

Energy Efficiency, Race, Class and Place

Tony Reames, PhD

University of Michigan

Urban Energy Justice Lab

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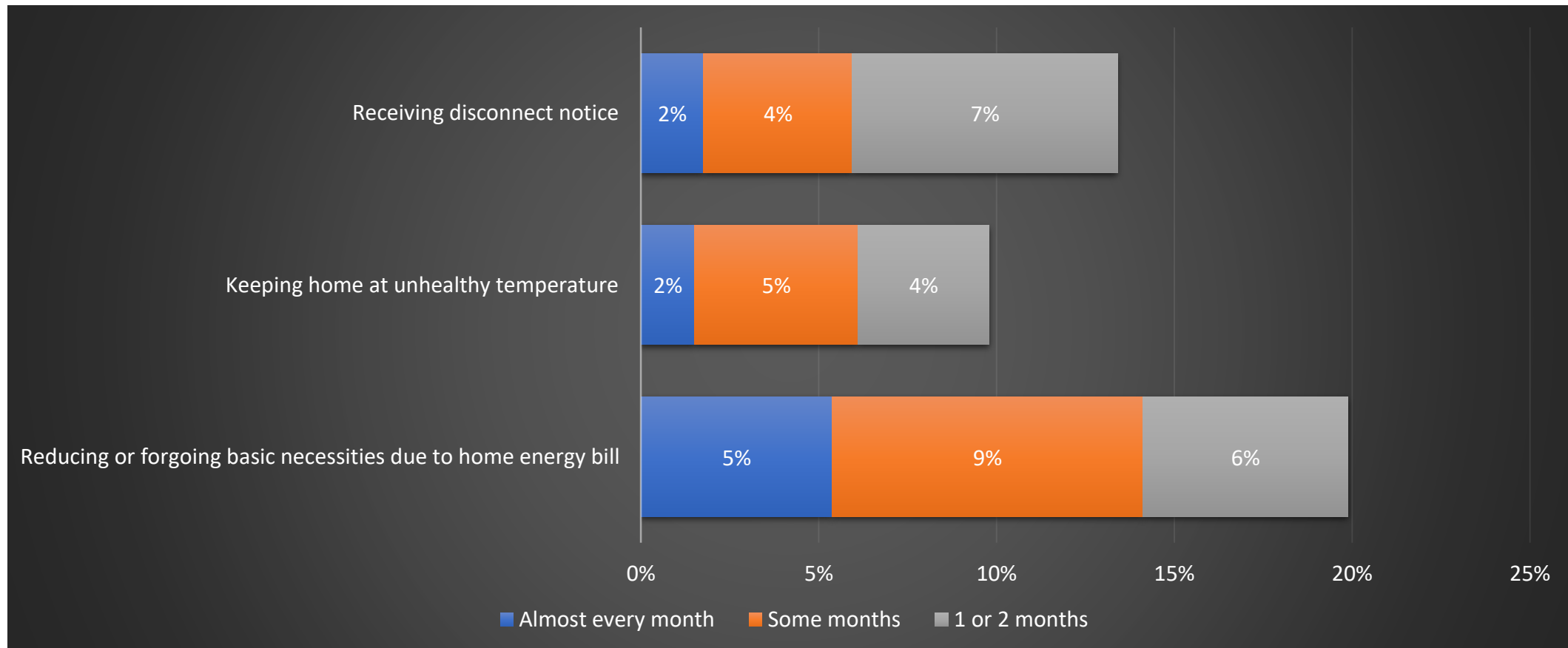




