

STATE OF CALIFORNIA

STATE ENERGY RESOURCES  
CONSERVATION AND DEVELOPMENT COMMISSION

*IN THE MATTER OF:*

**2022 TITLE 24 BUILDING ENERGY  
EFFICIENCY STANDARDS  
RULEMAKING  
PROCEEDING CALIFORNIA CODE  
OF REGULATIONS, TITLE 24,  
PART 1, CHAPTER 10, AND PART 6**

Docket No. 21-BSTD-01

**[PROPOSED] RESOLUTION ADOPTING PROPOSED**

**REGULATIONS I. INTRODUCTION**

The State Energy Resources Conservation and Development Commission (“CEC”) has, as directed by Section 25402 of the California Public Resources Code, developed and undertaken a proceeding to adopt revisions to its Building Energy Efficiency Standards.

The Building Energy Efficiency Standards apply to residential, nonresidential, high-rise residential, and hotel and motel buildings. The standards are in Part 6 (also known as the California Energy Code) and associated administrative regulations in Part 1, Chapter 10, of Title 24 of the California Code of Regulations. The revised standards are called the 2022 Building Energy Code (2022 Energy Code), as proposed on July 13, 2021, for a 15-day public comment period, and as further revised by Appendix A to this Resolution.<sup>1</sup> The 2022 Energy Code will go into effect on January 1, 2023, following approval by the California Building Standards Commission.

As adoption of the revised standards is a “discretionary project” under the California Environmental Quality Act (CEQA),<sup>2</sup> the CEC has determined that CEQA applies to the adoption of the 2022 Energy Code and, pursuant to CEQA, prepared an Environmental Impact Report (EIR). On August 11, 2021, the CEC certified the Final EIR as complying with CEQA and found that there are no significant environmental impacts from the adoption of the 2022 Energy Code.

The CEC hereby adopts the proposed additions and amendments to its Building Energy Efficiency Standards. The CEC takes this action under the authority given by Public Resources Code Sections 25213, 25218, 25218.5, 25402, 25402.1, and 25605. The CEC proposes to implement, interpret, or make specific Public Resources Code

<sup>1</sup> The proposed 2022 Energy Code was published to the docket on July 13, 2021 with an error and was reposted with the error corrected on July 14, 2021.

<sup>2</sup> Pub. Resources Code, § 21000 et seq.

Sections 21080.4, 21153, 25007, 25008, 25218.5, 25310, 25402, 25402.1, 25402.4, 25402.5, 25402.8, 25605, 25910, 25942, and 25943, and Health and Safety Code Sections 18930, 18934, and 18935.

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

### **A. Rulemaking**

To develop the 2022 Energy Code, the CEC conducted an open, transparent, and extensive public process. Between March 2019 and today, the CEC held and participated in 45 stakeholder meetings and public workshops, in addition to holding three days of Lead Commissioner hearings. Development began with a presentation of the overall plan and schedule for this rulemaking, and the fundamental building blocks that would be used to propose revisions to the California Energy Code. Subsequent workshops addressed various aspects of the 2022 Energy Code in detail. During this process, stakeholder groups assessed, analyzed, discussed, and helped to improve numerous versions of the proposed standards, and the CEC staff considered more than 300 formal public comments.

On May 6, 2021, the CEC mailed and posted on its website a Notice of Proposed Action (NOPA) formally notifying the public of the CEC's intent to adopt the 2022 Energy Code, the Express Terms of the regulations, an Initial Statement of Reasons (ISOR) describing the rationale for the proposal, and the fiscal and economic impact analysis. On May 7, 2021, the NOPA was published in the California Regulatory Notice Register, delivered to the Secretary of the California Natural Resources Agency, and mailed to a representative number of small business enterprises or their representatives that are likely to be affected by the proposed action. The CEC provided each of these documents and notices to every person on the CEC's Building Energy Efficiency Standards list server, the CEC's Efficiency list server, and to every person who had requested notice of such matters. The CEC also posted each of these documents to its website.

On May 24, 2021, May 27, 2021, and May 28, 2021, the CEC held a Lead Commissioner Workshop on the 2022 Energy Code. On June 21, 2021, the 45-day comment period established by the NOPA closed. The CEC received a large number of written public comments on the 2022 Energy Code during the 45-day comment period. Accordingly, on July 13, 2021, the CEC issued a Notice of proposed changes to the 45-day language, which was available for comment for 15 days ("15-day Language").

