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

Content by NRDC
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.
• 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
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?

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<th>Natural Gas Prohibition</th>
<th>Reach Code</th>
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<td>Covers projects with Land Use Permit application submitted after January 1, 2020</td>
<td>Covers projects with Building Permit application submitted after January 1, 2020</td>
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<tr>
<td>Applies to Newly Constructed Buildings</td>
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| Prohibits natural gas infrastructure in new buildings | Provides two compliance pathways:  
• All-electric or  
• Mixed-fuel with increased energy efficiency and electric-ready requirements |
| Exceptions:  
• All-electric compliance not possible  
• Public Interest Exemption |  
• 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 construction**: No natural gas or propane piping is installed within the building.
  - No exception for laboratories, industrial, or manufacturing uses.
  - Includes multi-family residential buildings 4 stories or greater and hotel/motels.
  - Includes 1-3 story multi-family buildings, townhomes and single-family residences.

- **Mixed-fuel construction**: That exceeds state energy efficiency standards by:
  - 10% for nonresidential and high-rise residential buildings or
  - 10 total Energy Design Rating (EDR) points for low-rise residential 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 raceways

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 installed
- 40% of parking spaces to be equipped with connecting raceways

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
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