Is
energy access
a
basic human right

The State of U.S. Energy Insecurity

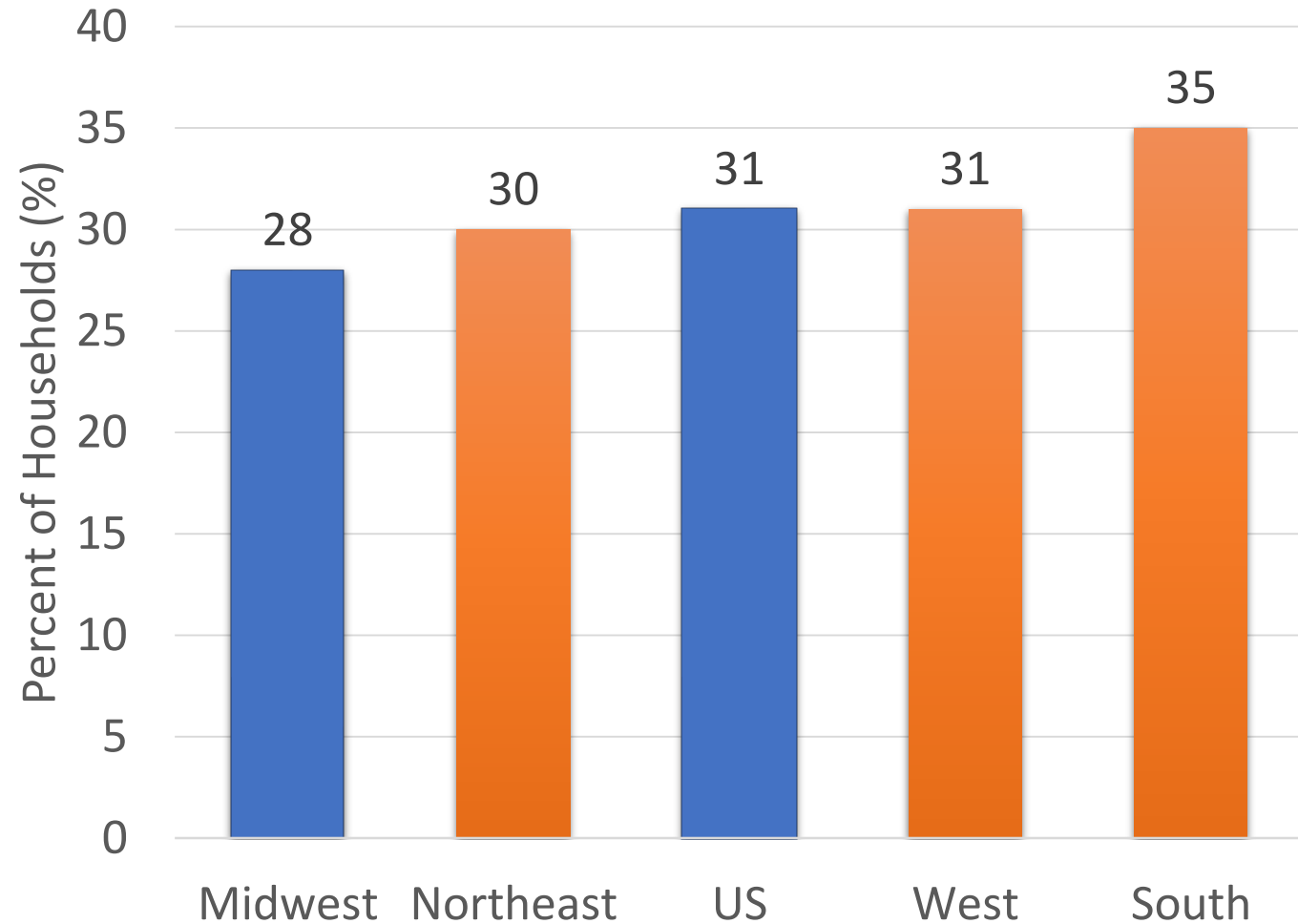
Pre-pandemic (2015 RECS)



Distribution of Energy Insecurity by Census Region

No. of Energy Insecure HHs

- US 37.1M
- Northeast 6.2M
- Midwest 7.4M
- West 8.1M
- South 15.4M



