Kate Harrison
Councilmember District 4

ACTION CALENDAR
[ ], 2019

To: Honorable Mayor and Members of the City Council

From: Councilmembers Harrison, Davila, Bartlett and Hahn

Subject: Adopt an Ordinance adding a new Chapter 19.84 to the Berkeley Municipal Code Prohibiting Natural Gas Infrastructure in New Buildings

RECOMMENDATION

Adopt an ordinance adding a new Chapter 19.84 to the Berkeley Municipal Code (BMC) prohibiting natural gas infrastructure in new buildings with an effective date of [ ].

POLICY COMMITTEE TRACK

Facilities, Infrastructure, Transportation, Environment & Sustainability Policy Committee

BACKGROUND

The Community Environmental Advisory Commission (CEAC) unanimously recommended in 2016 that the Council consider phasing out new natural gas infrastructure in buildings.[1] That year, Council endorsed the recommendation and directed the CEAC and the Energy Commission to "develop and evaluate a proposal for requiring installations of new cooking, water heating, and/or building heating systems to use technologies which do not burn natural gas."[2]

The Berkeley Energy Commission subsequently investigated adopting a 'reach' building ordinance mandating use of more efficient electric heat-pump water heaters in new construction, which would have the effect of phasing out natural gas for that purpose, but concluded that California Energy Commission (CEC) policies at the time precluded doing so because of the difficulty of proving that the proposed new requirement will be both cost-effective and at least as efficient as the existing state and federal standards.[3]

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[1] Phasing Out Natural Gas for Heating and Cooking, Community Environmental Advisory Commission, November 1, 2016, https://www.cityofberkeley.info/Clerk/City_Council/2016/11_Nov/Documents/2016-11-01_Item_10_Phasing_Out_Natural_Gas.aspx.

[2] Annotated Agenda Berkeley City Council Meeting, City Clerk's Office, November 1, 2016, http://www.cityofberkeley.info/Clerk/City_Council/2016/11_Nov/Documents/11-01_Annotated.aspx.

[3] Response to Referral to Community Environmental Advisory Committee (CEAC) and the Berkeley Energy Commission to Evaluate Phasing-out Natural Gas, Berkeley Energy Commission, December 19, 2017, https://www.cityofberkeley.info/Clerk/City_Council/2017/12_Dec/Documents/2017-12-19_Item_17_Response_to_Referral_to_CEAC_and_BEC.aspx; See also, Local Ordinances Exceeding the 2016 Building Energy Efficiency Standards, California Energy Commission, https://www.energy.ca.gov/title24/2016standards/ordinances/; *See also*, CA Public Resources Code

Berkeley's Energy Commission found that a reach heat pump code did not pass the meet restrictive state requirements. Consequently, at the time it was determined infeasible to adopt such a reach code under Title 24 Part 6 of the 2016 state Energy Code. Since then, Berkeley's Office of Energy and Sustainable Development (OESD) has been actively working to present energy code amendments to state authorities that facilitate electric designs, and signed on in support of comments before the California Public Utilities Commission (CPUC) regarding utility incentives for fuel-switching in existing buildings.[4]

This ordinance differs in its approach by acting within the City's authority to prohibit installation of harmful gas infrastructure when issuing building permits for new buildings, and as a result avoids CEC regulations associated with asking to amend efficiency standards. With respect to the CPUC's jurisdiction, although the legislature empowered the Commission to "require each gas corporation to provide bundled basic gas service to all core customers in its service territory," it did not require customers to install fuel gas piping in or in connection with a building, structure or within the property lines of premises behind the gas meter.[5]

This new approach also has the endorsement of the present Berkeley Energy Commission. In December 2018, the Energy Commission presented a draft response to the Council's June 2018 Fossil Free Resolution. As part of a broader strategy to eschew fossil fuels from Berkeley, it recommended that the Council "[p]rohibit gas cooktops and dryers in new residences or a moratorium on new gas hook ups if possible."[6] Adoption of this ordinance would fulfil this recommendation.

