Welcome to the LIFE Webinar Series

We will begin the webinar momentarily

NEW YORK STATE OF OPPORTUNITY. | Low-Income Forum on Energy

LIFE Webinar Series

Energy Justice – Research at the Intersection of Energy and Equity

Tony G. Reames
University of Michigan School for Environment and Sustainability
Urban Energy Justice Lab

July 16, 2020
1:30 p.m. – 2:30 p.m. ET

NEW YORK STATE OF OPPORTUNITY. | Low-Income Forum on Energy

Mission Statement

Working to help low-income New Yorkers address energy issues.

LIFE, the Low-Income Forum on Energy, is a unique statewide dialogue that brings together organizations and individuals committed to addressing the challenges and opportunities facing low-income New Yorkers as they seek safe, affordable and reliable energy.

Supported by the New York State Public Service Commission and the New York State Energy Research and Development Authority (NYSERDA), the LIFE dialogue encourages an interactive exchange of information and collaboration among the programs and resources that assist low-income energy consumers.

NEW YORK STATE OF OPPORTUNITY. | Low-Income Forum on Energy

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  - On hiatus until October 2020

> Monthly electronic newsletter
  - Sign up at nyserda.ny.gov/LIFE – “Join the email list”
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  - Phone: 866-697-3732, ext. 3628
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NEW YORK STATE OF OPPORTUNITY. | Low-Income Forum on Energy

LIFE 2020 Virtual Event – October 27-30, 2020

- Live-online panel presentations with Q&A opportunities
  Learn about the New York State energy, climate change, and equity policy environment
- Live-online interactive workshops
  Talk with others in the field who want to take a deeper dive into new energy frontiers
- On-demand pre-recorded presentations
  At-your-own-pace learning opportunities related to the evolving low-income energy landscape
- Continuing legal education training hosted by Public Utility Law Project of NY
  New York State Shared Meter Law and the New York State Public Service Commission Complaints and Appeals Process
- Resource repository
  Information about programs and services to assist communities and individuals

Details about the event: nyserda.ny.gov/LIFE-Mailing-List

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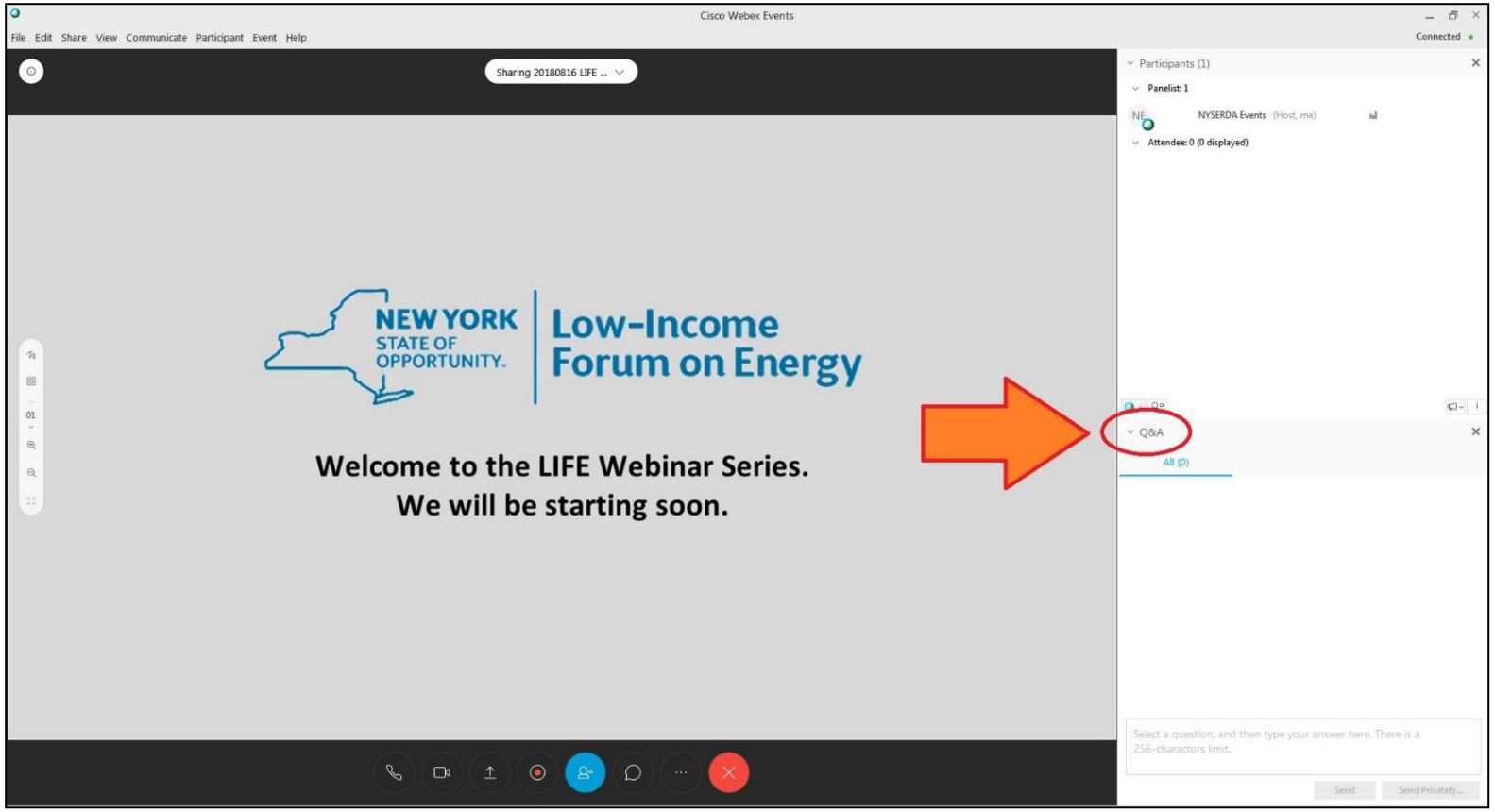
Asking Questions During Today's Webinar



- **Click on the small arrow to the left of Q&A to open the text field.**
- **Type your question into the text field and click "send."**

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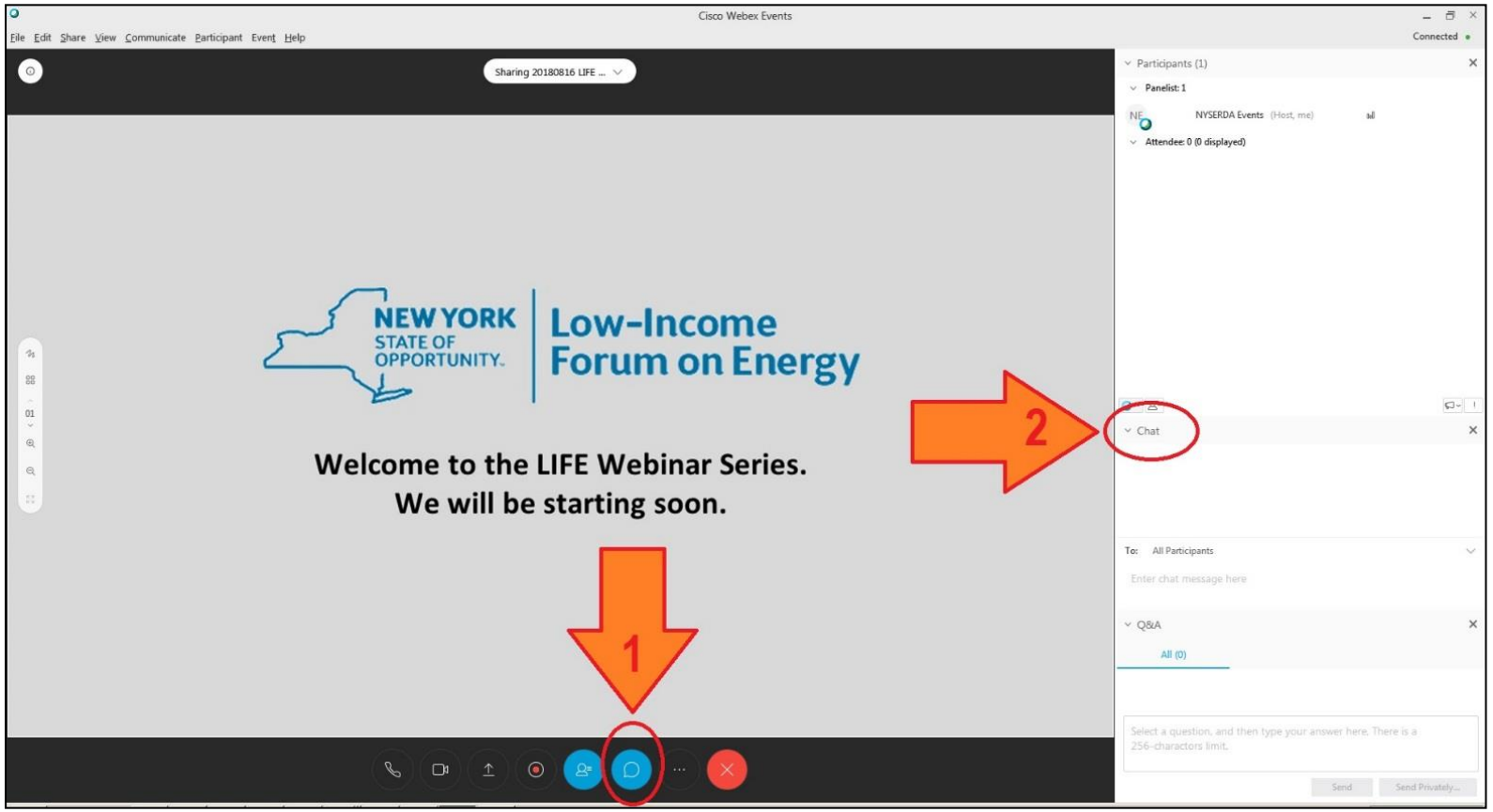
Technical Difficulties or Contacting the Host

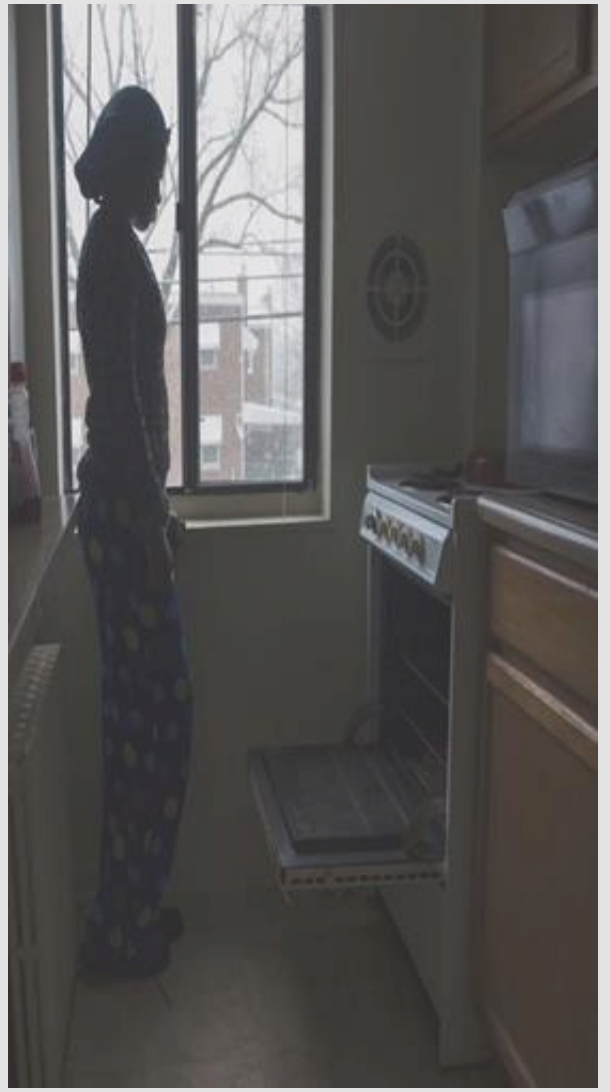


- **Click on the "Chat icon on the bottom menu to activate the chat function.**
- **The chat function will appear in the middle right portion of your screen.**

NEW YORK STATE OF OPPORTUNITY. Low-Income Forum on Energy

Residential Energy Efficiency Disparities Across Race, Class, and Place

Tony G. Reames, PhD, PE
University of Michigan
LIFE Webinar - July 15, 2020



"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

Outline

- Framing Energy Justice
- US National Energy Justice Trends
- Energy Justice Studies
  - Disparities in Heating Consumption Efficiency
  - Disparities in Technology Access
  - Energy Efficiency Financing Donut Hole (Coverage Gap)
  - Community-based approach to Energy Efficiency & Justice

Is energy a basic human right?

What is Energy Justice?

- Seeks to apply basic principles of justice… to the injustices evident among the **energy oppressed poor;** think developed vs. developing nations
- Recognizes the importance of the ability of everyone to afford the energy they need for **health and well-being;** think developed nations
- Like, *environmental justice*, energy justice allows us to frame energy disparities across **race (demographics), class (socioeconomics), and place (geographies).**

What is Energy Justice?