### **B. Environmental Impact Report**

On March 18, 2021, the CEC published a Notice of Preparation (NOP) of an EIR for the 2022 Energy Code and submitted it to the State Clearinghouse, stating that a Draft EIR would be prepared. On April 9, 2021, the CEC held a Scoping Meeting pursuant to California Public Resources Code Section 21083.9(a)(2), to obtain input on the

appropriate scope and content of the Draft EIR because the 2022 Energy Code is a project of statewide importance.

The CEC prepared a Draft EIR and, on May 19, 2021, submitted it to the State Clearinghouse to distribute to state agencies for review. Also, on May 19, 2021, the CEC provided a Notice of Availability of the Draft EIR to all persons and organizations subscribed to the Building Energy Efficiency Standards list server and posted it on the CEC's website to inform the public of a 45-day public review and comment period, which began on May 20, 2021 and ended on July 8, 2021. In addition, the Notice of Availability of the Draft EIR was published in the Los Angeles Times on May 20, 2021, in order to provide notice to the public, pursuant to California Code of Regulations, title 14, Section 15087(a)(1), of the availability of the Draft EIR and the 45-day public comment and review period, ending on July 8, 2021.

On August 4, 2021, the CEC published the Final EIR for the 2022 Energy Code. The Final EIR consists of the Draft EIR, comments received during the 45-day public review and comment period, and the CEC's responses to the significant environmental comments received during the 45-day public review and comment period, as well as a revised Draft EIR incorporating changes made to the text of the Draft EIR in response to the comments received on the Draft EIR.

On August 11, 2021, the CEC held a public hearing to receive comments on the Final EIR and to consider its adoption. Considering all comments received on the Draft EIR and based on the entire record of this proceeding, the CEC certified the Final EIR as complying with CEQA and found that there are no significant environmental impacts from the adoption of the 2022 Energy Code.

### **III. FINDINGS AND CONCLUSIONS**

Several statutes govern the CEC's adoption of the 2022 Energy Code: the Warren-Alquist State Energy Resources Conservation and Development Act,<sup>3</sup> the administrative rulemaking provisions of the Administrative Procedure Act (APA),<sup>4</sup> the Building Standards Law,<sup>5</sup> and the CEQA.<sup>6</sup> Pursuant to these statutes, the CEC has reviewed the entire record of this proceeding, including public comments, reports and other documents, transcripts of public events, and all other materials that have been filed in this proceeding (Docket Nos. 21-BSTD-01, 21-BSTD-02).<sup>7</sup>

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

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<sup>3</sup> Pub. Resources Code, § 25000 et seq.

<sup>4</sup> Gov. Code, 1340 et seq.

<sup>5</sup> Health & Safety Code, § 18901 et seq.

<sup>6</sup> Pub. Resources Code, § 21000 et seq.

<sup>7</sup> The documents and other materials that constitute the rulemaking record can be found online at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?doctetnumber=21-BSTD-01> and for the EIR at <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?doctetnumber=21-BSTD-02>.

**A. The Warren-Alquist Act, Public Resources Code Sections 25402 and 25402.8**

The 2022 Energy Code satisfies the requirements of the Warren-Alquist Act, in Public Resources Code Section 25402, which requires the CEC to adopt building design and construction standards that increase the efficiency in the use of energy and water for new residential and new nonresidential buildings, and energy and water conservation design standards. The 2022 Energy Code fulfills these directives and will reduce the wasteful, uneconomic, inefficient, and unnecessary consumption of energy for appliances that require a significant amount of energy or water on a statewide basis. The reduction in statewide electricity demand will also marginally decrease water consumption in the electricity generation sector. In addition, the standards contained within the 2022 Energy Code are technologically feasible and attainable.

Further, Section 25402 requires the standards contained within in the 2022 Energy Code to be cost-effective when taken in their entirety, and when amortized over the economic life of the structure when compared with historic practice. Information in the administrative record indicates that the Building Energy Code as a whole will result in significant savings. Conservatively, these estimated savings equal a 30-year stream of approximately \$292.6 million in annual savings. Buildings constructed pursuant to the 2022 Energy Code are projected to provide \$1.56 billion of environmental benefit over a 30-year period. Therefore, the CEC finds that the 2022 Energy Code is cost-effective.