Section 25402.1(h)2, http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=25402.1.; CA Building Energy Efficiency Standards Section 10-106 https://www.energy.ca.gov/2015publications/CEC-400-2015-037/CEC-400-2015-037-CMF.pdf

[4] "Berkeley Support to Phase Out Fossil Fuels with Clean Electrification," OESD, CEC Docket 18-IEPR-09, June 28, 2018, https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Commissions/Commission_for_Energy/EC2018-07-25_Item%207c-Combined_Comments%20to%20CEC%20and%20CPUC.pdf. *See also*, "Comments of The Natural Resources Defense Council (NRDC) and Sierra Club On The Administrative Law Judge's Ruling Seeking Comments On The Three-Prong Test,"

[5] California Code, Public Utilities Code - PUC § 963, https://leginfo.legislature.ca.gov/faces/codes_displayText.xhtml?lawCode=PUC&division=1.&title=&part=1.&chapter=4.5.&article=2.

[6] Fossil Free Berkeley Subcommittee Draft Report for 12/5/2018 Commission Meeting, Berkeley Energy Commission, December, 5, 2018, https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Commissions/Commission_for_Energy/FFB%20Draft%20report%20for%20Dec%205%202018%20Commission%20Meeting%20Final.pdf

In June 2018 the Berkeley City Council declared a city-wide Climate Emergency (Resolution No. 68,486-N.S.), aimed at reviewing the City's greenhouse gas emission reduction strategies, commitments and progress in light of recent political, scientific and climatic developments.[7] A 2018 U.N. Intergovernmental Panel on Climate Change (IPCC) report suggested that in order to keep warming under 1.5 degrees Celsius, governments must initiate a dramatic 45% cut in global carbon emissions from 2010 levels by 2030 and reach global 'net zero' around 2050. The time for incremental emissions reduction strategies is over—policymakers must begin implementing "far-reaching and unprecedented changes in all aspects of society."[8]

Berkeley became a climate leader when voters overwhelmingly passed Measure G (Resolution No. 63,518-N.S.) in 2006, calling for the City to reduce greenhouse gas emissions by 33% below 2000 levels by 2020, and 80% by 2050.[9] Measure G resulted in the City Council adopting the 2009 Berkeley Climate Action Plan (Resolution No. 64,480-N.S.), which was written through a community-wide process.[10] The plan identified buildings as major contributors to greenhouse gas emissions, representing 26% of community-wide emissions, and recommended the implementation of aggressive building codes favoring low carbon space and water heating appliances/infrastructure in new buildings.[11] A 2018 Climate Action Plan progress update presented by Berkeley's OESD reported that "[c]ombustion of natural gas within Berkeley buildings accounted for 27% of total GHG emissions in 2016 and 73% of building sector GHG emissions."[12]

According to OESD, the latest and best available data suggest that Berkeley's 2016 community-wide GHG emissions, including emissions from transportation, building

[7] Resolution Endorsing a Climate Emergency, Berkeley City Council, June 12, 2018, https://www.cityofberkeley.info/uploadedFiles/Council_2/Level_3_-_General/Climate%20Emergency%20Declaration%20-%20Adopted%2012%20June%202018%20-%20BCC.pdf

[8] IPCC Press Release, Summary for Policymakers of IPCC Special Report on Global Warming of 1.5ºC approved by Governments, 8 October 2018, http://www.ipcc.ch/pdf/session48/pr_181008_P48_spm_en.pdf