Source: EIA, Residential Energy Consumption Survey 2015

The State of U.S. Energy Insecurity

The pandemic has deepened energy insecurity (May 2020)

- Energy insecurity has disproportionately worsened for vulnerable populations

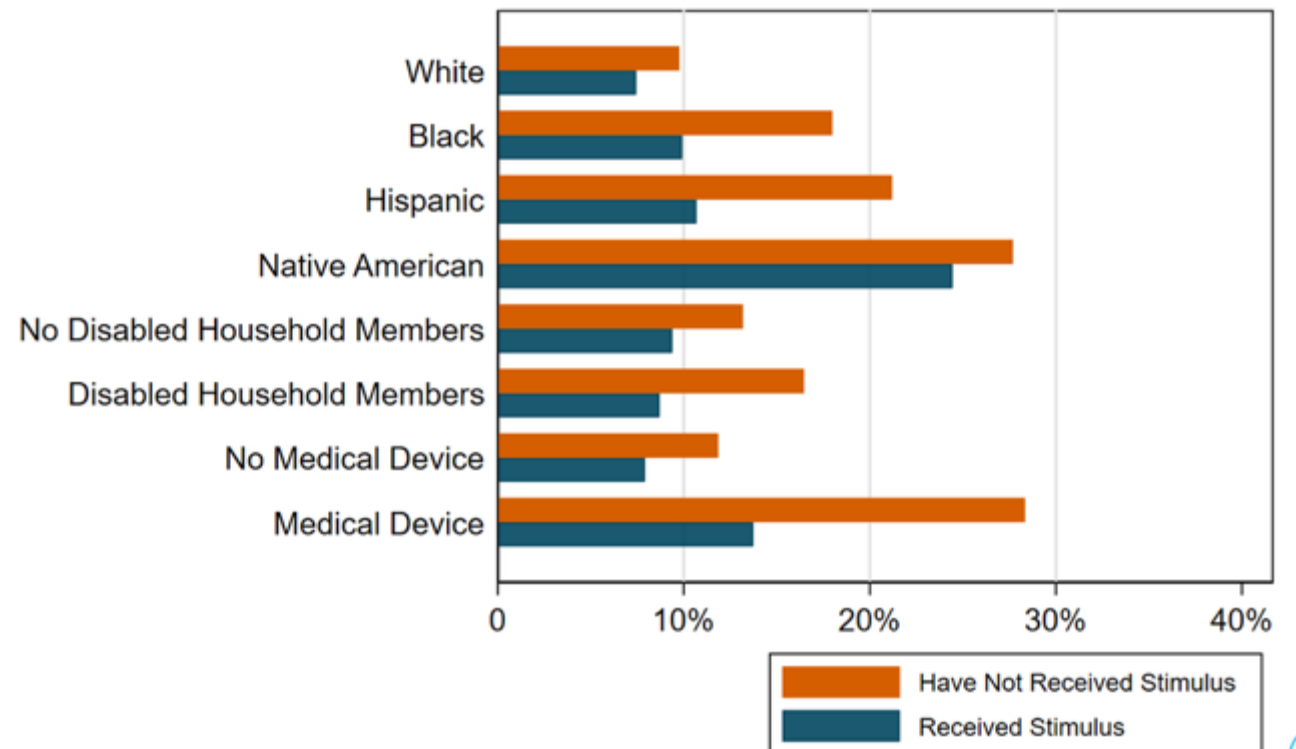
African American (16 %)

