

Testimony from Frances Stewart, M.D. to the Montgomery County Council on the Comprehensive Building Decarbonization Bill No. 13-22, July 26, 2022

I have been a physician for 41 years and a resident of Montgomery County for over 24 years. I have long-standing concerns about public health and our environment.

The effects of the climate crisis on our health are potentially devastating. For several years, leading medical journals like the Lancet and the New England Journal of Medicine have published a growing body of research on the threats of climate change to our health.

Last October, the World Health Organization stated that climate change is the biggest threat to human health. In June, the American Medical Association declared that climate change is a public health crisis.

For this bill, I'd like to focus on the health effects of natural gas. Natural gas is 70-90% methane, a highly potent greenhouse gas. Methane's global warming potential over 100 years is 25 times higher than carbon dioxide.

Some of natural gas's health and safety problems are dramatic, like the devastating explosion at the Friendly Garden Apartments in Silver Spring in March. Others are more insidious, like carbon monoxide poisoning from a malfunctioning gas furnace that almost killed four members of my family.

The hazards of cooking with gas are less well known. Recent research showed that gas stoves leak natural gas even when turned off. Researchers at the Harvard School of Public Health found at least 21 different chemicals that may pollute the air and affect health wherever gas is leaked.

When natural gas is burned, the most concerning pollutants are carbon monoxide, nitrogen dioxide, and particulate matter. The EPA doesn't set standards for them as indoor air pollutants, but the levels they reach in our homes are often above the standards for outdoor air. These pollutants can contribute to many health problems, including asthma, increased

susceptibility to respiratory infections, chest pain in people with heart disease, and problems with thinking and memory. Children are particularly vulnerable because of their developing respiratory and immune systems, higher breathing rates, and higher lung surface area to body weight ratios.

People in low-income households are at higher risk from hazards related to gas cooking. They often live in smaller homes or apartments, may use stoves for supplemental heat, and are more likely to be exposed to higher levels of outdoor air pollution.

Gas appliances also pollute the outdoor air we all breathe. Researchers at UCLA showed that if all residential gas appliances in California were replaced with clean electric alternatives, the reduction in outdoor nitrogen oxides and fine particulates would result in 596 cases of acute bronchitis, 304 fewer cases of chronic bronchitis, and 354 deaths annually. The monetized health benefits would be approximately \$3.5 billion per year.

Fortunately, we have excellent alternatives to gas appliances. I am in the process of planning the renovation of my 1970s kitchen, and I'm excited about getting rid of my old gas stove and replacing it with an induction cooktop and a convection oven. My niece's husband was a chef in a Michelin 2-star restaurant in DC and had a lot of experience with induction cooking there. My brother is an avid amateur gourmet who remodeled his kitchen two years ago. Both are enthusiastic about induction cooking because of its precise temperature control and rapid heating. Induction cooktops and ranges are also safer, easier to clean, and more energy efficient. Since they only heat the pot or pan, the kitchen stays cool.

As excited as I am about the renovation, it would be easier and cheaper if my kitchen was already all-electric. I hope everyone who moves into a new apartment or house in Montgomery County will have a safer, healthier, all-electric kitchen and home.

Thank you for your attention to this important matter. I would be happy to answer any questions you may have.

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