

May 1, 2023

Alexander Hoehn-Saric, Chair
Consumer Product Safety Commission
4330 East West Highway
Bethesda, MD 20814

Docket No. CPSC-2023-0009

Dear Chair Hoehn-Saric,

Thank you for the opportunity to provide a response to the request for information on chronic hazards associated with gas ranges and proposed solutions to those hazards. The undersigned 60 organizations support the Commission's investigation into the risks and hazards to consumers posed by gas ranges. We encourage the Commission to consider the decades-long – and growing – body of evidence that demonstrates the threat to consumers posed by gas range emissions.

Close to forty years ago, the CPSC asked the Environmental Protection Agency (EPA) if it should be concerned about the impact of an invisible toxic gas — nitrogen dioxide (NO₂), a criteria air pollutant regulated by the Clean Air Act — that's emitted from gas ranges. The EPA, which has regulated ambient air pollution since the 1970s because of its known health effects, responded that the pollution from gas ranges could have harmful health effects and the CPSC should investigate the concentrations of NO₂ occurring in American homes.¹ The CPSC never conducted its investigation into gas range emissions.

Since that time, the EPA has continued to study the impacts of NO₂. In 2008, the Integrated Science Assessment (ISA) of Oxides of Nitrogen found that homes with gas cooking appliances had NO₂ levels 50-400% higher than homes with electric cooking appliances.² In its 2016 ISA of Oxides of Nitrogen, the EPA stated that short-term exposure to NO₂ has a causal relationship with asthma exacerbations, particularly in children, and likely leads to the development of asthma.³

When it comes to NO₂ pollution outdoors, the EPA and World Health Organization have established standards for what they consider to be an unhealthy level of exposure to NO₂ for the public. Studies show that cooking with gas appliances can exceed these concentrations - indoors - over and over again, chronically exposing people to hazardous pollutants.⁴ Recent testing of gas ranges by Consumer Reports found elevated levels of NO₂ above those recommended by some public health organizations for indoors

¹ <https://tinyurl.com/ycxvp7fe>

² <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=194645>

³ <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310879>

⁴ <https://pubs.acs.org/doi/10.1021/acs.est.1c04707>; <https://pubmed.ncbi.nlm.nih.gov/24192135/>;
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4909253/>;
<https://onlinelibrary.wiley.com/doi/am-pdf/10.1111/ina.12190>

(including the World Health Organization and Health Canada), particularly when the ranges were used without ventilation and when a burner was set on high.⁵

Decades of peer-reviewed research supports the concern about gas ranges and combustion-related NO₂ pollution inside the home. A 2013 meta-analysis of 41 studies confirmed findings of a 1992 meta-analysis of 11 studies. It found that children living in homes with gas ranges had a 42 percent higher risk of experiencing asthma symptoms, and, over their lifetime, a 24 percent increase in the risk of being diagnosed with asthma.⁶

In addition to NO₂, using methane gas for cooking also results in the introduction of other concerning pollutants into the home, including carbon monoxide (CO), fine particulate matter (PM_{2.5}), and benzene.⁷ For example, average CO levels in homes without gas ranges vary from 0.5 to 5 parts per million (ppm). Carbon monoxide levels near properly adjusted gas ranges are often 5 to 15 ppm and those near poorly adjusted ranges may be 30 ppm or higher.⁸ Symptoms of chronic CO poisoning include chronic fatigue, memory problems, work difficulties, sleep disorders, dizziness, neurological disorders, paresthesia, recurrent infections, abdominal pain, and diarrhea.⁹

Over the past year, scientists have also tested gas ranges for benzene around the country and found that whether they're on or off, due to frequent leaks, both high-end and low-end gas ranges were a source of benzene pollution in the home.¹⁰ According to NIOSH, the recommended airborne exposure limit (REL) is 0.1 ppm average over 10 hours and 1 ppm not to be exceeded in any 15 minute period,¹¹ while the most recent medical research finds health risks at any exposure level of benzene, and concludes there is no safe exposure level.¹²

As part of its investigation, the CPSC should consider all of these air pollutants and the levels of exposure both when gas ranges are in use and from leaks that occur even when the ranges are off.

While some exposure to these pollutants may be mitigated by proper ventilation of gas ranges, survey data estimates that only about 10–25 percent of households use their range hoods during cooking events, although actual use is often less than self-reported use.¹³ Because there is no national standard for ventilation, many gas ranges are installed without any ventilation, or with ventilation that is insufficient to meaningfully mitigate the exposure to harmful pollutants, or does not vent outdoors.