SUSTAINABLE DEVELOPMENT GOALS

Goal 7:

Ensure access to affordable, reliable, sustainable and modern energy for all.

adopted by all UN Member States in 2015

A Call for Energy Justice (4 Basic Rights)

- Right to healthy, sustainable energy **production**
- Right to the best available energy **infrastructure**
- Right to **affordable** energy
- Right to **uninterrupted** energy service

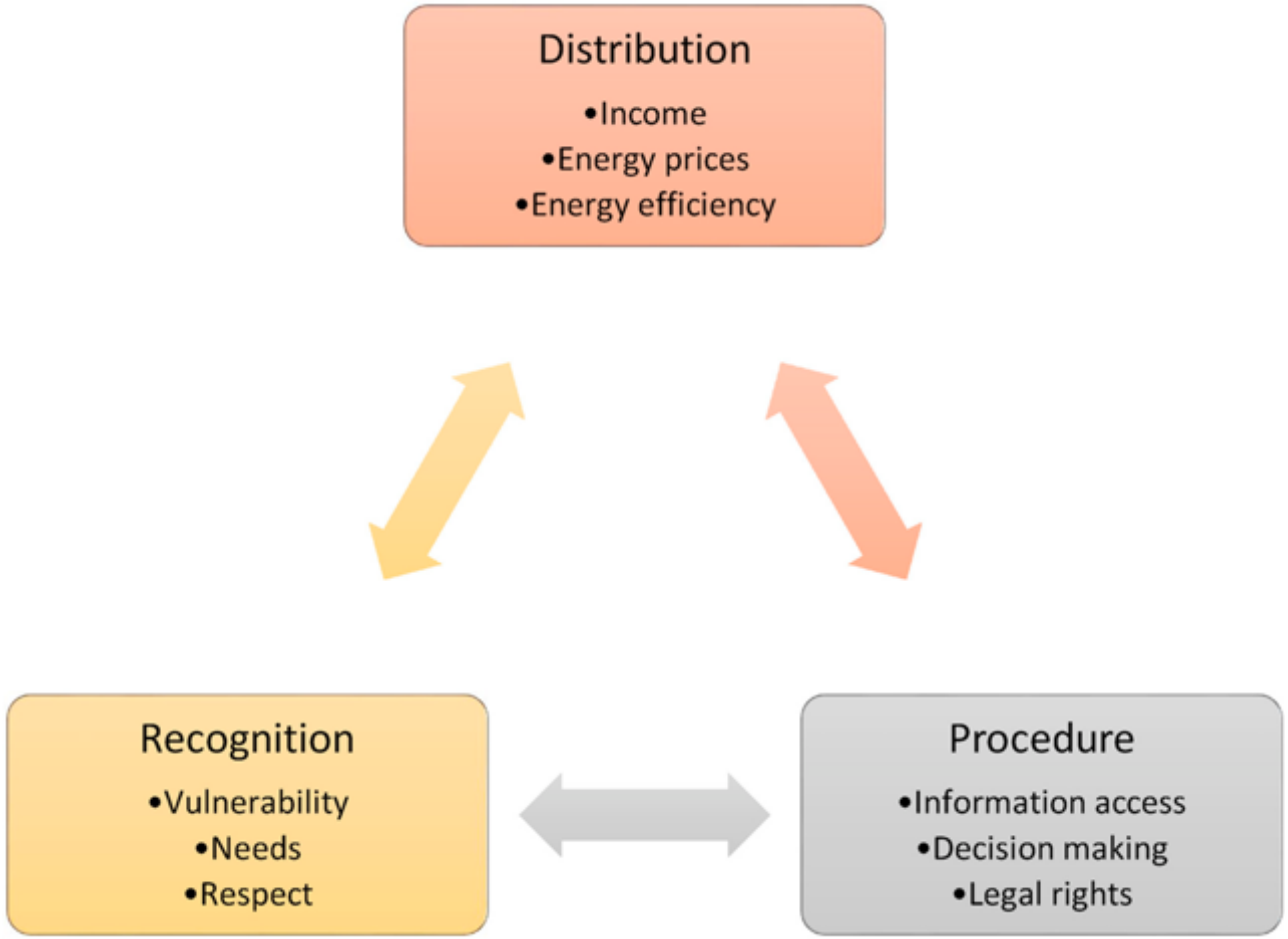
Hernández, D. (2015). Sacrifice along the energy continuum: a call for energy justice. *Environmental Justice*, 8(4), 151-156.

What is Energy Justice? (cont.)

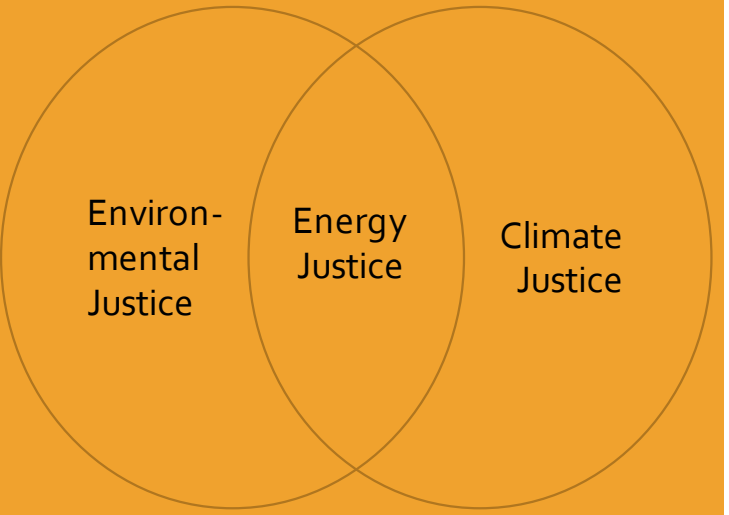
- **A Just Energy System**– an energy system that fairly disseminates both the benefits and costs of energy services, and one that has representative and impartial energy decision-making
- It involves the following key elements:
  - **Costs**, or how the hazards and externalities of the energy system are imposed on communities unequally, often the poor and marginalized;
  - **Benefits**, or how access to modern energy systems, technologies, and services are highly uneven;
  - **Procedures**, or how many energy projects proceed with exclusionary forms of decision-making that lack due process and representation.

(Sovacool & Dworkin, 2014; Sovacool et al. 2017)

Interrelated Energy Justice Tenets



Source: Gillard, R., Snell, C., & Bevan, M. (2017). Advancing an energy justice perspective of fuel poverty: Household vulnerability and domestic retrofit policy in the United Kingdom. *Energy research & social science*, *29*, 53-61.

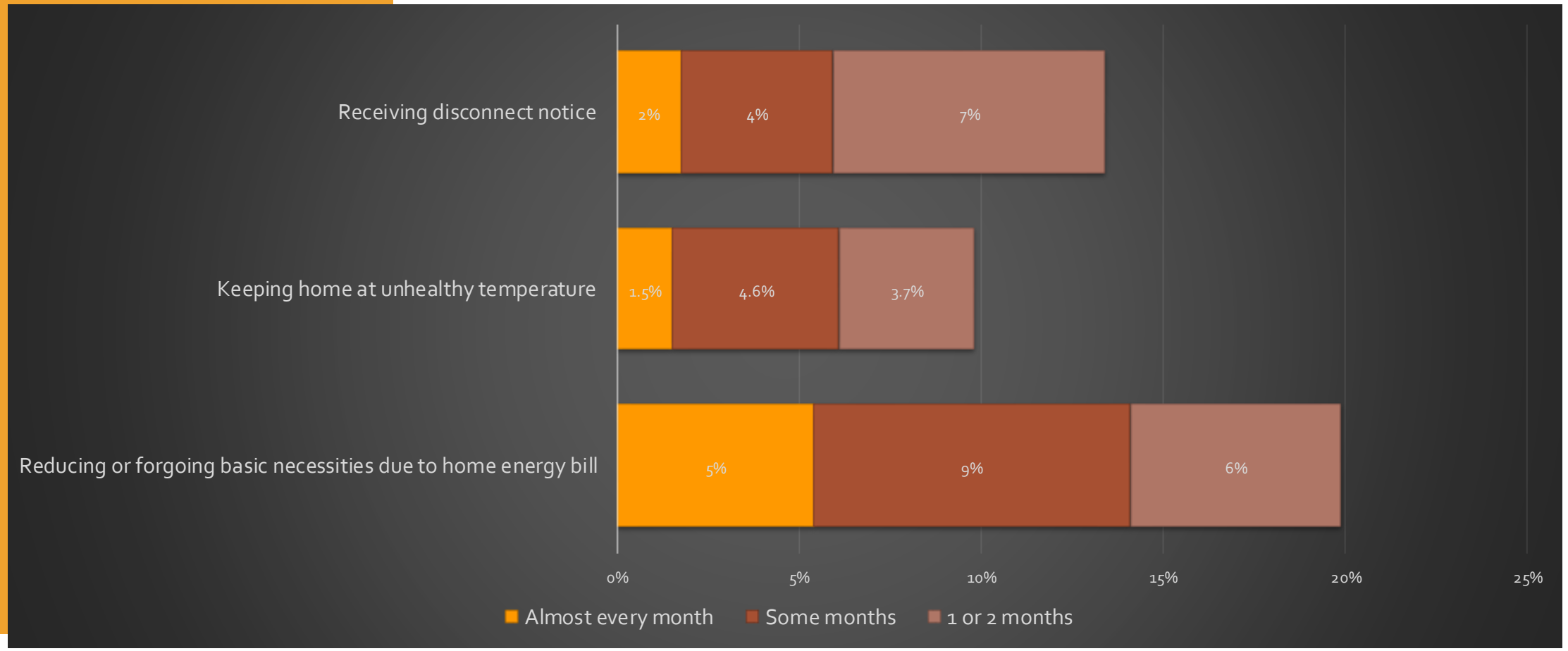


"The energy justice concept provides a more focused means to tackle injustices with environmental and climate knock-ons"

Jenkins, K. (2018). Setting energy justice apart from the crowd: lessons from environmental and climate justice. *Energy Research & Social Science*, *39*, 117-121.

The State of US Energy Insecurity

One in three U.S. households faces a challenge in meeting energy needs

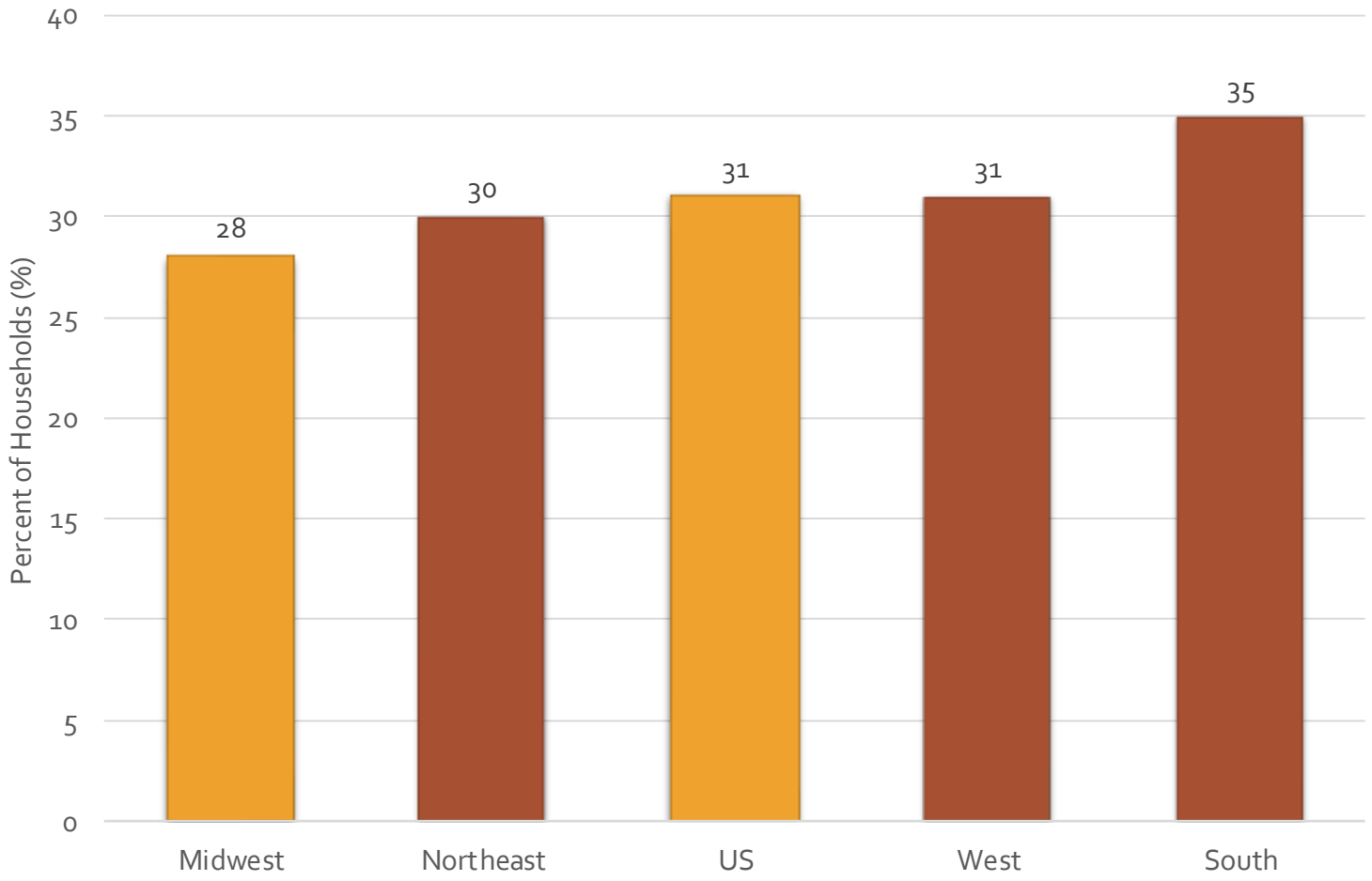


Data Source: US Energy Information Administration Residential Energy Consumption Survey, 2015

Distribution of Energy Insecurity (Census Region)

