this forum, please contact the Public Adviser, Alana Mathews, at PublicAdviser@energy.ca.gov or (916) 654-4489, or toll free at (800) 822-6228.

If you have a disability and require assistance to participate, please contact Poneh Jones at poneh.jones@energy.ca.gov or (916) 654-4425 at least five days in advance.

Media inquiries should be sent to the Media and Public Communications Office at mediaoffice@energy.ca.gov or (916) 654-4989.

If you have questions on the subject matter of this agenda item, please contact Ingrid Neumann at ingrid.neumann@energy.ca.gov or (916) 651-1461.

Remote Attendance

You may participate in this meeting through WebEx, the Energy Commission's online meeting service. Presentations will appear on your computer screen, and you may listen to audio via your computer or telephone. Please be aware that the meeting may be recorded.

To join a meeting:

VIA COMPUTER: Go to <https://energy.webex.com/ec>. If this event is shown on the list of events, click on its "Join" link. If it is not listed, click the "Unlisted Events" link on the left of your screen and enter the meeting number **922 624 672**. When prompted, enter your name and email address. No meeting password is needed.

The “Join Conference” menu will offer you a choice of audio connections:

1. To call into the meeting: Select "I will call in" and follow the on-screen directions.
2. International Attendees: Click on the "Global call-in number" link.
3. To have WebEx call you: Enter your phone number and click “Call Me.”
4. To listen over the computer: If you have a broadband connection, and a headset or a computer microphone and speakers, you may use VoIP (Internet audio) by going to the Audio menu, clicking on “Use Computer Headset,” then “Call Using Computer.”

VIA TELEPHONE ONLY (no visual presentation): Call 1-866-469-3239 (toll-free in the U.S. and Canada). When prompted, enter the unique meeting number above. International callers may select their number from:

<https://energy.webex.com/energy/globalcallin.php>

VIA MOBILE DEVICES: Access to WebEx meetings is now available from your mobile device. To download an app, go to:

www.webex.com/products/web-conferencing/mobile.html

Please be aware that WebEx audio and on-screen activity may be recorded. WebEx Technical Support is available at 1-866-229-3239.

Muting

We greatly appreciate your cooperation in reducing unwanted noise on the audio connection by muting your line when you are not speaking. Mute your line rather than placing your phone on hold. Using WebEx, you may mute yourself by right clicking on your name in the panelists or attendees list and selecting ‘Mute.’ If you are only using a telephone connection, press “*6” once to mute and again to unmute.

Availability of Documents

Documents and presentations for this meeting will be available online at:
<http://www.energy.ca.gov/title24/2019standards/rulemaking/documents/>.

DOCKETED	
Docket Number:	17-BSTD-03
Project Title:	2019 Title 24, Part 11, CALGreen Rulemaking
TN #:	224607
Document Title:	2019 CALGreen Fiscal and Economic Impact (Form 399)
Description:	Form 399 Fiscal and Economic Impact Analysis for the voluntary building energy efficiency measures in the proposed 2019 CALGreen Code.
Filer:	Adrian Ownby
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	8/27/2018 2:53:10 PM
Docketed Date:	8/27/2018

Memorandum

To: Bryan Cash
Assistant Secretary for Administration and Finance

Date: July 16, 2018

From: Drew Bohan
Executive Director
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: **STANDARD FORM 399 FOR CALIFORNIA GREEN BUILDING STANDARDS CODE
RULEMAKING PROCEEDING**

Attached for your approval and signature is the Form 399 in support of a rulemaking proceeding for the California Green Building Standards Code, Title 24, Part 11. This rulemaking will update existing voluntary energy efficiency standards for newly constructed buildings, as well as additions and alterations to existing buildings. Once approved, the form will be provided to the Office of Administrative Law to initiate the public notice for the rulemaking.

If you have any questions regarding the content or the processing of this form, please contact Adrian Ownby, Energy Commission Specialist III, at 916-651-3008.

Attachment

cc: Christopher Meyer, ER Specialist III (Manager)
Payam Bozorgchami, Senior Civil Engineer
Adrian Ownby, EC Specialist III (Eff)

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT

DEPARTMENT NAME California Energy Commission	CONTACT PERSON Adrian Ownby	EMAIL ADDRESS adrian.ownby@energy.ca.gov	TELEPHONE NUMBER 916-651-3008
DESCRIPTIVE TITLE FROM NOTICE REGISTER OR FORM 400 Revisions to the California Green Building Standards Code (CALGreen Code)			NOTICE FILE NUMBER Z

A. ESTIMATED PRIVATE SECTOR COST IMPACTS *Include calculations and assumptions in the rulemaking record.*

1. Check the appropriate box(es) below to indicate whether this regulation:

- | | |
|---|--|
| <input checked="" type="checkbox"/> a. Impacts business and/or employees | <input checked="" type="checkbox"/> e. Imposes reporting requirements |
| <input checked="" type="checkbox"/> b. Impacts small businesses | <input checked="" type="checkbox"/> f. Imposes prescriptive instead of performance |
| <input checked="" type="checkbox"/> c. Impacts jobs or occupations | <input checked="" type="checkbox"/> g. Impacts individuals |
| <input checked="" type="checkbox"/> d. Impacts California competitiveness | <input checked="" type="checkbox"/> h. None of the above (Explain below): |

Energy efficiency provisions of the CALGreen Code are voluntary.*If any box in Items 1 a through g is checked, complete this Economic Impact Statement.**If box in Item 1.h. is checked, complete the Fiscal Impact Statement as appropriate.*

2. The California Energy Commission estimates that the economic impact of this regulation (which includes the fiscal impact) is:
(Agency/Department)

- ☐ Below \$10 million
- ☐ Between \$10 and \$25 million
- ☐ Between \$25 and \$50 million
- ☐ Over \$50 million *[If the economic impact is over \$50 million, agencies are required to submit a [Standardized Regulatory Impact Assessment](#) as specified in Government Code Section 11346.3(c)]*

3. Enter the total number of businesses impacted: unknownDescribe the types of businesses (Include nonprofits): potentially all types of businesses could be impactedEnter the number or percentage of total businesses impacted that are small businesses: unknown4. Enter the number of businesses that will be created: unknown eliminated: unknownExplain: The energy efficiency provisions of the CALGreen Code are voluntary and therefore have no definable impact.5. Indicate the geographic extent of impacts: ☐ Statewide☒ Local or regional (List areas): Unknown, must be enacted locally to have effect.6. Enter the number of jobs created: unknown and eliminated: unknownDescribe the types of jobs or occupations impacted: The energy efficiency provisions of the CALGreen Code are voluntary and therefore have no definable impact.

7. Will the regulation affect the ability of California businesses to compete with other states by making it more costly to produce goods or services here?

☒ YES ☐ NO

If YES, explain briefly:

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT (CONTINUED)**B. ESTIMATED COSTS** *Include calculations and assumptions in the rulemaking record.*1. What are the total statewide dollar costs that businesses and individuals may incur to comply with this regulation over its lifetime? \$ unknowna. Initial costs for a small business: \$ unknown Annual ongoing costs: \$ unknown Years: unknownb. Initial costs for a typical business: \$ unknown Annual ongoing costs: \$ unknown Years: unknownc. Initial costs for an individual: \$ unknown Annual ongoing costs: \$ unknown Years: unknownd. Describe other economic costs that may occur: The energy efficiency provisions of the CALGreen Code are voluntary and therefore have no definable impact.2. If multiple industries are impacted, enter the share of total costs for each industry: Nonresidential Construction (unknown %), Residential Construction (unknown %)

3. If the regulation imposes reporting requirements, enter the annual costs a typical business may incur to comply with these requirements. Include the dollar costs to do programming, record keeping, reporting, and other paperwork, whether or not the paperwork must be submitted. \$ _____

4. Will this regulation directly impact housing costs? ☒ YES ☐ NOIf YES, enter the annual dollar cost per housing unit: \$ unknownNumber of units: unknown5. Are there comparable Federal regulations? ☐ YES ☒ NOExplain the need for State regulation given the existence or absence of Federal regulations: Federal regulations do not apply to state, local and private sector construction in California.

