

DOCKETED

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Document Title:	Comments on Indoor Air Quality Cooking and Ventilation
Description:	Redwood Energy Comments on Indoor Air Quality Cooking and Ventilation. Submitted by staff at the request of Sean Armstrong.
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TO: California Energy Commission, 2022 Title 24 Pre-Rulemaking

FROM: Sean G. Armstrong, Redwood Energy

DATE: September 30, 2020

SUBJECT: IAQ Cooking and Ventilation comments, Docket No.19-BSTD-03

Honorable Energy Commissioners and Staff:

For the sake of all Californians, but particularly those Californians with Black and Brown skin, **I call on the Commission to no longer approve optional ventilation of gas stoves—ventilation must be either automatic, or gas stoves must not be installed.**

This stance is consistent with the Commission's safety measures for the ventilation of gas dryers, water heaters and furnaces. Like those appliances, gas ranges can burn up to 100,000 BTUs¹ worth of CO, NO_x and PM_{2.5} while operating inside a home, invisibly causing serious harm to Californians, but unlike those appliances the CEC has allowed gas stoves to operate without energizing a hood fan to exhaust injurious, potentially lethal amounts of indoor air pollution.

The indoor air quality CASE team stated in their workshop presentation:

1. *The supermajority of households do not use a range hood while cooking— only 28% of the time in LBNL's 2011 field study, and 14% of the time in Redwood Energy's EPIC-funded 2019 field research of low income multifamily households.*
2. *Residences of 1500 sf or less, when not using their hood, are 100% likely to have injurious levels of NO₂ and PM 2.5. All low-income apartments are less than 1500sf, and the question is whether the CEC cares that low-income households are guaranteed to be harmed by any proposal that allows gas stoves without automatic, effective ventilation.*

Impaired lungs have been lethal in 2020--1 in 1000 Black Americans have died from Covid-19 in 2020², triple the rate of White Americans, for which the gas stove has some responsibility—RMI and UCLA have both submitted extensive research of the increased incidence of asthma and cardiopulmonary disease in homes with gas stoves. You may find it unsettling to learn that the disproportionate police shootings of Black Americans

¹ Hall, Janet. Decoding BTUs: "How Much Cooking Power Do You Really Need?" June 29, 2017. <https://www.remodelista.com/posts/remodeling-101-what-is-a-btu-and-how-many-btus-do-you-need-for-cooking/>

² APM Research Lab. "The Color of Coronavirus: Covid-19 Deaths by Race and Ethnicity in the United States." September, 2020. <https://www.apmresearchlab.org/covid/deaths-by-race>

also kills 1 in 1000 Black Americans³-- In America in 2020, a knee on the neck is just as deadly as pre-existing health conditions like asthma.

I ask that the CEC has to face its responsibility for the lives and health of Black Californians. Systemic racism is not judged by intentions, but by consequences. You have the ability to end the disproportionate poisoning of people of color in California—those who live in historically redlined communities, called Disadvantaged Communities by your sister agency CalEPA, particularly those in homes smaller than 1500 square feet.

Examples of strategies that would solve IAQ, rather than ineffectively mitigate, include:

1. Banning gas stoves in multifamily housing. There appears to be almost no safe level of NO₂ for lungs, and no failsafe hood technology. Therefore gas stoves are inherently too dangerous for apartments, which are disproportionately inhabited by Californians of color.
2. Occupancy or usage sensors like those found above gas ranges in Japan, as illustrated by a presenter in the CASE workshop. No evidence was submitted saying that these could not be required by the 2023, although one voice made unsubstantiated doubting comments. In my expert opinion, having brought numerous HVAC and DHW products to market for ZNE affordable housing developments, there is enough time to mandate occupancy sensor hoods for gas stoves by 2023. It will save lives.

The Energy Commission has long known about the problem of unvented and poorly vented gas stoves. It is past time to act on that knowledge—Californians have died this year from Covid-19 that would not have died had the CEC acted sooner, and done more for Californians of color. Do not re-codify disproportionate harm to Black Californians (aka systemic racism) into the 2022 Energy Code.

Sincerely,



Sean Armstrong
Managing Principal
Redwood Energy

³ Edwards et al. "Risk of being killed by police use of force in the United States by age, race, ethnicity and sex." August 20, 2019. Proceedings of the National Academy of Sciences of the United States of America.