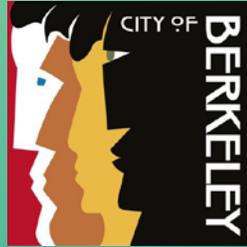
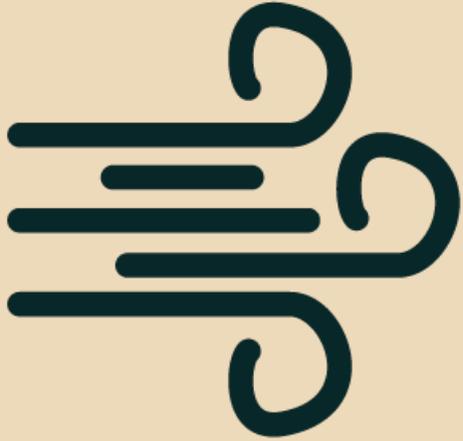




New Green Development Requirements

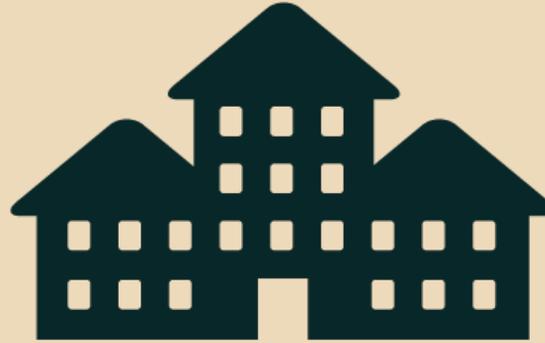
Gas Prohibition and Local
Building Code Amendments





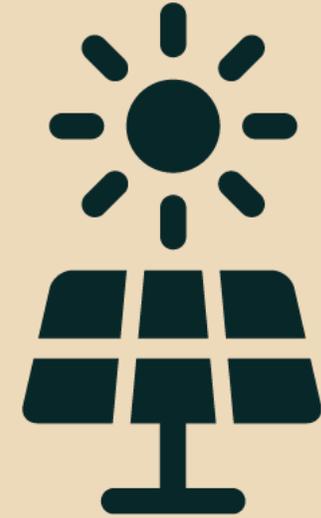
Cleaner Air

All-electric buildings mean no natural gas combustion that generates toxic pollutants



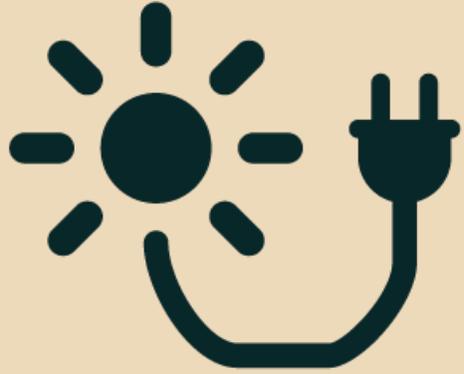
More Affordable Housing

All-electric homes cost less to build and operate than homes powered by natural gas



Lower Climate Impact

Powering buildings with renewable energy is better for the climate



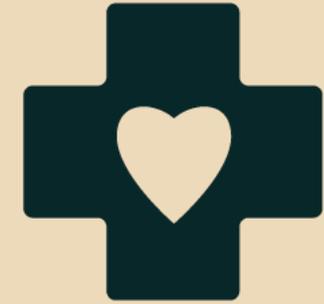
Utility Bills

Renewable energy is becoming cheaper while natural gas prices are rising rapidly in many states



Safer Buildings

In case of building damage from an earthquake or wildfire, all-electric buildings are not exposed to fires from gas pipe ruptures



Improved Public Health

Electrification avoids prolonged exposure to natural gas fumes, which can lead to respiratory issues like asthma







Photo: Emilie Raguso

- Approved by City Council in July
 - Ordinance No. 7,672-N.S.
- Applies to Land Use Permit applications submitted after January 1, 2020
- Prohibits natural gas infrastructure in newly constructed buildings
 - Limited exceptions & a public interest exemption
- Implemented through Condition of Approval

Local amendments to the California Building Code, Residential Code, Mechanical Code, Energy Code, and Green Building Standards Code (CALGreen)



- Approved by Berkeley City Council on Dec 3, 2019
 - Ordinance 7,678 N.S.
- Applies to Building Permits submitted after January 1, 2020

A low-angle photograph of modern, multi-story buildings with light-colored facades and dark window frames, set against a clear blue sky. The perspective is from below, looking up at the buildings.

