

Berkeley New Building Decarbonization Options



Environment and Climate Commission
May 22, 2024

CLIMATE ACTION LEADERSHIP



- Climate Action Plan (2009)
- Berkeley Resilience Strategy (2016)
- Fossil Fuel Free City (2018)
- Climate Emergency Declaration (2018)
- 100% Renewable Electricity by 2035 (2018)
- Net Zero Carbon Emissions by 2045 (2018)
- Race to Zero (2021)
- Existing Building Electrification Strategy (2021)
- Berkeley Strategic Plan
 - Global leader in addressing climate change
 - Resilient, safe, connected, and prepared City

Historic Efforts in Berkeley

- Education, Outreach and Incentives
 - Berkeley Deep Green Initiative
 - Roundtables
- Berkeley Municipal Code Requirements
 - Prohibition of Natural Gas Infrastructure in New Construction (Jan 2020-Jan 2024)
 - Electric-Preferred Energy Reach Code (Jan 2020-Dec 2023)





Reach Codes

- Zero NOx CALGreen Reach Code
- Zero NOx with commercial kitchen exception
- Single Margin Energy Reach Code
- Combination: Zero NOx with Single Margin



Zero NOx Buildings

- Best community benefits
- Easiest for developers & staff to understand
- Justified by Local Conditions



Zero NO_x for **new buildings** would require Zero NO_x Emitting Appliances including:

- space heating,
- ventilation
- water heating
- cooking
- clothes drying
- lighting



Buildings subject to Zero NO_x requirements must remain Zero NO_x during future additions and alterations



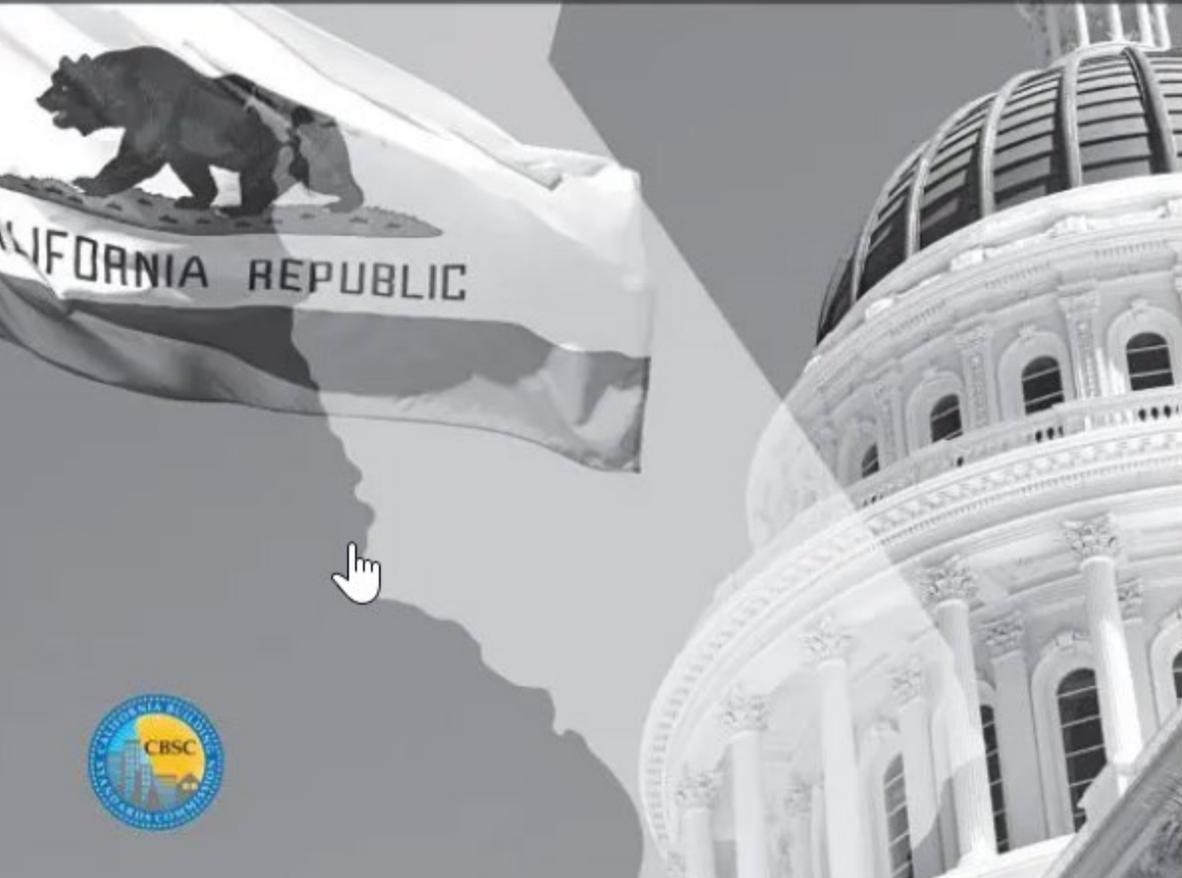
Zero NO_x with Commercial Kitchen Exception

