



AGENDA REPORT

COMMUNITY DEVELOPMENT OFFICE

DATE: November 16, 2021

TO: Mayor Butt and Members of the City Council

FROM: Lina Velasco, Community Development Director
James Atencio, Senior Assistant City Attorney
Chris Castanchoa, Building Official
Samantha Carr, Environmental Manager

SUBJECT: ADOPT AN ORDINANCE BANNING NATURAL GAS INFRASTRUCTURE IN
NEW BUILDINGS

STATEMENT OF THE ISSUE:

On November 2, 2021, the City Council introduced an ordinance that would ban natural gas infrastructure in newly constructed buildings. The ordinance would take effect on January 1, 2022. The most cost-effective time to integrate electrical infrastructure is in the design phase of a building project. Building systems and spaces can be designed to optimize the performance of electrical systems and the project can take full advantage of avoided costs and space requirements from the elimination of natural gas piping and venting for combustion air safety.

RECOMMENDED ACTION:

ADOPT an ordinance (second reading) adding Chapter 9.64 to the Richmond Municipal Code (RMC), which prohibits natural gas infrastructure in newly constructed buildings. The ordinance would take effect on January 1, 2022. (Community Development, Lina Velasco 620-6706)

FINANCIAL IMPACT OF RECOMMENDATION:

There is no financial impact related to this item. Cost effectiveness analyses have proven that building electrification in new construction across all California climate zones is cost effective relative to a dual fuel building.¹ This is mostly due to the construction of an all-electric building requiring less installation time and fewer components overall.

¹ https://rmi.org/wp-content/uploads/2018/06/RMI_Economics_of_Electrifying_Buildings_2018.pdf

DISCUSSION:

On March 3, 2020, the City of Richmond City Council passed an [ordinance](#) adopting and amending the 2019 California Energy Code (California Code of Regulations, Title 24, Part 6) requiring electricity as the sole fuel source for newly constructed buildings (not natural gas), exceeding the requirements of the 2019 California Energy Code. These types of codes are referred to as a Reach Code. The effective date of the Richmond Energy Reach Code was [June 10, 2020, upon approval by the California Energy Commission](#). Additional information can be found on Richmond's [Energy Reach Code webpage](#).

The most cost-effective time to integrate electrical infrastructure is in the design phase of a building project. Building systems and spaces can be designed to optimize the performance of electrical systems and the project can take full advantage of avoided costs and space requirements from the elimination of natural gas piping and venting for combustion air safety.

As the City of Richmond seeks to decrease the amount of greenhouse gas (GHG) emissions, it only makes sense to strengthen efforts to ban natural gas in new infrastructure. It is the intent of the council to eliminate obsolete natural gas infrastructure and associated greenhouse gas emissions in new buildings where all-electric infrastructure can be most practicably integrated, thereby reducing the environmental and health hazards produced by the consumption and transportation of natural gas. The City of Berkeley passed an ordinance to ban natural gas in new construction in 2019. The ordinance adopted by the City of Berkeley was used as a template to draft the proposed ordinance for Richmond.

Need for Natural Gas Ban

Richmond needs to plan for thousands of new residential units for the upcoming planning period. The City should act now to restrict newly constructed buildings from including gas piping throughout because once gas lines and gas-fired appliances are installed, the gas will flow for decades, locking in unnecessary greenhouse gas (“GHG”) emissions, methane leaks, fire risks, and indoor air hazards.

Climate Change Impacts

Natural gas is responsible for a large percentage of GHG emissions. Considering the impact of climate change on our City, both today and in the future, we must reduce GHGs where possible. The Richmond City Council has already repeatedly asserted its support for reducing GHGs to protect the planet by passing numerous climate-related resolutions and ordinances, including adopting a Climate Action Plan in 2016, declaring a Climate Emergency in 2018, and calling for a Just Transition away from Fossil Fuel this past January.

Methane From Fracking and Leaks

Methane, unburnt natural gas, is 25% more potent in the atmosphere than carbon dioxide for causing global warming over a 100-year period, according to the EPA. Substantial methane is released during fracking and other drilling methods. A 2018 an Environmental Defense Fund study estimated that the equivalent of 2.3% of total annual domestic fossil-fuel production leaks into the atmosphere every year, across the oil and gas supply chain. And even more

leaks occur on building premises behind the meter. We must end the market for such fuels as soon as possible, ending the need to frack. Such action also incentivizes further innovation of electrical appliances.

Indoor Air Hazards and Dangerous Pipes

A Lawrence Berkeley National Laboratory study found that 60 percent of homes in California that cook at least once a week with a gas stove produce toxic levels of nitrogen dioxide, formaldehyde and carbon monoxide that exceed federal standards for outdoor air quality. Gas stoves are more problematic than electric ones because they produce significant fossil fuel combustion byproducts. Ruptured gas pipelines caused by earthquakes of 7.0 or greater on the Hayward fault also pose a significant risk of catastrophic fires.

Even the California Energy Commission is considering updating the building code in 2022 to provide for a full gas ban in new construction. To achieve the City's climate goals, the City should transition away from fossil fuels as soon as possible.

