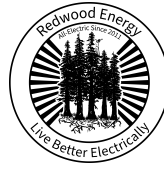


HAMMOND CLIMATE SOLUTIONS FOUNDATION
Dynamic Action for a Sustainable Planet



Community Environmental Council
Bold Climate Action
Acción Climática Audaz



SAN DIEGO BUILDING ELECTRIFICATION COALITION



The Honorable Gavin Newsom
Governor, State of California
1021 O St., Room 9000
Sacramento, CA 95814

RE: Support Zero-Emission New Construction Building Standards Statewide

Dear Governor Newsom,

On behalf of the undersigned organizations and hundreds of thousands of members and supporters in California, we urge you to protect public health and cut planet-warming emissions by directing state agencies to adopt a zero-emission building standard statewide through CALGreen.¹

To be a leader in the fight against the climate crisis, California must take more ambitious action in the building sector, one of our state's most overlooked climate problems. While California has made significant progress in reducing emissions from other sectors, greenhouse gas emissions from residential homes ticked down just 3% in the past two decades, and emissions from commercial buildings have increased dramatically.²

Every time California connects a new home to the gas system, our climate targets slide further out of reach – and for that reason, we must act now. Waiting until the next building code cycle to move forward with a zero-emission standard statewide would lock in 1.5 million tons of additional carbon pollution by 2030.³

Expanding the use of fossil fuels in homes isn't just a climate problem – it's also a major public health threat. Another generation of children in California should not have to grow up with unnecessary exposure to toxic pollution inside and outside their homes, as well as exposure to known carcinogens in worrying concentrations.

Burning fossil fuels in homes for heating and cooking generates a range of dangerous pollutants that threaten health, including nitrogen oxide (NO_x) pollution, particulate matter (PM_{2.5}). These pollutants contribute to California's outdoor air pollution problem, which is the worst in the nation.⁴

¹ A zero-emission standard could be based on either nitrogen oxides (NO_x) or carbon dioxide (CO₂).

² SPUR analysis of Next 10. 2022 California Green Innovation Index, 2022 at <https://www.spur.org/news/2023-06-26/buildings-weak-link-californias-race-slow-climate-change>

³ RMI analysis of data from California Can't Wait on All-Electric New Building Code (July 28, 2020), <https://rmi.org/california-cant-wait-on-all-electric-new-building-code/>

⁴ American Lung Association (2023). Most Polluted Cities. <https://www.lung.org/research/sota/city-rankings/most-polluted-cities>

Burning gas in homes and buildings generates four times as much smog-forming NO_x pollution as all of the state's gas power plants, and nearly two-thirds as much NO_x as passenger cars.⁵ NO_x pollution, such as NO₂, can cause or exacerbate respiratory symptoms like asthma attacks, reduced lung function, coughing and wheezing, and inflammation of the airways.⁶

Cleaning up outdoor pollution from fossil fuel equipment would deliver significant health benefits. UCLA researchers estimate that if all residential gas equipment in California were replaced with zero-emission electric alternatives, the outdoor pollution reductions could help avoid about 350 deaths, 600 cases of acute bronchitis, and 300 cases of chronic bronchitis each year, equal to about \$3.5 billion in annual monetized health benefits.⁷

An E3 analysis prepared for the California Public Utilities Commission that looked at both residential homes and commercial buildings found that removing gas equipment could prevent 813 premature deaths and yield \$7.35 billion in monetized health savings annually due to the reduced outdoor air pollution.⁸

The health impacts outlined in the above studies – while enormous – only account for outdoor air quality benefits. Gas equipment also threatens public health by polluting the air inside homes.

A groundbreaking [study](#) on stoves in California last year found that they are leaking alarming levels of benzene, a chemical linked to cancer – and in the homes with the leakiest stoves, benzene concentrations were comparable to living with second-hand tobacco smoke.⁹ Homes with gas stoves also have approximately [50% to over 400%](#) higher NO₂ concentrations than homes with electric stoves.¹⁰ Children, due to their smaller body sizes and increased respiratory rates, are most susceptible to the health impacts.¹¹

⁵<https://www.spur.org/publications/policy-brief/2022-09-20/gas-appliances-and-smog-californias-hidden-air-pollution>

⁶ American Lung Association, Nitrogen Dioxide

<https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/nitrogen-dioxide>

⁷ Yifang Zhu et al., *Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California* 39, UCLA Fielding School of Public Health (Apr. 2020),

<https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7>.

