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January 27, 2021

ADVISORY BOARD

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California Energy Commission
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Via email

David Diaz

**RE: 1/26/21 Workshop Comments | 2022 Energy Code Pre-Rulemaking -
19-BSTD-03 - Public Health Implications of Proposed Code Update**

Rafael Gonzalez

Yvette Martinez

As a place-based organization dedicated to realizing a more sustainable, equitable, and livable San Gabriel Valley, ActiveSGV is pleased to submit the following comments following the 1/26 workshop regarding the update to the Title 24 Building Code.

Stephanie Ramirez

Wesley Reutimann

In 2019 ActiveSGV supported UCLA in conducting a study of indoor air quality within older homes and apartments in the San Gabriel Valley of east Los Angeles County. Homes were outfitted with both indoor and outdoor air quality monitors, for a period of two weeks in Summer and Winter 2019 (4 weeks total). The study found that in homes with gas appliances air pollution (PM2.5 and NO2) inside homes was commonly worse than outdoors, particularly during the colder months of the year and within homes that used gas stoves and ovens for preparing food.¹

Chris Tran

The health impacts of indoor air pollution are life-altering, extremely costly, and long-term. Gas stoves and furnaces produce a range of pollutants, including particulate matter (PM), nitrogen dioxide (NO2), carbon monoxide (CO), and formaldehyde. Over the past four decades public health researchers have compiled a growing body of evidence linking the use of such gas appliances, especially for cooking, with increased risk of negative health outcomes, including asthma and other respiratory illnesses, cognitive impairments, and some cancers.

A 2013 meta-analysis of 41 studies found that children living in homes with gas stoves had a 42 percent higher risk of experiencing asthma symptoms, and a 24 percent increase in the risk of being diagnosed with asthma over their lifetime.² More recently, a 2018 study from the University of Queensland found that more than 12 percent of the total burden of childhood asthma in Australia was attributable to the use of gas stoves, which 38 percent of households rely on for cooking.³

¹ Healthy Home Study (2019), www.activesgv.org/healthy-home-study.html

² International Journal of Epidemiology, Volume 42, Issue 6, December 2013, Pages 1724–1737, <https://doi.org/10.1093/ije/dyt150>

³ Knibbs, Luke D., Woldeyohannes, Solomon, Marks, Guy B., and Cowie, Christine T. (2018). *Damp housing, gas stoves, and the burden of childhood asthma in Australia. Medical Journal of Australia* 208 (7) 299-302. <https://doi.org/10.5694/mja17.00469>

In 2020 Harvard researchers also found that the risk of dying from COVID-19 goes up 8% for each increase of 1 $\mu\text{g}/\text{m}^3$ of PM_{2.5}.⁴ The growing evidence of the dangers of gas stoves even prompted the New England Journal of Medicine to publish an editorial recommending that “new gas appliances be **removed from the market.**”⁵

The impacts of poor indoor air quality are further compounded by worsening outdoor air quality in the region, a problem that is also directly linked to methane gas extraction, production, leakage, and distribution for use within existing dual-fuel homes across California that is contributing to the climate crisis. After decades of steady improvements, air quality in the South Coast Air Basin has been on the decline over the past decade, in part due to the local climate becoming hotter and drier. Currently, the San Gabriel Valley averages 32 days per year where daytime temperatures exceed 95°F. According to UCLA researchers, this number could skyrocket to an average of 74 days per year by 2050, and an average of 117 days annually -- *a full five months above 95°F* -- by 2100. A hotter future with less rain will make it harder to protect public health inside and outside of people’s homes.

The economic costs of long-term, chronic illnesses such as asthma associated with air pollution is billions in healthcare fees and diminished productivity to LA County.⁶ These costs directly impact working families who have to bear the associated burdens of juggling additional doctor’s visits, medication, missed school and work days. Lower-income families who are more likely to reside in older units and homes with leaky gas appliances (and the inability to upgrade them) are at particular risk and least able to shoulder the associated costs. This impacts families and the agencies and public services they rely on, including local schools left to accommodate more asthmatic children.

Building Electrification

As of December 2020, 40 communities across California, including the cities of Ojai and Santa Monica, have already adopted an all-electric building code for new construction, recognizing the benefits for public health, public safety, climate action, and housing affordability.