Reach Code is a cost-effective locally adopted energy standard that requires buildings to be designed to consume no more energy than permitted by the California Energy Code.

Why adopt a Reach Code when the natural gas prohibition exists?

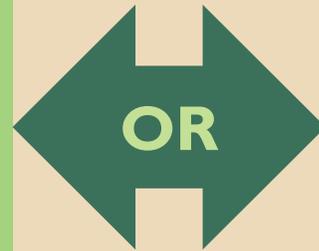
Natural Gas Prohibition	Reach Code
Covers projects with Land Use Permit application submitted after January 1, 2020	Covers projects with Building Permit application submitted after January 1, 2020
Applies to Newly Constructed Buildings	Applies to Newly Constructed Buildings
Prohibits natural gas infrastructure in new buildings	Provides two compliance pathways: <ul style="list-style-type: none"> • All-electric or • Mixed-fuel with increased energy efficiency and electric-ready requirements
Exceptions: <ul style="list-style-type: none"> • All-electric compliance not possible • Public Interest Exemption 	<ul style="list-style-type: none"> • Extends solar PV requirements • Provides regional alignment • Influences content of the 2022 Energy Code
If an exception is granted, the new buildings shall nonetheless be required to have sufficient electric capacity, wiring and conduits to facilitate future electrification	Requires mixed-fuel buildings to have electrical systems and designs that enable future electrification



The 2019 Energy Code requires solar photovoltaic (PV) systems on new single family and low-rise residential. The **Reach Code** extends this requirement to nonresidential buildings, high-rise residential buildings, and hotel/motels

Reach Code provides two pathways for new buildings to demonstrate compliance with the Energy Code

All-electric
construction¹



Mixed-fuel construction that exceeds state energy efficiency standards by:

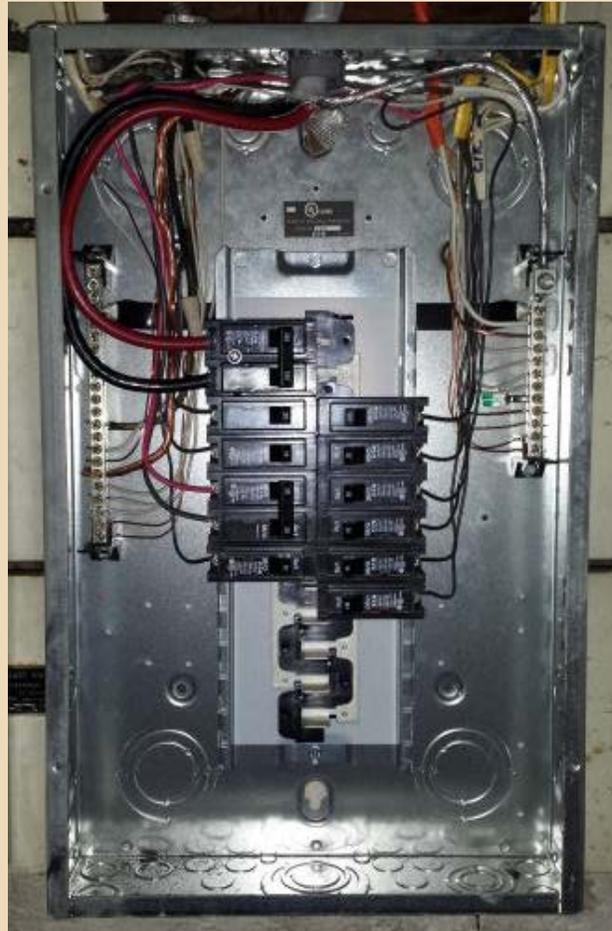
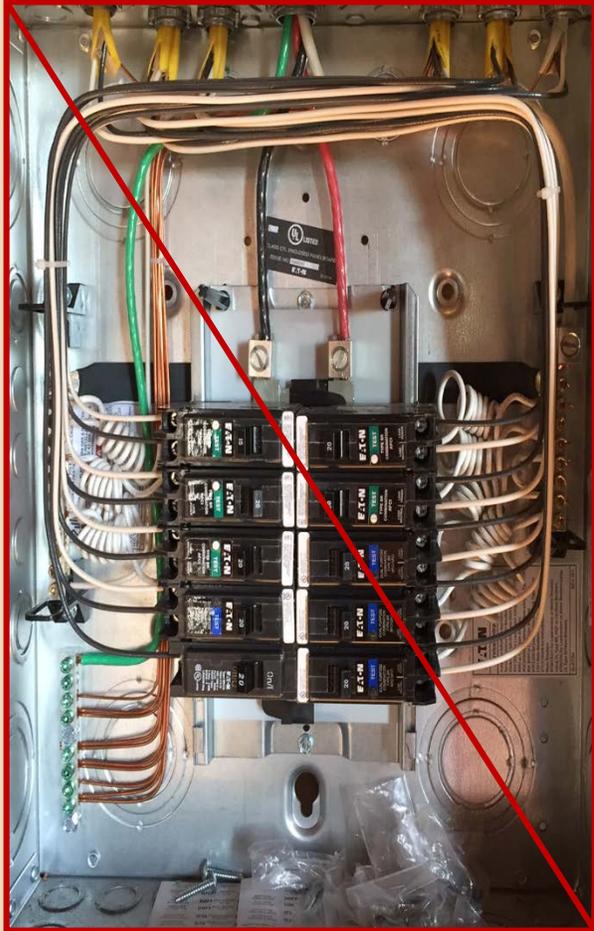
- **10%** for nonresidential² and high-rise residential³ buildings or
- **10 total Energy Design Rating (EDR) points** for low-rise residential⁴ buildings

