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Gas stoves: A hidden health risk in plain sight

Gas stoves, common in [millions](#) of American homes, are generally thought of as safe. They've been marketed to the public as the unrivaled appliance choice when it comes to serious cooking, but today's electric and induction cooktops [outperform](#) gas, with even [professional chefs](#) ditching gas for good. Preferences aside, a growing body of evidence suggests that gas stoves emit pollutants inside of homes at levels that are unsafe, posing a significant threat to health. At the same time, gas stove use can also be linked to negative impacts on our climate.

Let's look at the facts: Gas burned in stoves is mainly methane and emits numerous health-harming pollutants.

Gas stoves [emit several pollutants](#), even when not cooking food. These include: nitrogen dioxide (NO₂), carbon monoxide (CO), and formaldehyde. None of these pollutants are released from electric stoves. While cooking food on any type of stove emits [fine particulate matter](#) (PM_{2.5}), gas stoves can emit nearly [double the amount of particulate matter](#) as electric stoves. The health harms that can result from exposure to these pollutants are as follows:

- [Nitrogen dioxide](#): increased inflammation of the airways, worsened cough and wheezing, reduced lung function, increased asthma attacks, cardiovascular harm
- [Carbon monoxide](#): tightness of the chest, headache, fatigue, dizziness, nausea, brain and heart toxicity, low birth weight, death
- [Formaldehyde](#): respiratory and skin irritation, coughing, wheezing, nausea, cancer
- [Particulate matter](#): increased asthma attacks, bronchitis, increased risk of heart attack, death

Indoor air pollution from gas stoves can reach levels that exceed outdoor air quality standards.

An RMI [report](#) found that NO₂ emissions from gas stoves can reach peak levels indoors that nearly triple the [current EPA one-hour standard](#) for outdoor air, which is 100 parts per billion (ppb). The report cites that activities such as baking a cake in a gas oven range, boiling water on the stove, and just running a gas cooktop on its own resulted in peak NO₂ emissions of 230, 184, and up to 300 ppb, respectively.

Gas stoves have been explicitly linked to increased risk of childhood asthma.

[Children](#) who live in homes with gas stoves have an [increased risk](#) of respiratory illnesses. A [meta-analysis](#) of 41 studies found that children living in homes with gas stoves have a 42% increased risk of experiencing asthma symptoms, and a 24% increased risk of ever being diagnosed with asthma by a doctor over their lifetime. Another [report](#) by the Australian Climate Council suggests that a child living in a home with a gas stove faces a similar risk of asthma to a child living in a home with cigarette smoke.

Ventilation is important, but not always enough to address the health effects.

Proper overhead ventilation that exhausts outdoors can [help reduce exposure](#) to pollutants from gas stoves and cooking activities. However, ventilation alone is not a perfect solution, due to a worrisome lack of public awareness and regulation. Many households either [don't have exhaust hoods](#), [don't use them regularly](#), or their hoods don't vent outside and merely recirculate air. Additionally, the performance of hoods on the market varies greatly in quality, with some only capturing as little as [15% of emissions](#).

The climate link: Gas production and consumption contributes to climate change.

The main component of what we call “natural gas” is methane, a greenhouse gas even [more potent](#) than carbon dioxide. Methane is emitted in large quantities throughout the supply chain, contributing significantly to the planet’s warming. Switching to electric-powered appliances and all-electric buildings is essential to reducing the country’s overall emissions, as fossil fuel combustion for heating, cooling, and cooking in residential and commercial buildings makes up roughly [29% of U.S. greenhouse gas emissions](#). While our electric power grid currently generates energy from a variety of sources, including fossil fuels like gas and oil, it is progressively powered by [more and more renewable sources](#), so that as time goes on, electric appliances will run cleaner and cleaner, while gas-powered appliances will not.

We need better public education about the health and climate impacts of cooking with gas.

This is no small problem: on average, Americans spend [90% of their time indoors](#), time that’s likely shifted to the home amid the pandemic. This means that for the millions of households that cook with gas, without proper ventilation, exposure to poor indoor air quality may be much higher than we realize. And yet, consumers are not warned of the health risks when they purchase a stove, and while ventilation is crucial for safe cooking, it’s [not required](#) for installing a new gas stove in many states, and there are no federal regulations for venting. At the same time, the gas industry has been [marketing](#) fossil-fuel appliances in a way that props up gas as the premier option, with no mention or acknowledgement of the negative impacts on health. To protect public health and help save our climate, we need to make sure people understand the risks, so that consumers can make informed choices.

Warning labels can help keep consumers informed and ultimately influence which products they choose to buy.

An [analysis](#) conducted by the Association for Consumer Research found that warning labels are effective in attracting consumers’ attention and positively influencing consumer behavior. The analysis also found that consumers’ perceptions of risks and

hazards were more likely to be influenced by a warning label when associated with products that are purchased less frequently, like a kitchen appliance. There are several examples of precedence for placing warning labels on products that expose consumers to toxic substances, like [Proposition 65](#), a law passed in California in 1986 requiring businesses with ten or more employees to provide warnings on products that cause significant exposure to chemicals known to cause cancer or reproductive harm. Proposition 65 doesn’t ban the sale of these products, but it allows Californians to make informed decisions regarding their level of exposure to toxic chemicals.

Retailers have a responsibility to inform the public about potential harms of products they sell.

Here’s our solution: retailers that sell gas stoves should take on the responsibility of educating consumers, not only because it’s the right thing to do, but because it’s good business. Placing warning labels on stoves is a straightforward solution that would help bring about more public awareness of the health risks of cooking with gas, and hopefully encourage consumers to consider electric alternatives. And the time for action is now. As cities across the country are passing [gas bans](#), retailers who make an effort to educate their customers now will be able to quickly accommodate the transition to an all-electric future, which is necessary to lower emissions and fight climate change.

Best Buy is already strong on climate action and consumer education. We think this is an opportunity for them to be a leader.

Take Best Buy: there’s no question that the brand has a large reach, with [over 1,000 operational stores](#) across the states. Best Buy is one of the [world’s largest](#) consumer electronics retailers, and also has [12%](#) of the U.S. appliance market share, making it the third largest appliance retailer. More importantly, taking on a consumer education initiative like this doesn’t seem like a stretch for Best Buy, a company that has already demonstrated praiseworthy commitments to climate action and prides itself on customer service. In fact, encouraging customers to purchase electric or induction stoves instead of gas helps accomplish one of Best Buy’s [climate goals](#) of helping consumers reduce their carbon emissions by 20% by 2030. Putting warning labels on gas stoves isn’t just a good move for consumer education— it’s truly in line with Best Buy’s [mission statement](#) and organizational values of positively impacting the world and stimulating the growth of the tech industry.