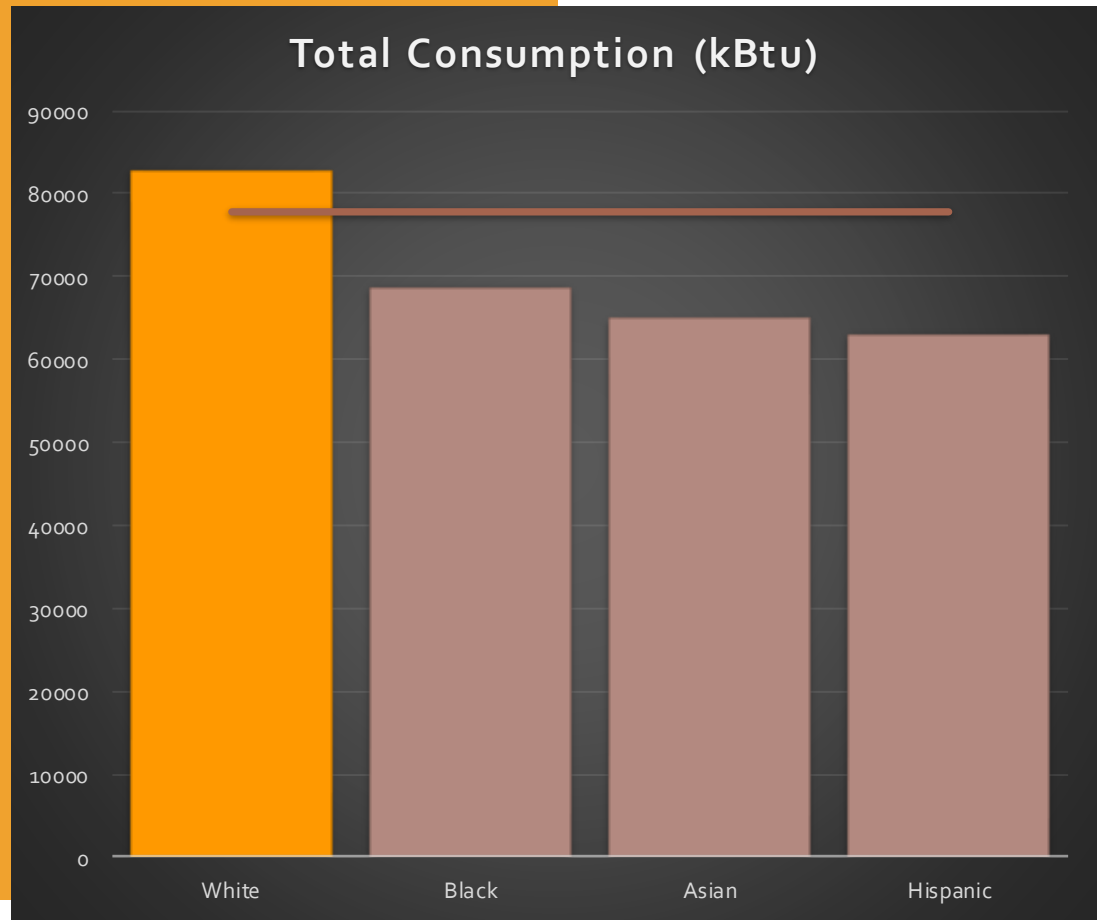
No. of Energy Insecure Households

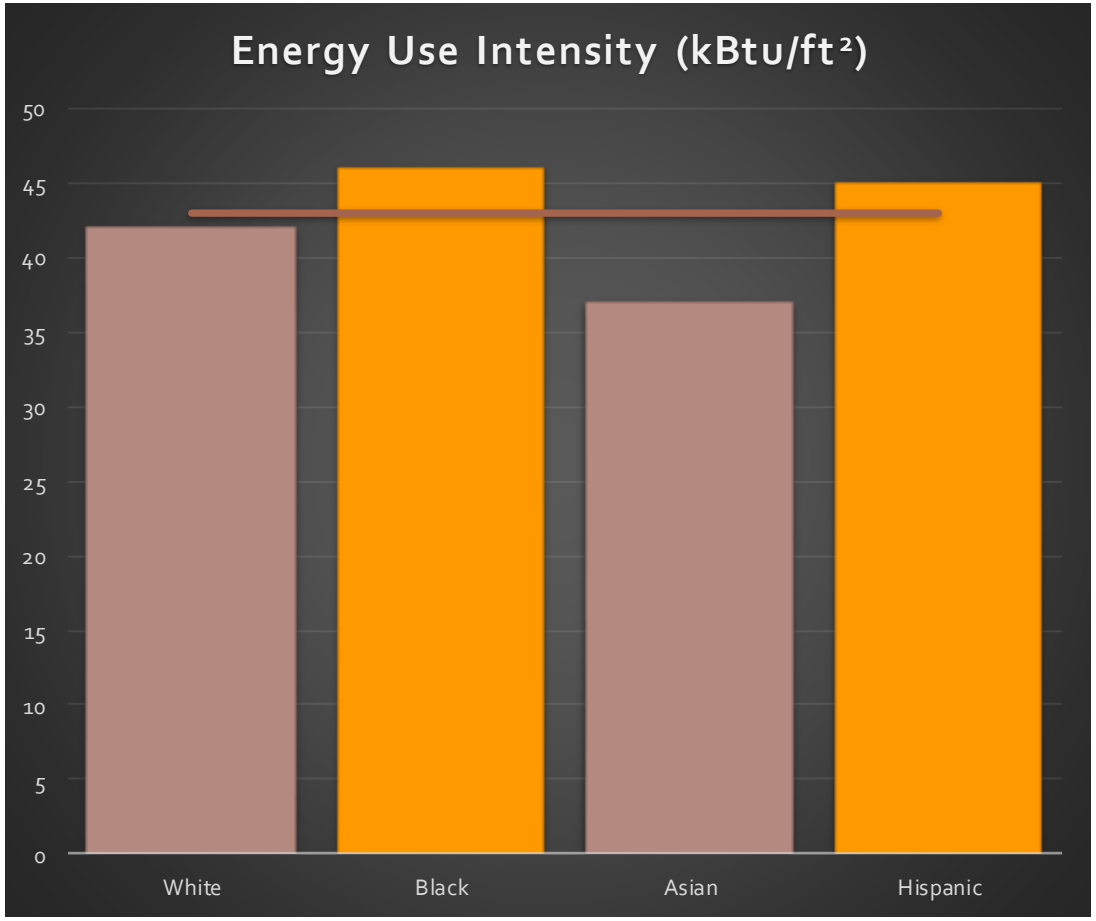
- US 37M
- Northeast 6.2M
- Midwest 7.4M
- West 8.1M
- South 15.4M



Source: EIA, Residential Energy Consumption Survey 2015

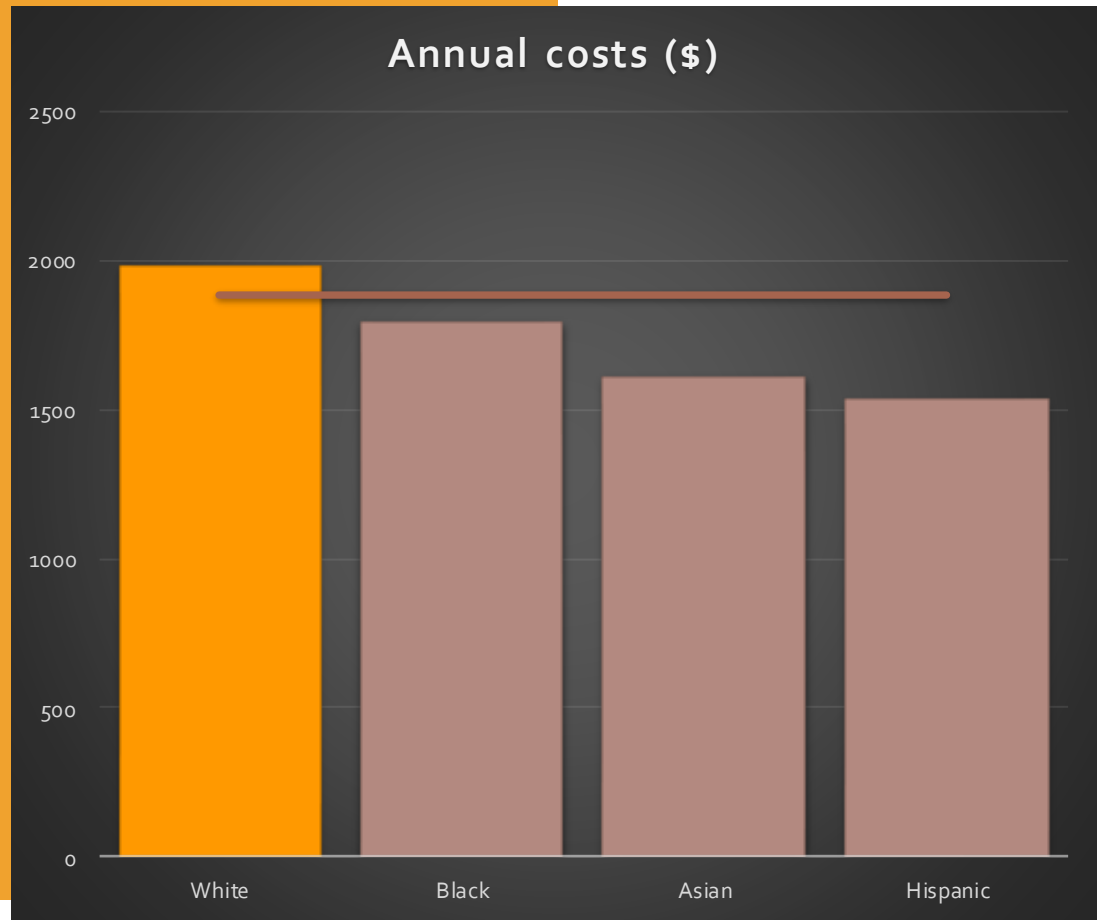
Energy and Race – Consumption vs Efficiency

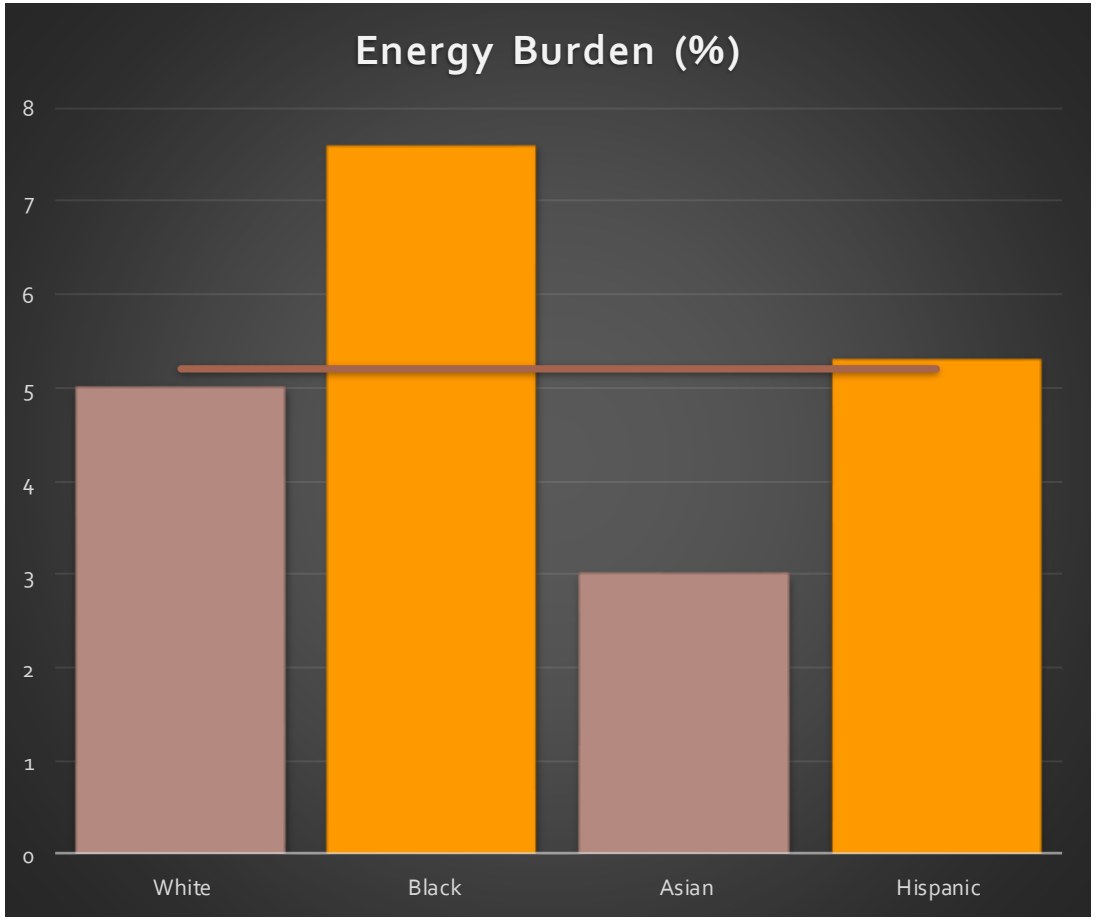




Data Source: US Energy Information Administration Residential Energy Consumption Survey, 2015

Energy and Race – Cost vs Burden





Data Source: US Energy Information Administration Residential Energy Consumption Survey, 2015

A Hidden Environmental Injustice

Research Question, Data and Methods

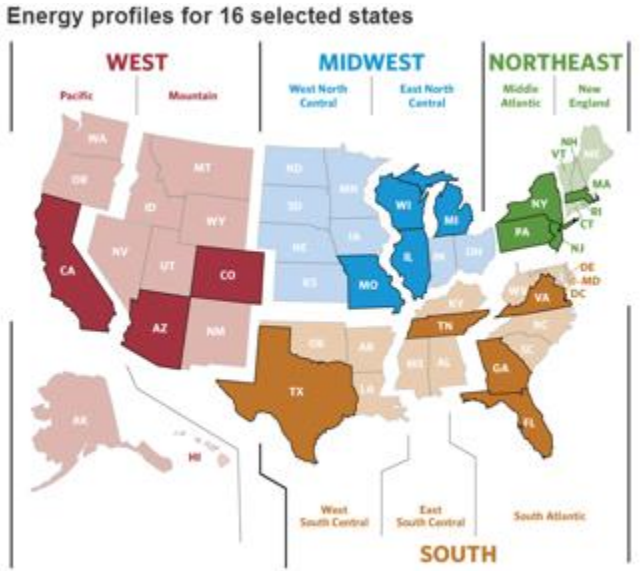
Do heating consumption and efficiency differ across race, place and class?