Hispanic (19 %)

White respondents (9 %)

- reported difficulty paying an energy bill in the last month

Household could not pay an energy bill



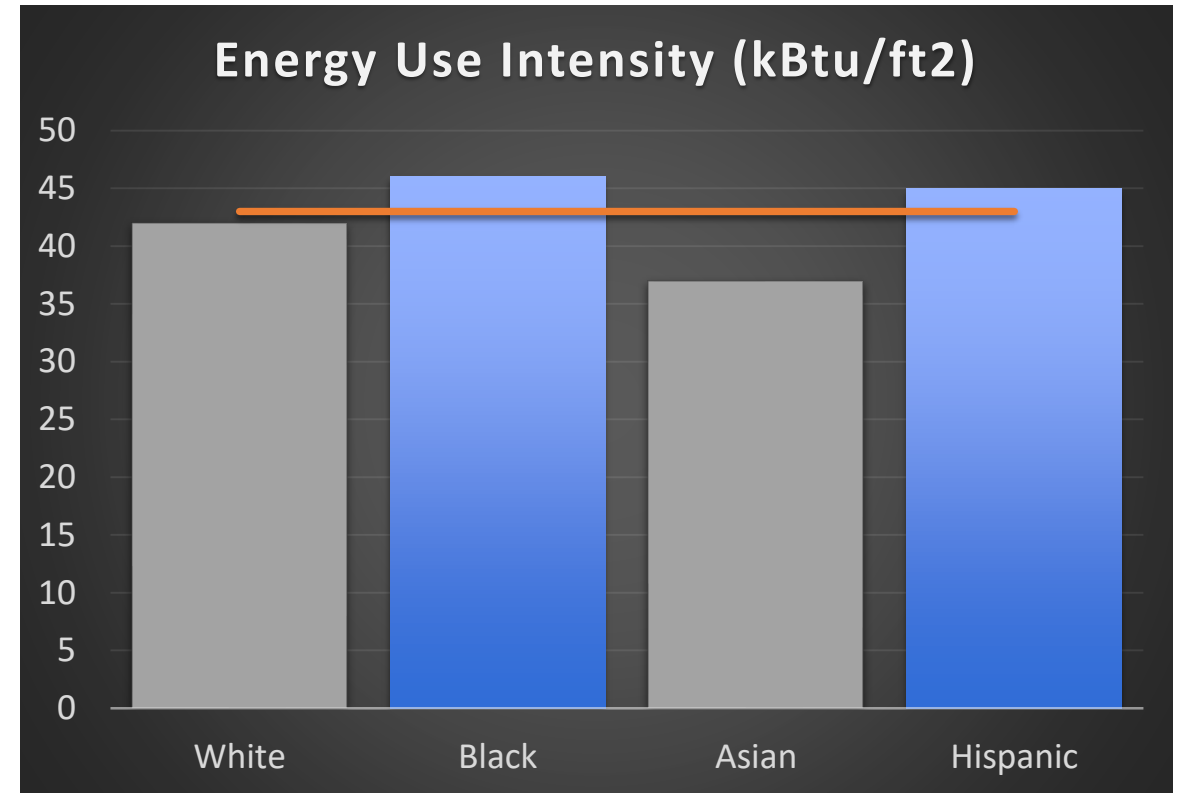
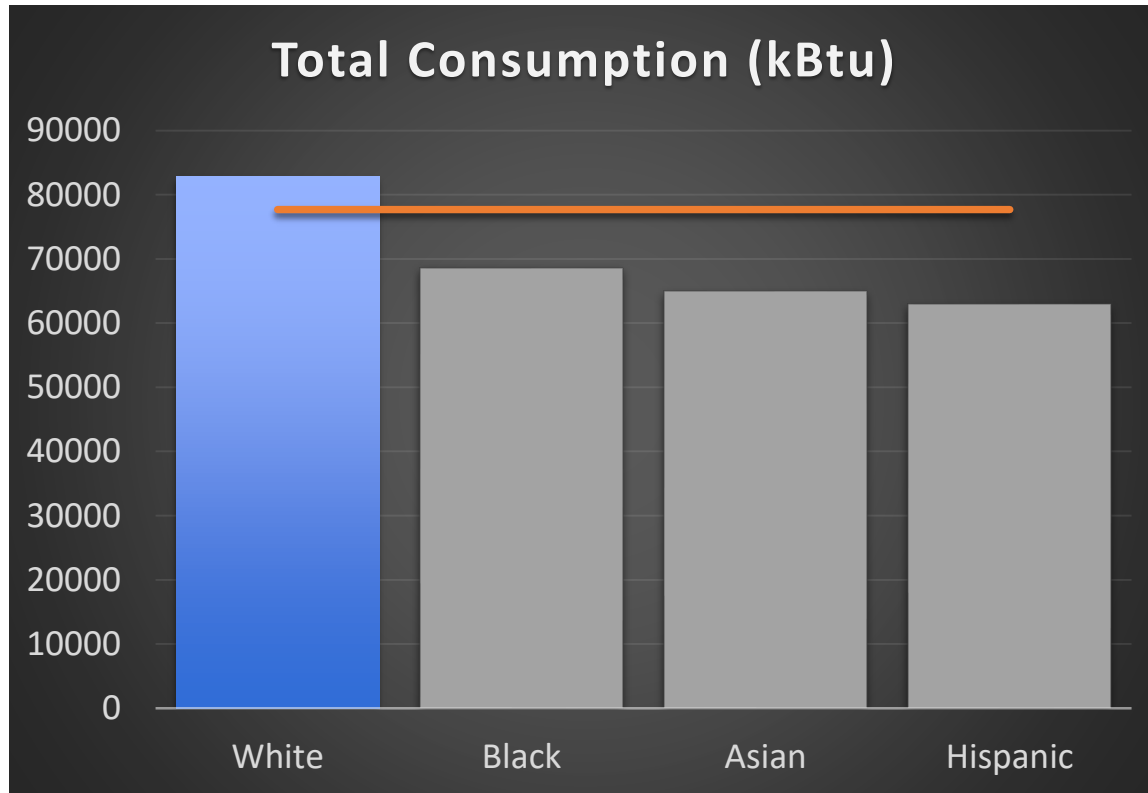
Source: [Indiana University](#)