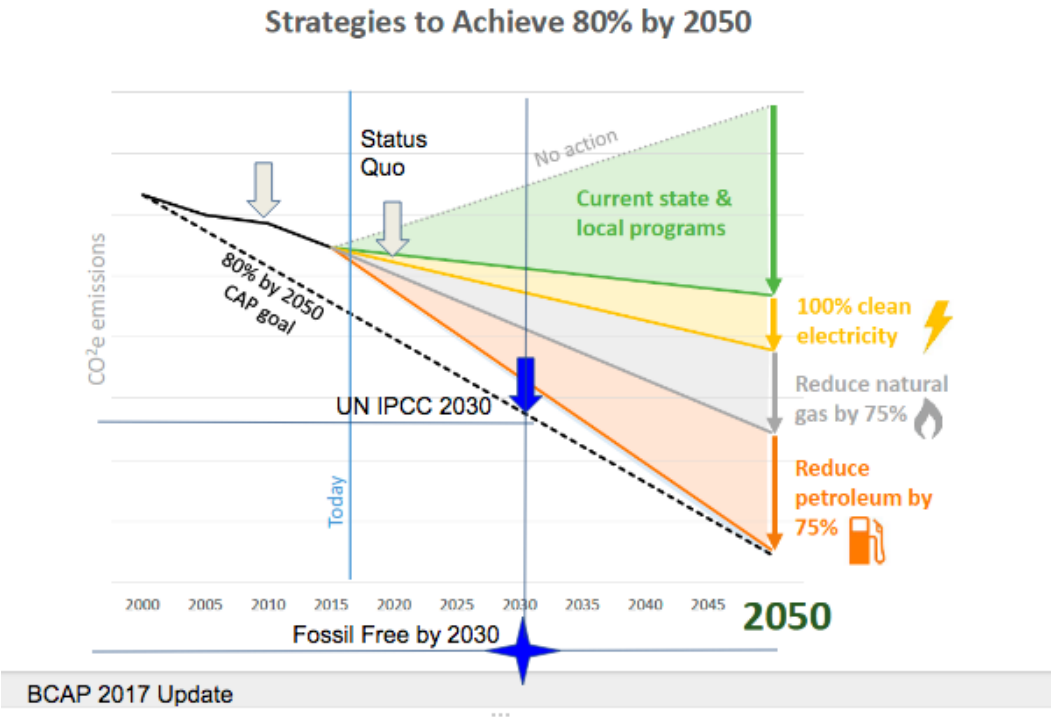
[9] Resolution Submitting Measure G, Berkeley City Council, July 18, 2006, https://www.cityofberkeley.info/citycouncil/resos/2006/63396.pdf; Ballotpedia, Berkeley Greenhouse Gas Emissions, Measure G (November 2006), November 7, 2006, https://ballotpedia.org/Berkeley_Greenhouse_Gas_Emissions,_Measure_G_(November_2006)#cite_note-quotedisclaimer-1

[10] Office of Energy & Sustainable Development, Berkeley Climate Action Plan Information Page, https://www.cityofberkeley.info/climate/.

[11] City of Berkeley, Berkeley Climate Action Plan, June 2009, https://www.cityofberkeley.info/uploadedFiles/Planning_and_Development/Level_3_-_Energy_and_Sustainable_Development/Berkeley%20Climate%20Action%20Plan.pdf, p. 59.

[12] 2018 Berkeley Climate Action Plan Update, Office of Energy and Sustainable Development, December 6, 2018, https://www.cityofberkeley.info/Clerk/City_Council/2018/12_Dec/Documents/2018-12-06_WS_Item_01_Climate_Action_Plan_Update_pdf.aspx, p. 10.

energy use, and solid waste disposal, are approximately 15% below 2000 baseline levels, despite a population increase of approximately 18% in that same time period. Therefore, according to 2016 data, the City is approximately 18% behind its 2020 goal.[13]



Specifically, progress towards lowering emissions in new buildings has been encouraging but incremental. To date, the federal, state and local approach to energy use in new buildings has largely been to mandate greater building efficiency and energy conservation, which indirectly results in lower emissions, but does not directly phase out fossil fuel consumption in new buildings. With regard to energy efficiency, Berkeley is in the process of adopting the ambitious, but voluntary, Green Building Standards. In short, while this initiative facilitates the electrification and energy efficiency in new buildings, it does not explicitly and directly prohibit builders from constructing buildings with natural gas infrastructure, a potent and persistent source of greenhouse gas pollution.[14]

According to the November 2017 Planning Department Bi-Annual Housing Pipeline Report, the City approved building permits for 525 residential units between January 1, 2014 and November 2017. An additional 952 units received their certificate of

[13] *Id.*, p. 2.
[14] The forthcoming 2019 California Energy Code allows for significant natural gas usage.

occupancy during the same period.[15] Presumably, the vast majority of these units feature natural gas infrastructure. This gas-related emissions problem has been compounded by regional population and job growth coinciding with a considerable 18% rise in Berkeley's population since 2000 as well as the multi-decade useful life of natural gas appliances.[16] As a result, the city has 'locked in' decades of additional carbon pollution, and stands to continue doing so with each new building permit application. The persistence of fossil fuel industry marketing, the regional housing affordability crisis and the associated effort to expand the housing stock will continue to drive local and regional increases in natural gas infrastructure and consumption unless we act now.