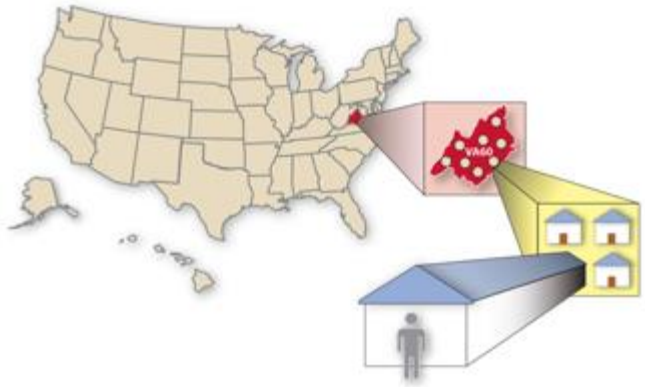
Method

- Framework for energy end use and spatial modeling
- OLS regression, small-area estimation, correlation

Data

- DOE's Energy Information Administration
  - 2009 Residential Energy Consumption Survey (RECS)
    - 12,083 U.S. households surveyed
    - Representative samples of 12 states
- U.S. Census
  - American Community Survey (ACS)
    - 5 Year (2005-2010) Block Group Level data
    - Smallest spatial resolution that matches variables in RECS

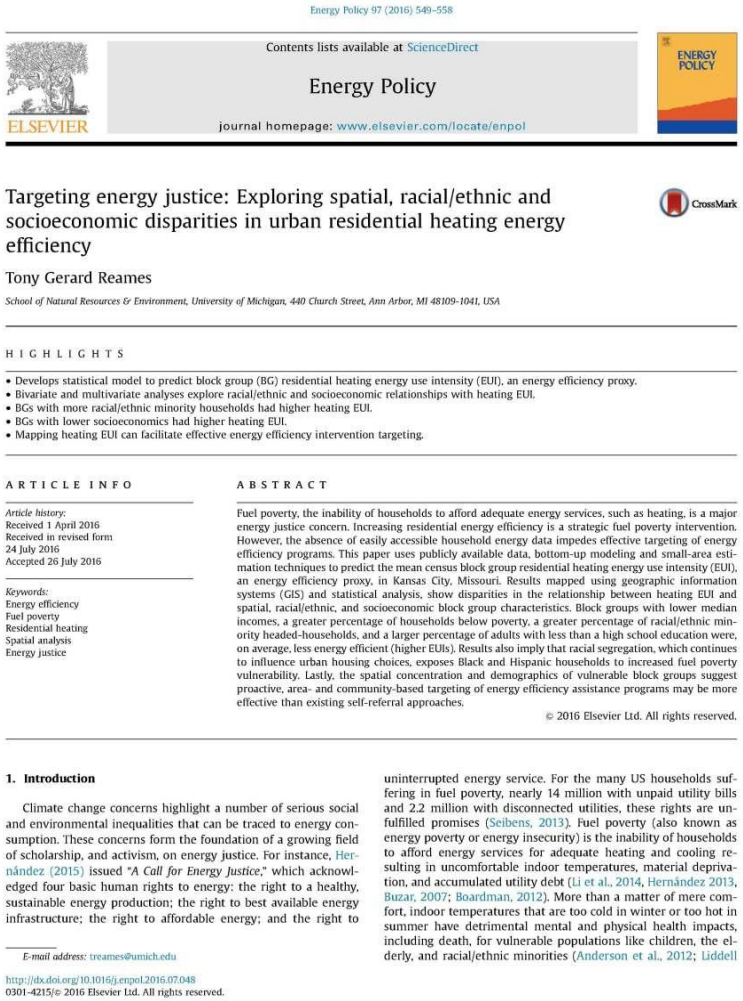




eia Independent Statistics & Analysis U.S. Energy Information Administration

Targeting energy justice: Exploring spatial, racial/ethnic and socioeconomic disparities in urban residential heating energy efficiency.

Reames, T. G. (2016). *Energy Policy*, 97, pp. 549-558.



Energy Policy 97 (2016) 549–558

Contents lists available at ScienceDirect

Energy Policy

journal homepage: www.elsevier.com/locate/enpol

Targeting energy justice: Exploring spatial, racial/ethnic and socioeconomic disparities in urban residential heating energy efficiency

Tony Gerard Reames

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HIGHLIGHTS

- Develops statistical model to predict block group (BG) residential heating energy use intensity (EUI), an energy efficiency proxy.
- Bivariate and multivariate analyses explore racial/ethnic and socioeconomic relationships with heating EUI.
- BGs with more racial/ethnic minority households had higher heating EUI.
- BGs with lower socioeconomics had higher heating EUI.
- Mapping heating EUI can facilitate effective energy efficiency intervention targeting.

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ABSTRACT

Fuel poverty, the inability of households to afford adequate energy services, such as heating, is a major energy justice concern. Increasing residential energy efficiency is a strategic fuel poverty intervention. However, the absence of easily accessible household energy data impedes effective targeting of energy efficiency programs. This paper uses publicly available data, bottom-up modeling and small-area estimation techniques to predict the mean census block group residential heating energy use intensity (EUI), an energy efficiency proxy, in Kansas City, Missouri. Results mapped using geographic information systems (GIS) and statistical analysis, show disparities in the relationship between heating EUI and spatial, racial/ethnic, and socioeconomic block group characteristics. Block groups with lower median incomes, a greater percentage of households below poverty, a greater percentage of racial/ethnic minority headed-households, and a larger percentage of adults with less than a high school education were, on average, less energy efficient (higher EUIs). Results also imply that racial segregation, which continues to influence urban housing choices, exposes Black and Hispanic households to increased fuel poverty vulnerability. Lastly, the spatial concentration and demographics of vulnerable block groups suggest proactive, area- and community-based targeting of energy efficiency assistance programs may be more effective than existing self-referral approaches.

1. Introduction

Climate change concerns highlight a number of serious social and environmental inequalities that can be traced to energy consumption. These concerns form the foundation of a growing field of scholarship, and activism, on energy justice. For instance, Hernández (2015) issued "*A Call for Energy Justice*," which acknowledged four basic human rights to energy: the right to a healthy, sustainable energy production; the right to best available energy infrastructure; the right to affordable energy; and the right to uninterrupted energy service. For the many US households suffering in fuel poverty, nearly 14 million with unpaid utility bills and 2.2 million with disconnected utilities, these rights are unfulfilled promises (Seibens, 2013). Fuel poverty (also known as energy poverty or energy insecurity) is the inability of households to afford energy services for adequate heating and cooling resulting in uncomfortable indoor temperatures, material deprivation, and accumulated utility debt (Li et al., 2014, Hernández 2013, Buzar, 2007; Boardman, 2012). More than a matter of mere comfort, indoor temperatures that are too cold in winter or too hot in summer have detrimental mental and physical health impacts, including death, for vulnerable populations like children, the elderly, and racial/ethnic minorities (Anderson et al., 2012; Liddell

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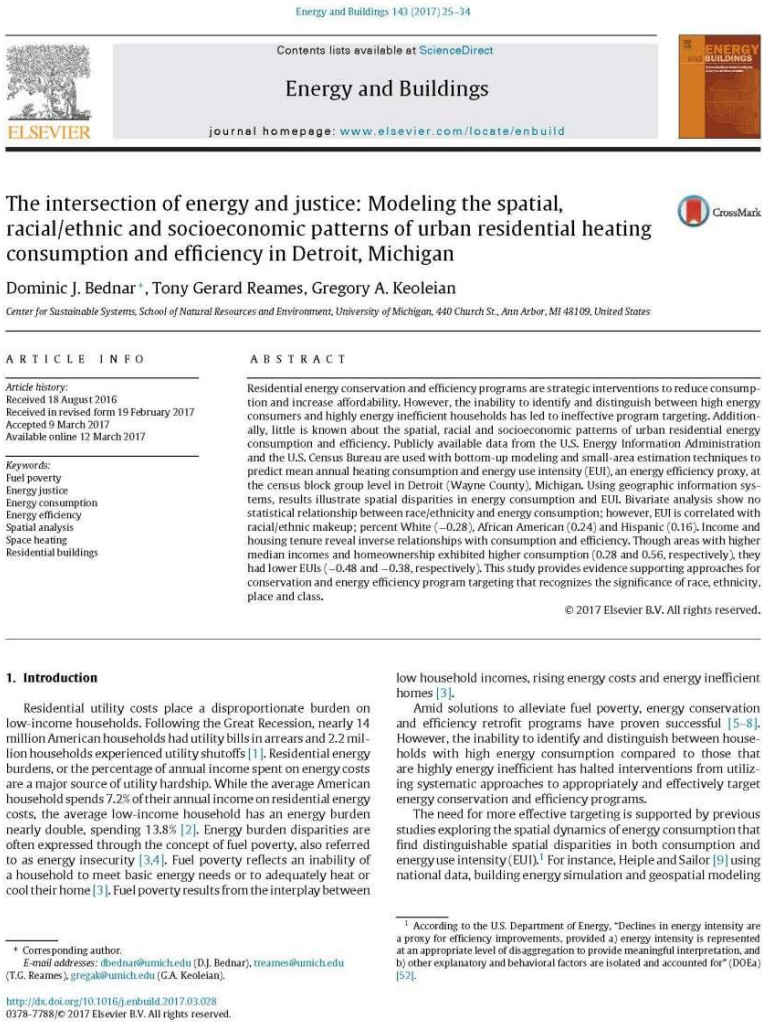
http://dx.doi.org/10.1016/j.enpol.2016.07.048
0301-4215/

The intersection of energy and justice: Modeling the spatial, racial/ethnic and socioeconomic patterns of urban residential heating consumption and efficiency in Detroit, Michigan

Bednar, D.J., Reames, T.G. and Keoleian, G.A. (2017). *Energy and Buildings*, 143, pp.25-34.



Energy and Buildings 143 (2017) 25–34

Contents lists available at ScienceDirect

Energy and Buildings

journal homepage: www.elsevier.com/locate/enbuild

The intersection of energy and justice: Modeling the spatial, racial/ethnic and socioeconomic patterns of urban residential heating consumption and efficiency in Detroit, Michigan

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ARTICLE INFO

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ABSTRACT

Residential energy conservation and efficiency programs are strategic interventions to reduce consumption and increase affordability. However, the inability to identify and distinguish between high energy consumers and highly energy inefficient households has led to ineffective program targeting. Additionally, little is known about the spatial, racial and socioeconomic patterns of urban residential energy consumption and efficiency. Publicly available data from the U.S. Energy Information Administration and the U.S. Census Bureau are used with bottom-up modeling and small-area estimation techniques to predict mean annual heating consumption and energy use intensity (EUI), an energy efficiency proxy, at the census block group level in Detroit (Wayne County), Michigan. Using geographic information systems, results illustrate spatial disparities in energy consumption and EUI. Bivariate analysis show no statistical relationship between race/ethnicity and energy consumption; however, EUI is correlated with racial/ethnic makeup; percent White (−0.28), African American (0.24) and Hispanic (0.16). Income and housing tenure reveal inverse relationships with consumption and efficiency. Though areas with higher median incomes and homeownership exhibited higher consumption (0.28 and 0.56, respectively), they had lower EUIs (−0.48 and −0.38, respectively). This study provides evidence supporting approaches for conservation and energy efficiency program targeting that recognizes the significance of race, ethnicity, place and class.

1. Introduction

Residential utility costs place a disproportionate burden on low-income households. Following the Great Recession, nearly 14 million American households had utility bills in arrears and 2.2 million households experienced utility shutoffs [1]. Residential energy burdens, or the percentage of annual income spent on energy costs are a major source of utility hardship. While the average American household spends 7.2% of their annual income on residential energy costs, the average low-income household has an energy burden nearly double, spending 13.8% [2]. Energy burden disparities are often expressed through the concept of fuel poverty, also referred to as energy insecurity [3,4]. Fuel poverty reflects an inability of a household to meet basic energy needs or to adequately heat or cool their home [3]. Fuel poverty results from the interplay between low household incomes, rising energy costs and energy inefficient homes [3].

Amid solutions to alleviate fuel poverty, energy conservation and efficiency retrofit programs have proven successful [5–8]. However, the inability to identify and distinguish between households with high energy consumption compared to those that are highly energy inefficient has halted interventions from utilizing systematic approaches to appropriately and effectively target energy conservation and efficiency programs.

The need for more effective targeting is supported by previous studies exploring the spatial dynamics of energy consumption that find distinguishable spatial disparities in both consumption and energy use intensity (EUI).[1] For instance, Heiple and Sailor [9] using national data, building energy simulation and geospatial modeling

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http://dx.doi.org/10.1016/j.enbuild.2017.03.028
0378-7788/

[1] According to the U.S. Department of Energy, "Declines in energy intensity are a proxy for efficiency improvements, provided a) energy intensity is represented at an appropriate level of dis-aggregation to provide meaningful interpretation, and b) other explanatory and behavioral factors are isolated and accounted for" (DOEa) [52].