**“Where U.S. Energy Policy is concerned,
African Americans are proverbial canaries in
the mineshaft.”**

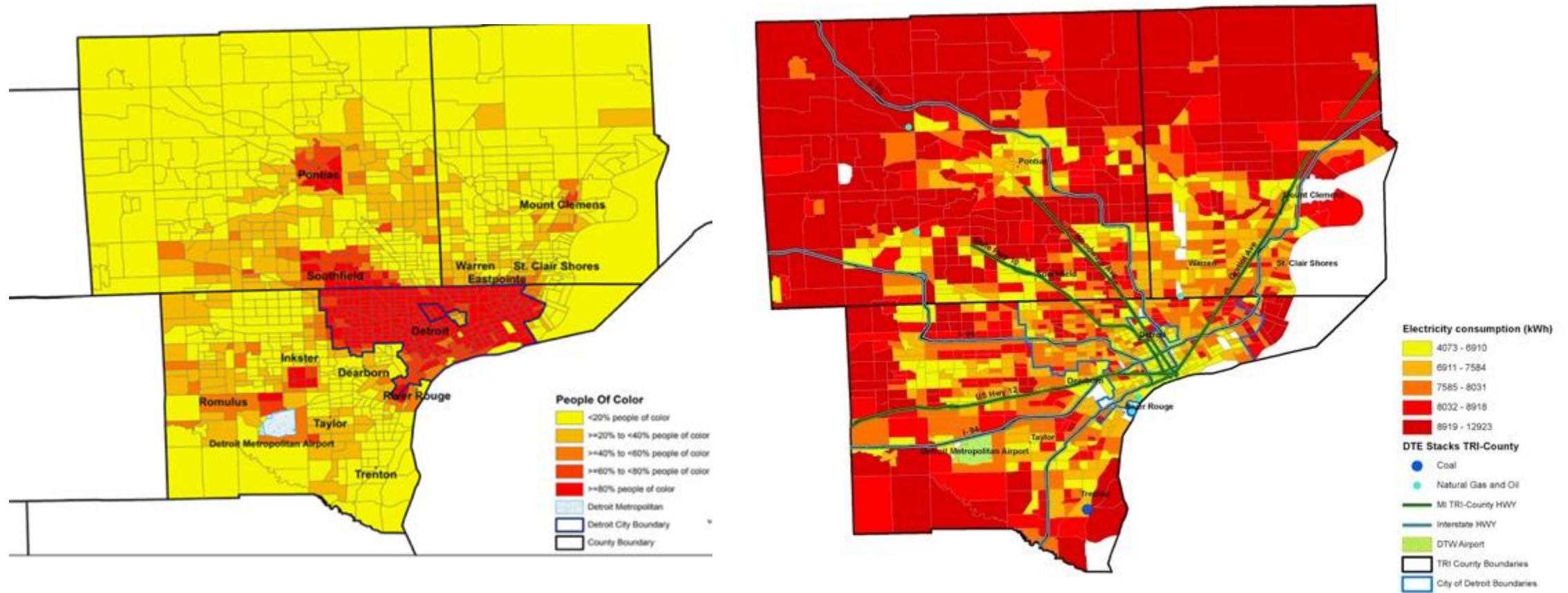
Congressional Black Caucus Foundation Report, African Americans and Climate Change: An Unequal Burden, 2004