- Negative health impacts remain for kitchen workers
- 85% capture is the highest cited vent hood efficiency in CA Energy Code

2022 CALIFORNIA ENERGY CODE

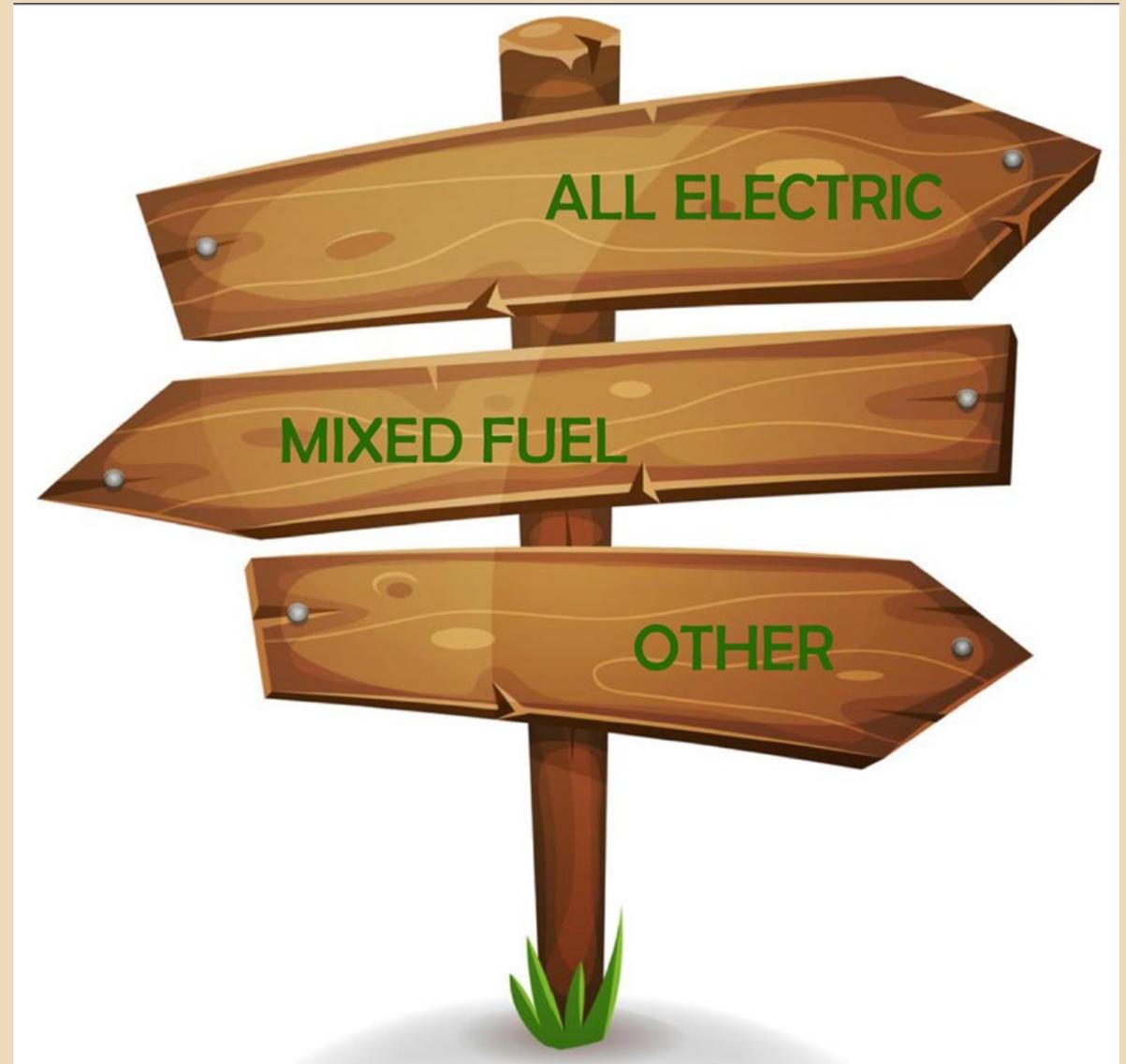
CALIFORNIA CODE OF REGULATIONS | TITLE 24, PART 6

California Building Standards Commission



- **Single Margin** is an Energy Code amendment
- Must demonstrate **Cost Effectiveness**
- CEC approval required
- **Mixed-Fuel Designs** are allowed, but have challenges satisfying a performance margin
 - Heat Pumps have performance advantages over fuel appliances
 - Mixed-fuel designs require energy storage systems or advanced envelope measures to comply

- Recommendations on approach
- Other considerations
- Outreach ideas
- Questions





Thank You

David Lopez

Chief Building Official

(510) 981-7441 or dlopez@berkeleyca.gov

Sarah Moore

Manager, Office of Energy & Sustainable Development

(510) 981-7494 or smoore@berkeleyca.gov

Kurt Hurley

Green Building Program Manager

(510) 981-7501 or khurley@berkeleyca.gov