Kansas City & Detroit Energy Dynamics

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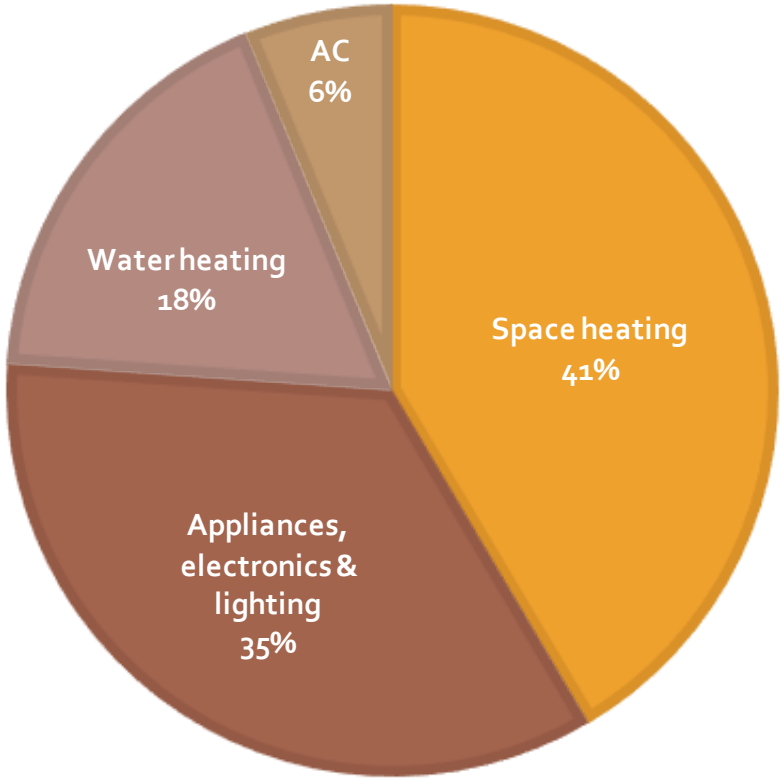
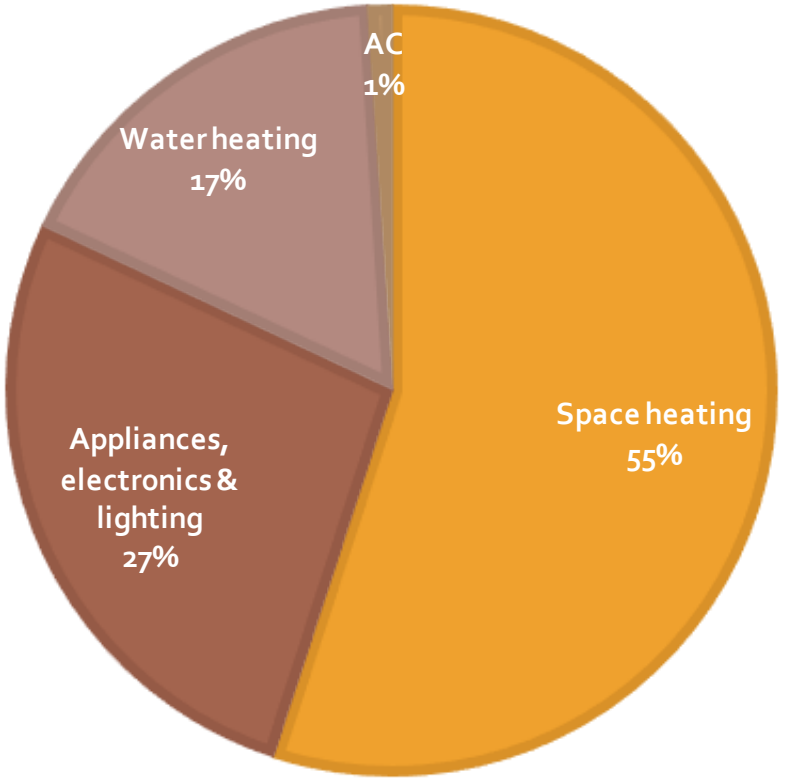


KC 11th highest energy burden for low-income households in the nation

MICHIGAN



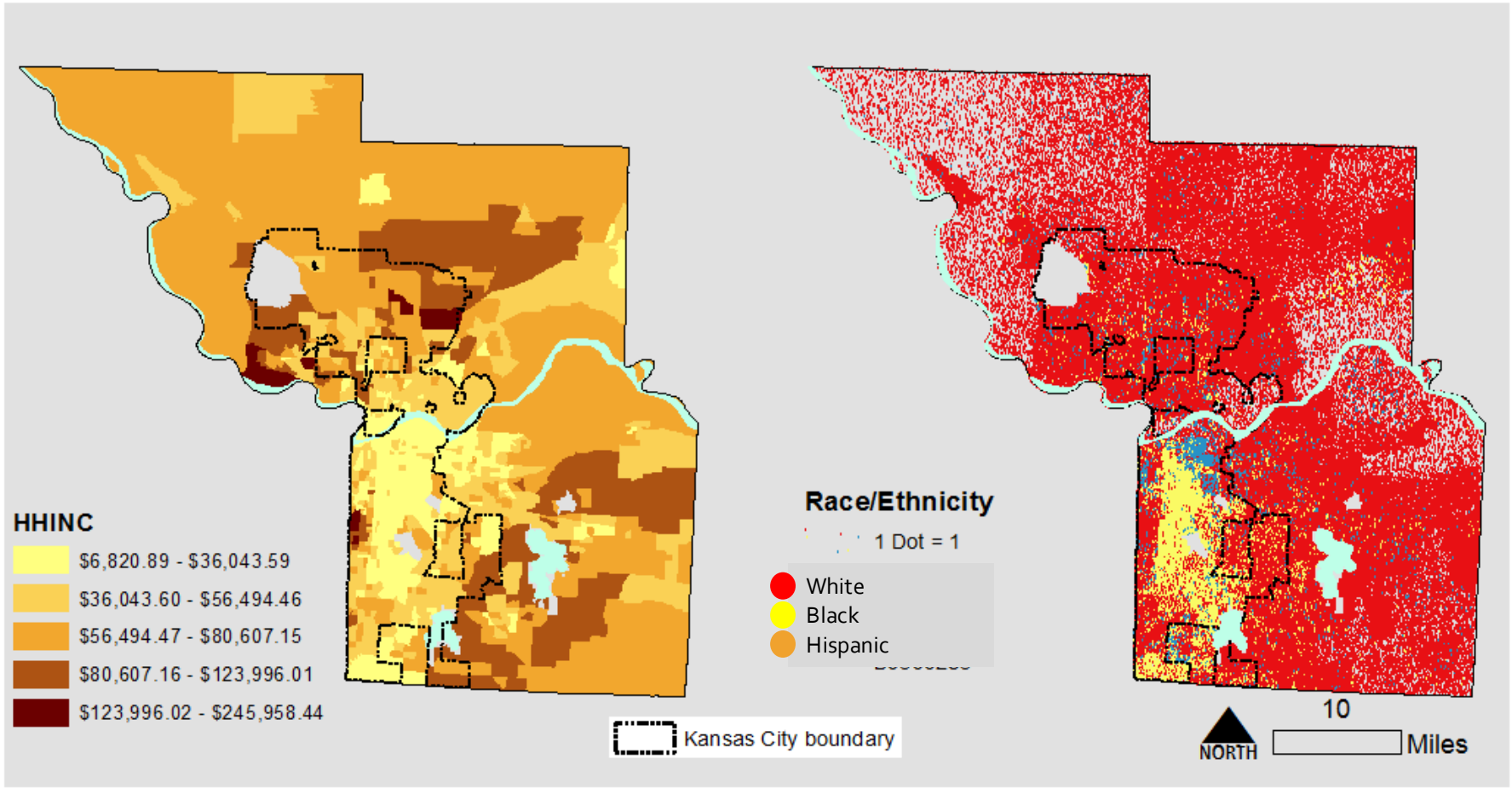
Detroit 9th highest energy burden for low-income households in the nation

Data Sources: US Energy Information Administration Residential Energy Consumption Survey, 2009; ACEEE Lifting the High Energy Burden in America's Largest Cities, 2016

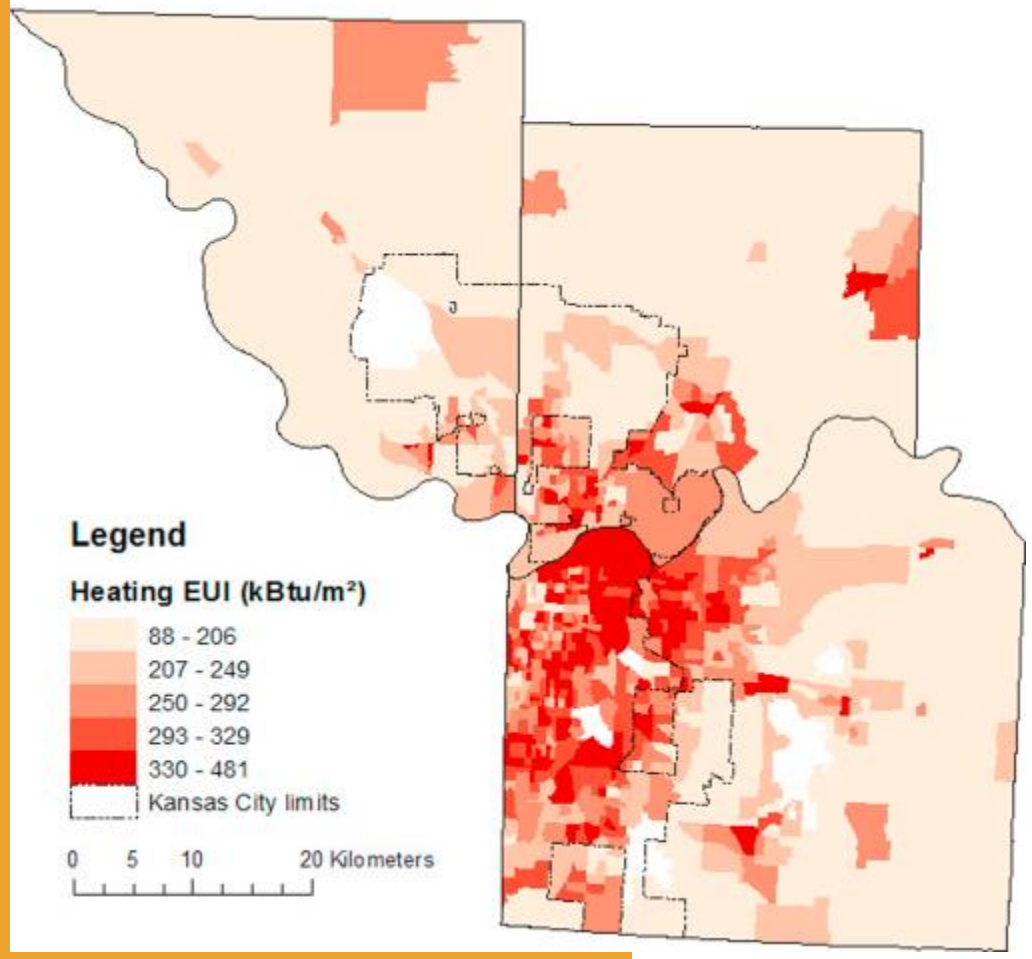
Residential Segregation, KCMO

Income

Race/Ethnicity



Heating Energy Use Intensity (Efficiency)



Category	Description	Correlation
Economic Status	Median HH Income	↓
	% HHs below poverty	↑
Education	% Less HS diploma	↑
Age	% HH 65+	↑
Race/Ethnicity	% White HHs	↓
	% African American HHs	↑
	% Hispanic HHs	↑
Housing Tenure	% Renter-occupied	↑

HHs= Households

Race & Energy Efficiency

Table 3. Relationship between estimated heating EUI and block group race and ethnicity, segregration and socioeconomic characteristics

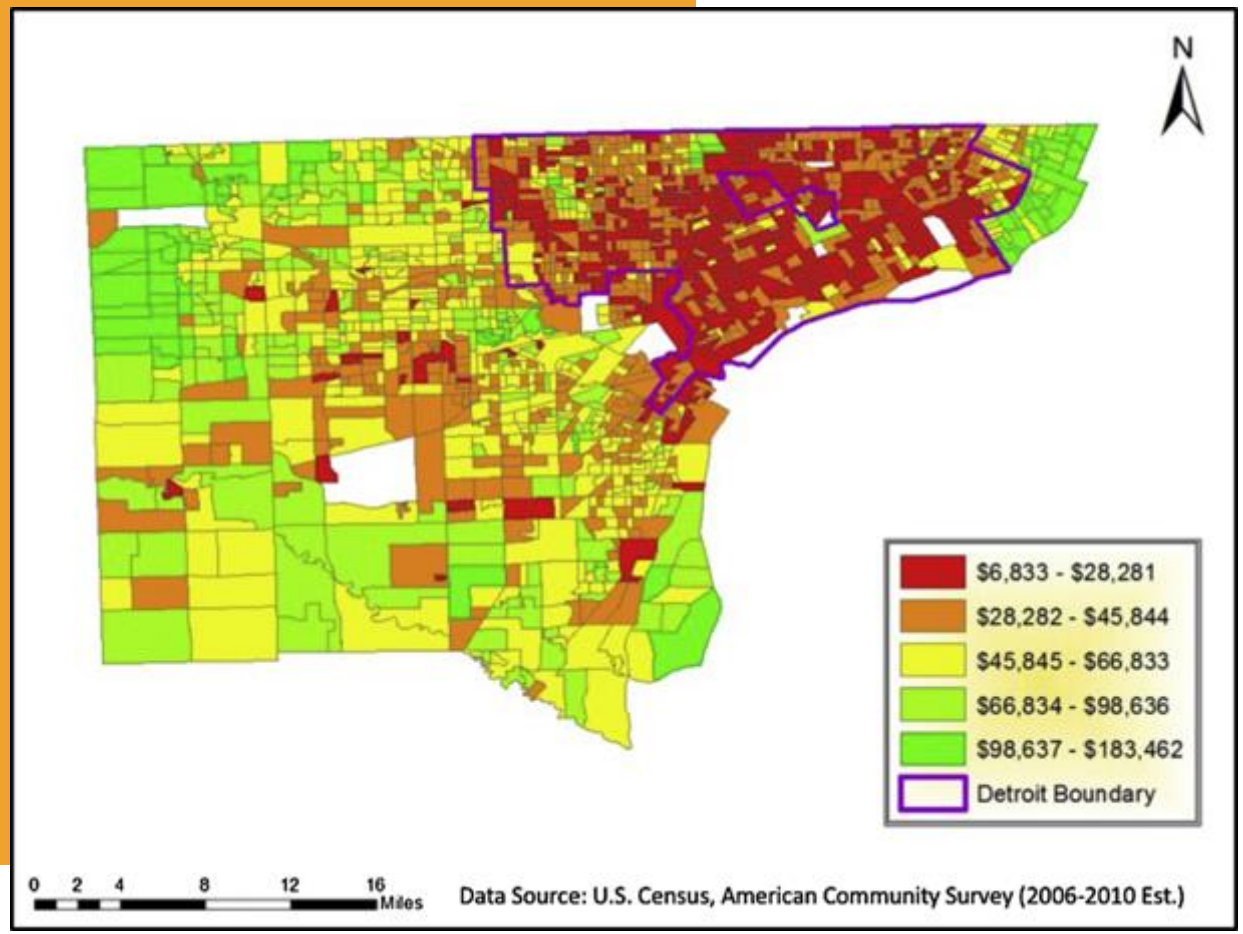
	Model 1		Model 2		Model 3		Model 4	
	b	S.E.	b	S.E.	b	S.E.	b	S.E.
Percent black householders	0.75 ***	0.07	0.19 *	0.09				
Percent Hispanic householders	2.58 ***	0.29	0.71 *	0.32				
Percent households below poverty level			1.24 ***	0.20				
Percent population with less than high school diploma			1.47 ***	0.28				
Percent households with householder aged 65+			0.75 ***	0.17				
Black isolation					90.93 ***	7.19	37.09 ***	9.19
Hispanic isolation					238.68 ***	22.03	94.27 **	29.92
Proportion households below poverty level							98.37 ***	22.87
Proportion population with less than high school diploma							146.14 ***	29.97
Proportion households with householder aged 65+							64.32 ***	16.89
Intercept	240.13 ***	3.29	210.56 ***	4.75	232.34 ***	3.39	210.09 ***	4.82
N	757		757		757		757	
R^2	0.21		0.33		0.23		0.33	