This ordinance recognizes that all-electric heating technologies are cost-competitive substitutes to their natural gas counterparts (especially when installed during new construction) and seeks to halt the expansion of natural gas into new buildings in order to stave off the risk of locking in significant additional greenhouse emissions. In the interim between adoption and the effective date, City staff can continue to design and seek approval of all-electric codes to help guide home builders in constructing new buildings with emissions and efficiency best practices.[17]

This approach is borne out by recent economic analysis. For example, the Rocky Mountain Institute's 2018 report entitled *The Economics of Electrifying Buildings*: *How Electric Space and Water Heating Supports Decarbonization of Residential Buildings* considered the carbon emissions reduction opportunities and cost-effectiveness associated with all-electric space and water heating in new single-family construction in Oakland.[18] As a direct neighbor, the Oakland study is a useful reference point as Berkeley shares many of its characteristics, including its climate, architecture, the electric and natural gas utility, the Pacific Gas and Electric Company, and membership in East Bay Community Energy.

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[15] Referral Response: Bi-Annual Housing Pipeline Report, Planning Department, November 11, 2017, https://www.cityofberkeley.info/Clerk/City_Council/2017/11_Nov/Documents/2017-11-28_Item_21_Referral_Response_Bi-Annual.aspx

[16] 2018 Berkeley Climate Action Plan Update, p. 1.

[17] OESD reported in December 2018 that "Berkeley has worked with other local governments to create a joint cost-effectiveness study request for the California Codes and Standards Program, seeking the maximum cost-effective efficiency for mixed-fuel and all-electric new construction over a representative sample of building sizes and uses…The findings from this cost-effectiveness study request are expected in early 2019 and will be shared with the Energy Commission and other stakeholders, to evaluate options and opportunities for local amendments to promote deep energy savings and electrification." *See*, 2018 Berkeley Climate Action Plan Update, p. 12.

[18] Sherri Billimoria, Mike Henchen, Leia Guccione, and Leah Louis-Prescott, "The Economics of Electrifying Buildings: How Electric Space and Water Heating Supports Decarbonization of Residential Buildings," Rocky Mountain Institute, June 14, 2018, https://rmi.org/wp-content/uploads/2018/06/RMI_Economics_of_Electrifying_Buildings_2018.pdf

The report found that "[i]n Oakland, [electric] heat pumps produce universally less carbon emissions compared to natural gas systems."[19] Heat pumps are functionally air conditioners that operate in reverse; they capture ambient heat from the air and transfer it inside the building where it can be used to heat water and space. They generate renewable solar energy from the air, and they are so efficient that the Rocky Mountain Institute argues that heat pumps are superior to natural gas appliances on all electric grids except those with the highest coal power content.[20] Fortunately, the California grid does not run on coal and features relatively low greenhouse gas emissions.[21] Therefore, heat pumps offer exponential emissions reduction potential in both new and existing buildings, and they are poised to result in additional benefits overtime as tomorrow's electricity becomes substantially less carbon intensive due to market forces, implementation of California State Senate Bill 100 and wider adoption of Community Choice Aggregator renewable electricity services.

The report also found that for new single-family buildings in Oakland, "[electric] heat pumps are universally more cost-effective" than natural gas space and water heaters due to their superior energy efficiency, cost-competitiveness, built-in air conditioning capability, and the avoided cost of connecting to the Pacific Gas & Electric Company's procurement and natural gas distribution system.[22] Specifically, the report found that new single-family developments avoiding gas could "save $1,000 to more than $24,000 per single-family home, with a median value of $8,800."[23] Similarly, in 2017 Stone Energy Associates and Redwood Energy submitted letters to the CEC advising the commission of the significant net cost savings per unit in multi-family projects due to avoiding costly trenching and gas infrastructure.[24] In addition, a 2018 Natural Resources Defense Council-commissioned report found that all-electric new multi-family construction "sees upfront capital savings, partly [as] a result of not piping for gas."[25]

Berkeley's Office of Energy and Sustainable Development (OESD) appears to share the Rocky Mountain Institute's general outlook on heat pump technology, having

