



January 8, 2021

Santa Barbara City Council
 City Hall
 735 Anacapa Street
 Santa Barbara, CA 93102-1990
 Submitted via email to Clerk@SantaBarbaraCA.gov

RE: January 12, 2021 Agenda Item 18: Energy Code Amendments For New Buildings - SUPPORT

Dear Mayor Murillo and Santa Barbara City Council Members,

Thank you for your on-going climate leadership, including the recent goal of carbon neutrality by 2035 and Santa Barbara’s Strategic Energy Plan that calls for implementing a building reach code. We the undersigned fully support the adoption of a building electrification reach code as recommended by the Sustainability Committee.

Recently, the LA Times published an editorial calling for more cities to pass electrification reach codes in light of the 2015 Aliso Canyon gas disaster and the climate-fueled wildfire disasters since then, calling such codes, “essential for cleaner, healthier communities and the planet.”¹ By passing this code now, Santa Barbara is taking an important and timely step to mitigate the climate, health, safety, and housing affordability crisis.

¹ Times Editorial Board, “Five years after the Aliso Canyon methane leak, California is still too reliant on fossil fuels,” LA Times, October 23, 2020

First, by adopting this, Santa Barbara will join a wave of cities and counties across California in declaring that fossil fuels must be phased out of our homes, commercial buildings, and communities, and that we have a right to clean, safe, and affordable energy. Santa Barbara will not be alone in deciding to phase out gas in new construction. 40 cities and counties in California have implemented reach codes to shift to all-electric new construction and many more are in consideration.

The reach code will improve air quality and public health for Santa Barbara residents. All-electric new construction will improve indoor air quality for Santa Barbara residents. On average, Californians spend 68 percent of their time indoors, making indoor air quality a key determinant of human health.² The combustion of gas inside our homes produces harmful indoor air pollution, specifically nitrogen dioxide, carbon monoxide, nitric oxide, formaldehyde, acetaldehyde, and ultrafine particles.³ These odorless and undetectable gas combustion pollutants can cause respiratory diseases, as well as more serious conditions, including death.⁴ Lawrence Berkeley National Laboratory recently found that air pollution levels in the 55-70 percent of homes with gas stoves exceed EPA's definition of clean air, i.e. air pollution levels indoors in these homes would be illegal if found outdoors.⁵ One study found that gas stoves may be responsible for up to 12 percent of childhood asthma cases.⁶

All-electric new construction will also be key to mitigating outdoor air pollution in California. Hazardous air pollution is a particularly acute issue for low-income communities and people of color, who are exposed to higher incidences of particulate matter (PM 2.5) and other harmful pollutants.⁷ While most think of trucks, power plants and industry as the major culprits of air pollution, buildings have for too long gotten a free pass. Gas combustion appliances lack modern-day pollution controls and are a major source of air pollution, particularly in the winter from gas heating. Gas appliances in residential and commercial produce nearly nine times more nitrogen oxide (NOx) emissions than gas power plants.⁸ Nitrogen oxide is a precursor to ozone and PM 2.5, two pollutants that cause asthma, lung cancer, respiratory diseases, and premature death.⁹ All-electric new construction is an essential step to improving air quality in Santa Barbara and Southern California as a whole.

The reach code will lower the cost of new construction and support affordable housing. All-electric homes can be cheaper to build¹⁰ than gas-heated buildings — and they can lower monthly utility bills for Santa Barbara residents and businesses.¹¹ Ensuring all new construction is built without gas hookups will help developers build more quickly and affordably as there will be no need for new costly gas infrastructure — an advantage in the ongoing housing crisis. A recent analysis by the Statewide Utility Codes and Standards Team found that building all-electric reduced construction costs on average \$5,000 for single-family homes and over \$2,000 per unit in a multi-family building.

Building all-electric will also save costs for Santa Barbara residents and businesses in the long-term as we transition to a carbon-neutral economy. Gas distribution pipeline extensions to new homes are expected to become stranded assets¹² well before the end of their useful life as more buildings electrify over the coming years.

² Klepeis, N. E.; Nelson, W. C.; Ott, W. R.; Robinson, J. P.; Tsang, A. M.; Switzer, P.; Behar, J. V.; Hern, S. C.; Engelmann, W. H. The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants. *J. Expo. Anal. Environ. Epidemiol.* 2001, 11 (3), 231–252.