Enter any additional costs to businesses and/or individuals that may be due to State - Federal differences: \$ _____

C. ESTIMATED BENEFITS *Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*1. Briefly summarize the benefits of the regulation, which may include among others, the health and welfare of California residents, worker safety and the State's environment: Individuals and businesses may benefit from the reduction in energy costs. Businesses that provide energy efficiency products and services may experience an increase in business. All state and local government agencies and their tenants may benefit.2. Are the benefits the result of: ☒ specific statutory requirements, or ☐ goals developed by the agency based on broad statutory authority?

Explain: _____

3. What are the total statewide benefits from this regulation over its lifetime? \$ unknown4. Briefly describe any expansion of businesses currently doing business within the State of California that would result from this regulation: California businesses producing energy efficiency products/technologies that meet or exceed the proposed CALGreen Code will likely expand their sales of those products/technologies due to the voluntary implementation of the CALGreen Code.**D. ALTERNATIVES TO THE REGULATION** *Include calculations and assumptions in the rulemaking record. Estimation of the dollar value of benefits is not specifically required by rulemaking law, but encouraged.*1. List alternatives considered and describe them below. If no alternatives were considered, explain why not: The energy efficiency provisions of the CALGreen Code are voluntary and therefore have no definable impact.

**ECONOMIC AND FISCAL IMPACT STATEMENT
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STD. 399 (REV. 12/2013)

ECONOMIC IMPACT STATEMENT (CONTINUED)

2. Summarize the total statewide costs and benefits from this regulation and each alternative considered:

Regulation: Benefit: \$ unknown Cost: \$ unknown

Alternative 1: Benefit: \$ _____ Cost: \$ _____

Alternative 2: Benefit: \$ _____ Cost: \$ _____

3. Briefly discuss any quantification issues that are relevant to a comparison of estimated costs and benefits for this regulation or alternatives: _____

4. Rulemaking law requires agencies to consider performance standards as an alternative, if a regulation mandates the use of specific technologies or equipment, or prescribes specific actions or procedures. Were performance standards considered to lower compliance costs? ☒ YES ☐ NOExplain: Performance Standards are a fundamental part of the proposed energy efficiency provisions of the CALGreen Code.**E. MAJOR REGULATIONS** *Include calculations and assumptions in the rulemaking record.**California Environmental Protection Agency (Cal/EPA) boards, offices and departments are required to submit the following (per Health and Safety Code section 57005). Otherwise, skip to E4.*1. Will the estimated costs of this regulation to California business enterprises **exceed \$10 million**? ☐ YES ☐ NO*If YES, complete E2. and E3**If NO, skip to E4*

2. Briefly describe each alternative, or combination of alternatives, for which a cost-effectiveness analysis was performed:

Alternative 1: _____

Alternative 2: _____

(Attach additional pages for other alternatives)

3. For the regulation, and each alternative just described, enter the estimated total cost and overall cost-effectiveness ratio:

Regulation: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 1: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

Alternative 2: Total Cost \$ _____ Cost-effectiveness ratio: \$ _____

4. Will the **regulation subject to OAL review** have an estimated economic impact to business enterprises and individuals located in or doing business in California exceeding \$50 million in any 12-month period between the date the major regulation is estimated to be filed with the Secretary of State through 12 months after the major regulation is estimated to be fully implemented?☐ YES ☒ NO*If YES, agencies are required to submit a Standardized Regulatory Impact Assessment (SRIA) as specified in Government Code Section 11346.3(c) and to include the SRIA in the Initial Statement of Reasons.*

5. Briefly describe the following:

The increase or decrease of investment in the State: _____

The incentive for innovation in products, materials or processes: _____

The benefits of the regulations, including, but not limited to, benefits to the health, safety, and welfare of California residents, worker safety, and the state's environment and quality of life, among any other benefits identified by the agency: _____

ECONOMIC AND FISCAL IMPACT STATEMENT**(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

FISCAL IMPACT STATEMENT**A. FISCAL EFFECT ON LOCAL GOVERNMENT** *Indicate appropriate boxes 1 through 6 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*

- ☐ 1. Additional expenditures in the current State Fiscal Year which are reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ _____

- ☐ a. Funding provided in _____

Budget Act of _____ or Chapter _____, Statutes of _____

- ☐ b. Funding will be requested in the Governor's Budget Act of _____

Fiscal Year: _____

- ☐ 2. Additional expenditures in the current State Fiscal Year which are NOT reimbursable by the State. (Approximate)
(Pursuant to Section 6 of Article XIII B of the California Constitution and Sections 17500 et seq. of the Government Code).

\$ _____

Check reason(s) this regulation is not reimbursable and provide the appropriate information:

- ☐ a. Implements the Federal mandate contained in _____

- ☐ b. Implements the court mandate set forth by the _____ Court.

Case of: _____ vs. _____

- ☐ c. Implements a mandate of the people of this State expressed in their approval of Proposition No. _____

Date of Election: _____

- ☐ d. Issued only in response to a specific request from affected local entity(s).

Local entity(s) affected: _____

- ☐ e. Will be fully financed from the fees, revenue, etc. from: _____

Authorized by Section: _____ of the _____ Code;

- ☐ f. Provides for savings to each affected unit of local government which will, at a minimum, offset any additional costs to each;

- ☐ g. Creates, eliminates, or changes the penalty for a new crime or infraction contained in _____

- ☐ 3. Annual Savings. (approximate)

\$ _____

- ☐ 4. No additional costs or savings. This regulation makes only technical, non-substantive or clarifying changes to current law regulations.

- ☐ 5. No fiscal impact exists. This regulation does not affect any local entity or program.

- ☒ 6. Other. Explain The energy efficiency provisions of the CALGreen Code are voluntary and must be enacted locally to have any effect.

**ECONOMIC AND FISCAL IMPACT STATEMENT
(REGULATIONS AND ORDERS)**

STD. 399 (REV. 12/2013)

FISCAL IMPACT STATEMENT (CONTINUED)**B. FISCAL EFFECT ON STATE GOVERNMENT** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ _____

It is anticipated that State agencies will:☐ a. Absorb these additional costs within their existing budgets and resources.☐ b. Increase the currently authorized budget level for the _____ Fiscal Year☐ 2. Savings in the current State Fiscal Year. (Approximate)

\$ _____

☐ 3. No fiscal impact exists. This regulation does not affect any State agency or program.☒ 4. Other. Explain The energy efficiency provisions of the CALGreen Code are voluntary and must be enacted locally to have any effect.**C. FISCAL EFFECT ON FEDERAL FUNDING OF STATE PROGRAMS** *Indicate appropriate boxes 1 through 4 and attach calculations and assumptions of fiscal impact for the current year and two subsequent Fiscal Years.*☐ 1. Additional expenditures in the current State Fiscal Year. (Approximate)

\$ _____

☐ 2. Savings in the current State Fiscal Year. (Approximate)

\$ _____

☐ 3. No fiscal impact exists. This regulation does not affect any federally funded State agency or program.☒ 4. Other. Explain The energy efficiency provisions of the CALGreen Code are voluntary and must be enacted locally to have any effect.

FISCAL OFFICER SIGNATURE

DATE

The signature attests that the agency has completed the STD. 399 according to the instructions in SAM sections 6601-6616, and understands the impacts of the proposed rulemaking. State boards, offices, or departments not under an Agency Secretary must have the form signed by the highest ranking official in the organization.

AGENCY SECRETARY

DATE

Finance approval and signature is required when SAM sections 6601-6616 require completion of Fiscal Impact Statement in the STD. 399.