[19] *Id.*, p. 29.
[20] *Id.*
[21] *Id.*, p. 9.
[22] *Id.*
[23] *Id.*, p. 47.
[24] CEC Docket No. 17-BSTD-01, Letter from Sean Armstrong, Redwood Energy, to CEC Re: 2019 Building Energy Efficiency Standards Pre-Rulemaking, October 11, 2017, https://efiling.energy.ca.gov/GetDocument.aspx?tn=221464&DocumentContentId=27248; CEC Docket No. 16-BSTD-06, Letter from Nehemiah Stone, Stone Energy Associates, to CEC Re: 2019 Building Energy Efficiency Standards Development, April 4, 2017.
[25] Asa S. Hopkins, PhD, Kenji Takahashi, Devi Glick, Melissa Whited, "Decarbonization of Heating Energy Use in California Buildings: Technology, Markets, Impacts, and Policy Solutions," Synapse Energy Economics, Inc., October 16, 2018, http://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf.

recommended it as a critical means of meeting the goals of envisioned by city's climate action plan.[26]

The Environmental Protection Agency, Rocky Mountain Institute, and Berkeley's OESD staff also emphasize the carbon emissions associated with natural gas stemming from methane leaks. For example, methane gas is released into the atmosphere through hydraulic fracking and other drilling methods.[27] Transporting and distributing natural gas through pipelines also can lead to additional leaks, explosions and fires.[28] According to the EPA, "[p]ound for pound, the comparative impact of CH4 [methane] is more than 25 times greater than CO2 over a 100-year period."[29] In addition, according to the Environmental Defense Fund (EDF), "[i]n the first two decades after its release, methane is 84 times more potent than carbon dioxide." Methane's enhanced potency, particularly in the short term, results in more immediate warming and thus warrants greater urgency. EDF estimates that "[a]bout 25% of the manmade global warming we're experiencing is caused by methane emissions."[30] Consequently, the Rocky Mountain Institute report called upon cities to immediately "[s]top supporting the expansion of the natural gas distribution system, including for new homes." Furthermore, the report cautioned that natural gas "infrastructure will be obsolete in a highly electrified future, and gas ratepayers face significant stranded asset [financial] risk" by staying on natural gas.[31]

The proposed ordinance prohibits builders from applying for building permits that include establishing new or connecting to existing gas utility service for heat water, space, food etc. This legislation will have the effect of ushering in all-electric new buildings in the City of Berkeley, avoiding significant new greenhouse emissions and diverting City attention and resources to other critical sources of emissions.

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[26] 2017 Berkeley Climate Action Plan Update, Office of Energy and Sustainable Development, December 7, 2017, https://www.cityofberkeley.info/Clerk/City_Council/2017/12_Dec/Documents/2017-12-07_WS_Item_01_Climate_Action_Plan_Update.aspx; See also, Residential Heat Pump Water Heaters: Replacing a Gas Water Heater, OESD, https://www.cityofberkeley.info/HPWH/. According to OESD, heat pumps "use electricity instead of gas and therefore have the potential to use renewable energy…[and] work like a refrigerator in reverse — they use electricity and a refrigerant to take heat from the air and transfer" it to the hot water tank or heating ducts.

[27] The Economics of Electrifying Buildings, p. 26.

[28] *See e.g.*, Rebecca Bowe, Lisa Pickoff-White, Five Years After Deadly San Bruno Explosion: Are We Safer?, KQED, September 8, 2015, https://www.kqed.org/news/10667274/five-years-after-deadly-san-bruno-explosion-are-we-safer; *See also*, David Siders, Jerry Brown declares emergency around Southern California gas leak, January 6, 2016, https://www.sacbee.com/news/politics-government/capitol-alert/article53353615.html.

[29] "Overview of Greenhouse Gases," U.S. Environmental Protection Agency, https://www.epa.gov/ghgemissions/overview-greenhouse-gases#methane

[30] "Methane: The other important greenhouse gas," Environmental Defense Fund, https://www.edf.org/climate/methane-other-important-greenhouse-gas.

[31] The Economics of Electrifying Buildings, p. 10.

The ordinance will help prevent deadly home fires that start from an open flame and are fueled by gas lines. For example, the City of Santa Rosa is actively reconsidering the role of natural gas in new buildings because of the destructive 2017 Tubbs firestorm.[32] In 2017 the U.S. Geological Survey conducted the *HayWired Scenario* simulating "a 7.0 quake on the Hayward fault line with the epicenter in Oakland." The agency's report predicted that "about 450 large fires could result in a loss of residential and commercial building floor area equivalent to more than 52,000 single-family homes and cause property (building and content) losses approaching $30 billion."[33] The report identified ruptured gas lines as a key fire risk factor. This finding mirrors the gas fires resulting from the Loma Prieta (1989) and Northridge (1994) earthquakes.

