



May 8, 2023

Comments to Consumer Product Safety Commission, Request for Information on Chronic Hazards Associated With Gas Ranges and Proposed Solutions

Docket No. CPSC-2023-0009

Submitted electronically through the Federal eRulemaking Portal at www.regulations.gov

Thank you for the opportunity to respond to your request for information regarding threats to health associated with gas-burning stoves. There is a growing body of scientific evidence indicating that gas stove pollution may expose residents to harmful levels of air pollution in their homes. On behalf of the American Lung Association, the leading organization working to save lives by improving lung health and preventing lung disease through research, education and advocacy, we encourage the agency to continue looking into the science surrounding this issue and to make swift and science-based decisions regarding possible mitigations and regulations.

About 35 percent of U.S. households—more than one-third—cook primarily with gas.¹ There is a wide degree of regional variation. In New Jersey, California, Illinois and New York, for example, approximately 60 to 70 percent of homes cook with gas.² These states are also the home of the country's biggest cities which are also subject to high levels of outdoor urban air pollution. Overall, ninety percent of households using gas in the home are in urban areas.³ The byproducts of this combustion in the home produce pollutants known to harm human health, including nitrogen dioxide, carbon monoxide, particle pollution, and others.⁴

Notably, gas cooking devices are not required to be vented outside by law or regulation,⁵ meaning that often the pollution they produce is left at its source, which is typically within the kitchen area of the home. When people use the ventilation available to them (typically a hood

¹ US Energy Information Administration, Households that use natural gas for cooking (2020) available at: <https://www.eia.gov/todayinenergy/detail.php?id=53439>

² US Energy Information Administration, Households that use natural gas for cooking (2020) available at: <https://www.eia.gov/todayinenergy/detail.php?id=53439>

³ United States Energy Information Administration. The majority of US households used natural gas in 2020 available at: <https://www.eia.gov/todayinenergy/detail.php?id=55940>

⁴ U.S. Environmental Protection Agency. Health Effects of Indoor Air Pollution. Available at: <https://www.epa.gov/indoor-air-quality-iaq/health-effects-indoor-air-pollution>

⁵ Parrott K, et al. Use of kitchen ventilation: impact on indoor air quality. In: The Forum for Family and Consumer Issues, Vol. 8, No. 1. Department of 4-H Youth Development and Family & Consumer Sciences, North Carolina State University (2003). Available at: <http://ncsu.edu/ffci/publications/2003/v8-n1-2003-january/ar-2-kitchen.php>

over the stove), it often recirculates the air and has only a moderate impact on immediate air quality.

The American Lung Association recently released a comprehensive literature review of the health, indoor air quality and environmental impacts of indoor fuel use.⁶ In it, we found that gas stove use contributes to several detrimental health risks. Gas stove exposure can worsen asthma symptoms, wheezing, and result in reduced lung function in children and other vulnerable populations, particularly in the absence of ventilation and for children living with existing asthma or allergies.

Additionally, based primarily on studies of outdoor air, research has established that exposure to pollutants emitted from a gas stove and other gas-powered appliances contributes to a variety of diseases including heart disease and stroke, asthma, COPD, lung cancer, type 2 diabetes, premature birth and respiratory infection.⁷

Health Impacts of Cooking with a Gas Stove

In non-mobile homes, gas stoves primarily burn methane as fuel. A significant amount of evidence on the detrimental health effects of exposure to air pollution shows that burned methane gas byproducts such as nitrogen dioxide contribute to premature mortality and increased risk for illness including ischemic heart disease, stroke, COPD, lung cancer, type 2 diabetes, and lower-respiratory infections.⁸ There is a growing body of evidence showing an association between long-term exposure to air pollution and adverse birth outcomes. Short term exposure to high levels of air pollution can exacerbate asthma and cardiopulmonary symptoms.⁹

Gas Combustion Increases Risk of Asthma

Nitrogen dioxide is a primary air pollutant produced by the combustion of methane gas. The relationship between both short-term and long-term nitrogen dioxide exposure outside and the development of childhood asthma is well-documented.¹⁰ Low-income, Black, and Hispanic children are at higher risk of asthma exacerbation and respiratory symptoms from pollution than their high-income and white counterparts due to often living in historically disinvested

⁶ American Lung Association. Literature Review on the Impacts of Residential Combustion. Available at: https://www.lung.org/getmedia/2786f983-d971-43ad-962b-8370c950cbd6/ICF_Impacts-of-Residential-Combustion_FINAL_071022

⁷ U.S. Environmental Protection Agency. Health Effects of Indoor Air Pollution. Available at: <https://www.epa.gov/indoor-air-quality-iaq/health-effects-indoor-air-pollution>

⁸ Manisalidis I, Stavropoulou E, Stavropoulos A, Bezirtzoglou E. Environmental and Health Impacts of Air Pollution: A Review. *Front Public Health*. 2020 Feb 20;8:14

⁹ Tiotiu AI, Novakova P, Nedeva D, Chong-Neto HJ, Novakova S, Steiropoulos P, Kowal K. Impact of Air Pollution on Asthma Outcomes. *Int J Environ Res Public Health*. 2020 Aug 27;17(17):6212.

¹⁰ Guarneri M, Balmes JR. Outdoor air pollution and asthma. *Lancet*. 2014 May 3;383(9928):1581-92.

communities with higher levels of ambient outdoor air pollution and poorly maintained housing stock and building appliances.¹¹

Gas Leak Risks

When gas leaks from defective or malfunctioning appliances it poses a risk to human health. Consumer-grade natural gas contains varying levels of at least 21 different hazardous air pollutants, including benzene, toluene, ethylbenzene, xylene, and hexane,¹² much of which is detrimental to health. Odorants are added to the otherwise odorless gas for safety reasons, but small leaks can remain undetectable and still be harmful to health.

Consider Environmental Justice and Equity

While these emissions have the potential to impact all people, vulnerable populations such as children and the elderly are especially impacted.¹³ In addition, occupants in smaller, older, and poorer ventilated homes or those in multiunit housing are at an increased risk of exposure to numerous pollutants including those from gas stoves. This poses a disproportionate health risk for low-income populations and people of color, who are already burdened by environmental justice issues such as outdoor air pollution. Please consider comprehensive solutions that protect all consumers from the harmful effects of exposure to gas stove emissions.

Thank you again for the opportunity to comment and for investigating the safety of a product in millions of homes in this country. For more information, please contact Brittany Meyer at Brittany.Meyer@lung.org.

¹¹ Clark, N. A., Demers, P. A., Karr, C. J., Koehoorn, M., & Lencar, C. (2010). Effect of early life exposure to air pollution on development of childhood asthma. *Environmental health perspectives*, 118(2), 284-290.

¹² Michanowicz DR, Dayalu A, Nordgaard CL, Buonocore JJ, Fairchild MW, Ackley R, Schiff JE, Liu A, Phillips NG, Schulman A, Magavi Z, Spengler JD. Home is Where the Pipeline Ends: Characterization of Volatile Organic Compounds Present in Natural Gas at the Point of the Residential End User. *Environ Sci Technol*. 2022 Jul 19;56(14):10258-10268.

¹³ Environmental Protection Agency. Research on Health effects from air pollution. Available at: <https://www.epa.gov/air-research/research-health-effects-air-pollution>