

FACT SHEET

All-Electric Buildings: A Health Priority for Massachusetts

Burning fossil fuels for cooking and heating produces pollution that harms Massachusetts residents, especially children, the elderly, people of color, and low-income households. Massachusetts can prioritize health by helping residents and businesses make the switch to all-electric appliances.

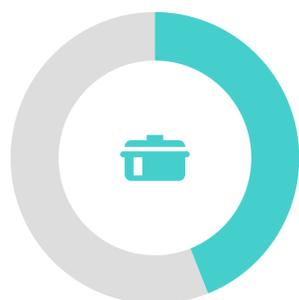
Cooking with gas pollutes our homes

Gas stoves release harmful pollutants like carbon monoxide, nitrogen dioxide, and formaldehyde into the homes where we eat, sleep, work, and play. Everyday kitchen activities like baking a cake or boiling water can create pollution that would be **considered illegal** outdoors. Despite decades of evidence on the health risks of cooking with gas, no standards or regulations exist for indoor air quality.¹

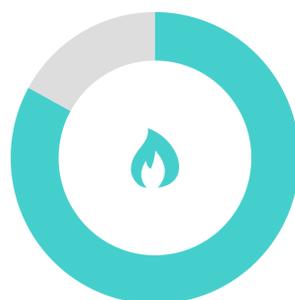
“How can I reduce my health risk?”

Households can reduce their pollution exposure by cooking on back burners, using range hoods, or opening a window. However, gas stoves can leak chemicals, including benzene, a known carcinogen, **even when turned off**. The most effective way to minimize risk is by cooking with electric appliances.

Children living in a home with a gas stove are **42% more likely** to experience asthma symptoms.¹



44%
of Massachusetts homes use gas for cooking.²



83%
of Massachusetts homes use fossil fuels for heating.²

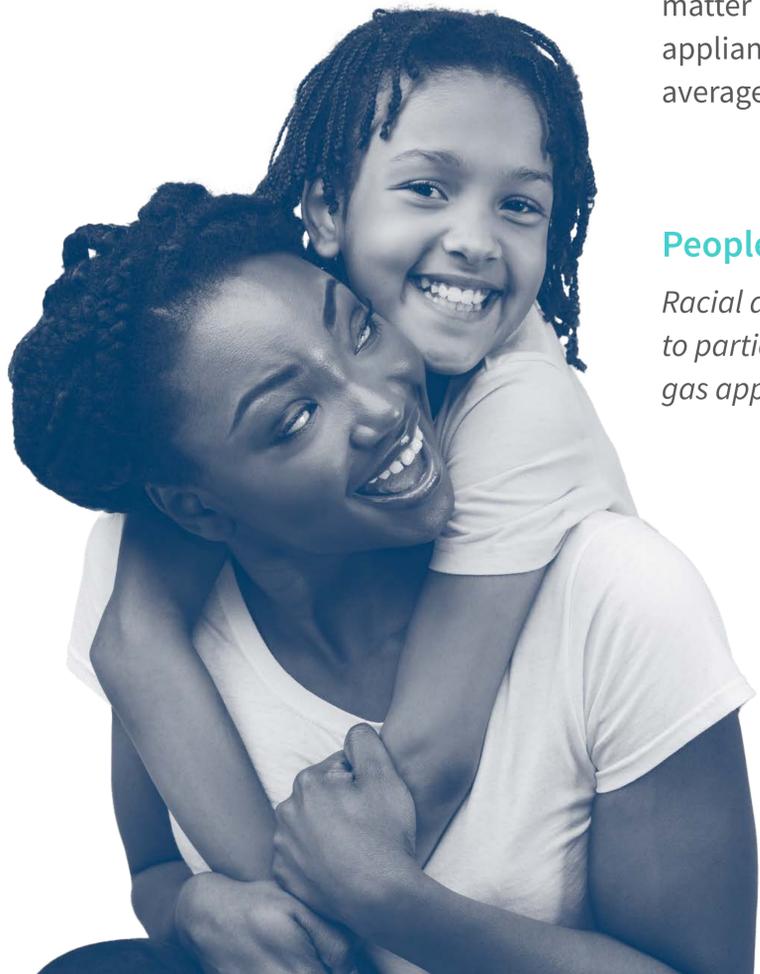
Fuel-burning appliances pollute outdoor air

More than 5.6 million homes and commercial buildings in New England burn fuels — including gas, oil, propane, wood, and biomass — in furnaces, water heaters, and other appliances.³ These appliances are a significant source of outdoor air pollution that **cost Massachusetts \$8.4 billion in health impacts every year**.⁴ On-site air pollution from appliances is linked to asthma, cardiovascular disease, cancers, birth defects, and approximately 750 early deaths per year in Massachusetts.⁴

APPLIANCE POLLUTANT	ALSO FOUND IN	LINKED TO CANCER	LINKED TO CARDIOVASCULAR DISEASE	LINKED TO RESPIRATORY ILLNESS
Carbon monoxide	Car exhaust		×	
Nitrogen dioxide	Power plant emissions	×	×	×
Ozone	Smog			×
Particulate matter	Wildfire smoke	×	×	×
Benzene	Cigarette smoke	×		
Formaldehyde	Pesticides	×		×

Electrifying buildings advances health equity

Converting to clean, all-electric appliances can make the biggest difference for Massachusetts' most vulnerable populations, who currently face disproportionate health impacts from fossil fuel pollution.