Energy and Race – Consumption vs Efficiency

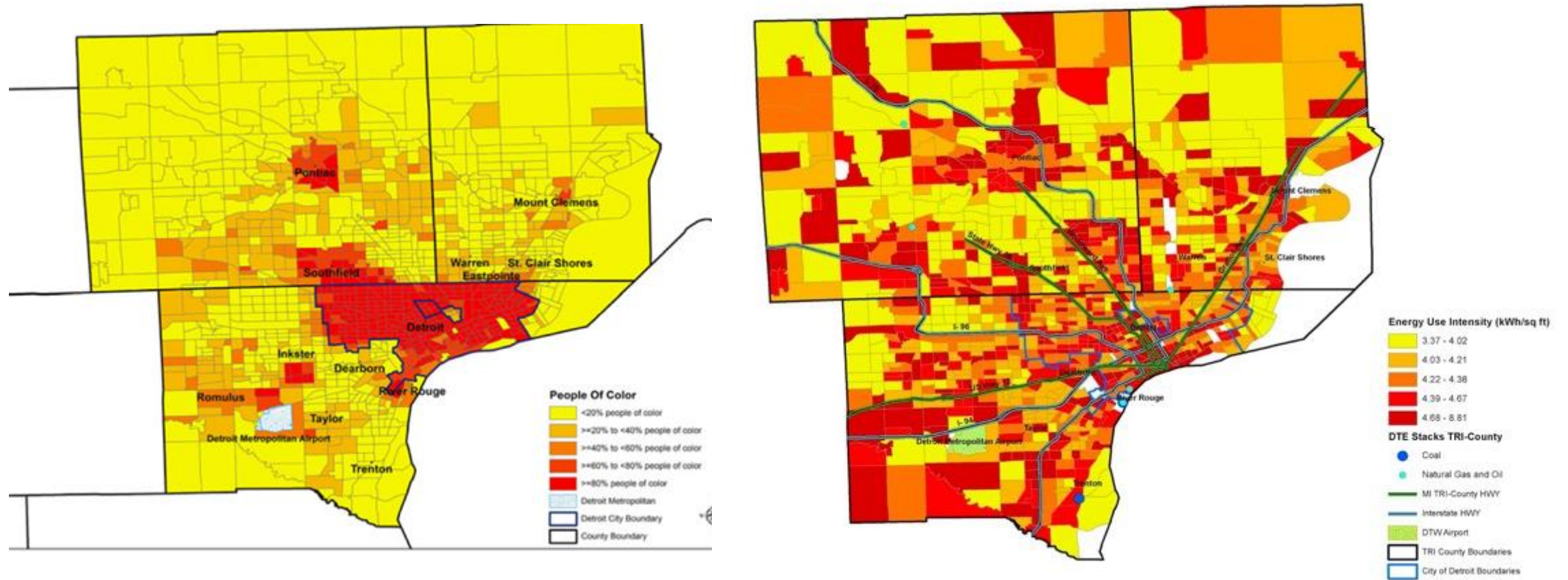


Source: EIA, Residential Energy Consumption Survey 2015

Residential Electricity Consumption



Residential Electricity (in)Efficiency



Detroit Heating Consumption v. (in)efficiency

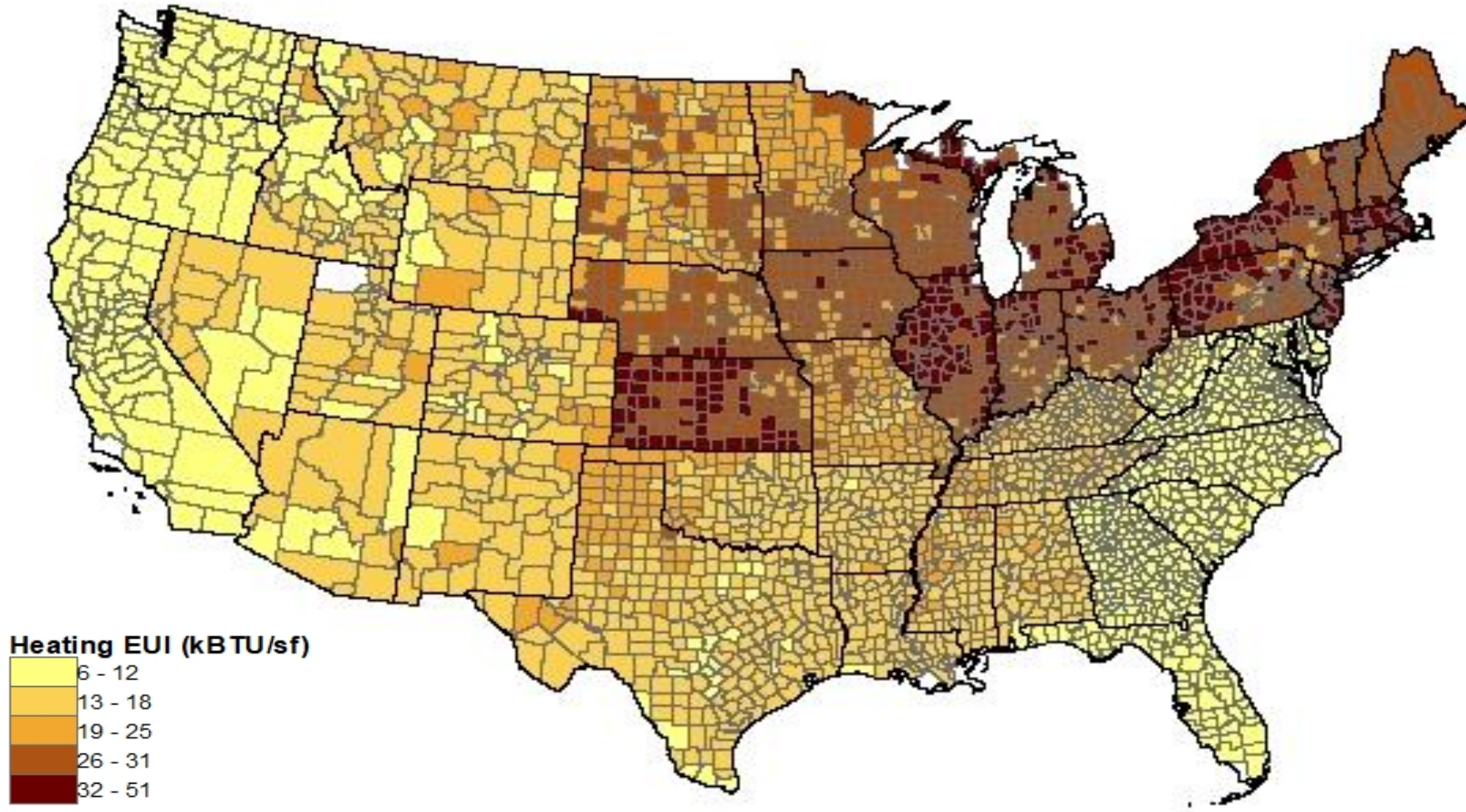
Category	Description	Correlation	
		Heating Consumption	Heating Inefficiency
Economic Status	Median HH income	↑	↓
	% HHs below poverty	↓	↑
Education	% Less HS diploma	↓	↑
Race/Ethnicity	% White HHs		↓
	% African Americans HHs		↑
	% Hispanic HHs		↑
Housing Tenure	% Owner-occupied	↑	↓