*Significance p < 0.05
**Significance p < 0.01
***Significance p < 0.001

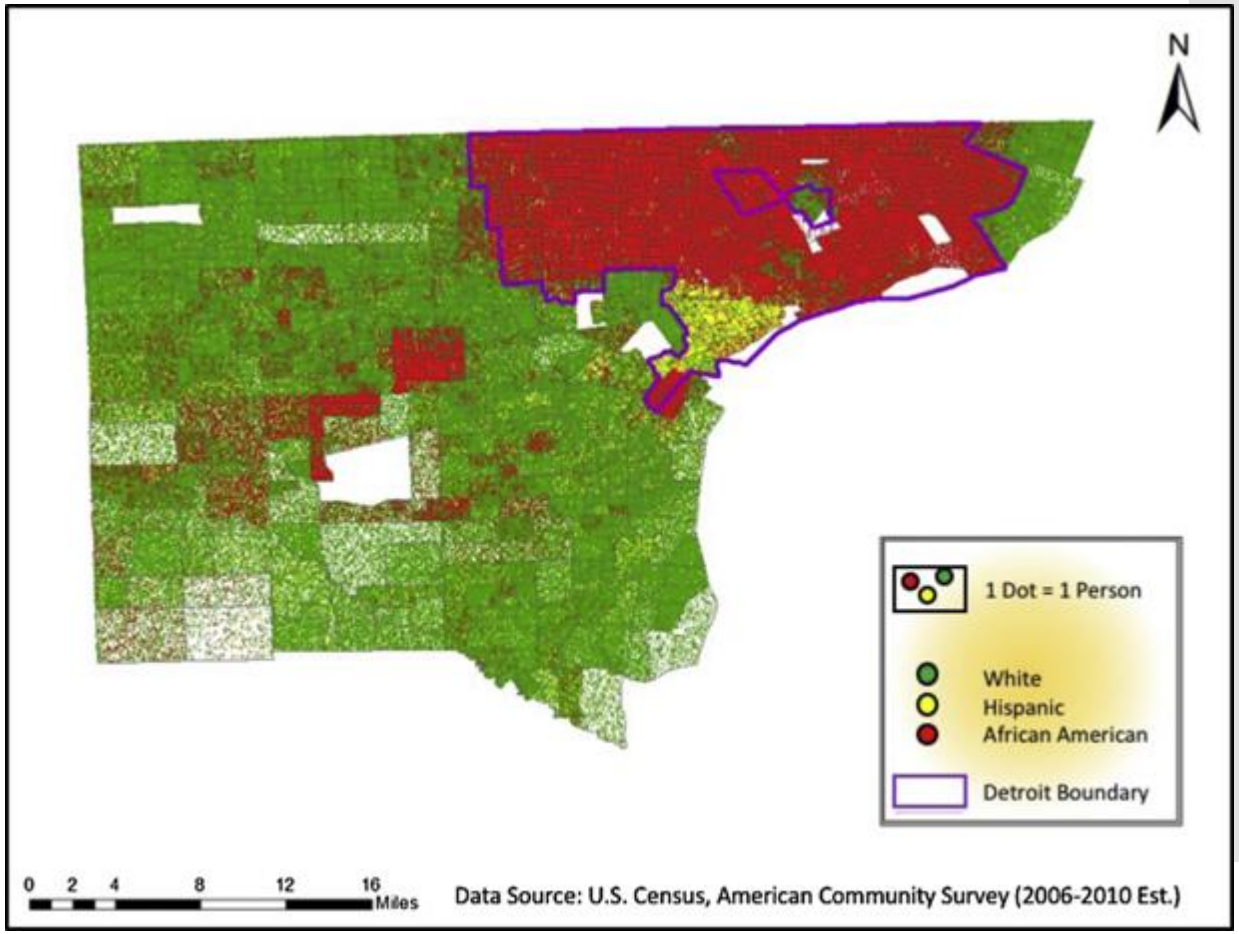
- As percent black and Hispanics increase, so does heating inefficiency
- Racial/ethnic pattern mediated by SES but remains significant
- Greater racial/ethnic isolation (segregation) related to higher inefficiency

Residential Segregation, Detroit

Income



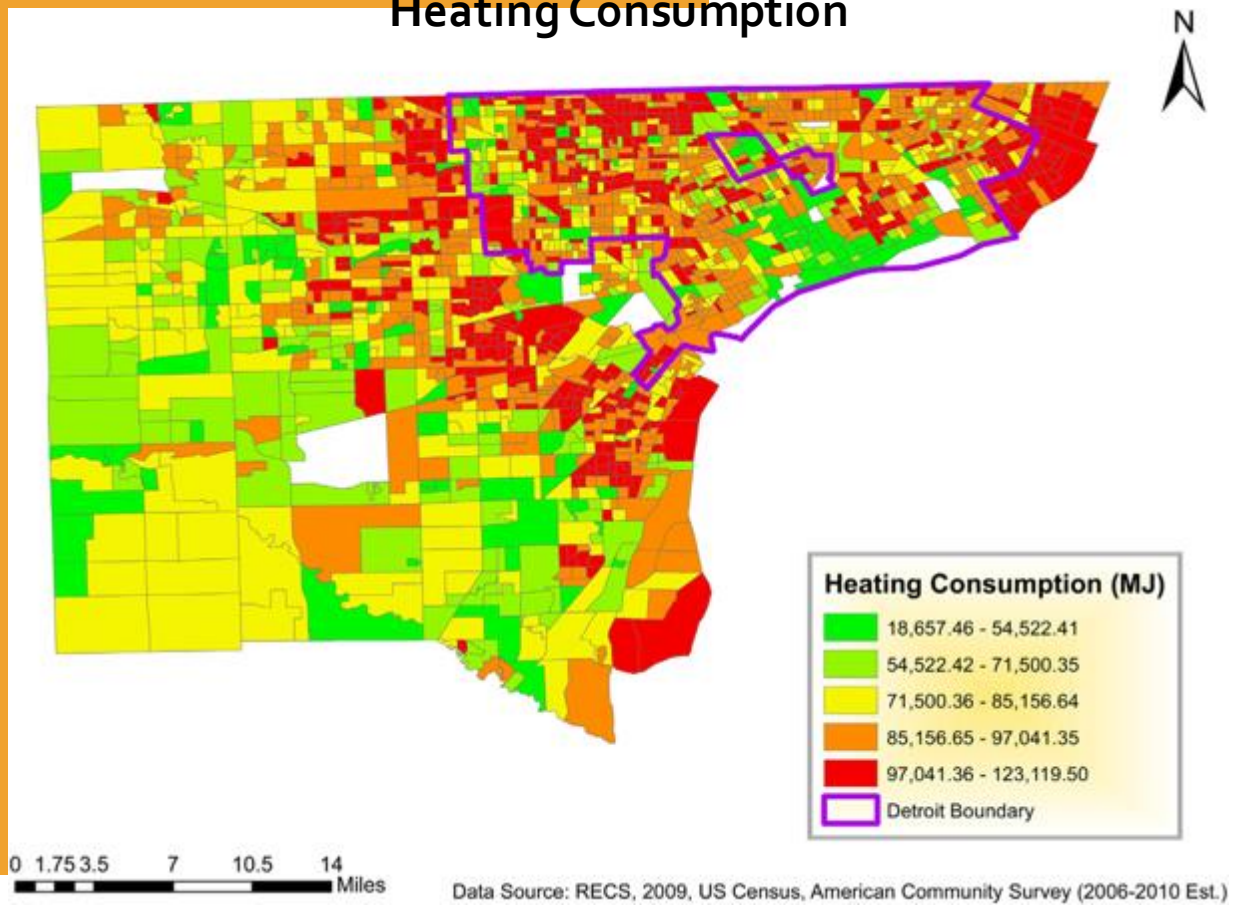
Race/Ethnicity



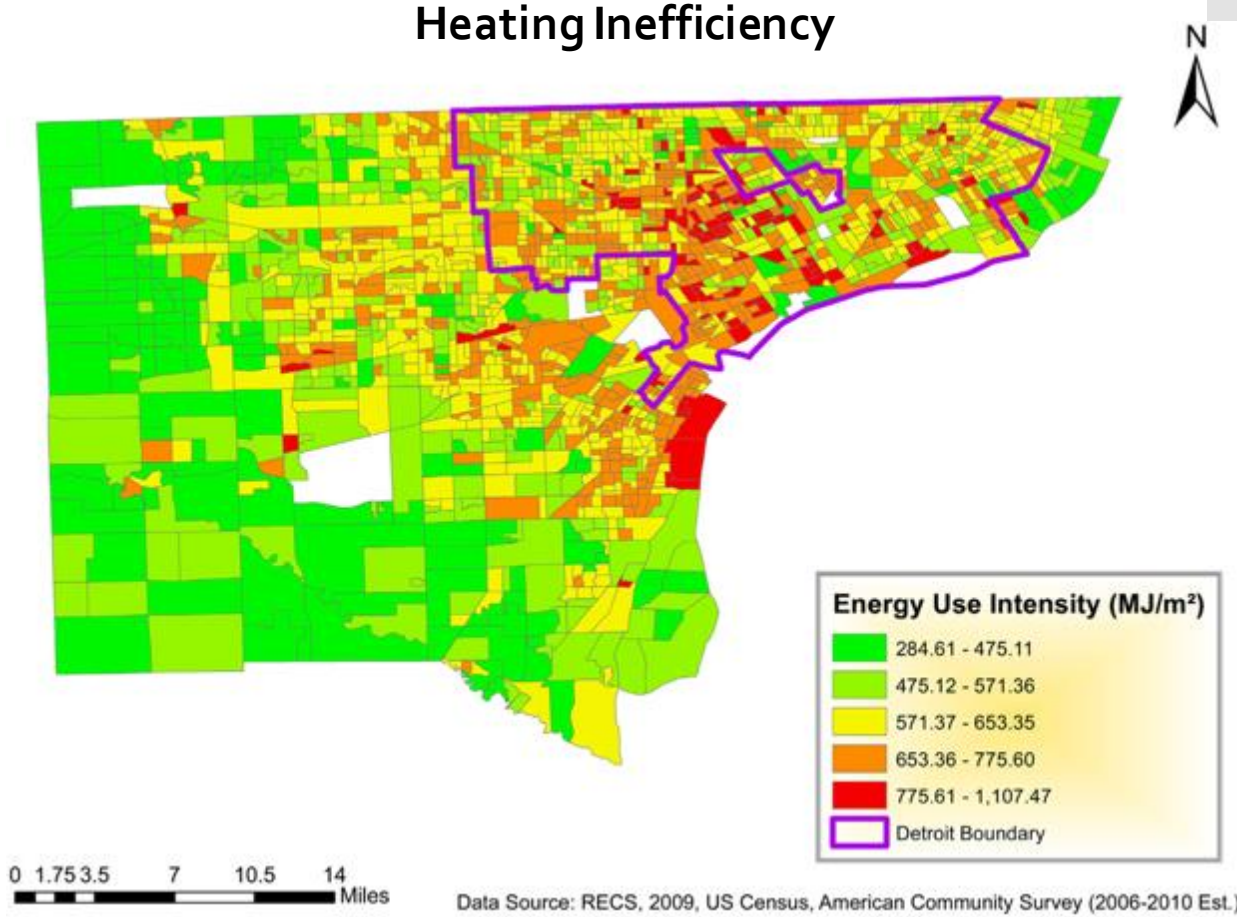
Wayne County, Michigan

Consumption v. Inefficiency, Detroit

Heating Consumption



Heating Inefficiency



Wayne County, Michigan

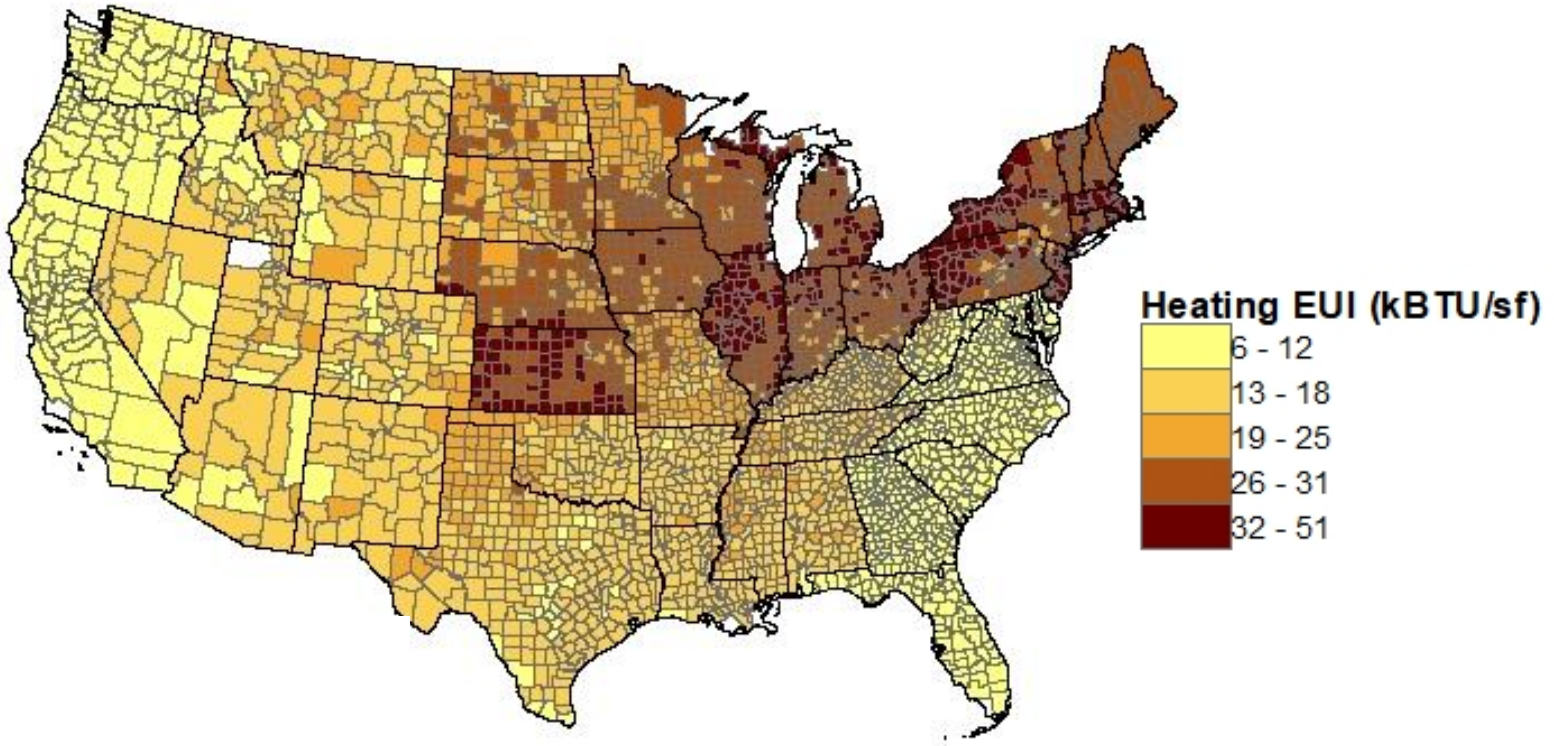
Consumption v. Inefficiency across covariates (Detroit)

