



get the facts



Beneficial Electrification For Low-Income Communities

What Is Beneficial Electrification?

Beneficial electrification ensures that homes and buildings have energy-efficient, electric appliances and are tightly sealed and well-ventilated. This approach can reduce people's exposures to outdoor and indoor pollution, provide safe and comfortable shelter, and reduce energy load and therefore costs. For the **26 million low-income households** in the United States that burn fossil fuels, beneficial electrification can successfully address disparities in health outcomes associated with environmental racism, persistent poverty, and other social determinants of health.¹

This fact sheet was developed from RMI's [Decarbonizing Homes](#) report.²

What Are the Health Benefits of Beneficial Electrification?

- **Elimination of in-building fossil fuel combustion.** Fuel-burning appliances are a key source of exposure to **combustion pollution**.³ The **short- and long-term harms** to respiratory, cardiovascular, neurological, and prenatal health can be prevented through electrification.⁴ Notably, **children from homes with gas stoves** are 42 percent more likely to experience asthmatic symptoms and 24 percent more likely to be diagnosed with asthma than those from homes without gas stoves.⁵
- **Reduced infiltration of outdoor pollution.** A tightly sealed building envelope, coupled with an effective whole-home ventilation system, allows for more control over pollution infiltration and improves indoor air quality.
- **Increased air conditioning access.** Air conditioning is **highly protective against extreme heat**.⁶ High-performing building envelopes can make cooling more efficient and lower operating costs. Electrification may also include the adoption of heat pumps, a **more efficient and climate-aligned method of cooling and heating**.⁷
- **Improved neighborhood health and safety.** Electrification reduces ambient air pollution from buildings, which are the **largest contributor to combustion emissions leading to premature deaths**.⁸ Additionally, electrification encourages the phaseout of aging gas infrastructure, reducing the health hazards posed by **methane leaks, fires, and explosions**.⁹
- **Improved energy security.** **Energy insecurity** is an inability to adequately meet basic household energy needs, which is intrinsically tied to health impacts including **stress, mental health issues, poor sleep, cardiovascular disease, and respiratory diseases**.¹⁰ Beneficial electrification can boost household energy security and reduce health impacts by improving grid reliability and energy affordability.



Why Will Low-Income Communities Gain the Most?

- **Disparities in Health Outcomes:** Disparities in health burden as a function of socioeconomic status are clear: low-income people have higher rates of **heart disease, asthma,** and other chronic diseases, as well as **lower life expectancy.**¹¹ Low-income households are also **more likely to be households of color.**¹²
- **Vulnerability to the “Heat or Eat” Dilemma:** The cost of residential energy may sometimes displace spending for other essential needs in these households — known as the **heat-or-eat dilemma.**¹³ Low-income communities and communities of color often face ongoing marginalization and have the most to gain from reduced energy consumption and cost through beneficial electrification.
- **Location-Based Exposure to Pollutants and Climate Risks:** Location-based exposures are rooted in **historic segregation and zoning practices.**¹⁴ This results in low-income communities and communities of color being located closer to sources of pollution, like **highways, power plants, toxic waste sites, and landfills,** and disproportionately at risk of **climate change effects.**¹⁵
- **In-Home Exposure to Pollutants and Allergens:** About half of US rental housing units have health hazards, with about **two-thirds of these substandard units** being rented by low-income households.¹⁶ For example, many homes lack sufficient heating, leading low-income households to be twice as likely as high-income households to use stoves or ovens for supplemental heat. This has been identified as a **main risk factor for pediatric asthma.**¹⁷

Improving housing quality through beneficial electrification is a way of easing the climate and health burden on resource-constrained households and communities. It is also an opportunity to rectify historic and ongoing inequities.

How Can Health Professionals Support Beneficial Electrification?

Health professionals can support beneficial electrification efforts by advocating for various policies that are accountable to low-income communities, increase funding for public and affordable housing programs, revise codes and standards, and pursue decarbonization. Visit RMI’s [Health Professional’s Guide to All-Electric Homes](#) to learn more about ways that health professionals can play a role in electrification.

Endnotes

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