BERKELEY LAB

PROTECTING INDOOR AIR FROM OUTDOOR POLLUTION

Indoor air pollution — including combustion byproducts from gas stoves and furnaces, volatile organic compounds from synthetic materials, and naturally occurring substances like radon and mold — can affect people's health, productivity, and cognition.

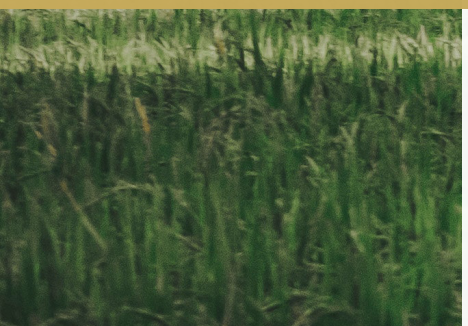
THE PROJECT

Berkeley Lab researchers are looking at how to balance the need for ventilation, which can dilute indoor air pollution, with the reality that outside air often brings its own health hazards with it. In the Western U.S., wildfire smoke impacts low-income communities at a higher rate and is an increasingly problematic source of particulate pollution. Furthermore, low-income communities are more likely to have asthma. Researchers recommend closing windows when wildfire smoke is present, sealing off any ventilation systems that bring in outside air, and using high-performance filters when recirculating indoor air. Consumer-grade indoor air quality monitors can help homeowners determine if their efforts are working. These recent technological advancements have opened up an opportunity for more effective indoor air quality control and management. If implemented, these strategies can mitigate the devastating health impacts experienced by communities impacted by wildfire smoke.

IMPROVED indoor air quality

BETTER health

LOWER healthcare costs



+ WE PARTNERED WITH +

Building America SM U.S. Department of Energy

United States Environmental Protection Agency

BACKGROUND

As a National Laboratory funded by the U.S. Department of Energy, Berkeley Lab is committed to a just and equitable energy transition. We strive to ensure that the impacts of our research benefit all communities, as well as future generations. To meet these goals, we partner with community-based organizations, public, and private agencies to help make clean energy technologies and resources accessible to all.

With support from the Department of Energy's Building America program and the Environmental Protection Agency, researchers at Berkeley Lab are evaluating consumer air quality monitors and evaluating strategies to improve indoor air quality so that all Americans can breathe clean, safe air inside safe, energy-efficient buildings.

Visit the Indoor Website for Air Quality Tips and Resources ›

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ABOUT THE PRINCIPAL INVESTIGATORS

Brett Singer and Wanyu (Rengie) Chan lead the Indoor Environment Group at Berkeley Lab. Each conducts research aimed at advancing adoption of measures that promote indoor air quality, comfort, durability, and sustainability in energy-efficient buildings. Both Singer and Chan earned Ph.D.s in Civil and Environmental Engineering at UC Berkeley.

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