Detroit utility shut-off protests, 2012

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

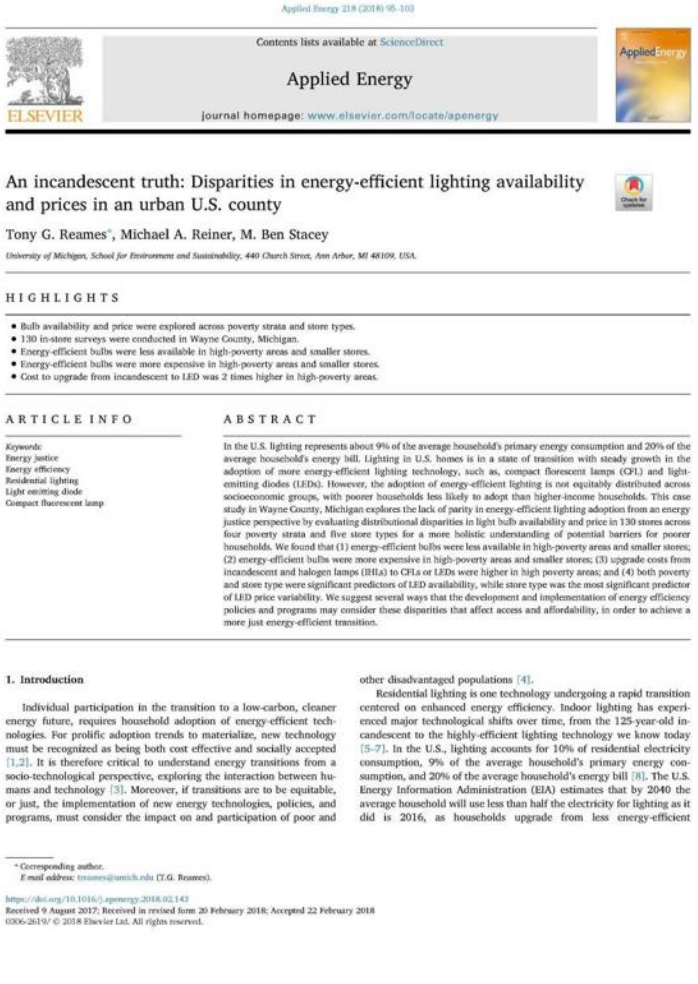
Estimating Heating Energy Efficiency (National)



- Mean: 19.1 kBTU/sf
- Higher income reduces EUI
- Ownership reduces EUI
- Midwest & Northeast positive influence on EUI
- Sig. (-) corr. w/ prop. Black households

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.



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

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HIGHLIGHTS

- Bulb availability and price were explored across poverty strata and store types.
- 130 in-store surveys were conducted in Wayne County, Michigan.
- Energy-efficient bulbs were less available in high-poverty areas and smaller stores.
- Energy-efficient bulbs were more expensive in high-poverty areas and smaller stores.
- Cost to upgrade from incandescent to LED was 2 times higher in high-poverty areas.

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Residential lighting
Light emitting diode
Compact fluorescent lamp

ABSTRACT

In the U.S. lighting represents about 9% of the average household's primary energy consumption and 20% of the average household's energy bill. Lighting in U.S. homes is in a state of transition with steady growth in the adoption of more energy-efficient lighting technology, such as, compact florescent lamps (CFL) and light-emitting diodes (LEDs). However, the adoption of energy-efficient lighting is not equitably distributed across socioeconomic groups, with poorer households less likely to adopt than higher-income households. This case study in Wayne County, Michigan explores the lack of parity in energy-efficient lighting adoption from an energy justice perspective by evaluating distributional disparities in light bulb availability and price in 130 stores across four poverty strata and five store types for a more holistic understanding of potential barriers for poorer households. We found that (1) energy-efficient bulbs were less available in high-poverty areas and smaller stores; (2) energy-efficient bulbs were more expensive in high-poverty areas and smaller stores; (3) upgrade costs from incandescent and halogen lamps (IHLs) to CFLs or LEDs were higher in high poverty areas; and (4) both poverty and store type were significant predictors of LED availability, while store type was the most significant predictor of LED price variability. We suggest several ways that the development and implementation of energy efficiency policies and programs may consider these disparities that affect access and affordability, in order to achieve a more just energy-efficient transition.

1. Introduction

Individual participation in the transition to a low-carbon, cleaner energy future, requires household adoption of energy-efficient technologies. For prolific adoption trends to materialize, new technology must be recognized as being both cost effective and socially accepted [1,2]. It is therefore critical to understand energy transitions from a socio-technological perspective, exploring the interaction between humans and technology [3]. Moreover, if transitions are to be equitable, or just, the implementation of new energy technologies, policies, and programs, must consider the impact on and participation of poor and other disadvantaged populations [4].

Residential lighting is one technology undergoing a rapid transition centered on enhanced energy efficiency. Indoor lighting has experienced major technological shifts over time, from the 125-year-old incandescent to the highly-efficient lighting technology we know today [5–7]. In the U.S., lighting accounts for 10% of residential electricity consumption, 9% of the average household's primary energy consumption, and 20% of the average household's energy bill [8]. The U.S. Energy Information Administration (EIA) estimates that by 2040 the average household will use less than half the electricity for lighting as it did is 2016, as households upgrade from less energy-efficient

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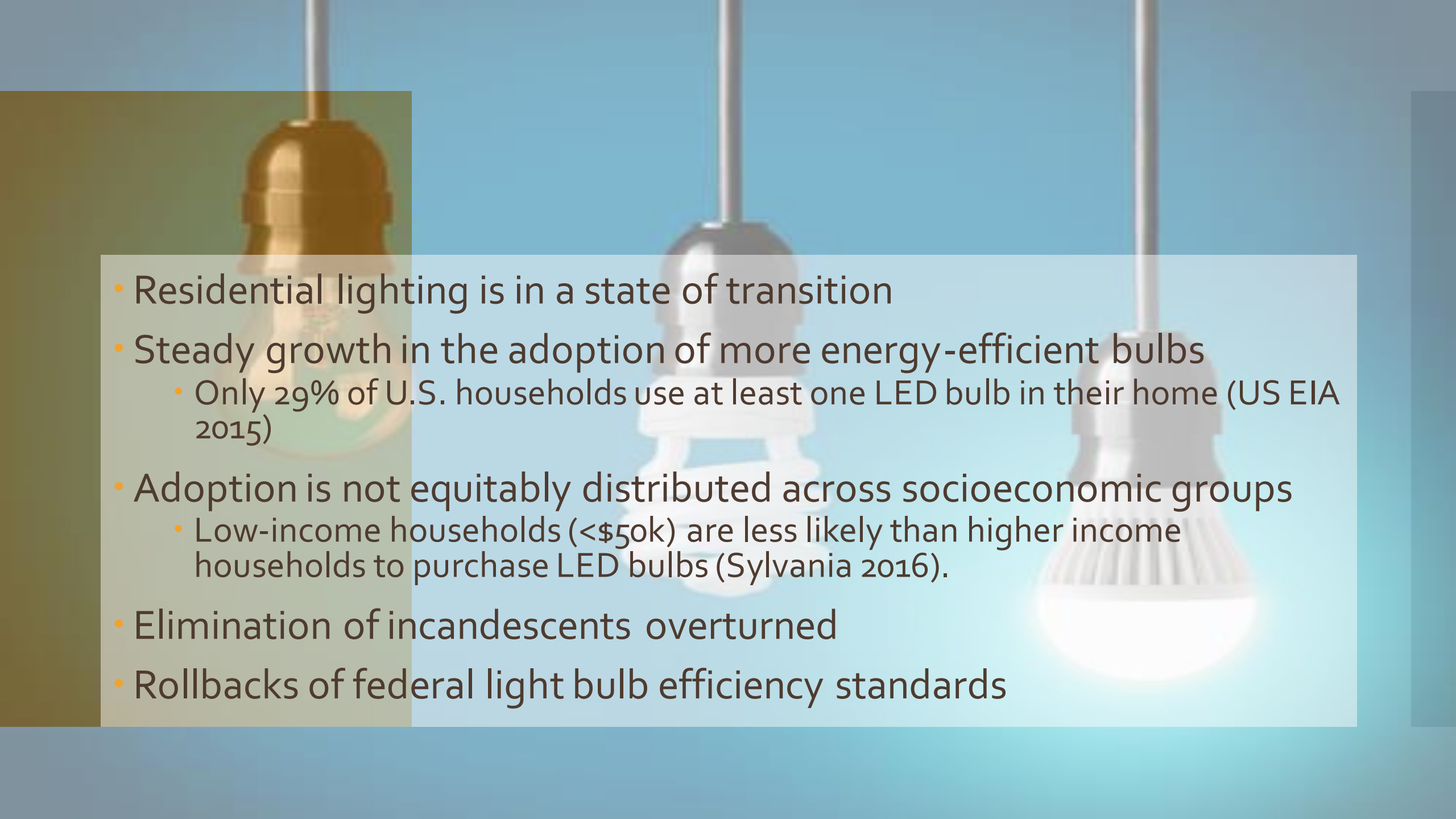
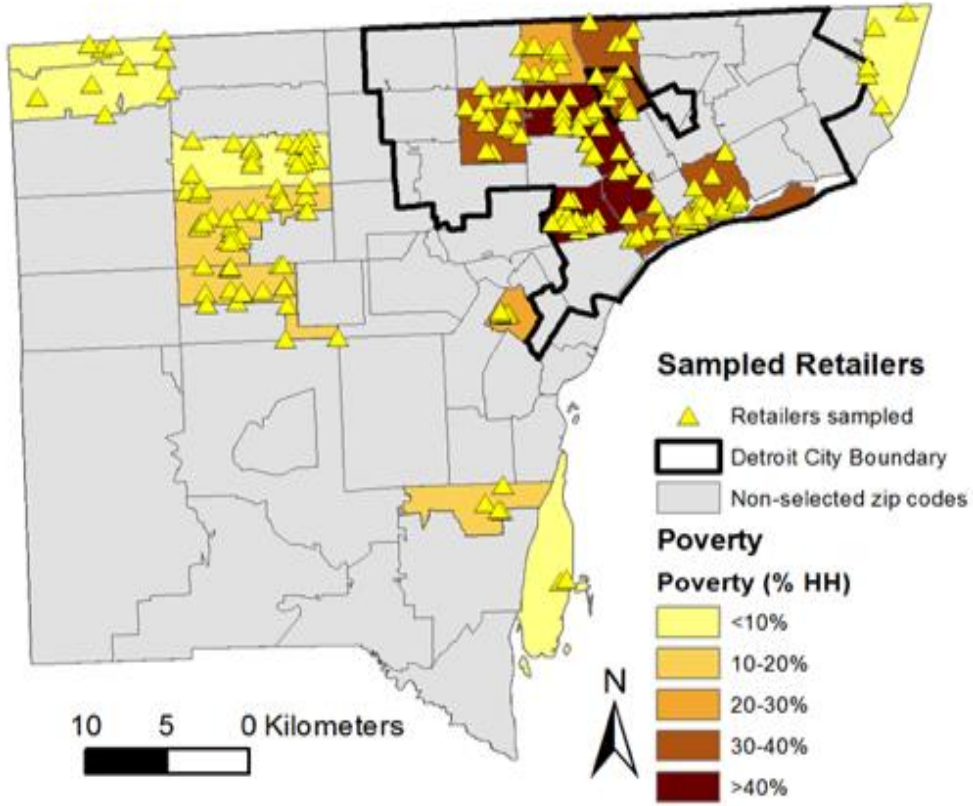


- Residential lighting is in a state of transition
- Steady growth in the adoption of more energy-efficient bulbs
  - Only 29% of U.S. households use at least one LED bulb in their home (US EIA 2015)
- Adoption is not equitably distributed across socioeconomic groups
  - Low-income households (<$50k) are less likely than higher income households to purchase LED bulbs (Sylvania 2016).
- Elimination of incandescents overturned
- Rollbacks of federal light bulb efficiency standards