¹ No natural gas or propane piping is installed within the building

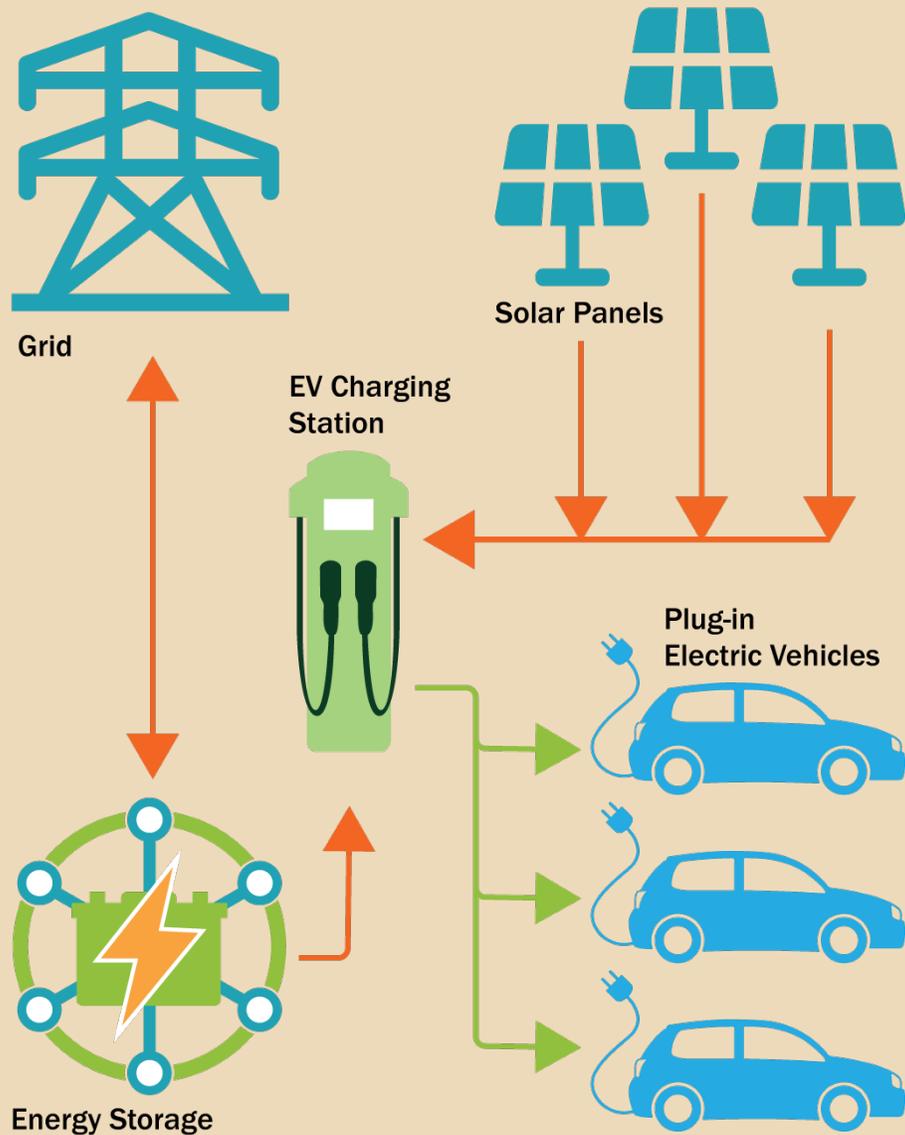
² Except laboratories, industrial, or manufacturing uses

