

Healthy, Climate-Resilient Homes for All

Centering Housing Justice and Health Equity in Building
Decarbonization



BEEP Coalition
Building Energy, Equity & Power



Agenda

- Context setting
- Highlights from issue brief
- Policy recommendations



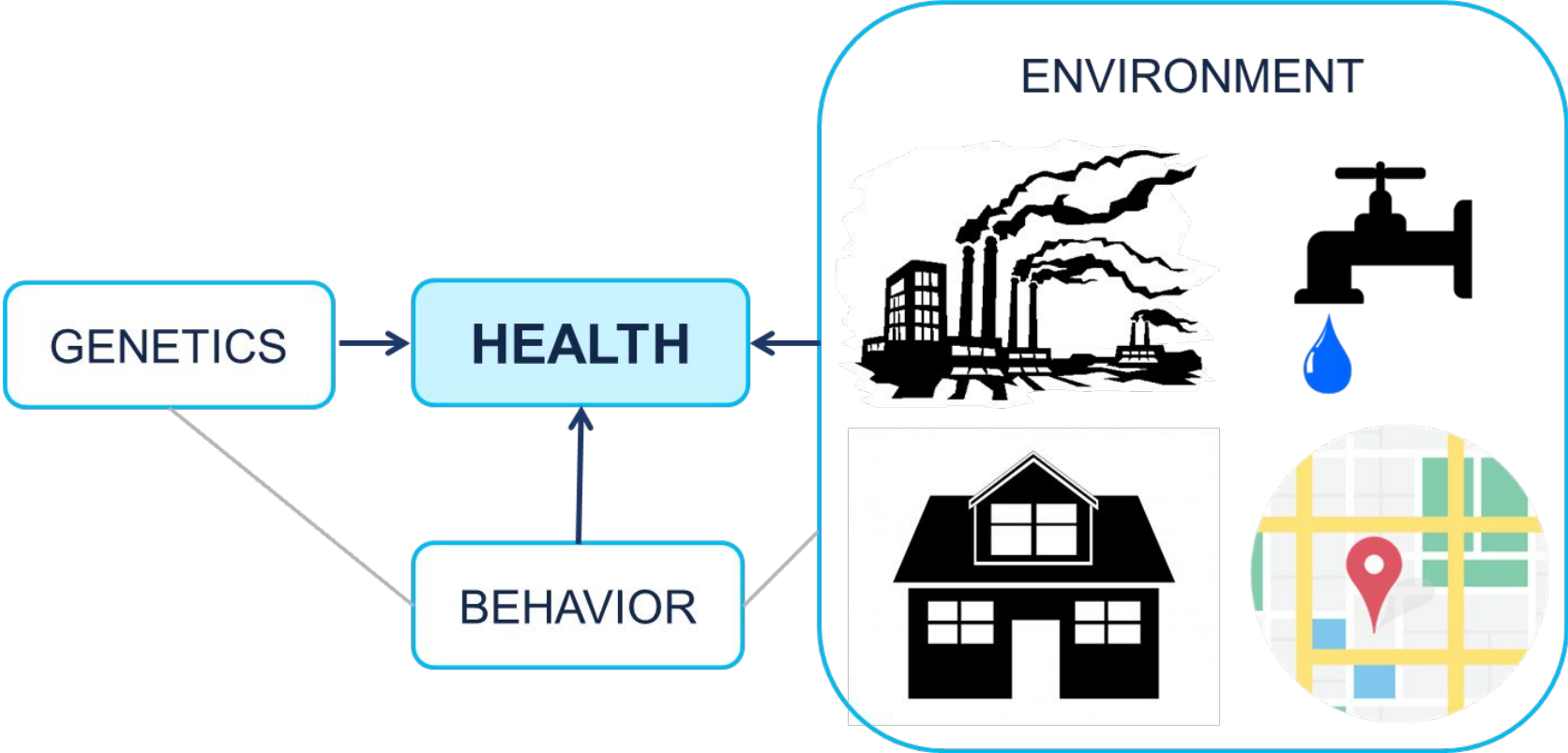
Home is where
the health is



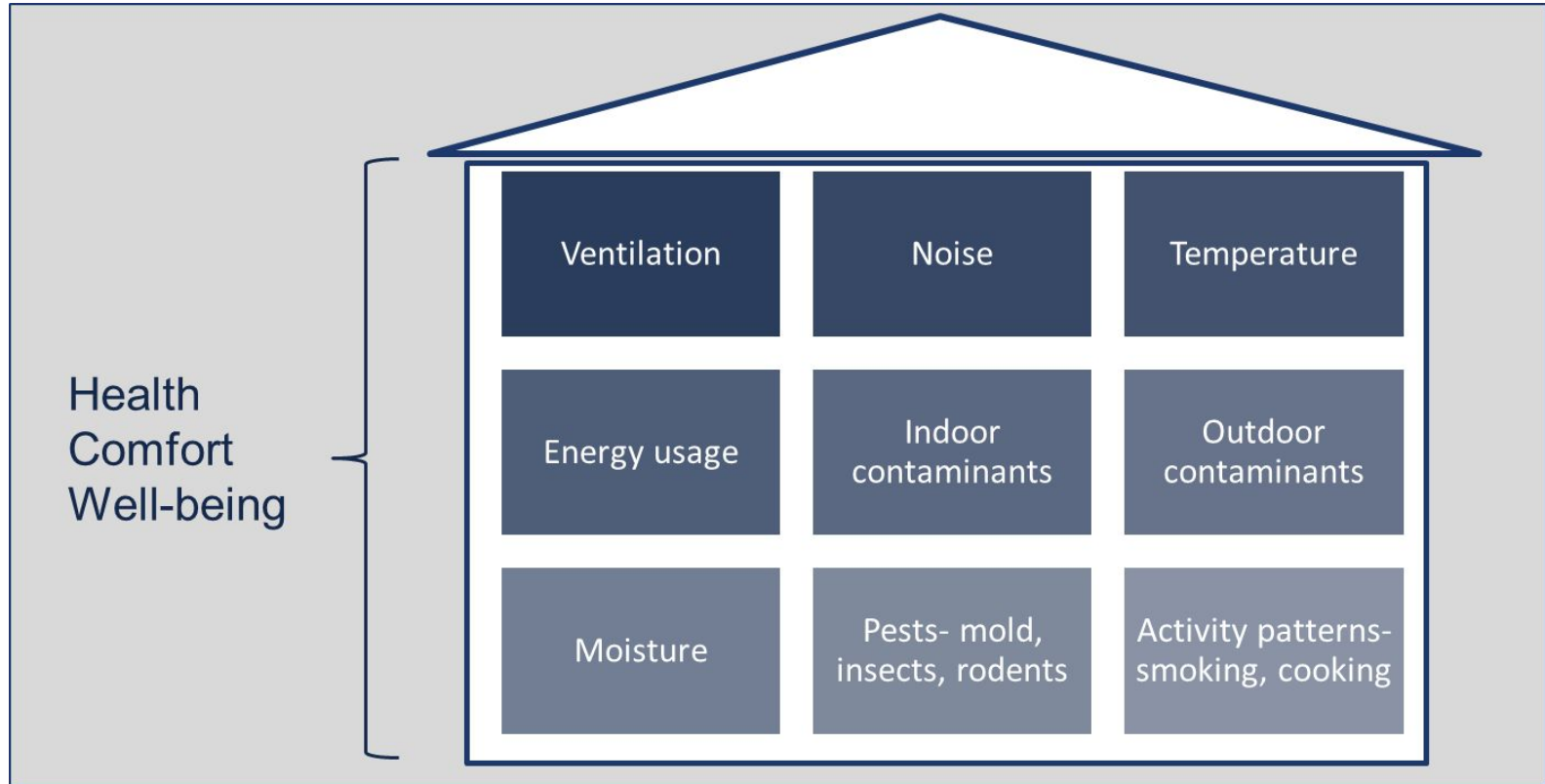
Dr. Sabrina Johnson

Senior Advocate, Housing Policy, Climate & Energy,
Natural Resources Defense Council.