Section 25402.8 requires the CEC to consider the impact that building energy efficiency standards would have on indoor air pollution problems. The CEC considered the impacts to indoor air quality and included provisions in the 2022 Energy Code to address indoor air quality for health and safety. The CEC therefore finds and concludes that the 2022 Energy Code is reasonably necessary to carry out the mandate of Section 25402.8.

**B. The Administrative Procedure Act:**

The California 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 CEC makes the following findings and determinations in adopting the 2022 Energy Code.

The 2022 Energy Code will likely result in the creation of new businesses, will not likely result in the elimination of existing businesses, and will not result in a significant statewide adverse economic impact directly affecting business, including the ability of California businesses to compete with businesses in other states. The 2022 Energy Code will require energy efficiency measures for all new nonresidential and residential construction, as well as for certain additions and alterations to existing buildings. While the increased energy efficiency in California's buildings may have short-term initial

costs, there are long-term savings that typically repay those costs by a significant positive ratio. The 2022 Energy Code therefore will create long-term economic growth and stability by increasing the disposable income of Californians and California businesses in the long-term, making it possible for new businesses to be created to provide compliance services and to supply energy efficient products. The 2022 Energy Code will likely result in the expansion of businesses currently doing business in California.

The 2022 Energy Code will impose no direct costs or savings, or direct or indirect requirements or mandates, on local agencies, or school districts, including but not limited to costs that are required to be reimbursed under Part 7 (commencing with Section 17500) of Division 4 of the Government Code, when savings accruing over the lifetime of the appliance is considered. Further, the 2022 Energy Code will impose direct costs or savings, or direct or indirect requirements or mandates, on state agencies, as buildings owned and occupied by state agencies are required to comply with them.

The 2022 Energy Code may result in both the creation and elimination of jobs within California. California businesses producing energy efficient products and technology that meet or exceed the proposed standards are likely to expand sales of those products and technologies due to the implementation of these proposed standards. Construction related jobs and occupations, and companies that provide energy efficient products and services, will likely benefit from increased demand for those products and services likely creating jobs. Any jobs eliminated may be the result of a single measure that will reduce indoor nonresidential lighting power requirements.

The 2022 Energy Code will result in no costs or savings in Federal funding to the state of California. While the CEC receives Federal State Energy Program funding for the building standards program, the updates proposed to the standards do not alter or affect the state's ongoing participation in Federal State Energy Program. The 2022 Energy Code further will result in no nondiscretionary costs or savings to local agencies or school districts.

The 2022 Energy Code will have an impact on housing costs. California's Energy Code is part of the California Building Standards Code and therefore impacts newly constructed buildings and certain additions and alterations to existing buildings. However, the energy bill savings over the life of the building will be greater than any increased construction costs that will result from the standards.

The 2022 Energy Code will result in no cost impacts to representative private persons or businesses in reasonable compliance with the regulations. While the increased energy efficiency in California's buildings may have short-term initial costs, reduced utility costs in the long-term will result in increased disposable income for private persons and lowered costs for businesses.

The 2022 Energy Code will not adversely impact the health and welfare of California residents, worker safety, or the state's environment.

The 2022 Energy Code has no alternatives that would be more effective in carrying out the purposes of the statutes for which it is proposed, that would be as effective and less burdensome to affected private persons in carrying out those purposes, or that would be more cost-effective to affected private persons and equally effective in implementing those purposes.

The 2022 Energy Code may have a significant adverse economic impact on small business. The Energy Code does not differentiate between a small business and a regular business. No alternatives were proposed that would lessen any adverse economic impact on small business.

The 2022 Energy Code will not require completion of any new report.

None of the comments received during the comment period or at the public adoption hearing, and nothing else in the record, justified any changes to the 2022 Energy Code as published on July 13, 2021, except for those non-substantive edits noted in the Errata to the 2022 Energy Code, attached as Appendix A to this resolution.

### **C. The Building Standards Law, Health and Safety Code Section 18930**

The 2022 Energy Code must be submitted to the California Building Standards Commission (CBSC) for approval and is required to be accompanied by an analysis which will, to the satisfaction of the CBSC, justify its approval. (Health & Safety Code, Section 18930, subd. (a).) For the reasons described below, the CEC finds, determines, and concludes that the 2022 Energy Code complies with each one of the applicable criteria.