⁵ <https://www.consumerreports.org/appliances/indoor-air-quality/is-your-gas-range-a-health-risk-a6971504915/>

⁶ <https://academic.oup.com/ije/article/42/6/1724/737113?login=false>

⁷ <https://rmi.org/insight/gas-stoves-pollution-health/>

⁸ <https://www.epa.gov/indoor-air-quality-iaq/what-average-level-carbon-monoxide-homes>

⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8527620/>

¹⁰ [https://www.hsph.harvard.edu/c-change/news/home-is-where-the-pipeline-ends/;](https://www.hsph.harvard.edu/c-change/news/home-is-where-the-pipeline-ends/)

<https://pubs.acs.org/doi/full/10.1021/acs.est.2c02581>

¹¹ <https://nj.gov/health/eoh/rtkweb/documents/fs/0197.pdf>

¹² <https://www.who.int/publications/i/item/WHO-CED-PHE-EPE-19.4.2>

¹³ <https://tinyurl.com/5f9jz9rt>

Notably, externally vented gas ranges¹⁴ and whole home ventilation as outlined in ASHRAE Standard 62.2 do not appear to significantly reduce NO₂ levels.¹⁵

Compounding the problem is the fact that most consumers are unaware of the risks and hazards associated with gas range pollution, and they are not provided with that information at the point of sale. A recent survey of major appliance retailers found that there is little to no information available to consumers, either in stores or online, about gas range pollution or ventilation requirements.¹⁶

While the impacts of indoor pollution can be felt by any home with a gas range, indoor environmental exposures are disproportionately elevated in households with low-socioeconomic status.¹⁷ Building occupants in smaller, older, and poorer ventilated homes are at an increased risk of exposure to numerous pollutants including those from gas ranges; this poses a disproportionate health risk for low-income populations and people of color, who are already disproportionately burdened by environmental justice issues such as outdoor air pollution.¹⁸ The Commission should consider comprehensive solutions that protect all consumers from the harmful effects of chronic exposure to hazardous pollution emitted from gas ranges, including and especially those in vulnerable populations like children, the elderly, and people with underlying health conditions, renters, and those living in public housing.

As part of its investigation, the Commission should consider common sense solutions that will help protect consumers from the hazards of gas range pollution.¹⁹ Specifically, the Commission should at least consider taking the following actions:

1. Promulgate mandatory performance standards for new gas ranges and range hoods that focus on reducing risk by increasing ventilation and/or alerting users to unsafe concentrations of pollutants;
2. Require warning labels on gas ranges;
3. Create accessible public-education materials about the emissions from gas ranges and effective ways to reduce or eliminate them.

¹⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4909253/>

¹⁵

<https://nchh.org/2022/04/new-study-finds-ventilation-significantly-reduces-indoor-pollutant-levels-and-adds-new-evidence-for-eliminating-gas-stoves/>

¹⁶ <https://pirg.org/edfund/resources/gas-stoves-and-your-health/>

¹⁷ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3222513/>

¹⁸

<https://www.apha.org/Policies-and-Advocacy/Public-Health-Policy-Statements/Policy-Database/2023/01/18/Gas-Stove-Emissions>; <https://www.lung.org/blog/environmental-justice-air-pollution>

¹⁹ <https://policyintegrity.org/publications/detail/the-emissions-in-the-kitchen>

Thank you again for the opportunity to provide comments on the hazards associated with gas range pollution.

Sincerely,

Active San Gabriel Valley
ArizonaPIRG Education Fund
CALPIRG Education Fund
Carbon Zero Buildings, Inc
Chispa Texas
CHR, Inc
CLASP
Clean Air Force of Central Texas
ConnPIRG Education Fund
CoPIRG Foundation
Eco Infinity Nation - Healthy Kitchens
Electrify Now
Environment America Research & Policy Center
Environment California Research & Policy Center
Environment Connecticut Research & Policy Center
Environment Georgia Research & Policy Center
Environment Illinois Research & Policy Center
Environment Maryland Research & Policy Center
Environment Massachusetts Research & Policy Center
Environment Michigan Research & Policy Center
Environment New Jersey Research & Policy Center
Environment North Carolina Research & Policy Center
Environment Oregon Research & Policy Center
Environment Texas Research & Policy Center
Environment Washington Research & Policy Center
Environmental Protection Information Center
Evergreen Action
Florida PIRG Education Fund
Forward Dining Solutions LLC.
Fresh Energy
Georgia PIRG Education Fund
Illinois PIRG Education Fund
Interfaith Power & Light (DC.MD.NoVA)
Maryland PIRG Foundation
MASSPIRG Education Fund
National Center for Healthy Housing
NCPIRG Education Fund

NJPIRG Foundation
NMPIRG Education Fund
Oregon Physicians for Social Responsibility
OSPIRG Foundation
PennEnvironment Research & Policy Center
PennPIRG Education Fund
Progress Texas
Public Citizen
Public Health Law Center
Resist the Pipeline
RIPIRG Education Fund
RMI
Sierra Club
Southwest Energy Efficiency Project
Stand.earth
TexPIRG Education Fund
The Passive House Network
Thurston Climate Action Team
U.S. PIRG Education Fund
WashPIRG Foundation
WE ACT for Environmental Justice
WISPIRG Foundation
ZeroCarbonMA