HHs= Households

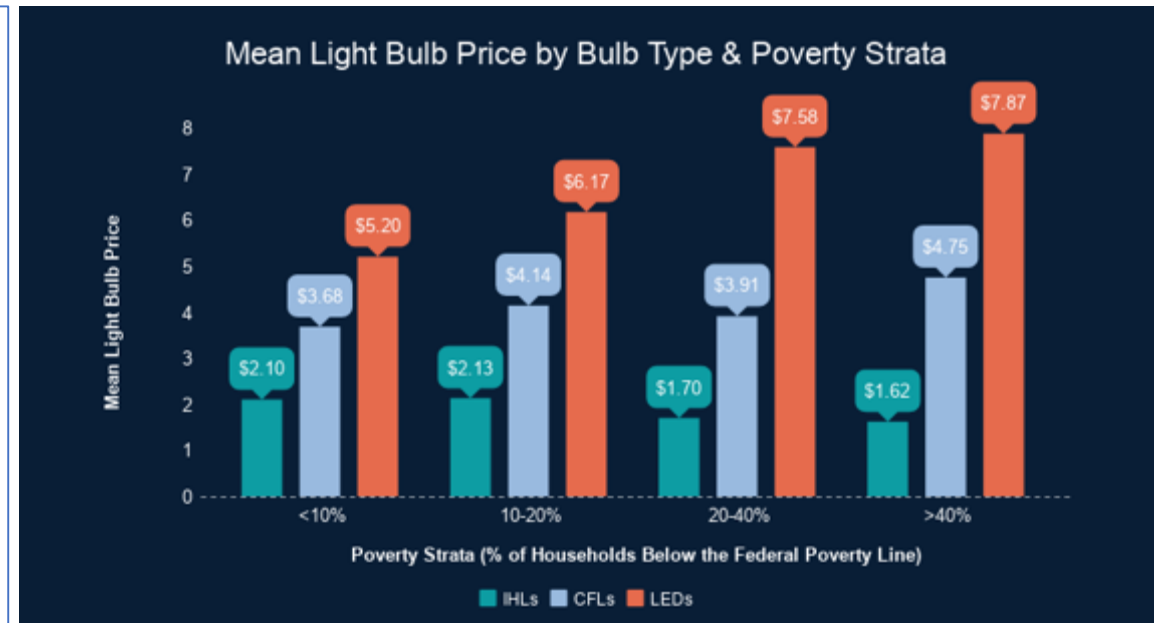
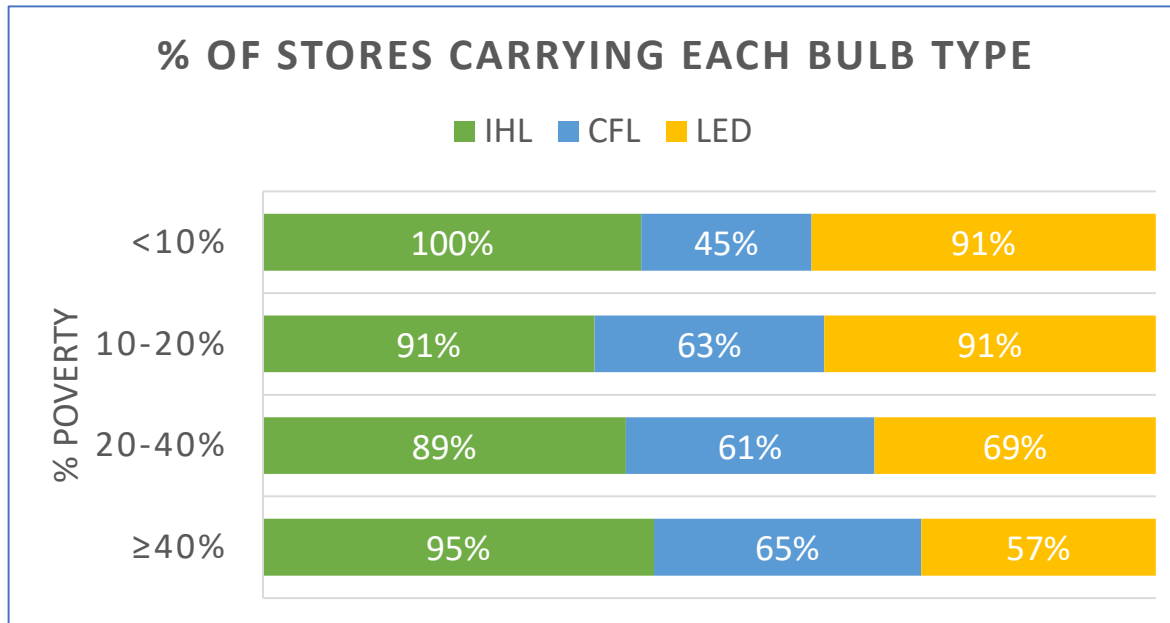


Detroit utility shut-off protests, 2012

Estimating Heating Energy Efficiency (National)