³ See, Jennifer Logue et al., “Pollutant Exposures from Natural Gas Cooking Burners: A Simulation-Based Assessment for Southern California” *Environmental Health Perspectives* Vol. 122 No. 1 pp. 43-50, (2013); Victoria Klug and Brett Singer, “Cooking Appliance Use in California Homes—Data Collected from a Web-based Survey.” Lawrence Ventura County National Laboratory (August 2011); John Manuel, “A Healthy Home Environment?” *Environmental Health Perspectives*, Vol. 107, No. 7 1999, pp. 352–357; Nasim Mullen et al., “Impact of Natural Gas Appliances on Pollutant Levels in California Homes” Lawrence Ventura County National Laboratory, 2012.

⁴ CARB, “Combustion Pollutants” (reviewed July 14, 2020). Available at <https://www.arb.ca.gov/research/indoor/combustion.htm>

⁵ “Pollution in the Home: Kitchens Can Produce Hazardous Levels of Indoor Pollutants” <https://newscenter.lbl.gov/2013/07/23/kitchens-can-produce-hazardous-levels-of-indoor-pollutants/>

⁶ “Cooking with gas, damp housing may cause childhood asthma: study” https://www.brisbanetimes.com.au/national/queensland/cooking-with-gas-damp-housing-may-cause-childhood-asthma-study-20180415-p4_z9pz.html

⁷ “Inequity in consumption of goods and services adds to racial-ethnic disparities in air pollution exposure” <https://www.pnas.org/content/116/13/6001>

⁸ “Emission Inventory Data” <https://www.arb.ca.gov/ei/emissiondata.htm>

⁹ “Health Effects of Ozone and Particle Pollution” <https://www.lung.org/our-initiatives/healthy-air/sota/health-risks/>

¹⁰ “Decarbonization of Heating Energy Use in California Buildings” <https://www.synapse-energy.com/sites/default/files/Decarbonization-Heating-CA-Buildings-17-092-1.pdf>

¹¹ “The Economics of Electrifying Buildings” <https://rmi.org/insight/the-economics-of-electrifying-buildings/>

¹² “The ‘Rush To Gas’ Will Strand Billions As Renewables Get Cheaper, Study Says”

Stopping investments in new gas infrastructure is a fiscally prudent strategy to avoid saddling ratepayers and taxpayers with the costs of maintaining and ultimately decommissioning stranded gas infrastructure.

The reach code will make Santa Barbara's homes and businesses safer and more resilient in the face of climate change. California is experiencing an increasing occurrence of extreme heat waves, with practically each summer breaking previously held record temperatures.¹³ Many Santa Barbara residents, particularly low-income families, do not have air conditioning and are not prepared to adapt to these heat waves, posing new health and safety risks. Air conditioning is an important bonus from replacing gas furnaces with electric heat pump space heaters, as the heat pumps can operate in reverse and provide high efficiency cooling when needed. Electrification offers greater comfort, safety, and climate resiliency when temperatures peak.

Lastly, gas pipelines are vulnerable to methane leakage, over-pressurization, earthquakes and fires. Aliso Canyon (2015/16), Bakersfield (2015), Carmel (2014), San Bruno (2010), and Rancho Cordova (2008), and recent fires in North Carolina, Massachusetts, and San Francisco are but a few of the important and unfortunate reminders of the gas system's inherent risks. Given the earthquake faults in California, fires exacerbated by gas pipelines after earthquakes are of significant concern. Communities with gas pipelines in Santa Barbara face increased risks of fires as gas pipeline leaks are highly flammable. Aging pipelines and associated equipment, and inflexible pipeline materials are vulnerable to shifts in the earth and buildings that put additional stress on pipelines, causing cracks and methane leaks.

Passing this Reach Code is an appropriate step to do our part in achieving California's climate goals, including Santa Barbara's goal of carbon neutrality by 2035. Electricity in Santa Barbara is rapidly getting cleaner, with Santa Barbara on track to meet its goal of 100% renewable energy by 2030 and possibly sooner with the rollout of community choice energy. As a result, shifting to electric power in our buildings dramatically lowers greenhouse gas emissions. The prohibition of new Natural Gas Infrastructure is a crucial part of Santa Barbara's future. By mandating gas-free construction for new buildings, Santa Barbara will protect the health of its residents and the affordability of its housing, while implementing the critical climate protections necessary for dramatic greenhouse gas reductions.

Sincerely,

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<https://www.forbes.com/sites/jeffmcmahon/2018/05/21/the-rush-to-gas-will-cost-billions-in-stranded-assets-as-renewables-get-cheaper-institute-says/#52a7065c3a0d>

¹³ "Northern Hemisphere just had its hottest summer on record," NOAA, September 14, 2020 <https://www.noaa.gov/news/northern-hemisphere-just-had-its-hottest-summer-on-record>

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