DEPARTMENT OF FINANCE PROGRAM BUDGET MANAGER

DATE

ATTACHMENT TO
FULLY EXECUTED ECONOMIC IMPACT STATEMENT
July 16, 2018

All California Energy Commission mandatory building energy efficiency regulations are found in provisions of the California Building Code, Parts 1 and 6 (the Energy Code). The California Energy Commission cannot provide any estimated costs or claim any estimated savings for the voluntary building energy efficiency provisions in the California Building Code, Part 11 (CALGreen Code). By definition the CALGreen energy efficiency provisions have no force or impact unless they are imposed by a local jurisdiction through the passage of a local ordinance. Without the force of a local ordinance, no savings or costs can be realized or claimed by any government agency. The act of enacting a local ordinance places the responsibility for the associated costs and savings on the locality that passes the ordinance.

At practical level, any attempt to estimate the costs and savings associated with the CALGreen voluntary provisions faces significant technical challenges. Any credible estimate of the statewide costs and savings impact from the CALGreen voluntary provisions would require defensible assumptions or data regarding the following:

- The number of local jurisdictions that will impose some level of mandatory building energy efficiency requirements that are more stringent than the Energy Code, based on the CALGreen voluntary provisions. It is important to emphasize that last part – “based on the CALGreen voluntary provisions” — because not all local ordinances that implement beyond code requirements follow the recommendations made in the CALGreen code. Past local ordinance enactments cannot be credibly used to estimate this because the Energy Code becomes increasingly stringent with each code cycle, leaving fewer and fewer opportunities to exceed its requirements. The proposed 2019 Energy Code will require many newly constructed residential buildings to be relatively close to zero net energy. Whatever measure requirements are enacted locally under the 2019 Energy Code will be significantly different than those enacted under the 2016 Energy Code. Past data on the impact of CALGreen voluntary measures implemented locally have no relevance or predictive validity for CALGreen measures that will be implemented locally under the 2019 Energy Code.
- The extent to which those local jurisdictions will impose CALGreen voluntary provisions as requirements beyond the Energy Code. As noted in the previous bullet above the proposed 2019 Energy Code will require many newly constructed residential buildings to be nearly zero net energy. However, a local jurisdiction may require beyond code energy efficient construction across a spectrum – bounded by just beyond the Energy Code at one end and zero net energy (or beyond that, “carbon neutral”) construction at the other.

2019 Revisions to the CALGreen Voluntary Building Energy Efficiency Provisions

- The technology those local jurisdictions would require builders implement in order to meet their beyond Energy Code requirements. Buildings are complicated “systems” and there are multiple methods or technologies that might be implemented to increase a building’s energy efficiency beyond the current Energy Code requirements.

DOCKETED	
Docket Number:	17-BSTD-03
Project Title:	2019 Title 24, Part 11, CALGreen Rulemaking
TN #:	224727
Document Title:	Part 11 Appendices A4 and A5 final express terms
Description:	***SUPERSEDES TN 224649***
Filer:	Ingrid Neumann
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/17/2018 10:13:57 AM
Docketed Date:	9/17/2018

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 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 approval of the California Energy Commission in compliance with ~~Chapter 10, Section 106 of the California Administrative Code, Title 24, Part 1, Section 10-106~~ prior to enforcement. Once approval is granted 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~~~~Chapter 10, Section 106 of the California Administrative Code~~ is available at ~~<http://www.energy.ca.gov/title24/2016standards/>~~<http://www.energy.ca.gov/title24/2019standards/>)

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.

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 and either ~~A4.203.1.2.1, AND through~~ A4.203.1.4.2.2 or A4.203.1.2.3.

A4.203.1.1 Tier 1, and Tier 2, and zero-net energy design prerequisites. Each of the following efficiency measures is ~~A4.203.1.1.1 Energy design ratings AND A4.203.1.1.2 Quality Insulation Installation~~ are required for all applicable components of the building project.

A4.203.1.1.1 Energy design rating. ~~An energy design rating~~ **ratings: Total Energy Design Rating (Total EDR) and Energy Efficiency Design Rating (Efficiency EDR).** Total EDR and Efficiency EDR ratings for the Proposed Design Building shall be computed by Compliance Software certified by the Energy Commission and this rating as described in ~~the Building Energy Efficiency Standards~~ **Title 24, Part 6, Section 100.1 and 150.1(b)**, and these ratings shall be included in the Certificate of Compliance documentation.

Table A4.203.1.1.1

Recommended EDR Targets by Climate Zones				
CZ	Tier 1		Tier 2	
	Mixed Fuel	All-Electric	Mixed Fuel	All-Electric
<u>1</u>	<u>23</u>	<u>36</u>	<u>13</u>	<u>0</u>
<u>2</u>	<u>12</u>	<u>16</u>	<u>5</u>	<u>0</u>
<u>3</u>	<u>10</u>	<u>14</u>	<u>0</u>	<u>0</u>
<u>4</u>	<u>8</u>	<u>12</u>	<u>0</u>	<u>0</u>
<u>5</u>	<u>10</u>	<u>16</u>	<u>0</u>	<u>0</u>
<u>6</u>	<u>10</u>	<u>12</u>	<u>0</u>	<u>0</u>
<u>7</u>	<u>5</u>	<u>7</u>	<u>0</u>	<u>0</u>
<u>8</u>	<u>10</u>	<u>10</u>	<u>0</u>	<u>0</u>
<u>9</u>	<u>13</u>	<u>13</u>	<u>0</u>	<u>0</u>
<u>10</u>	<u>10</u>	<u>11</u>	<u>0</u>	<u>0</u>
<u>11</u>	<u>11</u>	<u>12</u>	<u>0</u>	<u>0</u>
<u>12</u>	<u>12</u>	<u>13</u>	<u>0</u>	<u>0</u>
<u>13</u>	<u>11</u>	<u>13</u>	<u>0</u>	<u>0</u>
<u>14</u>	<u>15</u>	<u>16</u>	<u>5</u>	<u>0</u>
<u>15</u>	<u>11</u>	<u>8</u>	<u>0</u>	<u>7</u>
<u>16</u>	<u>22</u>	<u>39</u>	<u>14</u>	<u>10</u>
Note: Community shared options complying with Title 24, Part 1, Section 10-115 may be used to achieve Total EDR targets.				

A4.203.1.1.2 Quality Insulation Installation (QII). The QII procedures specified in the Building Energy Efficiency Standards Reference ~~Appendices Residential Appendix~~ RA3.5 shall be completed.

A4.203.1.2 Tier 1 and Tier 2 prerequisite options. In addition ONE of the following efficiency measures will be required: A4.203.1.2.1 Roof deck insulation, or ducts in conditioned space OR A4.203.1.2.2 High Performance Walls OR A4.203.1.2.3 HERS-Verified Compact Hot Water Distribution System ~~with OR~~ A4.203.1.2.4 HERS-Verified Drain Water Heat Recovery.

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 handler as well as insulation R values and installation of a radiant barrier as specified in ~~the Building Energy Efficiency Standards~~ 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 ~~D~~ucts and air handlers in conditioned space as specified in the Title 24, Part 6 Reference Appendices RA3.1.

A4.203.1.2.2 High Performance Walls (HPW). HPW meet the climate zone dependent U-factor and insulation values for either 2x6 or 2x4 framing as specified in ~~the Building Energy Efficiency Standards~~ Title 24, Part 6, Section 150.1(c)1B: maximum U-factor of 0.048.

A4.203.1.2.3 HERS-Verified Compact Hot Water Distribution System (CHWDS-H), ~~with Drain Water Heat Recovery (DWHR-H).~~ CHWDS-H shall be installed as specified in ~~the Title 24, Part 6 Reference Appendix RA3.6.5 and RA4.4.16.~~

A4.203.1.2.4 HERS-Verified Drain Water Heat Recovery (DWHR-H). DWHR-H shall be installed as specified in ~~RA3.6.9 and Title 24, Part 6 Reference Appendix~~ RA4.4.21.

A4.203.1.3 Performance standard. Comply with one of the advanced efficiency levels, either A4.201.1.3.1 OR A4.201.1.3.2, indicated below.

