

**CALIFORNIA ENERGY COMMISSION**

1516 Ninth Street  
Sacramento, California 95814  
[energy.ca.gov](http://energy.ca.gov)

CEC-057 (Revised 1/21)



## NOTICE OF PREPARATION

### NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT FOR THE 2022 AMENDMENTS TO THE ENERGY CODE

The California Energy Commission (CEC) is the lead agency under the California Environmental Quality Act (CEQA) and will prepare an environmental impact report (EIR) for the proposed 2022 amendments to the Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (Energy Code).

In accordance with California Code of Regulations, Title 14, section 15082, the CEC has prepared this notice of preparation (NOP) to inform agencies and interested parties that an EIR will be prepared for the above-referenced project. The purpose of an NOP is to provide sufficient information about the project and its potential environmental impacts to allow agencies and interested parties the opportunity to provide a meaningful response related to the scope and content of the EIR, including mitigation measures that should be considered and alternatives that should be addressed (Cal. Code Regs., tit. 14, § 15082[b]).

The CEC has the exclusive authority to adopt energy efficiency standards for buildings, which are located in the Energy Code. Public Resources Code section 25402, subdivisions (a) and (b) establish that the CEC shall periodically prescribe, by regulation, statewide building energy efficiency standards to reduce wasteful, uneconomic, inefficient, or unnecessary consumption of energy. The Energy Code includes the energy efficiency requirements applicable to newly constructed buildings and additions and alterations to existing buildings.

### Submitting Comments

Pursuant to California Code of Regulations, Title 14, section 15082(b), your response must be sent no later than 30 days after receipt of this notice, although you are encouraged to submit them sooner. You may submit [comments electronically](https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=19-BSTD-03) through the CEC's electronic commenting feature on the CEC's webpage at <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=19-BSTD-03>.

A full name, email address, comment title, and either a comment or an attached document (.doc, .docx, or .pdf format) is mandatory. After a challenge response test used by the system to ensure that responses are generated by a human user and not a computer, click on the "Agree & Submit Your Comment" button to submit the comment to the CEC's Docket Unit.

You are encouraged to use the electronic filing system described above to submit comments. If you are unable or do not wish to submit electronically, a paper copy of your comments, including the docket number 21-BSTD-02 and indicating "2022 Energy Code Update CEQA Documentation" may be sent to:

Docket Unit  
California Energy Commission  
Docket No. 21-BSTD-02  
1516 9th Street, MS-4  
Sacramento, CA 95814

Or, email them to [docket@energy.ca.gov](mailto:docket@energy.ca.gov)

Please note that your e-comments, emails, written letters, any attachments, and associated contact information (for example, address, phone number, and email address) become part of the viewable public record. Additionally, this information may become available via internet search engines.

If you have any questions or need additional information on how to participate in CEC's review of the proposed project, please contact Peter Strait at [peter.strait@energy.ca.gov](mailto:peter.strait@energy.ca.gov).

The project location, description, and potential environmental effects are summarized below.

## **Project Description**

The Warren-Alquist Act establishes the CEC as California's primary energy policy and planning agency. Public Resources Code sections 25213, 25402, 25402.1, 25402.4, 25402.5, 25402.8, and 25910 mandate and/or authorize that the CEC adopt rules and regulations, as necessary, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy and water in new residential and new nonresidential buildings.

One of the ways the CEC satisfies this requirement is through the Energy Code. The Energy Code includes the energy efficiency requirements applicable to newly constructed buildings and permitted additions and alterations to existing buildings. The CEC updates the Energy Code on a three-year cycle as part of the California Building Standards Code.

The current project is the latest triennial update to the Energy Code. The proposed amendments, if adopted, would be incorporated into the 2022 edition of the Energy Code and become effective on January 1, 2023. The CEC is proposing the following amendments to the Energy Code:

- Revise the prescriptive compliance path available for building projects to include only heat pump technology in specific circumstances;
- Revise the “standard design” used for the modeling-based performance compliance path available for building projects to establish the performance baseline based on heat pump technologies in specific circumstances;
- Improve existing residential energy efficiency standards for solar photovoltaic systems, including battery storage, and associated compliance options;
- Add new prescriptive solar photovoltaic and battery requirements for the following newly constructed nonresidential building types: high-rise multifamily, hotel-motel, tenant-space, office, medical office or clinic, restaurant, grocery store, retail store, school, and theater/auditorium/convention center buildings;
- Add new requirements that mixed fuel buildings be electric ready, meaning that electrical connections and other features needed to allow use of non-combustion equipment options are installed at the time of initial construction;
- Establish new energy efficiency standards for lighting, envelope, and space conditioning systems serving controlled environment horticulture spaces;
- Improve energy efficiency standards for commercial and industrial process loads, including, computer room air conditioning, refrigerated areas, fan systems, compressed air systems, and steam traps;
- Improve nonresidential and multifamily efficiency standards for building envelopes (e.g., exterior walls, windows, roofs, and floors), fan and duct systems, HVAC controls, boilers and service water heating systems, indoor and outdoor lighting systems, and grid integration equipment such as demand responsive controls;
- Improve minimum standards for residential kitchen ventilation;
- Update and enhance requirements relating to duct sealing and ventilation; and
- Make numerous minor revisions to existing provisions to improve the clarity of the regulations.

## **Project Location**

The project is a change to building design and construction requirements that are applicable statewide.