Electrification of new buildings is one of the most cost-effective and socially equitable ways cities around the world are protecting public health and reducing GHG emissions.

In this week’s workshop, CEC staff presented information that indicated the baseline within the 2022 code would only require one all-electric appliance for residential buildings, depending on climate zone. Unfortunately simply requiring that new buildings be electric-ready is not enough to protect public health, let alone sufficiently address the scale and time-sensitivity of the climate crisis. This approach would also result in higher construction costs at a time when housing affordability is a major burden to millions of Californians. According to research done by Rocky Mountain Institute for the City of Oakland, it is estimated to cost between \$2,400 to \$2,700 more per home to install two separate systems than it would be just to install a single heat pump. Even when taking into account the

⁴ Wu, X., Nethery, R. C., Sabath, M. B., Braun, D. and Dominici, F., 2020. Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis. *Science advances*, 6(45), p.eabd4049. <https://projects.iq.harvard.edu/covid-pm>

⁵ Philip J. Landrigan, M.D., Howard Frumkin, M.D., Dr.P.H., and Brita E. Lundberg, M.D., The False Promise of Natural Gas, New England Journal of Medicine, www.nejm.org/doi/pdf/10.1056/NEJMp1913663?articleTools=true

⁶ Zhu, Yifang et al, Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California, UCLA Fielding School of Public Health, April 2020, <https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7>

estimated, current \$1,050 premium to install a heat pump water heater and an induction stove rather than their gas counterparts, purchasing all-electric appliances still results in a net construction savings of \$1,350 to \$1,650.

There is clear precedent for going all-electric. Over 60% of new homes in the South are all-electric, utilizing heat pumps to both heat and cool homes. While a leader in so many areas, California has fallen well behind other states by incentivizing dual-fuel homes, with significant, long-term detrimental effects to public health.

Now is the time for California to make amends for its failure to address indoor air quality by ensuring new homes will be healthy for decades to come for Californians who are unaware of the invisible dangers of indoor air pollution. Now is the time to require heat pumps, regardless of climate zone, in new homes. Now is the time to make this technology available to Californians of all walks of life, not just residents of more affluent, cutting edge cities that have already adopted a local REACH code.

This is particularly important in the face of concerted industry obfuscation about the science and facts of gas in homes, a self-serving effort that has reduced the quality of life of Californians of all ages. Over the past decade plus Sempra / SoCalGas have invested significant resources to confuse the public and policymakers. These tactics have received increasing coverage by the press in recent years, highlighting industry misuse of ratepayer funds⁷ and efforts to convince local City Councils to formally support “balanced energy solutions”⁸. In doing so Sempra / SoCalGas has even had the gall to charge ratepayers, rather than shareholders, for some of its contributions to gas industry advocacy groups that lobby to preserve and promote the use of methane gas, and forestall energy efficiency policies that would directly benefit public health.

SoCalGas shouldn't be using customer money to undermine state climate goals, critics say



Tera Lacosta of Porter Ranch holds a protest sign during a hearing in Granada Hills over a methane leak at Southern California Gas Co.'s Aliso Canyon Storage Facility. (Richard Vogel / Associated Press)

⁷ Roth, Sammy, “SoCalGas shouldn't be using customer money to undermine state climate goals, critics say,” *Los Angeles Times*, November 22, 2019, www.latimes.com/environment/story/2019-11-22/socalgas-climate-change-customer-funds

⁸ Roth, Sammy, “California ditched coal. The gas company is worried it's next,” *Los Angeles Times*, October 22, 2019, www.latimes.com/environment/story/2019-10-22/southern-california-gas-climate-change

LA Times Coverage of SoCalGas Misuse of Ratepayer Funds - November 22, 2019

As a community-based organization committed to improving the health and well-being of residents of San Gabriel Valley, ActiveSGV strongly supports a 2022 code update that puts public health first by ensuring new homes of all sizes in California are 100% electric.

If you have any questions regarding our support for healthier housing, please contact me at david@activeSGV.org.

Thank you for your time and consideration,

A handwritten signature in black ink that reads "David Diaz". The signature is stylized and written in a cursive-like font.

David Diaz, MPH
Executive Director