A4.203.1.23.1 Tier 1. Buildings complying with the first level of advanced energy efficiency shall have either an Energy Budget that is no greater than 85 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 15% or greater reduction in its Energy Budget component compared to the Standard Design Building, ~~additional integrated efficiency and on-site renewable energy generation sufficient to achieve a Total EDR of 44 the Tier 1 value indicated by Table A4.203.1.1.1 or lower~~ as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission. This requirement is in addition to meeting the ~~minimum mandatory~~ Efficiency EDR as specified by the same software in required for compliance with Title 24, Part 6. Measures considered to meet the Total EDR targets calculated by the compliance software ~~may include, but are not limited to, the prerequisite options above specified in Section A4.203.1.2, use of Demand Response (e.g. load following),~~ additional energy efficiency measures (e.g. triple pane windows), as well as onsite electric battery and/or thermal storage.

A4.203.1.23.2 Tier 2. Buildings complying with ~~the~~ this second level of advanced energy efficiency shall have either an Energy Budget that is no greater than 70 percent of the Title 24, Part 6 Energy Budget for the Standard Design Building, or an Energy Design Rating showing a 30% or greater reduction in its Energy Budget component compared to the Standard Design Building, ~~elective designation shall have additional integrated efficiency and on-site renewable energy generation sufficient to achieve a Total EDR of the Tier 2 value indicated by Table A4.203.1.1.1 six or lower~~ as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission. This may be reached by various paths including electrifying improved space and water heating efficiencies, advanced electric battery controls, as well as modest oversizing of the photovoltaic system. This requirement is in addition to meeting the

Efficiency EDR required for compliance with Title 24, Part 6. Measures considered to meet the Total EDR targets calculated by the compliance software include, but are not limited to, the prerequisite options specified in Section A4.203.1.2, use of Demand Response, additional energy efficiency measures (e.g., triple pane windows), as well as onsite electric battery and/or thermal storage. ~~The Total EDR is in addition to meeting the minimum mandatory Efficiency EDR as specified by the same software in Part 6.~~

A4.203.1.4 Consultation with local electric service provider. Local jurisdictions considering adoption of Tier I as specified by A4.203.1.3.1 or Tier II as specified by A4.203.1.3.2, including local jurisdictions considering community shared solar or storage options consistent with Part 1 Section 10-115, shall consult with the local electric service provider to ensure that that solar system sizing required to comply will be acceptable to the local electric service provider. The local jurisdiction shall not require onsite renewable energy generation systems that are larger than the local electric service provider will allow to be interconnected.

A4.203.1.2.3 Zero net energy design. Buildings complying with this elective designation shall have on-site renewable energy generation sufficient to achieve an Energy Design Rating of zero (0) as calculated by Title 24, Part 6 Compliance Software approved by the Energy Commission, and:

1. ~~Single-family buildings in Climate Zones 6 and 7, and low-rise multifamily buildings in Climate Zone 3, 5, 6, and 7 shall comply with Section A4.203.1.2.1 (Tier 1); and~~
2. ~~Single-family buildings in Climate Zones 1 through 5 and 8 through 16 and low-rise multifamily building in Climate Zones 1, 2, 4, and 8 through 16 shall comply with Section A4.203.1.2.2 (Tier 2).~~

Note:

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

SECTION A4.204

PERFORMANCE APPROACH FOR ADDITIONS

A4.204.1 Energy efficiency. Additions to low-rise residential buildings shall comply with Section A4.204.1.1 or A4.204.1.2.

A4.204.1.1 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 the number of mechanical systems added. Space heating systems, space cooling systems and water heating systems are each separate mechanical systems for the purpose of complying with this requirement. If the addition changes only the envelope with no change to any mechanical system, then no additional performance requirements above Title 24, Part 6 are required.

1. For one and only one mechanical system: 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.
2. For two or more 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.

A4.204.1.2 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 the number of mechanical systems added. Space heating systems, space cooling systems and water heating systems are each separate mechanical systems for the purpose of complying with this requirement. If the addition changes only the envelope with no change to any mechanical system, then no additional performance requirements above Title 24, Part 6 are required.

1. For one and only one mechanical system: 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 two or more 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.

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

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

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 approval of the California Energy Commission in compliance with [Title 24, Part 1, Section 10-106](#)~~Chapter 10, Section 106 of the California Administrative Code~~, prior to enforcement. Once approval is granted 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](#)~~Chapter 10, Section 106 of the California Administrative Code~~ is available at <http://www.energy.ca.gov/title24/2016standards/>~~http://www.energy.ca.gov/title24/2019standards/~~)

SECTION A5.202

DEFINITIONS

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

ENERGY BUDGET.

GEOHERMAL.

PROCESS.

SOLAR ACCESS.

TIME DEPENDENT VALUATION (TDV).

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 ~~either A5.203.1.2.1 or A5.203.1.2.2.~~ 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 ~~Sections A5.203.1.1.2 or~~ Section A5.203.1.2.

A5.203.1.1 Tier 1 and Tier 2 prerequisites. ~~Each~~ 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. 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 For Outdoor Lighting."

Note: The color temperature requirement is not applicable to the applications identified in the Exceptions to Section 140.7(a) nor to the applications identified as "specific applications" in Section 140.7(b)2 and Table 140.7.

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. ~~Dock seal doors shall have verified maximum air leakage rates as determined through the ASTM E783 field test.~~

A5.203.1.1.4 Daylight Redirecting Devices ~~Design Power Adjustments Factors (PAFs).~~ Daylighting Redirecting Devices shall be installed as specified in Title 24, Part 6, Section 140.3(d). ~~for indoor lighting systems with automatic daylighting controls as follows.~~

- ~~A. The product shall be permanently mounted on a clerestory which meets the requirements of Section 140.3(d)1. The clerestory onto which the daylight redirecting device is mounted shall have a VT greater than or equal to 0.50 and a head height less than or equal to one foot below a finished ceiling.~~

~~A. The distance from the clerestory to any existing structures or natural objects within view of the clerestory divided by the structure or object's height above the clerestory's sill shall be greater than or equal to 0.6.~~

~~**EXCEPTION** Where it is documented that existing adjacent structures or natural objects within view of the vertical fenestration block direct sunlight onto the vertical fenestration between 8 a.m. and 5 p.m. for less than 500 daytime hours per year for east- and west-facing clerestories or less than 1,000 daytime hours per year for south-facing clerestories.~~

~~A. The light scattering properties of the product shall be measured according to ASTM E2387.~~

~~A. The source angles of incidence as defined in ASTM E2387 shall be 30, 50 and 70 degrees and the source incident azimuth angle shall be 90 degrees. The transmittance shall be measured at each scatter angle specified in Table 140.3-E for every increment of scatter azimuth angle specified in the table below.~~

DAYLIGHT REDIRECTING DEVICE TRANSMITTANCE MEASUREMENT ANGLES

<u>Scatter Angle (degrees)</u>	<u>100</u>	<u>110</u>	<u>120</u>	<u>130</u>	<u>140</u>	<u>150</u>	<u>160</u>	<u>170</u>	<u>180</u>
<u>Scatter Azimuth Angle Increments (degrees)</u>	<u>Every 30</u>	<u>Every 22.5</u>	<u>Every 15</u>	<u>Every 15</u>	<u>Every 15</u>	<u>Every 18</u>	<u>Every 22.5</u>	<u>Every 45</u>	<u>One measurement</u>

~~E. The minimum upper quarterspherical transmittance of the daylight redirecting device as defined in Section 100.1 shall be greater than or equal to 0.40. The minimum ratio of upper quarterspherical transmittance to lower quarterspherical transmittance shall be greater than or equal to 2.5.~~

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% 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.

EXCEPTION 1: Systems serving spaces that are not cooled and that are heated to less than 60°F.

EXCEPTION 2: Where more than 60 percent of the outdoor air heating energy is provided from site-recovered energy.

EXCEPTION 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 either:

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.

EXCEPTION 4: Systems expected to operate less than 20 hours per week.

~~A5.203.1.1.6 Triple Bottom Line Analysis. A triple bottom line analysis shall be included for newly constructed buildings to evaluate the buildings expected performance in three parts: social, environmental, and financial. Current analysis requires the diminution of energy consumption and proof of cost effectiveness while this analysis also recognizes environmental justice as an important factor in new construction.~~

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.