Environment impacts health



Indoor environmental quality key to health



Poor housing quality contributes to health harms

HAZARDOUS HOUSING ATTRIBUTE		ASSOCIATED ADVERSE HEALTH IMPACTS	
 <p>Biological Allergens from mold, pets, rodents, dust mites</p>		 <p>Allergies, asthma, respiratory conditions, cardiovascular diseases</p>	
 <p>Chemical Lead, asbestos, radon, carbon monoxide, tobacco smoke carcinogens; indoor and outdoor air pollutants; products such as furniture, household cleaners, and personal care items; external pollutants entering the home</p>		 <p>Neurological toxicity, developmental disorders, endocrine and hormonal disruption, cancer, asthma and other respiratory illnesses</p>	
 <p>Physical Structural deficiencies in the home such as improper ventilation, excess moisture, lack of temperature control, hazards leading to trips and falls</p>		 <p>Physical injury, asthma and other respiratory illnesses, health impacts from extreme heat and cold exposure such as heat stroke and hypothermia</p>	
 <p>Social Overcrowding, poverty, fear of crime, trauma, threat of eviction and displacement, housing and energy insecurity, utility debt</p>		 <p>Increased incidence of infectious diseases; mental health issues; chronic stress; anxiety disorders; depression; maternal, neonatal, and pediatric overall health</p>	
 <p>Neighborhood Proximity to industrial sites and traffic, external chemicals and pollutants entering the home, police violence, overlapping systems of injustice, disinvestment, lack of or limited green space and tree canopy</p>		 <p>Respiratory, cardiovascular, hormonal, and metabolic conditions; stress and mental health issues, weathering, health impacts from extreme heat exposure</p>	

Racist policies and practices have contributed to housing quality disparities

Redlining
Exclusionary zoning
Predatory lending
Inequities in home upgrade programs
....

Negative impacts on low income and people of color:
Home ownership
Energy burdens
Home upgrades

The median energy burden of Black households is 43% higher than that of white (non-Hispanic) households.



ACEEE
American Council on Energy Efficiency

The median energy burden of Hispanic households is 20% higher than that of white (non-Hispanic) households.



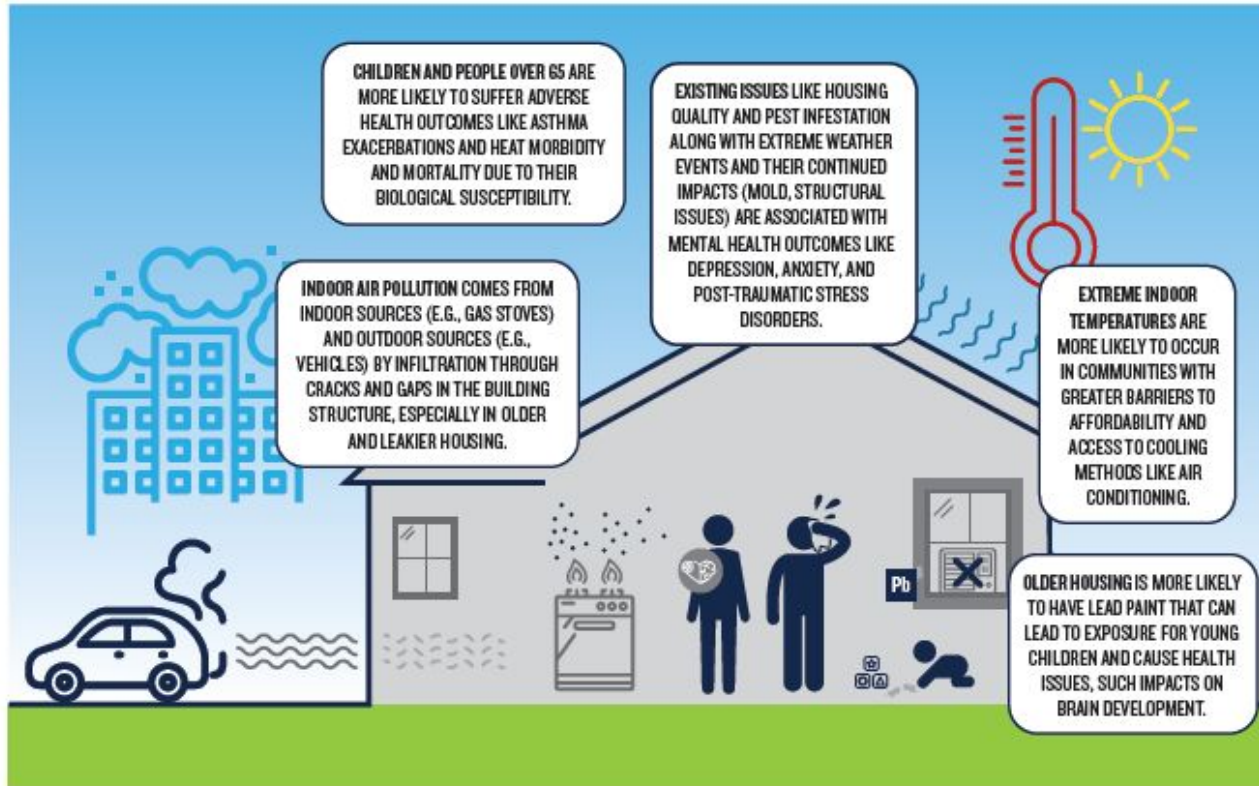
ACEEE
American Council on Energy Efficiency