⁸ Gabe Mantegna et al., *Quantifying the Air Quality Impacts of Decarbonization and Distributed Energy Programs in California*, at 7, 33-34, Energy and Environmental Economics (“E3”) (2021),

<https://www.ethree.com/wp-content/uploads/2022/01/CPUC-Air-Quality-Report-FINAL.pdf>.

⁹ Eric D. Lebel, Drew R. Michanowicz, Kelsey R. Bilsback, Lee Ann L. Hill, Jackson S. W. Goldman, Jeremy K. Domen, Jessie M. Jaeger, Angélica Ruiz, and Seth B. C. Shonkoff

Environmental Science & Technology 2022 56 (22), 15828-15838

DOI: 10.1021/acs.est.2c02581; and Yannai S. Kashtan, Metta Nicholson, Colin Finnegan, Zutao Ouyang, Eric D. Lebel, Drew R. Michanowicz, Seth B.C. Shonkoff, and Robert B. Jackson

Environmental Science & Technology 2023 57 (26), 9653-9663

DOI: 10.1021/acs.est.2c09289.

¹⁰ U.S. Environmental Protection Agency. Integrated science assessment for oxides of nitrogen: health criteria (final report, 2008). Available at: <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=194645>. Accessed November 12, 2021.

¹¹ Bateson TF, Schwartz J. Children's response to air pollutants. *J Toxicol Environ Health*. 2007;71(3):238–243.

A modeling study by Lawrence Berkeley National Laboratory estimated that 12 million Californians in homes with gas stoves are breathing levels of NO₂ that would be illegal if outdoors.¹² A [study](#) published in the International Journal of Environmental Research and Public Health earlier this year found that California could theoretically avoid 20.1% of childhood asthma cases if gas stoves were not present in homes.¹³

Replacing gas stoves with electric alternatives can reduce NO₂ exposure and protect public health. A study by Johns Hopkins researchers found that replacing a gas stove with an electric stove decreased NO₂ concentrations by 51% in the kitchen and 42% in the bedroom.¹⁴

Another study tracking the results of a nationwide Ecuadorian induction stove promotion program found evidence of large-scale drop in hospitalizations in lockstep with the households' transition from gas stove to electric stove use.¹⁵

Luckily, requiring zero-emissions buildings will improve air quality while also helping achieve the state's climate objectives, and many designers, contractors, and affordable housing developers across the state are already building them.¹⁶ As identified in the California Energy Commission's 2021 Integrated Energy Policy Report, there is a growing consensus that constructing new homes with electric equipment is the most viable and predictable path to zero-emission buildings.¹⁷

California should act promptly both to meet our responsibility to protect the health and safety of present and future generations, and to regain California's climate policy leadership.¹⁸ Please direct your agencies to take this action and create a mandatory zero-emission new construction requirement.

Thank you,

¹² Logue JM, Klepeis NE, Lobscheid AB, Singer BC. Pollutant exposures from natural gas cooking burners: a simulation-based assessment for southern California. *Environ Health Perspect*. 2014;122(1):43–50.

¹³ Gruenwald T, Seals BA, Knibbs LD, Hosgood HD III. Population Attributable Fraction of Gas Stoves and Childhood Asthma in the United States. *International Journal of Environmental Research and Public Health*. 2023; 20(1):75. <https://doi.org/10.3390/ijerph20010075>

¹⁴ Paulin LM, Diette GB, Scott M, et al. Home interventions are effective at decreasing indoor nitrogen dioxide concentrations. *Indoor Air*. 2014;24(4):416–424.

¹⁵ <https://www.sciencedirect.com/science/article/abs/pii/S0013935123013324>

¹⁶ Shell, Scott. 2018. "Multi-Family Building Electrification Current examples." <https://cao-94612.s3.amazonaws.com/documents/Scott-Shell-Oakland-Berkeley-All-electric-multi-family-buildings-6-13-19.pdf>

¹⁷ Kenney, Michael, Jacob Wahlgren, Kristina Duloglo, Tiffany Mateo, Danuta Drozdowicz, and Stephanie Bailey. 2022. Final 2021 Integrated Energy Policy Report, Volume I: Building Decarbonization. California Energy Commission. Publication Number: CEC-100-2021-001-V1.

¹⁸<https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=4966519&GUID=714F1B3D-876F-4C4F-A1B C-A2849D60D55A&Options=ID%7cText%7c&Search=2317>

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