2. 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.

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.

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 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.

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

SECTION A5.211

RENEWABLE ENERGY

A5.211.1 On-site renewable energy. Use on-site renewable energy sources such as solar, wind, geothermal, low-impact 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 [2016 California Electrical Code](#). Natural gas or propane use is calculated in accordance with the [2016 California Plumbing Code](#). ~~Additional details are found in Section 10-115 of the Building Energy Efficiency Standards.~~

A5.211.1.1 Documentation. Using a calculation method approved by the California Energy Commission, calculate the renewable ~~on-site~~ energy system to meet the requirements of Section A5.211.1, expressed in kW. Factor in net metering, 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 VVVF 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.

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

**STATE OF CALIFORNIA
STATE ENERGY RESOURCES CONSERVATION
AND DEVELOPMENT COMMISSION**

2019 Title 24, Part 11 "CALGreen")
California Green Building Standards)
Standards Rulemaking Proceeding)
California Code of Regulations, Title 24,)
Part 11, Appendices 4.2 and 5.2)

**Docket No. 17-BSTD-03
Order No. 18-10-03-02**

**RESOLUTION ADOPTING AMENDMENTS TO THE VOLUNTARY ENERGY
PROVISIONS OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE**

I. INTRODUCTION

The California Energy Commission has, as directed by Section 25402 of the California Public Resources Code, developed and undertaken a proceeding to adopt revisions to the voluntary measures more stringent than its Building Energy Efficiency Standards.

These voluntary standards apply to residential, nonresidential, high-rise residential, and hotel and motel buildings. The standards are in Part 11 (also known as CALGreen) of Title 24 of the California Code of Regulations. The standards are called the *2019 California Green Building Standards* (2019 CALGreen), as posted on September 17, 2018, for a 15-day review, and as further revised by the errata set forth in Appendix A of this Resolution. The 2019 Standards will go into effect on January 1, 2020, following approval by the California Building Standards Commission.

The Energy Commission additionally and subsequently adopts the proposed additions and amendments to its voluntary energy efficiency standards for buildings.

The Energy Commission takes this action under the authority given by Public Resources Code Sections 25218, Subdivision (e), 25402, 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, , 25943, and Health and Safety Code sections 18930.5 and 18941.5, to implement, interpret and make specific Sections 25402, Subdivisions (a)-(c), 25402.1, 25402.4, 25402.5, 25402.5.4, 25402.8, 25910, 25943, and Health and Safety Code sections 18930.5 and 18941.5.

II. HISTORY OF THE PROCEEDING

The development of the 2019 voluntary standards in CALGreen was included in the larger overall development process for updates to the 2019 (mandatory) Standards.

Those standards in Parts 1 and 6 are called the "2019 Building Energy Efficiency Standards" (or 2019 Standards), and were adopted by the Energy Commission at a May 9, 2018 public hearing.

To develop the 2019 voluntary Standards, the Energy Commission conducted an open, transparent, and extensive public process. Between March 2017 and today, the Commission has held 14 workshops and 2 hearings, in addition to 10 webinars and 9 in-person meetings hosted by Codes and Standards Enhancement (CASE) program organizers. Development began with a presentation of the overall plan and schedule for this rulemaking, and the fundamental building blocks that would be used in the Standards. Subsequent workshops addressed various aspects of the 2019 voluntary Standards in detail. During this process, stakeholder groups assessed, analyzed, discussed, and helped to improve numerous versions of the proposed Standards, and the Commission staff considered more than 105 formal public comments submitted to the Commission dockets.

On November 22, 2017, the formal rulemaking phase was initiated when the Commission (1) filed with the California Building Standards Commission (CBSC) and the Office of Administrative Law (OAL), and (2) published, the following:

- A Notice of Proposed Action (NOPA), which described the proceeding, summarized the proposed Standards, and explained how interested persons could participate;
- Economic and Fiscal Analysis (Form 399);
- An Initial Statement of Reasons (ISOR), which presented the rationales for the Standards;
- Proposed Express Terms (45-day language) of the 2019 Standards, and;

The Commission also provided the NOPA to:

- every contact on the Energy Commission's mailing lists for: *The Blueprint* (an Energy Code newsletter), appliance efficiency standards, nonresidential and residential building energy efficiency standards, city and county building officials, and county clerks,
- the Commission's *Efficiency* and *Building Standards* electronic mail list-servers, and
- every person who had requested notice of such matters.

The NOPA, the ISOR and the 45-day and 15-day language (discussed below) were also timely posted on the Energy Commission's website.¹

¹ See <http://www.energy.ca.gov/title24/2019standards/rulemaking/documents/>.

On February 5 and 6, 2018, the lead commissioner for energy efficiency of the Energy Commission held a public hearing, pursuant to Government Code Section 11346.8 and Public Resources Code Section 25402, to accept both oral and written comments on the 2019 voluntary Standards.

As stated in the NOPA, page 3, the Commission welcomed comments on any of the proposed provisions and, as we have noted above, many were received. Accordingly, the Commission on September 17, 2018, published proposed changes to the 45-day language (and identified additional documents beyond those identified in the NOPA upon which it is relying in adopting the 2019 voluntary Standards). These changes are called “15-day language” because they are sufficiently related to the 45-day language and thus only subject to an abbreviated 15-day notice requirement. The 15-day language was made available for public comment for 15 days, through October 2, 2018.² The public notice of the 15-day language also stated that the Commission would consider adopting the proposed regulations and negative declaration at a public hearing during its business meeting on October 3, 2018.³

III. FINDINGS AND CONCLUSIONS

Several different statutory schemes govern the Commission’s adoption of building standards: the Warren-Alquist State Energy Resources Conservation and Development Act,⁴ the administrative rulemaking provisions of the Administrative Procedure Act,⁵ and the Building Standards Law.⁶ Pursuant to these statutes, the Commission 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. 17-BSTD-03). Based on that record, the Commission makes the following findings and conclusions.

A. The California Environmental Quality Act, Public Resources Code Section 21000 et seq.

CEQA requires that state agencies consider the environmental impact of their discretionary decisions, including the adoption of regulations. An activity is not subject to CEQA if, (1) the activity is not a “project” as defined in section 15378 of the regulations. (Cal. Code Regs., tit. 14, § 15060(c)), or (2) the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment. (Cal. Code Regs., tit. 14, § 15061(b)(3).)

² Gov. Code § 11346.8; Cal. Code Regs., Title 1, § 42.

³ See <https://efiling.energy.ca.gov/getdocument.aspx?tn=224649>

⁴ Pub. Resources Code, § 25000 et seq.

⁵ Gov. Code, § 11340 et seq.

⁶ Health & Safety Code, § 18901 et seq.

After considering the entire record, including the Notice of Exemption⁷, filed with the 2019 Standards, the Commission finds the regulations are voluntary, categorize existing energy efficiency features into a new elective, remove requirements made redundant by adopted changes in Part 6, and improve the readability of the CALGreen standards. The language changes would not result in a direct or indirect physical change to the environment because they are voluntary and either definitional in nature, procedural, or clarifications of existing voluntary standards.

The Notice of Exemption is appropriate because the rulemaking activity is not a project under the CEQA Guidelines. (Cal. Code Regs., tit. 14, § 15378(b)(5).) In this case, the regulations would not result in any impact on the environment. In addition, because it can be seen with certainty that there is no possibility that the CALGreen regulation changes would have a significant effect on the environment, and nothing in the record suggests otherwise, adoption of the CALGreen regulations would not be subject to CEQA under the *common sense* exemption of section 15061(b)(3).

B. The Warren-Alquist Act

1. Public Resources Code Sections 25402, subdivisions (a)-(b)

The 2019 Standards adopted May 9, 2018 satisfy the requirements of Public Resources Code Section 25402, Subdivisions (a) and (b). Those provisions require the Commission 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. By law, these standards must be “cost effective when taken in their entirety, and when amortized over the economic life of the structure when compared with historic practice.”