The median energy burden of Native American households is 45% higher than that of white (non-Hispanic) households.



ACEEE
American Council on Energy Efficiency

Housing quality inequities drive health disparities- low income, communities of color



Black, Hispanic, and Indigenous individuals in the U.S. face THE HIGHEST BURDEN OF ASTHMA.

These disparities are caused by complex factors including systemic and structural racism.

Compared to white Americans:



Black Americans
are nearly
1.5 times
more likely
to have asthma



Puerto Rican
Americans
are nearly
2 times
more likely
to have asthma



When sex is
factored in,

**BLACK
WOMEN**

have the
highest rates
of death due
to asthma



Black Americans
are **5 times**
more likely to visit
the emergency
department
due to asthma



Black
Americans
are **3 times**
more likely
to die from
asthma



Asthma and Allergy
Foundation of America

aafa.org/asthmadisparities

Equitable building decarbonization must address reality of poor housing quality

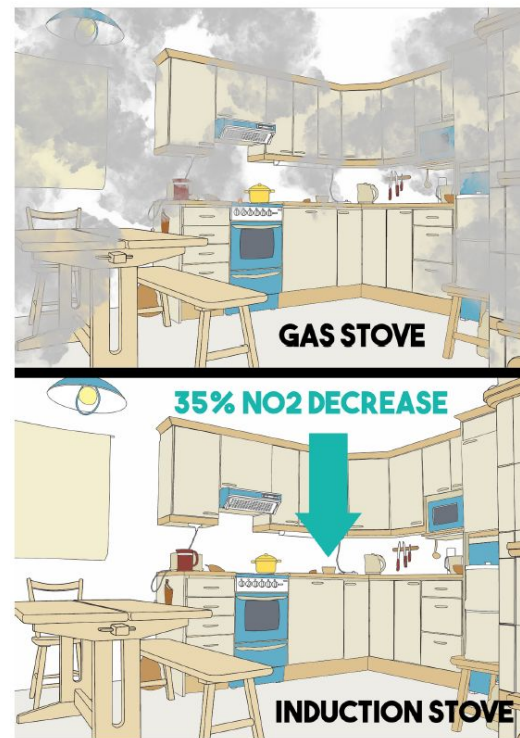
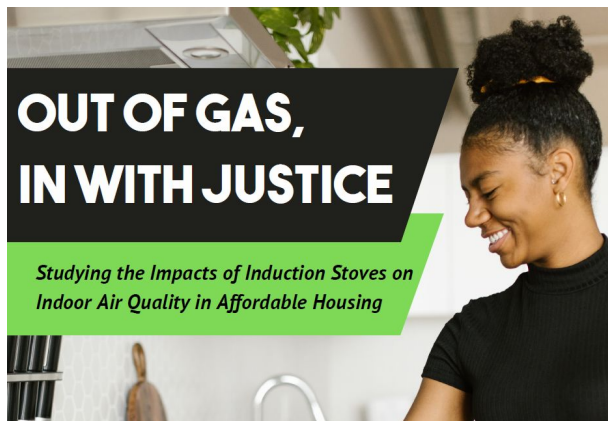
- Baseline housing quality disproportionately poorer for low income, communities of color
- Inequitable building decarbonization risks perpetuating housing and health disparities
 - Holistic upgrades needed - panel upgrades, lead/ mold/ asbestos removal, etc.
 - Manufactured homes - unique needs
 - Upgrades must adhere to best practices
 - Tenants - passing on costs, displacement



Equitable building decarb: improve climate emissions, housing quality, health

Monitoring: NO₂ significant decrease

Prioritized NYCHA resident engagement



Policy recommendations

- Building decarbonization program designs should encompass **health, affordability, and energy efficiency**
 -
- Public investments should be **directed to and benefit communities** facing the greatest housing and health disparities
 -
- Impacted communities should have **leadership and engagement** in the design, implementation and evaluation of building decarbonization programs and policies.
 -
- To advance housing justice, target policies to address **root causes** of racial, housing, wealth and health disparities.