³ Includes multi-family residential buildings 4 stories or greater and hotel/motels

⁴ Includes 1-3 story multi-family buildings, townhomes and single-family residences



New buildings must support future electrification of gas appliances by including electrical panel space, conductors or raceways, and bus bar capacity

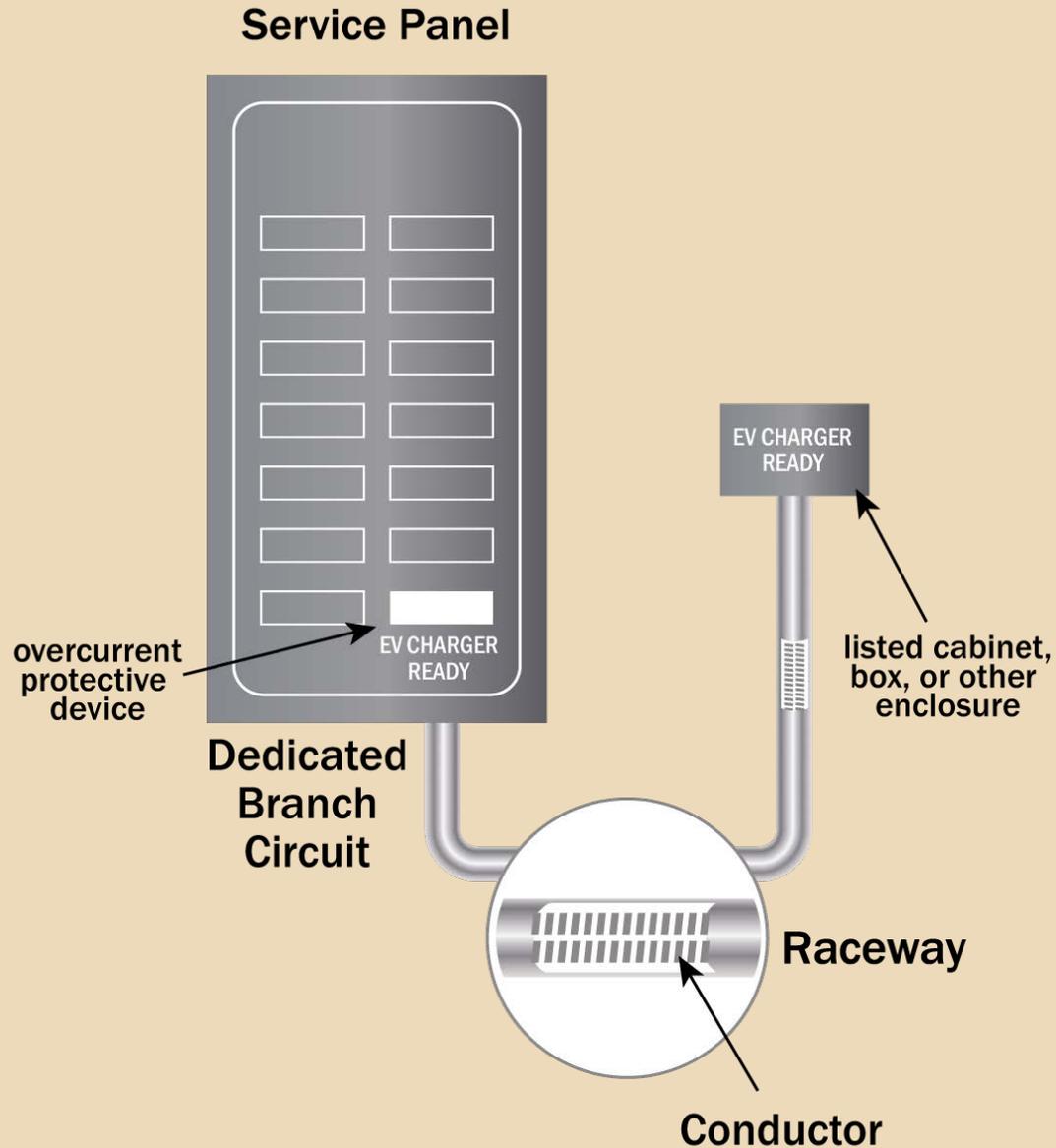


Background

Transportation accounts for roughly 60% of Berkeley's greenhouse gas (GHG) emissions.