The adopted 2019 Standards fulfill these directives. They increase the efficiency of and conserve the use of energy and water. Moreover, they are cost-effective.

Buildings constructed pursuant to the 2019 Standards are projected to:

- save \$2.17 billion in energy over a 30-year life;
- save 246 million gallons of water per year, and;
- reduce growth in statewide greenhouse gas emissions by 230 thousand metric tons carbon dioxide equivalent (CO₂e) per year.

To further illustrate the anticipated savings, in the residential context, the improvement in energy efficiency and reduction in demand for grid electricity due to on-site photovoltaics (PV) will provide a 2:1 return on a typical homeowner’s

⁷ <https://efiling.energy.ca.gov/getdocument.aspx?tn=222679>

investment. If factored into a 30-year mortgage, the standards will add approximately \$40 per month to the cost of the average home (assuming call costs are first costs and the full costs are financed at 5 percent for 30 years), but will save approximately \$80 on monthly heating, cooling, and lighting bills (net present savings, nominal savings will be higher). On average, the 2019 Standards will increase the cost of constructing a new residential building by \$9,500 but will return more than \$19,000 in energy savings over 30 years.

Therefore, we found and concluded that the 2019 Standards are cost-effective.

The Energy Provisions of CALGreen adopted today are part of a voluntary standard that accomplishes the goals of Section 25402. However, as voluntary measures, they are not required to satisfy the requirements of subdivisions (a) and (b) for mandatory regulations.

The 2019 Energy Provisions of CALGreen are extensions of aspects of the 2019 Standards. They are voluntary and do not include any standards which alter the previous findings for the 2019 Standards. Although voluntary in nature, the 2019 Energy Provisions of CALGreen have the potential to increase the efficiency of and conserve the use of energy by reducing the energy budget otherwise allotted to a building in the 2019 Standards. If a local jurisdiction wishes to require these voluntary standards via local ordinance, it must establish cost effectiveness and submit its proposed local ordinance to the Energy Commission for approval.⁸

2. Public Resources Code Section 25402.8.

Section 25402.8 of the Warren-Alquist Act directs the Commission, when adopting new building energy conservation standards to “include in its deliberations the impact that those standards would have on indoor air pollution problems.”

The Commission must take into account both the indoor air quality concerns embodied in Section 25402.8 and the mandate to achieve cost-effective energy conservation in Sections 25402 Subdivisions (a) and (b). This alone requires a delicate balancing of issues and concerns because, among other reasons, by improving indoor air quality through increased ventilation, energy use will increase, which means that the adverse health impacts of outdoor air pollution may also increase.

Staff considered the impact that the proposed changes to the regulations would have on indoor air quality and found that neither the residential nor the nonresidential provisions would negatively impact indoor air quality. The 2019 Standards contain updates to ventilation and air filtration requirements that are

⁸ Pub. Res. Code § 25402.1, subdiv. (h)(2); Cal. Code Regs., tit. 24, part 6, § 10-106.

expected to improve air quality, and that were developed in coordination with the California Air Resources Board. Staff therefore finds that both the current and the adopted 2019 regulations:

- ensure adequate outdoor air ventilation;
- preserve and improve indoor air quality;
- require that the minimum outdoor air quantities be provided during regular and pre-occupancy periods; and
- require documentation showing that ventilation systems provide the minimum-required outdoor air quantities.

The Commission previously found and concluded that the 2019 Standards contain provisions that are reasonably necessary to carry out the mandate of Section 25402.8, and that they strike an appropriate balance between the requirements of this section and the energy-savings and cost-effectiveness mandates of Sections 25402, subdivisions (a) and (b).

The 2019 Energy Provisions of CALGreen are voluntary, provide more of the same energy and environmental benefits of the 2019 Standards, and do not include any standards which alter the previous findings for the 2019 Standards.

C. The Administrative Procedure Act

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 in the Final Statement of Reasons (FSOR) that is required to be prepared after the regulations are adopted. In support of those documents, the Commission made the following findings and determinations in adopting the 2019 Standards.

1. Reports Required of Businesses, Government Code Section 11346.3, subdivision (d)

In addition to the economic analysis required by Section 11346.3 of the APA, discussed further below, subdivision (d) of this statute mandates that agencies that require the preparation of reports by businesses find that such reports are necessary to protect the health, safety or welfare of the people of California.

The 2019 Standards require completion of certain reports, called compliance documentation, regarding the efficiency measures incorporated into buildings. The reports collect the information necessary for local building officials, building owners and occupants, and contractors to ensure that the measures are properly installed and operating correctly, so that the anticipated energy, environmental and cost

benefits will actually be achieved. Accordingly, we find and conclude that it is necessary that these reporting requirements apply to businesses, in order to protect the health, safety and welfare of the people of California, as required by Government Code Section 11346.3, Subdivision (d).

The 2019 Energy Provisions of CALGreen are extensions of aspects of the 2019 Standards and do not include any standards which require completion of any additional compliance documentation beyond what is required by the 2019 Standards, nor do they impose any other requirements for the preparation of reports by businesses.

2. Public Participation, Government Code Section 11346.45

State agencies must “involve parties who would be subject to the proposed regulations in public discussions regarding those proposed regulations, when the proposed regulations involve complex proposals or a large number of proposals that cannot easily be reviewed during the comment period.” As described above, the Energy Commission conducted extensive outreach with industry and other stakeholders, over the course of the past 18 months on the structure and contents of the regulations. We therefore find and conclude that the Energy Commission has complied with Government Code Section 11346.45.

On August 22, 2018, the Energy Commission presented information on the proposed 2019 Energy Provisions of CALGreen to the California Building Standards Commission Green Code Advisory Committee's publicly noticed meeting. This further extended the Energy Commission's outreach activities and encompassed additional stakeholders who were participating in the California Building Standards Commission's separate building standards rulemaking activities.

3. Economic Impact Assessment, Government Code Sections 11346.3, 11346.5 and 11346.9

Sections 11346.3, 11346.5, and 11346.9 of the APA require state agencies to assess various potential economic and fiscal impacts of proposed regulations and potential alternatives. Briefly stated, the Commission finds that the 2019 Standards:

- a) Will not result in a significant statewide adverse impact directly affecting business (including small businesses), including the ability of California businesses to compete with businesses in other states, and job creation;
- b) Will not have significant impacts on housing costs;
- c) Do not have alternatives that would be more effective in implementing the policies and provisions of the Warren-Alquist Act without increasing burdens, or that would be as effective and less burdensome to affected private persons in implementing the policies and provisions; and

- d) Will not impose any direct costs or direct or indirect requirements on state agencies, 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 the Government Code.

For complete details of the Energy Commission's fiscal and economic analysis of the 2019 Standards, see the Economic and Fiscal Analysis (Form 399), previously published with the NOPA.

The 2019 Energy Provisions of CALGreen are voluntary and do not include any standards which alter the previous finding for the 2019 Standards. Although voluntary in nature, the 2019 Energy Provisions of CALGreen provide a framework for drafting and adopting local ordinances and thus have the potential to increase the efficiency of and conserve the use of energy by reducing the energy budget otherwise allotted to a building in the 2019 Standards. If a local jurisdiction wishes to require these voluntary standards via local ordinance, it must establish cost-effectiveness and submit its proposed local ordinance along with its cost-effectiveness analysis to the Energy Commission for approval.

D. The State Building Standards Law, Health & Safety Code Section 18930

The 2019 Standards and the voluntary Energy Provisions of CALGreen must be submitted to the California Building Standards Commission (CBSC) for approval, and are required, by Health and Safety Code Section 18930, subdivision (a), to be accompanied by an analysis which will, to the satisfaction of the CBSC, justify their approval. For the reasons described below, we find, determine, and conclude that the voluntary Energy Provisions of CALGreen comply with each one of the applicable criteria.

1) The proposed building standards do not conflict with, overlap, or duplicate other building standards.