## **Potential Environmental Impacts**

While the Energy Code relates to new construction, it does not cause new construction to occur within the state. The Energy Code also does not regulate where such construction occurs nor does it change the application of zoning laws, land use restrictions, or any other laws that affect the siting of specific building projects.

Rather, the Energy Code is a set of design and construction requirements that apply once a decision to begin a construction project has been made and a building permit requested (i.e.,

the Energy Code provides conditions attached to the permit to construct a given improvement). The Energy Code sets design and construction standards for specific building components to ensure the building achieves a minimum level of overall energy efficiency. For example, the Energy Code may require that installed HVAC equipment meet minimum federal standards for equipment efficiency and that associated ducting be appropriately sealed and insulated. As such, adopting amendments to Energy Code requirements does not directly cause any changes to the environment. Its effects are indirect, as builders and manufacturers respond to new requirements.

Rather, improvements in energy efficiency act to lower a building's wasteful use of energy, thus avoiding potentially negative impacts that would otherwise have occurred. The majority of efficiency improvements considered in the proposed amendments to the Energy Code do not increase the amount of ground disturbance needed for a given building nor change the type or character of equipment or materials installed into the building as a part of its construction. Nevertheless, CEC has identified three areas where a potentially significant environmental impact may exist:

- An increase in greenhouse gas emissions is theoretically possible but not expected. The proposed Energy Code encourages heat pump technology, which reduces on-site gas combustion for space and water heating equipment. Heat pump equipment relies on use of refrigerants for its operation, as do air conditioners. Many of the most common refrigerants have a high global warming potential (see <https://ww2.arb.ca.gov/resources/documents/high-gwp-refrigerants>), meaning that refrigerant leakage, should it occur during transport, installation, operation, or disposal, could result in increased greenhouse gas emissions. While mixed-fuel buildings will still be constructed using the performance compliance approach, the removal of gas alternatives in the prescriptive pathway and the need to achieve modified performance targets can be reasonably anticipated to incentivize additional use of heat pump technologies that would not otherwise occur, with an expected commensurate increase in the use of necessary refrigerants.

The use of refrigerants substitutes for continuous on-site combustion of gas during operation of space and water heating equipment, thus reducing combustion-related emissions and potentially increasing those from refrigerants. This substitution is not expected to lead to a significant increase in net greenhouse gas emissions attributable to building space heating and water heating needs, though staff acknowledges that there is a possibility that an environmental impact may nonetheless exist and intends to investigate this area in the EIR.

- Replacement of combustion of natural gas at the building site with heat pump technologies has a significantly lower emissions tradeoff than has historically been the case, making it reasonable to expect a net reduction in emissions. While use of utility-provided electricity means that overall fuel efficiency, inclusive of transmission losses,

can be lower than the fuel efficiency of on-site equipment, this is counterbalanced by the fact that heat pump equipment is more efficient than combustion equipment (having coefficients of performance of two and above, meaning that they provide twice or more energy as heating than they consume as electricity). Further, California has made (and is mandated to continue making) significant strides to decarbonize its electricity system by converting to renewable sources, such that it is reasonable to expect that the relative advantages of heat pump technologies will increase over time.

Staff is not aware of any substantial evidence that fuel substitution would have a direct or a cumulatively considerable environmental impact on criteria pollutant emissions or greenhouse gas emissions, though staff acknowledges that there is a possibility that an environmental impact may nonetheless exist and intends to investigate this area in the EIR.

Lastly, staff has also identified a possibility of a cumulative impact occurring as this project encourages transition to electric equipment serving new space and water heating needs at the same time that other projects encourage transition to electric equipment serving transportation needs. Staff intends to investigate whether this context creates any potentially significant impacts.

- A significant increase in hazards and hazardous materials is possible but not expected, because the proposed Energy Code would incorporate battery storage systems into nonresidential system requirements. Battery storage equipment relies most commonly on use of lithium ion batteries for their operation. The requirement to include these systems in specified buildings can be reasonably anticipated to require routine transport of lithium ion batteries to such construction projects. Lithium ion batteries are regulated as a hazardous material under the U.S. Department of Transportation's Hazardous Materials Regulations (HMR; 49 C.F.R., Parts 171-180). (See <https://www.phmsa.dot.gov/lithiumbatteries>.)

Lithium ion batteries are ubiquitous throughout consumer and commercial products, and compliance with existing federal laws allows them to be safely transported, used, and recycled. The marginal increase in routine transport, use, and disposal of such batteries needed to install building battery storage systems is not expected to lead to a significant increase in risk or to pose a significant hazard to the public or the environment, though staff acknowledges that there is a possibility that an environmental impact may nonetheless exist and intends to investigate this area in the EIR.

Staff has identified that this project will have either no or less-than-significant impacts in the following environmental topic areas: aesthetics, agriculture and forestry resources, biological resources, cultural resources, energy, geology and soils, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation,

transportation and traffic, utilities and other service systems, tribal cultural resources, and wildfire.

### **Responsible and Trustee Agencies**

Any adoption of building standards by any state agency is subject to approval by the California Building Standards Commission, making them a responsible agency for this project.

Staff is not aware of any significant environmental impacts for which another California agency would be a trustee agency.

### **Alternatives**

The EIR will consider a reasonable range of potentially feasible alternatives to the project. In addition to a no project alternative. The EIR will likely consider project alternatives that do not change provisions relating to use of heat pump equipment or add requirements for battery storage systems.