Intended Effect

- Reduce GHG emissions
- Facilitate EV readiness through low-cost requirements for new construction



Single Family Homes, Duplexes & Townhomes

At least one parking space per dwelling unit (with on-site parking) must be equipped with raceway, wiring, and power to support a future Level 2 EV charging station



Multifamily Buildings

- 20% of parking spaces to be equipped with raceways, wiring, and power to support future Level 2 EV charging stations
- 80% of parking spaces to be equipped with connecting raceways¹

¹ No additional electric service capacity required



Nonresidential Buildings (when 10 or more parking spaces are constructed)

- 10% of parking spaces must have Level 2 charging stations installed¹
- 40% of parking spaces to be equipped with connecting raceways²

¹ DC Fast Charge station may be installed in place of 10 required Level 2 stations

² No additional electric service capacity required



Cement Reductions

- Reduce cement in concrete mix design by at least **25%**

Cement Alternatives

- Options for replacing cement with alternatives such as:
 - Fly ash
 - Slag
 - Silica fume
 - Rice hull ash



Construction & Waste Management

At least **65%** of nonhazardous construction & demolition waste must be diverted from disposal by recycling, reuse, and salvage

Asphalt, Concrete, and Other Land-clearing Debris

100% of asphalt, concrete, and excavated trees, stumps, rocks and other land-clearing debris must be diverted from disposal by recycling, reuse, and salvage

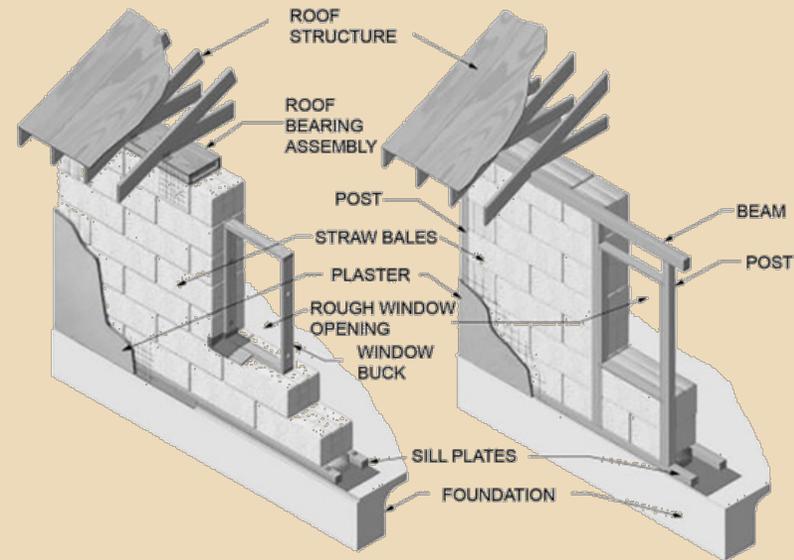


Adoption of Appendix Q for Tiny Homes less than 400 square feet

- Relaxes code requirements in support of easing the housing crisis
- Allows compact stairs, lofts, ceiling height reductions

Adoption of Appendices R and S for Light Straw-Clay and Strawbale Construction

- Provides alternate construction methods that utilize sustainable materials
- Increases thermal efficiencies
- Reduces environmental impact



Strawbale construction

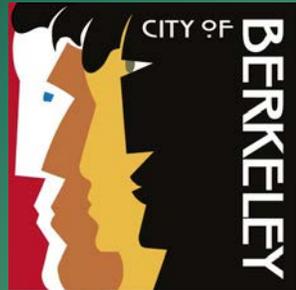


Light Straw-clay construction



Kitchen Range Hoods

- Amendment to California Mechanical Code to require kitchen range hoods in residential units
 - 100 cfm minimum air flow
 - 3 sones maximum sound rating
- Addresses health concerns through improved indoor air quality



Thank You

- Natural Gas Prohibition
BMC Chapter 12.80
- Berkeley Energy Code
BMC Chapter 19.36
- Berkeley Green Code
BMC Chapter 19.37