There is no overlap or duplication with other regulations because the Energy Commission is the only state agency authorized to set efficiency standards for buildings, and for the same reason there should be no conflict with other building standards (i.e., no situation in which it is impossible to comply with both an Energy Commission standard and another building standard). For example, considering the lighting energy efficiency standards and the electrical code:

- There are no conflicts between the Energy Code and the Electrical Code on lighting requirements. The Electrical Code requires illumination to be provided for all working spaces, whereas the Energy Code has requirements on the allowable

maximum amount of lighting power to be used for the building space and also how the lighting system shall be controlled and switched.

- There are no conflicts between the Energy Code and Electrical Code on receptacle requirements. The Electrical Code contains requirement of the whereabouts of receptacles whereas the Energy Code contains the requirements for controlled receptacles for spaces including private offices, open office areas, reception lobbies, conference rooms, kitchenette in office spaces, copy rooms, hotel and motel guest rooms.
- There are no conflicts between the Energy Code and Building Code on egress lighting requirements. Other parts of the Building Code contain means of egress requirements and the Energy Code contains express allowance for means of egress for lighting area controls and shut-OFF controls.

Additionally, Article 1, Section 10-101(b), of the Standards explicitly states that nothing in them lessens any necessary qualifications or responsibilities of licensed or registered building professionals or other designers or builders, or the duties of enforcement agencies that exist under state or local law.

Finally, the California Energy Commission is considering the adoption of deletions, additions, and amendments solely to the voluntary provisions in Appendices 4 and 5 of Part 11. These voluntary provisions in and of themselves do not have the force and effect of law. 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, local jurisdictions adopting these or other provisions as mandatory local energy efficiency standards shall submit a required application package and receive the required approval of the California Energy Commission in compliance with Title 24, Part 1, Section 10-106.

2) The proposed building standards are within the parameters established by enabling legislation and are not expressly within the exclusive jurisdiction of another agency.

The California Energy Commission 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. The Energy Commission is the only state agency with the authority to set efficiency standards for buildings. The Building Standards Law allows agencies in addition to the Building Standards Commission

to adopt CALGreen provisions. (Health and Safety Code, §§ 18930.5, 18941.5)

3) The public interest requires the adoption of the building standards.

The Building Standards Law states that the “public interest includes, but is not limited to, health and safety, resource efficiency, fire safety, seismic safety, building and building system performance, and consistency with environmental, public health, and accessibility statutes and regulations.” (Health & Safety Code, § 18930, Subdivision. (a)(3).) The 2019 CALGreen voluntary efficiency provisions are in the public interest, increase resource efficiency, building and building system performance, and are consistent with environmental, public health, and accessibility statutes and regulations.

When the legislature created the Energy Commission over forty years ago, it stated that the California economy, and indeed the well-being of all California citizens, depends on an adequate, reasonably priced, and environmentally-sound supply of energy.⁹ The legislature also stated that growth in electricity demand has strained the reliability of California’s electricity system, created potential environmental stresses, and contributed to a substantial rise in electricity prices.¹⁰ Finally, the legislature recognized that improvements in energy efficiency are among the most cost-effective and environmentally-friendly methods to help bring demand and supply into balance.¹¹

These facts remain as true today as they were then, and they make clear that adoption of the 2019 CALGreen voluntary efficiency provisions is required for the public interest.

The 2019 CALGreen voluntary efficiency provisions will continue to improve upon the existing mandatory Standards and continue to address policy directives that influenced the past Standards updates. These policy directives include:

- The 2003 Energy Action Plan (EAP) which established a “loading order” of energy resources and strategies to address the State’s growing energy demands (through conservation and energy efficiency to minimize energy demand first, followed by electricity generation from renewable energy resources and distributed generation).¹²
- The Climate Action Initiative (Executive Order S-3-05, June 2005) which sets greenhouse gas (GHG) emission reduction targets for California, as follows: by

⁹ Pub. Resources Code, § 25001; see also § 25300, subd. (a).

¹⁰ See Public Resources Code, § 25002.

¹¹ See Public Resources Code, §§ 25001, subds. (a) & (b), 25007.

¹² http://www.energy.ca.gov/energy_action_plan/2003-05-08_ACTION_PLAN.PDF.

2020, reduce GHG emissions to 1990 levels, and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

- The Global Warming Solutions Act of 2006, (Assembly Bill 32, Núñez, Stats. 2006, Chapter 488) codified the 2020 GHG emission reduction target into law. AB 32 requires the Air Resources Board (ARB) to report and verify statewide greenhouse gas emissions. The Act further requires that the ARB, in coordination with other state agencies, achieve the maximum technologically feasible and cost-effective GHG emission reductions, setting the stage for the State's transition to a sustainable, clean-energy future. Improving the energy efficiency of buildings is the single most important activity to reduce greenhouse gas emissions in the electricity and natural gas sectors. Thus expanding and strengthening building standards is a key recommendation of the Climate Change Proposed Scoping Plan.¹³ Proposed strategies include zero net energy buildings, more stringent building codes and appliance-efficiency standards, broader standards for new types of appliances and for water efficiency, improved compliance and enforcement of existing standards, and voluntary efficiency and green building targets beyond mandatory codes. In 2016, Senate Bill 32, Chapter 249, codified the goal to reduce the State's greenhouse gas emissions to 40 percent below 1990 levels by 2030.¹⁴
- The Energy Commission's 2011 Integrated Energy Policy Report (IEPR) includes many GHG emission reduction and energy-efficiency strategy recommendations.¹⁵ Energy efficiency is identified as the first strategy for accomplishing significant GHG reduction targets because it is a fast and inexpensive solution. The 2011 IEPR reiterated the statewide goal that new building standards achieve zero net energy levels by 2020 for residences and by 2030 for commercial buildings.
- The California Public Utility Commission's (CPUC) California Long Term Energy Efficiency Strategic Plan, endorses the Energy Commission's zero net energy goals for all newly-constructed homes by 2020, and 2030 for all newly-constructed commercial buildings.¹⁶ The Investor Owned Utilities (IOUs) authored the plan under the direction of the CPUC, and these utilities are now developing public goods incentive programs that support the implementation of this strategic plan.
- Governor Brown's Clean Energy Jobs Plan establishes the priorities of his administration to aggressively pursue clean energy jobs in California through

¹³ http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf.

¹⁴ See Health and Safety Code § 38566

¹⁵ <http://www.energy.ca.gov/2011publications/CEC-100-2011-001/CEC-100-2011-001-CMF.pdf>.

¹⁶ <http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=5303>

renewable energy and energy efficiency, extending the success of programs established in his first administration and the ensuing 30 years, which have triggered innovation and creativity in the market. The Clean Energy Jobs Plan calls for the development of 12,000 megawatts of localized, renewable electric generation by 2020, new energy efficiency standards for buildings to achieve dramatic energy savings, creating a path for making newly constructed residential and commercial buildings “zero net energy” through high levels of energy efficiency combined with onsite renewable electric generation, stronger appliance standards for lighting, consumer electronics and other products, in conjunction with increased public education and enforcement efforts so the gains promised by the efficiency standards are in fact realized.¹⁷

- Executive Order B-18-12, April 25, 2012¹⁸ and its accompanying Green Building Action Plan¹⁹ which set more stringent energy efficiency, renewable on-site generation, and GHG emission and water consumption reduction requirements for state agencies and state buildings as follows:
 - State agencies, departments, and other entities under direct executive authority must take actions to reduce entity-wide GHG emissions by at least 10 percent by 2015 and 20 percent by 2020, as measured against a 2010 baseline.
 - New state buildings and major renovations beginning design after 2025 must be constructed as Zero Net Energy facilities with an interim target for 50 percent of new facilities beginning design after 2020 to be Zero Net Energy.
 - State agencies shall take measures toward achieving Zero Net Energy for 50 percent of the square footage of existing state-owned building area by 2025.
 - State agencies must continue taking measures to reduce grid-based energy purchases for State-owned buildings by at least 20 percent by 2018, as compared to a 2003 baseline, and reduce other non-building, grid-based retail energy purchases by 20 percent by 2018, as compared to a 2003 baseline.
 - Proposed new or major renovation of state buildings larger than 10,000 square feet must use clean, on-site power generation, such as solar PV, solar thermal and wind power generation, and clean back-up power supplies, if economically feasible.
 - New and existing state buildings must incorporate building commissioning to

¹⁷ http://gov.ca.gov/docs/Clean_Energy_Plan.pdf.