Children

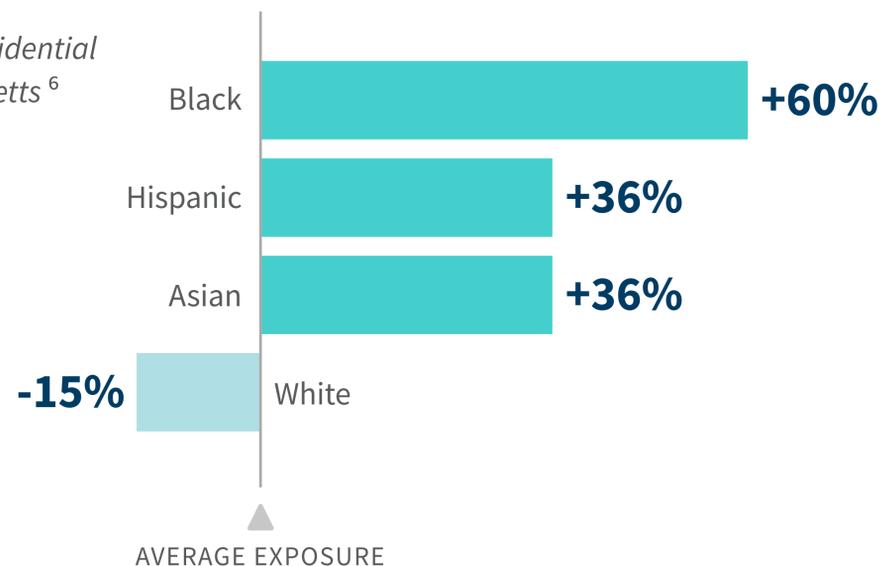
Developing lungs are particularly vulnerable to air pollution. Nationwide, estimated childhood asthma risk from exposure to gas stoves is similar to that of secondhand smoke.⁵

People of color

In Massachusetts, people of color are exposed to 40% more outdoor particulate matter pollution from residential gas appliances than the Massachusetts average.⁶

People of color are at higher risk

Racial disparity in exposure to particulate matter from residential gas appliances in Massachusetts⁶



Low-income households

Smaller living spaces, older appliances, and poor ventilation can expose low-income households to higher concentrations of pollution from fossil fuel appliances.

Elderly people

Exposure to air pollution from fossil fuel appliances can increase the risk of cardiovascular and respiratory illnesses that older adults are most susceptible to, as well as dementia and Alzheimer's.

Take action

Accelerating the transition to clean, electric appliances will deliver significant health benefits by reducing Massachusetts residents' exposure to indoor and outdoor air pollution. Policymakers and regulators can help advance this goal in several key ways:

- ▶ **Incentivize electric appliances** through point-of-sale rebates and accessible tax credits.
- ▶ **Develop legislation** to enact stricter air quality monitoring and improvement regulations.

- ▶ **Phase in code requirements** prohibiting on-site combustion of fossil fuels in new buildings.
- ▶ **Support a planning process** to scale down the utility gas system while protecting customers and utility workers.
- ▶ **Educate residents** about the importance of proper ventilation and safer cooking techniques for gas stoves as they wait for healthier options.
- ▶ **Adopt a health-based indoor air quality guideline** that protects the most sensitive populations, including children, the elderly, and those with existing respiratory ailments

Learn more

- Gas Stoves are a Health and Climate Problem***, RMI, 2023, rmi.org/gas-stoves-health-climate-asthma-risk
- What is the Health Impact of Buildings in Your State?***, RMI, 2021, rmi.org/health-air-quality-impacts-of-buildings-emissions
- All-Electric Homes: A Health Professional's Guide***, RMI, 2023, rmi.org/all-electric-homes-a-health-professionals-guide

NOTES

1. Lin et al., 2013, bit.ly/429HskH
2. US Energy Information Administration, 2020, bit.ly/44A8GT6
3. US Energy Information Administration, 2020, bit.ly/44A8GT6; US Energy Information Administration, 2018, bit.ly/3NCTFTT
4. Data for 2017. RMI, 2021, bit.ly/3HKBRcC
5. RMI, 2022, bit.ly/3pgDgkw
6. RMI analysis of supplemental data from Tessum et al., 2021, bit.ly/44w9FDX