The ordinance will also improve indoor and outdoor air quality by eliminating toxic byproducts of natural gas. A 2013 Lawrence Berkeley National Laboratory study found that "60 percent of homes in the state that cook at least once a week with a gas stove" produce toxic levels of nitrogen dioxide, formaldehyde and carbon monoxide exceeding federal standards for outdoor air quality. Although electric stoves generate toxic particulate matter resulting from the cooking process and dust volatilization, researchers found that gas stoves are more detrimental to indoor air quality because they prod4uce significant toxic fossil fuel combustion byproducts not associated with electric stoves.[34] This issue is compounded by state efficiency standards, which are designed to trap air indoors.

Rapid improvements in electric cooktop technology suggest that the City of Berkeley can simultaneously maintain its rich culinary culture while taking action to reduce fossil fuel emissions in new buildings.[35]

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[32] Will Schmitt, Santa Rosa council considers requirement for new homes to be independent of natural gas, Press Democrat, November 10, 2018, https://www.pressdemocrat.com/news/8899687-181/santa-rosa-council-considers-requirement.

[33] "The HayWired earthquake scenario—Engineering implications," U.S. Geological Survey, April 18, 2018, https://pubs.er.usgs.gov/publication/sir20175013v2.

[34] "Pollution in the Home: Kitchens Can Produce Hazardous Levels of Indoor Pollutants," Julie Chao, Lawrence Berkeley National Laboratory, July 23, 2013, https://newscenter.lbl.gov/2013/07/23/kitchens-can-produce-hazardous-levels-of-indoor-pollutants/.

[35] While natural gas ranges are often regarded by home cooks as superior to electric ranges, modern induction range technology offers a cooking experience that arguably provides faster heat response, easier clean up and more temperature precision than gas. *See e.g.*, Cooktop Showdown – Gas vs. Electric vs. Induction, A Finer Touch Construction, https://aftconstruction.com/cooktop-showdown-electric-vs-gas-vs-induction/. Appliance manufacturer Samsung introduced a new induction cooktop featuring a "virtual" LED flame that mimics the visual response of a gas flame. *See also*, 36" Induction Cooktop with Virtual Flame™, Samsung US, https://www.samsung.com/us/home-appliances/cooktops-and-hoods/induction-cooktops/36--built-in-induction-cooktop-with-flex-cookzone--nz36k7880ug-aa/.

Emergency action and leadership is needed to prevent the locking in of additional natural gas greenhouse gasses from new buildings. By adopting this ordinance, the City of Berkeley has an opportunity to make further progress towards delivering upon its responsibilities under Measure G, the 2009 Climate Action Plan, Fossil Fuel Berkeley Resolution (as referred), and the Climate Emergency Declaration.

FINANCIAL IMPLICATIONS

Staff time will be necessary to implement the new building permit regulations.

ENVIRONMENTAL SUSTAINABILITY

Prohibiting natural gas infrastructure in new buildings will prevent the release of significant additional natural gas-related greenhouse gasses from new buildings.

CONTACT PERSON

Councilmember Kate Harrison, Council District 4, (510) 981-7140

Attachments:
1. Proposed Ordinance Adding BMC Chapter 19.84

ORDINANCE NO. –N.S.

ADDING A NEW CHAPTER 19.84 TO THE BERKELEY MUNICIPAL CODE PROHIBITING NATURAL GAS INFRASTRUCTURE IN NEW BUILDINGS EFFECTIVE [ ]

BE IT ORDAINED by the Council of the City of Berkeley as follows:

Section 1. That Chapter 19.84 of the Berkeley Municipal Code is added to read as follows:

Chapter 19.84

PROHIBITION OF NATURAL GAS INFRASTRUCTURE IN NEW BUILDINGS

Sections:

19.84.010 Findings and Purpose.
The Council finds and expressly declares as follows:

A. Available scientific evidence suggests that natural gas combustion, procurement and transportation produce significant greenhouse gas emissions that contribute to global warming and climate change.
B. The following addition to the Berkeley Municipal Code is reasonably necessary because of local climatic, geologic and health and safety conditions as listed below:
   (1) As a coastal city located on the San Francisco Bay, Berkeley is vulnerable to sea level rise, and human activities releasing greenhouse gases into the atmosphere cause increases in worldwide average temperature, which contribute to melting of glaciers and thermal expansion of ocean water – resulting in rising sea levels.
   (2) Berkeley is already experiencing the repercussions of excessive greenhouse gas emissions as rising sea levels threaten the City's shoreline and infrastructure, have caused significant erosion, have increased impacts to infrastructure during extreme tides, and have caused the City to expend funds to modify the sewer system.
   (3) Berkeley is situated along a wildland-urban interface and is extremely vulnerable to wildfires and firestorms, and human activities releasing greenhouse gases into the atmosphere cause increases in worldwide average temperature, drought conditions, vegetative fuel, and length of fire seasons—all of which contribute to the likelihood and consequences of fire.
   (4) Berkeley's natural gas building infrastructure, a potentially significant source of fire during earthquakes and other fire events, is precariously situated along or near the Hayward fault, which is likely to produce a large earthquake in the Bay Area.
   (5) Some subpopulations of Berkeley residents are especially vulnerable to heat events.
   (6) Berkeley residents suffer from asthma and other health conditions associated with poor indoor and outdoor air quality exacerbated by the combustion of natural gas.
C. The people of Berkeley, as codified through Measure G (Resolution No. 63,518-N.S.), the City of Berkeley Climate Action Plan (Resolution No. 64,480-N.S.), and Berkeley Climate Emergency Declaration (Resolution No. 68,486-N.S.) all recognize that rapid, far-reaching and unprecedented changes in all aspects of society are required to limit global warming and the resulting environmental threat posed by climate change, including the prompt phasing out of natural gas as a fuel for heating and cooling infrastructure in new buildings.
D. Substitute electric heating and cooling infrastructure in new buildings fueled by less greenhouse gas intensive electricity is linked to significantly lower greenhouse gas emissions and is cost competitive because of the cost savings associated with all-electric designs that avoid new gas infrastructure.
E. All-electric building design benefits the health, welfare, and resiliency of Berkeley and its residents.
F. The most cost-effective time to integrate electrical infrastructure is during building construction because workers are already on-site, utility service upgrade costs are

lower, permitting and administrative costs are lower, natural gas piping costs are avoided, and it is more cost-effective to include such systems in construction financing.

G. 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.

19.84.020 Applicability.

A. The requirements of this Chapter shall apply to all building permit applications for New Buildings proposed to be located in whole or in part within the City. However, it shall not apply to agencies that are not subject to City authority.
B. The requirements of this Chapter shall not apply to the use of portable propane appliances for outdoor cooking and heating.

19.84.030 Definitions.

A. “Accessory Dwelling Unit” shall have the same meaning as specified in Section 65852.2 of the Government Code.
B. “Greenhouse Gas Emissions” mean gases that trap heat in the atmosphere.
C. “Natural Gas” shall have the same meaning as “Fuel Gas” as defined in section 208.0 of the 2016 California Plumbing Code.
D. “Natural Gas Infrastructure” shall be defined as fuel gas piping, other than service pipe, in or in connection with a building, structure or within the property lines of premises, extending from the point of delivery at the gas meter as specified in sections 1301.0 and 1302.1 of the 2016 California Mechanical Code..
E. “New Building” shall be defined as new buildings or accessory buildings associated with a valid building permit application on or after the effective date of this chapter.

19.84.040 Prohibited Natural Gas- Infrastructure in New Buildings

No building permit shall be issued for the construction of a New Building featuring the installation of Natural Gas Infrastructure.

19.84.050 Exception.

A. The requirements of this Chapter shall not apply to Accessory Dwelling Units.
B. Notwithstanding the requirements of this chapter and the Greenhouse Gas Emissions associated with Natural Gas Infrastructure, the City Manager or their authorized representative may issue a building permit provided that a majority of the Mayor and Council finds that the permit serves the public interest.

19.84.060 Severability.

If any word, phrase, sentence, part, section, subsection, or other portion of this Chapter, or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the prescribed application thereof, shall be severable, and the remaining provisions of this Chapter, and all applications thereof, not having been declared void, unconstitutional or invalid, shall remain in full force and

effect. The City Council hereby declares that it would have passed this title, and each section, subsection, sentence, clause and phrase of this Chapter, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases is declared invalid or unconstitutional.

19.84.070 Effective date.
The provisions of this chapter shall become effective on [___].