¹⁸ <http://gov.ca.gov/news.php?id=17508>.

¹⁹ http://gov.ca.gov/docs/Green_Building_Action_Plan_B.18.12.pdf.

facilitate improved and efficient building operation.

- State agencies must identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future charging infrastructure demand, at employee parking facilities in new and existing buildings.
- State agencies must reduce overall water use at the facilities they operate by 10 percent by 2015 and by 20 percent by 2020, as measured against a 2010 baseline.
- The Clean Energy and Pollution Reduction Act of 2016 (Senate Bill 350, Chapter 547, October 7, 2015) directed the Energy Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030. The bill also required that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030.²⁰

All of these enactments and policy statements demonstrate that the energy efficiency advances that will be produced by the 2019 CALGreen voluntary efficiency provisions are crucial to the state's energy reliability and economic and environmental health.

4) The proposed building standards are not unreasonable, arbitrary, unfair, or capricious, in whole or in part.

The 2019 CALGreen voluntary efficiency provisions are not unreasonable, arbitrary, unfair, or capricious, in whole or in part. As discussed in section 3 of this Analysis, the Building Energy Efficiency Standards respond to the mandates of the Warren-Alquist Act, the Global Warming Solutions Act of 2006, California's Energy Action Plan 2008 Update, the California Energy Efficiency Long-Term Strategic Plan, the 2011 IEPR, the California's Clean Energy Futures Initiative, Governor Brown's Clean Energy Jobs Plan and the Clean Energy and Pollution Reduction Act of 2016.

The express terms of the 2019 CALGreen voluntary efficiency provisions and the record of the rulemaking proceeding through which the language is adopted shows that this criterion is met.

²⁰ See Public Resources Code § 25310 and § 25943.

5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.

The Energy Commission is considering the adoption of deletions, additions, and amendments solely to the voluntary provisions in Appendices A4 and A5 of Part 11. These voluntary provisions in and of themselves do not have the force and effect of law. Local jurisdictions adopting these voluntary provisions as mandatory local energy efficiency standards are required to submit an application and receive approval of the California Energy Commission prior to enforcement. CALGreen Chapter 1, Section 101.7.1 notes that the city, county, or city and county shall obtain California Energy Commission approval for any energy related ordinances consistent with Public Resources Code (PRC) Section 25402.1(h)(2) and Title 24, Part 1, Section 10-106.

The noted PRC Section 25402.1(h)(2) states:

The enforcement of city or county energy conservation or energy insulation standards, whenever adopted, with regard to residential and nonresidential buildings on which actual site preparation and construction have not commenced prior to the effective date of rules and regulations adopted pursuant to subdivisions (a) and (b) of Section 25402 and this section, if the city or county files the basis of its determination that the standards are cost effective with the commission and the commission finds that the standards will require the diminution of energy consumption levels permitted by the rules and regulations adopted pursuant to those sections. If, after two or more years after the filing with the commission of the determination that those standards are cost effective, there has been a substantial change in the factual circumstances affecting the determination, upon application by any interested party, the city or county shall update and file a new basis of its determination that the standards are cost effective. The determination that the standards are cost effective shall be adopted by the governing body of the city or county at a public meeting. If, at the meeting on the matter, the governing body determines that the standards are no longer cost effective, the standards shall, as of that date, be unenforceable and no building permit or other entitlement shall be denied based on the noncompliance with the standards.

Title 24, Part 1, Section 10-106 requires:

10-106. Locally adopted energy standards.

- (a) Requirements. Local governmental agencies may adopt and enforce energy standards for newly constructed buildings, additions, alterations, and repairs provided the Commission finds that the standards will require buildings to be designed to consume less energy than permitted by Part 6. Such local standards include, but are not limited to, adopting the requirements of Part 6

before their effective date, requiring additional energy conservation measures, or setting more stringent energy budgets. Local adoption of the requirements of Part 6 before their effective date is a sufficient showing that the local standards meet the requirements of this section and Section 25402.1(f)(2) of the Public Resources Code; in such a case only the documentation listed in Section 10-106(b), and a statement that the standards are those in Part 6, need be submitted.

(b) Documentation application. Local governmental agencies wishing to enforce locally adopted energy conservation standards shall submit four copies of an application with the following materials to the Executive Director:

1. The proposed local energy standards.
2. A study with supporting analysis showing how the local agency determined energy savings.
3. A statement that the local standards will require buildings to be designed to consume less energy than permitted by Part 6.
4. The basis of the agency's determination that the standards are cost effective.

In summary, local governmental agencies may adopt and enforce energy standards for newly constructed buildings, additions, alterations and repairs, provided the Energy Commission finds that the standards will require buildings to be designed to consume no more energy than permitted by Part 6. Such local standards include, but are not limited to, adopting the requirements of Part 6 before their effective date, adopting CALGreen voluntary provisions in whole or in part, requiring additional energy conservation measures, or setting more stringent energy budgets. Prior to enforcement, local jurisdictions adopting mandatory local energy efficiency standards shall submit a required application package and receive the required approval of the California Energy Commission in compliance with Title 24, Part 1, Section 10-106.

The number of local jurisdictions that may choose to adopt CALGreen voluntary provisions is unknown and unknowable, as is the extent to which any local jurisdictions choose to adopt the specific language provided by the voluntary appendices (as they may be adopted in whole or in part by the local jurisdiction, and the local jurisdiction may also adopt efficiency measures not specified in these provisions). Therefore, to the extent that the voluntary provisions do not mandate but nonetheless encourage adoption of efficiency ordinances by local jurisdictions, the effective costs and benefits associated with the CALGreen provisions are unknown and unknowable. However, the local agency approval processes and requirements insure that whatever is adopted will be cost effective for the community.

6) The proposed building standards are not unnecessarily ambiguous or vague, in whole or in part.

The Energy Commission has proposed many changes in the Draft Express Terms that ensure clarity and prevent ambiguity, and anticipates making further changes throughout the rulemaking proceeding to continually improve the proposed language. Proposals or comments suggesting further clarity improvements are incorporated into the CALGreen Standards where staff determines that they provide a benefit to clarity without otherwise changing the application or effect of the regulatory language. The Energy Commission's assessments of applicable comments are discussed in the Comments & Responses section of the Final Statement of Reasons prepared following the formal public comment period(s).

7) The applicable national specifications, published standards, and model codes have been incorporated into the proposed Building Standards as required by the State Building Standards Law, where appropriate.

There are no federal laws applicable to nonfederal buildings in their entirety, so nothing in this realm could have been incorporated into the 2019 CALGreen voluntary provisions. However, the adopted CALGreen voluntary provisions do incorporate (as previous editions of the Standards have for decades incorporated) federal energy standards for particular appliances that may be installed in buildings.

In addition, the Energy Commission included model and national codes and specifications in the 2019 CALGreen voluntary provisions wherever appropriate.

Staff anticipates receiving comments during the rulemaking proceeding that address the incorporation of various specifications, standards, and codes into the proposed CALGreen Standards. The Energy Commission's assessments of applicable comments are discussed in the Comments & Responses section of the Final Statement of Reasons prepared following the formal public comment period(s).

8) The format of the proposed building standards is consistent with that adopted by the Building Standards Commission.

The 2019 CALGreen voluntary provisions continue to use the format of the other building standards in the state building code.

9) The proposed building standards, if they promote fire and panic safety, as determined by the state fire marshal, have the written approval of the state fire marshal.

The Energy Commission has obtained the written approval of the state fire marshal and their determination that the proposed 2019 CALGreen voluntary provisions do not promote fire or panic safety.

CERTIFICATION

The undersigned Secretariat to the Commission 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 California Energy Commission held on October 3, 2018.

AYE:

NAY:

ABSENT:

ABSTAIN:

Cody Goldthrite,
Secretariat