Benefits of Electrification

All-electric building design benefits the health, welfare, and resiliency of Richmond and its residents. The following are benefits to utilizing electricity rather than natural gas in newly constructed buildings:

- Reduction in greenhouse gas emissions
- Improved indoor air quality
- Eliminates gas leak, CO, and combustion risk
- Avoid gas hookup fees; no monthly gas meter fee
- Potential lower utility bills (with onsite solar)
- Eliminates need for gas plumbing work
- Future-proof building design

Natural Gas Ban Ordinance

The proposed Natural Gas Ban Ordinance, attached as Attachment 1, bans natural gas infrastructure in all newly constructed buildings receiving planning approvals in the City, with very few exceptions. Exceptions may be granted by the permitting authority if electrification is determined to be physically infeasible or a determination is made that the public interest would be served with a granted exception.

Differences between Proposed Natural Gas Ban Ordinance and Energy Reach Code

Both the Energy Reach Code and the proposed Natural Gas Ban Ordinance ban natural gas in newly constructed buildings with limited exceptions. However, the proposed Natural Gas Ban ordinance goes further than the adopted Energy Reach Code by eliminating certain exceptions that were allowed in the Energy Reach Code, as summarized in the table below:

**Table of Comparison
Proposed Natural Gas Ban and Energy Reach Code**

Gas Infrastructure	Proposed Natural Gas Ban	Energy Reach Code
Residential Kitchen Appliances	Banned	Allowed, without exception
Residential Fireplaces	Banned	Allowed, without exception
Commercial Kitchen	Banned	Allowed, if business shows a business-related reason it needs gas for cooking
Restaurant	Banned	Allowed, if restaurant shows a business-related reason it needs gas for cooking
HVAC in Scientific Labs	Banned	Allowed, if electric HVAC system it not cost effective
Public agency owned emergency centers	Banned	Allowed, if electric power is not cost effective

Key differences between the two are:

- The current Energy Reach Code also includes a requirement for mandatory solar PV in all new nonresidential and high-rise residential buildings. This added mandatory solar requirement is not in the proposed Natural Gas Ban ordinance, but would still apply to specified project types.
- The current Energy Reach Code exceptions are:
 - Non-residential buildings containing a Scientific Laboratory Building may contain a non-electric space conditioning system
 - Residential buildings may contain non-electric cooking appliances and fireplaces
 - Public agency owned and operated emergency centers may be exempted
 - Non-residential buildings containing a for-profit restaurant, or an employee kitchen may apply for an exception to install gas-fueled cooking appliances
- The proposed Natural Gas Ban Ordinance exceptions are:
 - Physical infeasibility to construct an all-electric building
 - The entitling body determines that it is in the public interest to permit the new natural gas infrastructure.
- The current Energy Reach Code was adopted as amendments to the California Energy Code. The proposed Natural Gas Ban ordinance uses an alternative adoption method using the City’s police powers to protect public health.

NEXT STEPS

If the ordinance is adopted (second reading), staff will develop fact sheets with how the Natural Gas Ban will interact with the existing Energy Reach Code. In addition, as part of the next building code cycle adoption, staff will study strategies for electrification of existing buildings. Staff will also be seeking resources to study and create a strategic plan to equitably transition existing buildings to all electric.

POLICY SYNERGIES:

The proposed natural gas ban ordinance would support the direction and implementation of numerous City of Richmond policies and plans, including:

- [Climate Action Plan, 2016](#)
 - Strategy EE.3 Promote Green Building
 - Strategy RE.2 Promote and Maximize Utility Clean Energy Offerings
 - Strategy RE.3 Promote Conversion From Natural Gas to Clean Electricity
 - Strategy GA.3 Support Green Infrastructure and Streetscape Design
 - Strategy GB.1 Reduce Industrial Carbon Emissions
 - Strategy GB.6 Reduce Use of Short-Lived Climate Pollutants (SLCPs)
 - Strategy RC.1 Improve Community Preparedness for Climate Emergencies
 - Strategy RC.2 Increase Resilience of Local Housing to Climate Change
 - Strategy RC.3 Increase Resilience of Critical Infrastructure to Climate Change
 - Strategy RC.6 Protect Public Health and Promote Health Equity
- [Health in All Policies Ordinance, 2014](#)
- General Plan 2030
 - Policy EC3.1 Renewable Energy
 - Policy EC3.2 Energy Efficiency and Conservation
 - Policy EC3.5 City Government Operation
 - Policy EC4.3 Green Buildings and Landscaping
 - Policy EC4.4 Green Infrastructure
 - Policy EC5.3 Air Quality
 - Policy HW10.1 Citywide Energy Footprint
 - Policy LU6.4 Long-Term Environmental Sustainability

According to the City of Richmond’s 2012 Greenhouse Gas (GHG) Inventory, natural gas accounted for 39.8% percent of all residential GHG emissions. Natural gas makes up 72% of the total energy emissions in Richmond, while electricity makes up only 28%.

- Building electrification is a strategic measure denoted in the City of Richmond’s Climate Action Plan (Strategies RE.3 and EE.3) needed to reach the City’s adopted climate and health co-benefit goals by 2050.

ATTACHMENTS:

Attachment 1: Draft Ordinance