

CONTRA COSTA COUNTY
**FINDINGS IN SUPPORT OF CHANGES, ADDITIONS, AND DELETIONS TO
CALIFORNIA ENERGY CODE TO REQUIRE CERTAIN NEWLY
CONSTRUCTED BUILDINGS TO BE ALL-ELECTRIC BUILDINGS**

The California Building Standards Commission has adopted and published the 2019 Building Standards Code, which became effective on January 1, 2020. The 2019 Building Standards Code is composed of the 2019 California Building, Residential, Green Building Standards, Energy, Electrical, Plumbing, Mechanical, and Existing Building Codes. These codes are enforced in Contra Costa County by the Building Inspection Division of the Department of Conservation and Development.

Although these codes apply statewide, Health and Safety Code sections 17958.5 and 18941.5 authorize a local jurisdiction to modify or change these codes to establish more restrictive building standards if the jurisdiction finds that the modifications and changes are reasonably necessary because of local climatic, geological, or topographical conditions. Additionally, Public Resources Code section 25402.1(h)(2) authorizes a local jurisdiction to modify or change the California Energy Code to establish more restrictive building standards if the jurisdiction determines that the standards are cost-effective and the State Energy Resources Conservation and Development Commission finds that the standards will require the diminution of energy consumption levels.

Ordinance No. 2022-02 adopts the 2019 California Energy Code and amends it to address local conditions by requiring that all newly constructed residential buildings, hotels, offices, and retail buildings be constructed as all-electric buildings without natural gas infrastructure.

Pursuant to Health and Safety Code section 17958.7, the Contra Costa County Board of Supervisors finds that the more restrictive standards contained in Ordinance No. 2022-02 are reasonably necessary because of the local climatic, geological, and topographic conditions that are described below.

I. Local Conditions

A. Climatic

The burning of fossil fuels to heat structures and water, for use in cooking and clothes drying appliances, and for other uses is a significant contributor to greenhouse gas emissions and consequently climate change. “Combustion of natural gas and petroleum products for heating and cooking needs emits carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Emissions from natural gas consumption represent 80 percent of direct fossil fuel CO₂ emissions from the residential and commercial sectors in 2019.”¹ “Scientists attribute the global warming trend observed since the mid-20th century to the human expansion of the ‘greenhouse effect’ warming that results

¹ United States Environmental Protection Agency, Source of Greenhouse Gas Emissions, as of November 18, 2021, <https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions#commercial-and-residential>.

when the atmosphere traps heat radiating from Earth toward space.”² Nitrous oxide, carbon dioxide, and methane are gases that contribute to the greenhouse effect.³ The County’s Climate Action Plan (2015) states that the County is likely to experience more extreme heat events, reduced air quality, changes in sea level, less predictable water supply, and increases in storm severity and frequency of flood events. Requiring all-electric construction without gas infrastructure will reduce the amount of greenhouse gas produced in Contra Costa County and will contribute to reducing the overall and local impact of climate change and associated risks.

B. Geological

Contra Costa County is located in Seismic Design Categories D and E, which designates the County at very high risk for earthquakes. Buildings and other structures in these zones can experience major seismic damage. Contra Costa County is near numerous earthquake faults including the San Andreas Fault, and all or portions of the Hayward, Calaveras, Concord, Antioch, Mt. Diablo, and other lesser faults. A 4.1 earthquake with its epicenter in Concord occurred in 1958, and a 5.4 earthquake with its epicenter also in Concord occurred in 1955. The Concord and Antioch faults have a potential for a Richter 6 earthquake and the Hayward and Calaveras faults have the potential for a Richter 7 earthquake. Minor tremblers from seismic activity are not uncommon in the area. A study released in 2015 by the Working Group of California Earthquake Probabilities predicts that for the San Francisco region, the 30-year likelihood of one or more earthquake of 6.7 or larger magnitude is 72%. The purpose of this Working Group is to develop statewide, time-dependent Earthquake Rupture Forecasts for California that use best available science, and are endorsed by the United States Geological Survey, the Southern California Earthquake Center, and the California Geological Survey. Scientists, therefore, believe that an earthquake of a magnitude 6.7 or larger is now slightly more than twice as likely to occur as to not occur in, approximately, the next 30 years. The elimination of natural gas infrastructure in new buildings would reduce the hazards associated with gas leaks during seismic events.

C. Topographic

Highly combustible dry grass, weeds, and brush are common in the hilly and open space areas in the County for 6 to 8 months of each year. Many of these areas are adjacent to developed locations. And many of these areas frequently experience wildland fires, which threaten nearby buildings, particularly those with wood roofs, or sidings. This condition can be found throughout Contra Costa County, especially in those developed and developing areas of the County. Earthquake gas fires due to gas line ruptures can ignite grasslands and stress resources to combat fires. The elimination of natural gas infrastructure in new buildings would reduce fire hazards of buildings constructed near highly combustible dry land areas.

² NASA, Causes of Climate Change, as of November 18, 2021, <https://climate.nasa.gov/causes/>.

³ Id.

II. Necessity of More Restrictive Standards

Because of the conditions described above, the Contra Costa County Board of Supervisors finds that there are local climatic, geological, and topographical conditions unique to Contra Costa County that require imposing all-electric building requirements for newly constructed residential buildings, detached accessory dwelling units, hotels, offices, and retail buildings as set forth in Ordinance No. 2022-02.

III. California Energy Code

Pursuant to California Public Resources Code section 25402.1(h)(2), the Contra Costa County Board of Supervisors finds that the modifications made to the California Energy Code in this ordinance are cost-effective for newly constructed residential buildings, including detached accessory dwelling units, and newly constructed hotels, offices and retail buildings. This finding of cost-effectiveness is based on the following cost-effectiveness studies prepared as part of the Statewide Reach Codes Program:

- Cost-effectiveness Study: Low-Rise Residential New Construction
Last modified August 1, 2019
- 2019 Mid-Rise New Construction Reach Code Cost-Effectiveness Study
Last modified June 22, 2020
- 2019 Cost-Effectiveness Study: 2020 Analysis of High-Rise Residential New Construction
Last modified February 22, 2021
- 2020 Reach Code Cost-Effectiveness Analysis: Detached Accessory Dwelling Units
Last modified March 12, 2021
- 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study
Last modified July 25, 2019
- 2020 Reach Code Cost-Effectiveness Analysis Large Office
Last modified October 13, 2021

Contra Costa County is located in climate zones 3 and 12. The cost-effectiveness studies conclude that specific modifications to the 2019 California Energy Code—including all-electric building requirements for newly constructed residential buildings, detached accessory dwelling units, hotels, offices, and retail buildings—are cost-effective for climate zones 3 and 12. The Board of Supervisors also finds, pursuant to California Public Resources Code section 25402.1(h)(2), that the modifications made to the California Energy Code in this ordinance will require diminution of energy consumption levels compared to those permitted by the 2019 California Energy Code. These findings of cost-effectiveness and energy savings will be filed with the California Energy Commission before Ordinance No. 2022-02 takes effect.