- 1) The 2022 Energy Code does not conflict with, overlap, or duplicate other building standards. The CEC is the only state agency authorized to set efficiency standards for buildings. Therefore, there is no overlap, duplication, or conflict with other building standards.
- 2) The 2022 Energy Code is within the parameters established by enabling legislation and is not expressly within the exclusive jurisdiction of another agency. The CEC has statutory authority under Public Resources Code Sections 25213, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25910 to promulgate and update energy and water efficiency standards for residential and nonresidential buildings, including both newly constructed buildings and additions and alterations to existing buildings.
- 3) The public interest requires the adoption of the 2022 Energy Code. California law declares that the welfare of California's citizens and economy depends on an adequate, reasonably-priced, and environmentally-sound supply of energy and that wasteful, uneconomic, inefficient, and unnecessary uses of energy will result in serious depletion or irreversible commitment of energy, land, and water

resources, and potential threats to the state's environmental quality. It is the policy of the state to:

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

The 2022 Energy Code serves all these public interests by carrying out the CEC's statutory mandate to provide energy- and water-efficiency and conservation standards for both newly constructed residential and nonresidential buildings. By saving large amounts of energy, the standards will make a major contribution in meeting the state's goals for reductions in greenhouse gas emissions in buildings. By making buildings more efficient and affordable to operate, the 2022 Energy Code encourages investment in new construction, making capital available for other investments, thereby stimulating economic growth. The 2022 Energy Code will continue to improve upon the existing building standards and continue to address past and new policy directives.

- 4) The 2022 Energy Code is not unreasonable, arbitrary, unfair, or capricious, in whole or in part. The proposed standards, as a whole and with respect to each part, were carefully developed through an open, transparent, data-driven process that necessarily responds to, incorporates, and reasonably balances a broad array of interests, state policy goals, and legal requirements. The proposed standards originated with proposals that describe measures that are technically feasible and cost-effective, including supporting data and analysis. These proposals were then vetted during the public pre-rulemaking process, including dozens of public workshops, during which time CEC staff received stakeholder input and refined the proposed standards based on stakeholder input and evidence in the record.
- 5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards. The 2022 Energy Code will increase the deployment of on-site renewable energy generation, reduce carbon emissions from new buildings, reduce growth in energy demand, increase energy demand flexibility, and ensure that California buildings are as energy efficient as is found to be technically feasible and cost-effective. Added construction costs that the building standards will impose are reasonable based on the economic and environmental benefits that will be derived from the building standards. Therefore, the benefits will substantially outweigh the upfront costs of the 2022 Energy Code.
- 6) The 2022 Energy Code is not unnecessarily ambiguous or vague, in whole or in part. These standards include many changes that improve clarity and prevent

ambiguity. Proposals or comments suggesting clarifying improvements were incorporated into the building standards where it was determined that they provide a benefit to clarity without otherwise changing the application or effect of the intended regulatory change.

- 7) The applicable national specifications, published standards, and model codes have been incorporated into the 2022 Energy Code as required by the State Building Standards Law, where appropriate. The 2022 Energy Code incorporates Federal energy standards for particular appliances that may be installed in buildings. In addition, the CEC included model and national codes and specifications in the 2022 Energy Code wherever appropriate.
- 8) The format of the 2022 Energy Code is consistent with that adopted by the CBSC. The proposed standards continue to use the format of the other building standards in the State Building Code.
- 9) The 2022 Energy Code has the written approval of the state fire marshal. On July 14, 2021, the State Fire Marshal filed a letter to the 2022 Energy Code docket, stating that the Office of the State Fire Marshall reviewed the 2022 Energy Code, found no conflict in the proposed regulations, and therefore granting written approval.

#### **IV. ADOPTION OF 2022 ENERGY CODE; DELEGATION TO EXECUTIVE DIRECTOR**

After considering all comments received and the staff's responses, and based on the entire record of this proceeding, the CEC hereby adopts the amendments in the 2022 Energy Code, as set forth in the 15-day language and as further revised by Appendix A of this Resolution.

The CEC delegates the authority and directs CEC staff to take, on behalf of the CEC, all actions reasonably necessary to have the 2022 Energy Code go into effect, including but not limited to correcting grammatical, typographical, and other nonsubstantial errors in the regulations; preparing all appropriate documents, such as the Final Statement of Reasons; compiling and submitting the rulemaking file to the CBSC or Office of Administrative Law (OAL); making any changes to the rulemaking file required by CBSC or OAL; and preparing and filing the Final EIR with the State Clearinghouse.

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**CERTIFICATION**

The undersigned Secretariat to the CEC does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the CEC held on August 11, 2021.

