



## City of Berkeley Natural Gas Prohibition & Reach Code for Electrification

Planning and Development Department  
Office of Energy and Sustainability

**Building Electrification** is the substitution of gas appliances (furnaces, water heaters, cooking ranges and stoves, dryers, etc.) with clean, safe, and highly efficient all-electric alternatives.

Through electrification we can eliminate the use of fossil fuels in the home, tackling climate change, while improving the quality of our homes and buildings. By transitioning off natural gas we can also reduce the tremendous amount of methane leakage that happens all along the natural gas infrastructure – from extraction to pipelines.

### Benefits of Electrification

- **Better indoor air quality:** All-electric buildings improve indoor air quality and health, by eliminating natural gas combustion inside homes. Burning gas in household appliances produces harmful indoor air pollution.
- **Safety:** Major gas leaks and explosion such as Aliso Canyon and San Bruno can be devastating and capture headlines, but natural gas use in homes is also responsible for almost half of residential house fires.
- **Savings:** All-electric new buildings do not require the installation of gas infrastructure, saving these capital costs. When paired with rooftop solar, new and existing all-electric buildings can benefit from reduced operating costs.
- **Equity:** All-electric new construction can reduce affordable housing costs. For disadvantaged populations that spend a disproportionate amount of their income on energy, and who are more likely to suffer from asthma due to poor indoor air quality, zero emission homes are an important opportunity to deliver social equity benefits.
- **Smaller carbon footprint:** As electricity from the grid gets cleaner, all-electric buildings will eventually stop producing greenhouse gas emissions. All-electric buildings that have rooftop solar or purchase 100% renewable electricity are already zero-emission.

**Natural Gas Prohibition:** This [ordinance](#) passed by Berkeley City Council prohibits natural gas infrastructure (i.e. gas hookups) in new buildings by amending the City of Berkeley Municipal Code (BMC Title 12). The ordinance prohibits natural gas infrastructure, typically used to provide water and space heating, cooking, and other uses, in new buildings of all types, residential and nonresidential. This ordinance is the first in the nation to prohibit the use of natural gas in new buildings.

The ordinance applies to new buildings that apply for land use permits or zoning certificates after January 1, 2020. It is implemented as a condition of approval in land use permits. It does not impact existing buildings, additions, or alterations, including accessory dwelling units that are built inside an existing home. It allows for specific exceptions when it is not feasible to construct a new building completely without natural gas. Some of these exceptions will diminish with time as the California Energy Commission incorporates more all-electric systems into the California Energy Code and verifies that their use can comply with Code requirements.

In addition, the ordinance includes a public interest exemption. This exemption will be determined on a case-by-case basis and will take into account the use, availability of alternative technologies, and other impacts on health, safety, and welfare. It could allow for specific, minimal, use of natural gas infrastructure in a new building. In cases where natural gas infrastructure is used, electric capacity, conduit, and wiring will also be included to allow for full building electrification in the future.

**Reach Code:** A “reach code” refers to a local amendment to the Berkeley Energy Code, which exceeds the energy efficiency standards of the California Energy Code. A reach code must be shown to be cost effective, via a cost effectiveness analysis, and the California Energy Commission (CEC) must formally approve it. The Berkeley City Council adopted a reach code for new construction in December 2019. It applies to new buildings that apply for building permits after January 1, 2020. The reach code includes pathways for either all-electric construction or mixed-fuel construction that exceeds the efficiency requirements of the Energy Code. It also extends solar photovoltaic system requirements for single-family and low-rise residential buildings to nonresidential buildings, high-rise residential and hotels/motels. Electric readiness for future electrification is required of systems that use natural gas. Reach code requirements are enforced through the building permit review, issuance, and inspection process.

**Why Both?** The Natural Gas Prohibition and the Electrification Reach Code complement each other. Together they provide integrated compliance pathways to all types of newly constructed buildings in Berkeley. All-electric building construction is relatively new to this region. The reach code will allow designers and builders to gain experience with all-electric building design before projects subject to the natural gas prohibition begin construction. They work in tandem to support building electrification and its health, safety, and climate benefits.

**How do they differ?**

	<b>Natural Gas Prohibition Ordinance</b>	<b>Reach Code for Electrification</b>
<b>Requirements</b>	Prohibits natural gas infrastructure in new buildings.	Provides two compliance pathways: All-electric or more efficient mixed-fuel.
<b>Covered Buildings</b>	Applies to newly constructed buildings* that submit a Use Permit or Zoning Certificate after January 1, 2020.	Applies to newly constructed buildings* that submit a Building Permit application after January 1, 2020.
<b>Exceptions and Qualifications</b>	Determined on a case-by-case basis when all-electric not feasible or project determined to be in public interest.  Requirements for future electrification when natural gas is used.	Efficiency requirements beyond the Energy Code for mixed-fuel vary by building type based on cost-effectiveness. All-electric buildings are cost-effective.  Requirements for future electrification when natural gas is used.
<b>Status</b>	Adopted by City Council on July 23, 2019 as Ordinance No. 7,672-N.S. to add a new Chapter 12.80 to the Berkeley Municipal Code	Adopted by City Council on December 3, 2019 as Ordinance No. 7,678-N.S. to reenact Chapter 19.36 of the Berkeley Municipal Code

\* Newly constructed building refers to a building that has never been used or occupied for another purpose, and excludes remodels and converted buildings. This applies to both residential and nonresidential buildings.