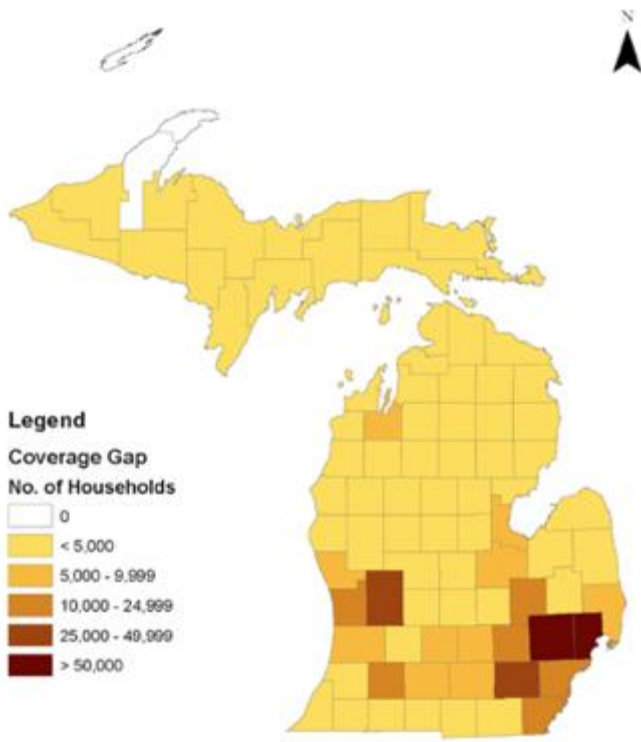
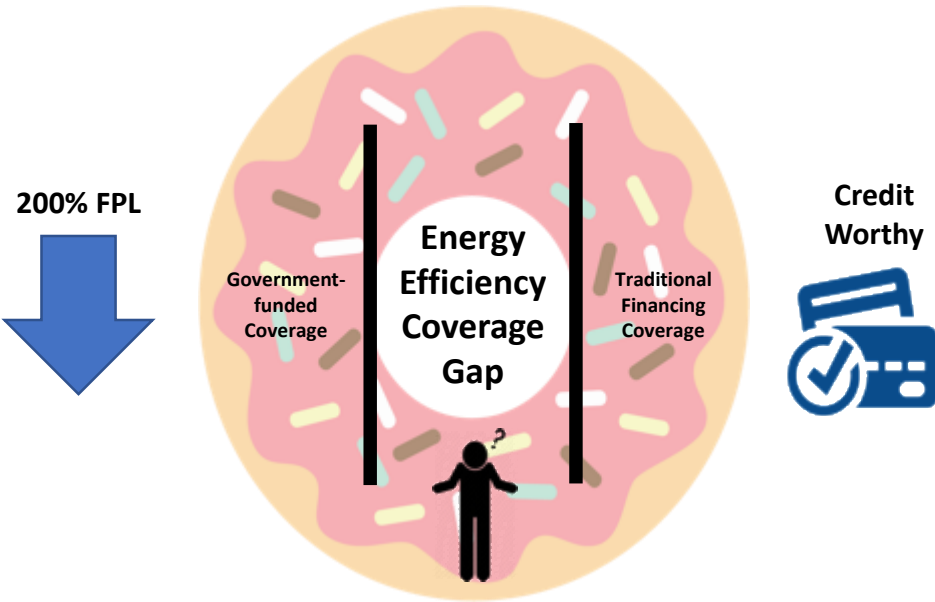
Energy Efficient Technology Access and Affordability Disparities



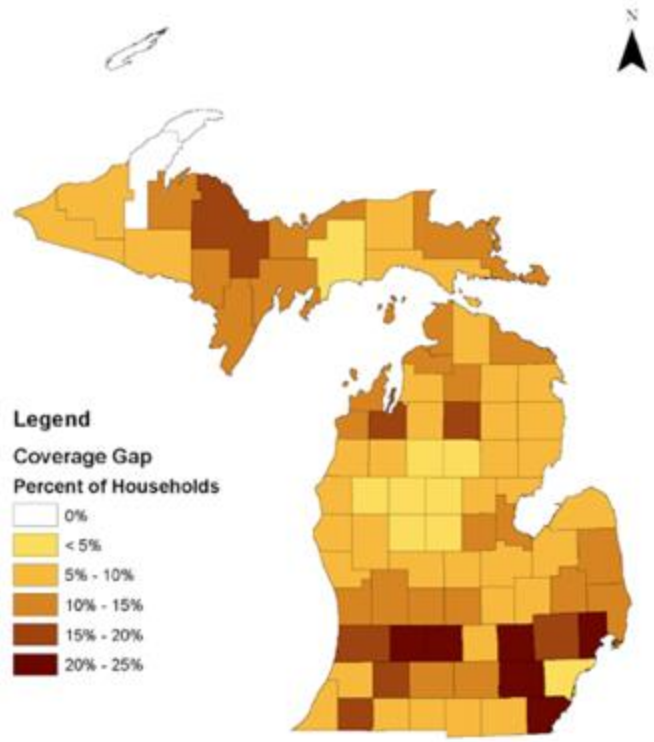
An incandescent truth: Disparities in energy-efficient lighting availability and prices in an urban US county

Reames, T. G., Reiner, M. A., & Stacey, M. B. 2018. *Applied Energy*, 218, 95-103.

The Energy Efficiency Funding Donut Hole



Number of Households



Percent of Households

1 in 8 (460,000) Michigan households

Understanding the residential energy efficiency financing coverage gap and market potential.

Forrester, S. P., & Reames, T. G. (2020). *Applied Energy*, 260, 114307.

Conclusions

- Spatial, racial, and socioeconomic disparities exist in residential energy efficiency, affordability, and technology access
- Less energy efficient areas are spatially clustered (place is important)
- Targeted, community-based approaches to energy efficiency support energy justice & may enable more effective implementation of assistance programs
- Community-based approaches recognize the unique characteristics and needs of target communities to overcome participation and technology access barriers

THANK YOU!

treames@umich.edu

www.thegreenscholar.com

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