Advancing Housing Justice

Guidelines for Maximizing the Benefits of Federal Investments in Buildings

Community-Driven Building Retrofit Programs

January 2024



Partners



<https://www.elevatenp.org/wp-content/uploads/2023-Elevate-report-Guidelines-Federal-Investments-in-Buildings-v7.pdf>

Resources



Expert Blog

Extreme Heat Necessitates Extreme Action for Our Homes

Equitable building decarbonization can help alleviate the risks of warming temperatures for the most impacted groups, make homes healthier, and more efficient.

December 22, 2023

 **Dr. Veena Singla**
Senior Scientist, People & Communities Program

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Yvette Johnson, 54, sits next to a fan outside of her family's home during a heatwave alert on June 10, 2022 in Houston, Texas. | Brandon Bell/Getty Images

Expert Blog

New Brief: Creating Healthy Resilient Homes & Reducing GHGs

December 21, 2023

 **Olivia Walker**
Advocate, Equitable Building Decarbonization,
People & Communities Program

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Karen Tapia cools off her daughter Jessalyn by a window with fan running on high because her home does not have A/C during a heatwave on Wednesday, Sept. 7, 2022 in Los Angeles, California. | Jason Ammond / Los Angeles Times via Getty Images

This blog is co-authored by [Edgar Barraza](#), Energy Equity Policy Coordinator at [Physicians for Social Responsibility- Los Angeles](#) (PSR-LA) and member of the [Building Energy Equity](#) and



Thank you!

For questions please email Dr. Sabrina Johnson
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APPENDIX

Equitable building decarb: improve climate emissions, housing quality, health

Journal of Allergy and Clinical Immunology, Nov 2023

Brief report

Reduced prevalence of childhood asthma after housing renovations in an underresourced community

 Check for updates

Andrew F. Beck, MD, MPH,^a Larry Wymer, MS,^b Eugene Pinzer, PhD,^c Warren Friedman, PhD,^c
Peter J. Ashley, DrPH (retired),^c and Stephen Vesper, PhD^b *Cincinnati, Ohio, and Washington, DC*

Renovations including: Structural repairs, removal of water damage and mold, insulation, energy efficient windows and doors, new roofs



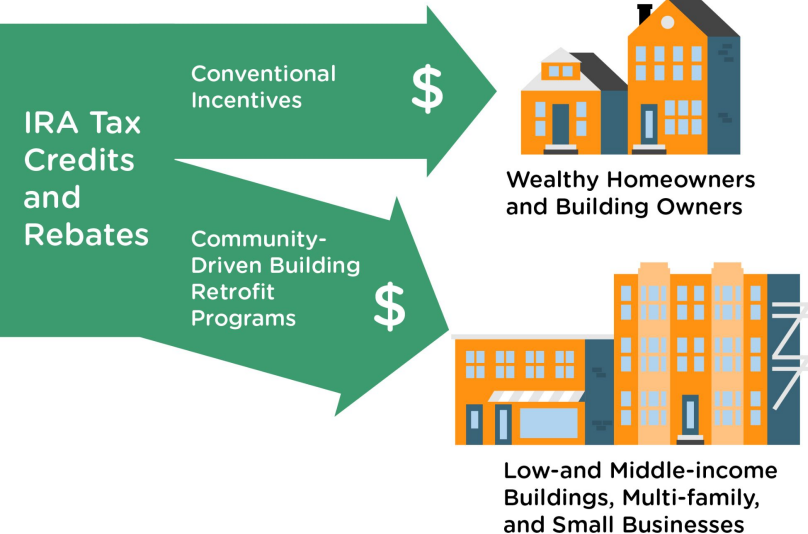
Before/ after moldy bathroom renovation from similar study (Bryant-Stephens et al 2021)

Prevalence of asthma among 7-year-olds went
from **12.7%** (2013-18) to **5.9%** (2019-21)!

Guidelines for Community-Driven Retrofits

Community-driven Retrofit Programs Direct Funds to LMI Buildings

Programs that are equity-driven and co-created ensure funding and technical assistance reach buildings and communities that need it most.



Understand Barriers
+
Key Recommendations