AYE:

NAY:

ABSENT:

ABSTAIN:

Original Signed by:

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Liza Lopez  
Secretariat

## Appendix A

### 1. Errata to the 2022 Energy Code, 15-day language

- Page 51, Section 100.0(e)2Bii: Replace “140.9” with “140.10.” This is a typographical clerical error that could lead to confusion if not corrected since Section 140.10 was added as a prescriptive requirement.
- Page 55, Table 100.0-A: In the fourth column from the left and the fourteenth row down, replace “141.10” with “140.10.” This is a typographical clerical error that could lead to confusion if not corrected since Section 140.10 was added as a prescriptive requirement, while there is no Section 141.10.
- Page 92, Section 100.1(b): Replace “OPTIMUM STOP CONROLS” with “OPTIMUM STOP CONTROLS.” This is a typographical clerical error.
- Page 199, Section 120.6(h)1A: Delete the following language that inadvertently appeared after the period and repeats the text immediately before the period: “ng with 10 CFR 430.32(v)2.” This is a typographical clerical error.
- Page 233, Note to Section 140.0: Replace “140.9” with “140.10” in two instances. This is a typographical clerical error that could lead to confusion if not corrected since Section 140.10 was added as a prescriptive requirement.
- Page 235, Section 140.2: Replace “140.9” with “140.10.” This is a typographical clerical error that could lead to confusion if not corrected since Section 140.10 was added as a prescriptive requirement.
- Page 262, Table 140.4-A: In top row, furthestmost right column, delete footnote 1 from “All Other Fan Systems >10,000 cfm<sup>1</sup>.” This is a typographical clerical error, and the footnote does not properly refer to this entry.
- Page 323, Table 140.9-B: Replace “<” with “≤” in all five instances located in the left-most column of the table. This is a typographical clerical error that could lead to confusion if not corrected.
- Page 368, Section 141.0(a)(1): Replace “140.9” with “140.10.” This is a typographical clerical error that could lead to confusion if not corrected since Section 140.10 was added as a prescriptive requirement.
- Page 525, Section 180.2(b)1A: Replace “ii” with “iii.” This is a typographical clerical error that could lead to confusion if not corrected since Section 180.2(b)1Aiii was added as a requirement.

- Page 528, Table 180.2-B: Replace “SHGC” with “RSHGC” in the title of the Table. This is a typographical clerical error that does not match the text references to the table and its contents.
- Page NA2-10, Section NA2.2.4.1.5(3)c: Replace the second instance of “Power Consumed” with “Fan Efficacy (W/cfm).” This is a typographical clerical error that renders the sentence and section nonsensical and therefore could lead to confusion if not corrected.
- Page RA3-114, Section RA3.7.4.4(3)c: Replace the second instance of “Power Consumed” with “Fan Efficacy (W/cfm).” This is a typographical clerical error that renders the sentence nonsensical and therefore could lead to confusion if not corrected.

## 2. Decline to Adopt

- Page 321, Section 140.9(a)1C: Due to comments from stakeholders, decline to adopt additions, either from 45-day or 15-day language, of Section 140.9(a)1C.
- Page 321, Table 140.9-A: Due to comments from stakeholders, decline to adopt addition in 15-day language of Table 140.9-A.
- Page 323, Table 140.9-B: Due to declination to adopt addition of a new Table 140.9-A on page 321, decline to adopt change in 15-day language to “Table 140.9-B” back to “Table 140.9-A” on page 323.
- Page 346, Section 141.1(b)1C: Due to comments from stakeholders, decline to adopt additions, either from 45-day or 15-day language, of Section 141.1(b)1C.
- Page 347, Table 141.1-A: Due to comments from stakeholders, decline to adopt addition in 15-day language of Table 141.1-A.
- Page 380, Table 150.1-A: In “Space Heating” row, under Climate Zone 10, decline to adopt deletion in 45-day language of “MIN” and addition from 45-day language of “NA.” After publication of the 45-day language, staff received comments suggesting that the change to heat pumps for space heating in Climate Zone 10 was not appropriate. As discussed in the Lead Commissioner Hearing, staff agreed with these comments and made this change back to 2019 Standards language in the 15-day text. However, the corresponding table language inadvertently was not changed back in the 15-day language.
- Page 548, Appendix 1-A: Decline to adopt deletion from 15-day language of the following: “ASTM E408-13(2019) Standard Test Methods for Total Normal Emittance of Surfaces Using Inspection Meter.” This was an inadvertent deletion of the majority, but not entire, entry.