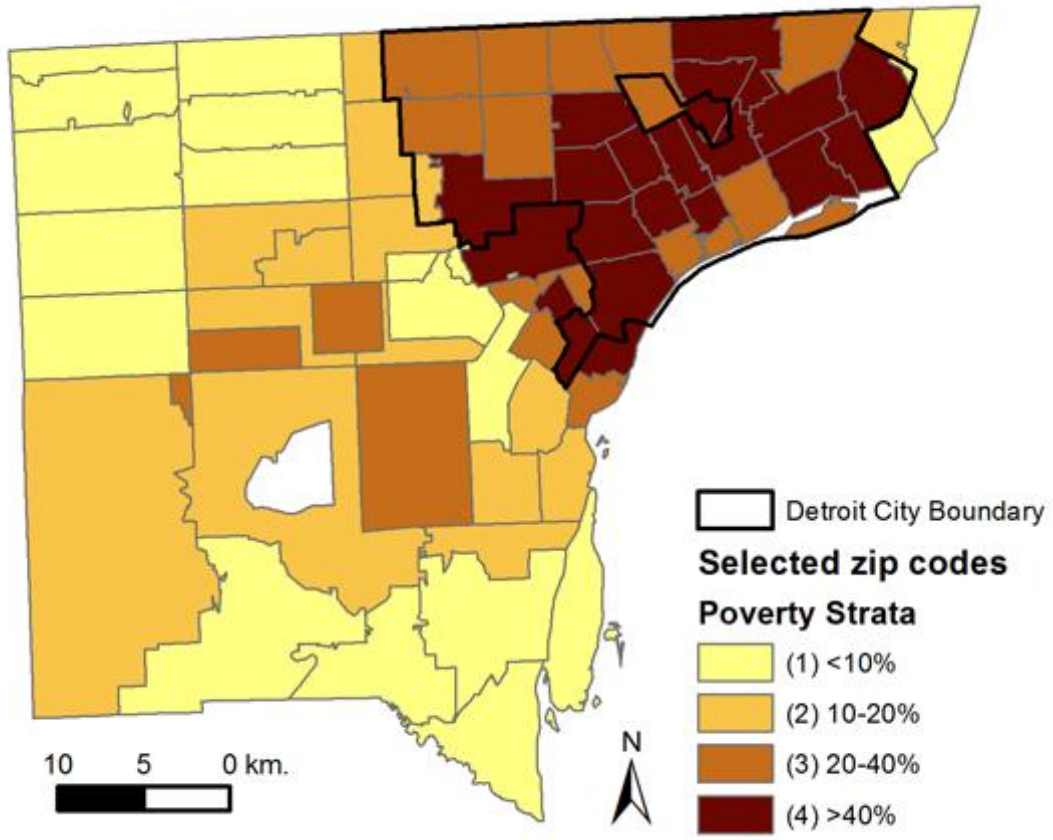
Data and Methods



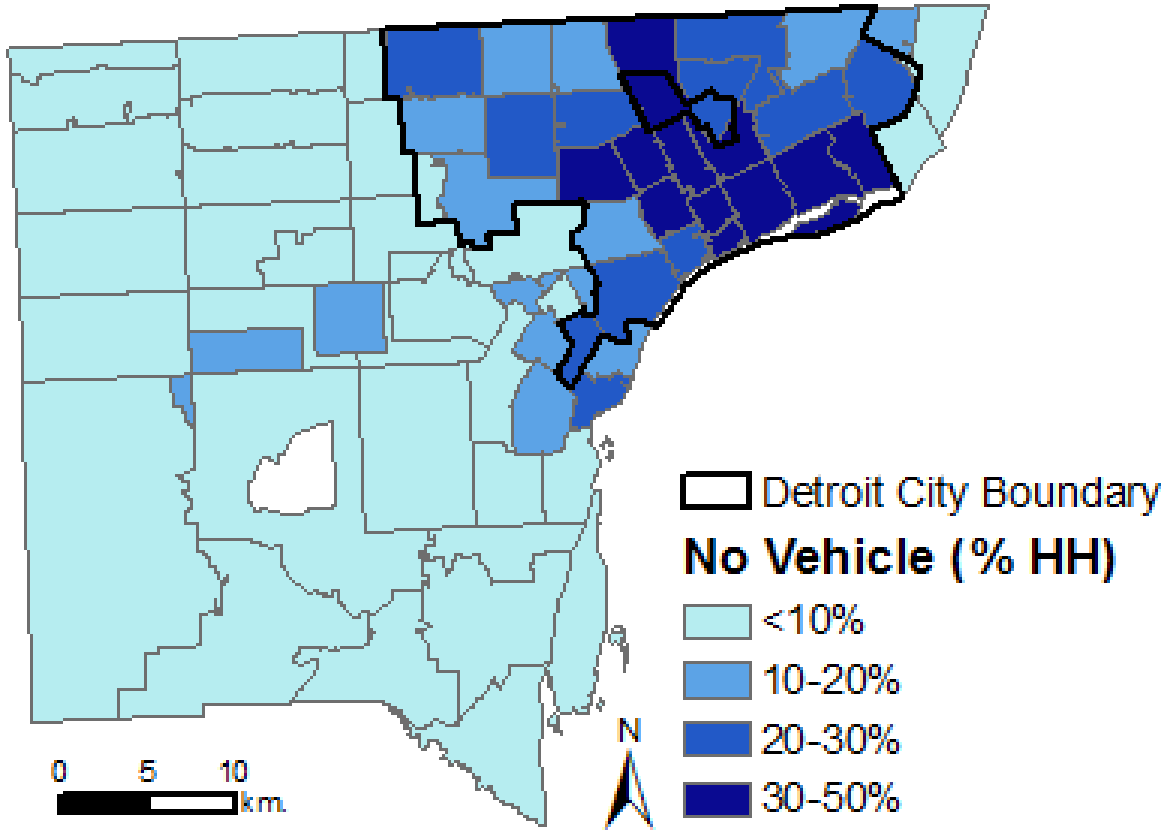
- **Research question:** Are there disparities in the access and affordability of LED light bulbs?
- Study employ similar approach to food justice access and cost studies
- **"Food desert" studies** reveal disparities in access to healthy foods
  - Distance to retailers
  - Types of food carried
  - Price of healthy foods
- **Mixed-methodology:** Spatial analysis (GIS), retailer sampling, qualitative observation, statistical analysis
- **Field study** in 130 Wayne County stores

Poverty & Vehicle Access

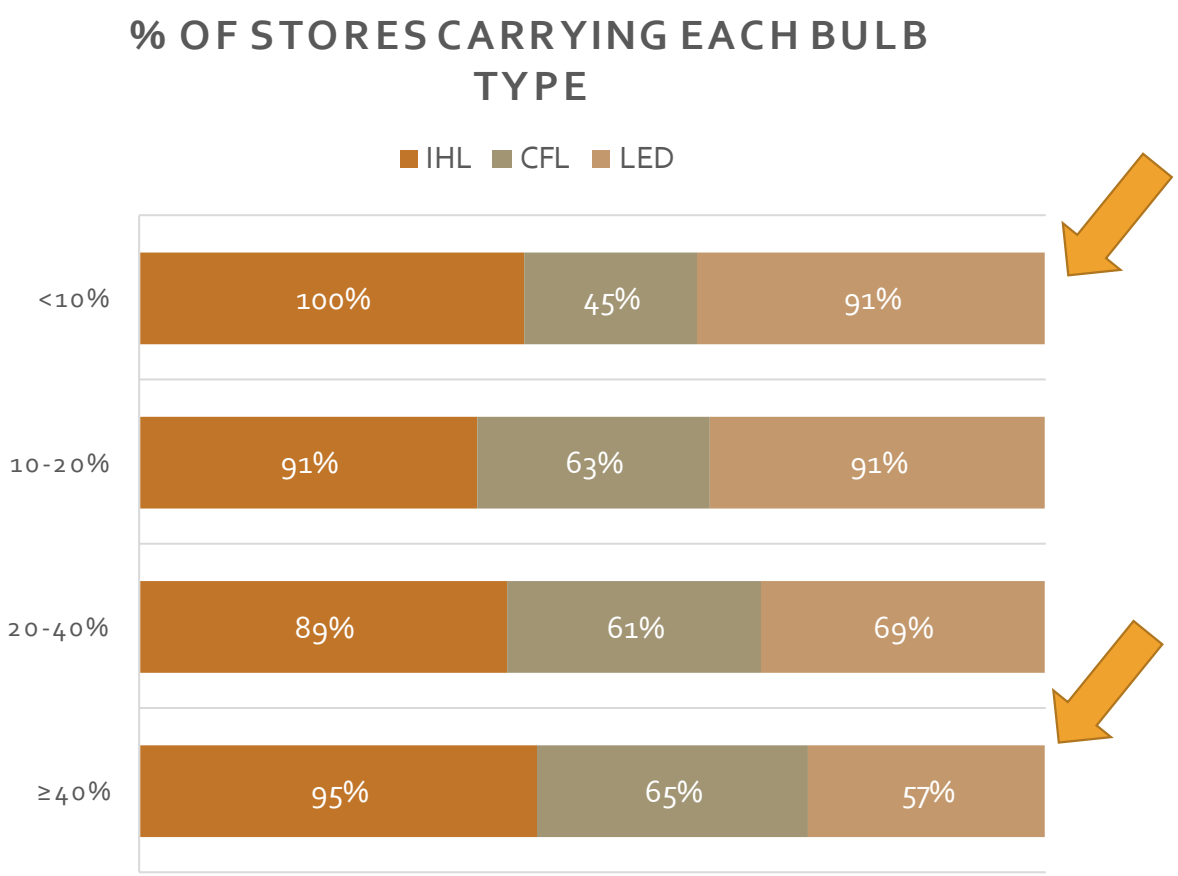
% Households in Poverty by Zip Code



Lack of Private Vehicle Access by Zip Code



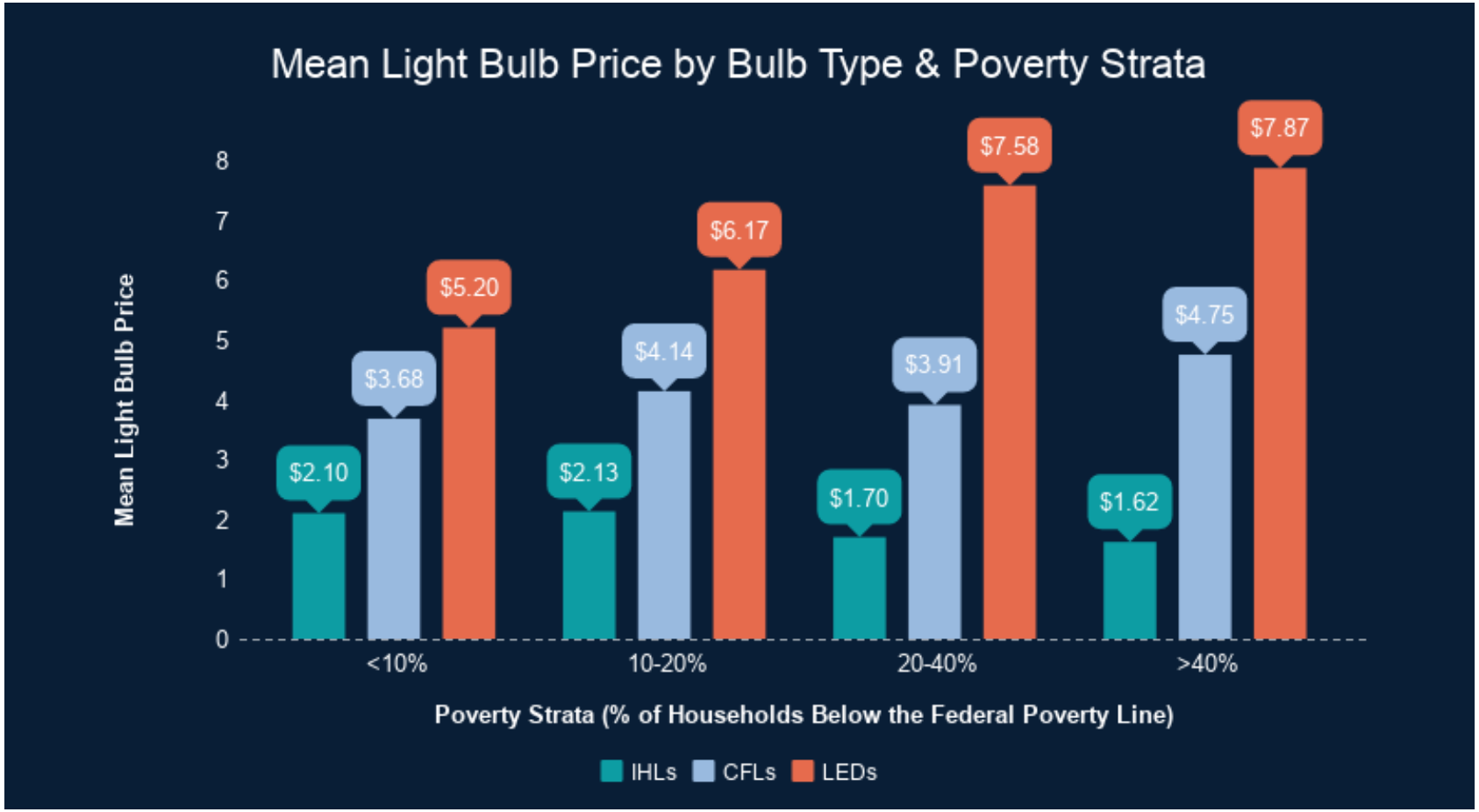
Bulb Type Availability by Poverty Strata



- Nearly all sampled stores in each strata carried IHLs
- The majority of samples stores carried CFLs
  - Except in the lowest poverty strata, only 45% of sampled stores
- There was a significant difference in the availability of LEDs.
  - 91% of stores in the two lowest poverty strata carried LEDs
  - Only 57% of sampled stores in the highest poverty strata carried at least one LED option.

Energy Technology, Access and Affordability

- **$2.67** difference in cost of LED bulbs between poorer and less poor areas
- Cost to upgrade from INC to LED was **2 times** greater in poorer areas than in less poor areas ($6.25 v. $3.10)

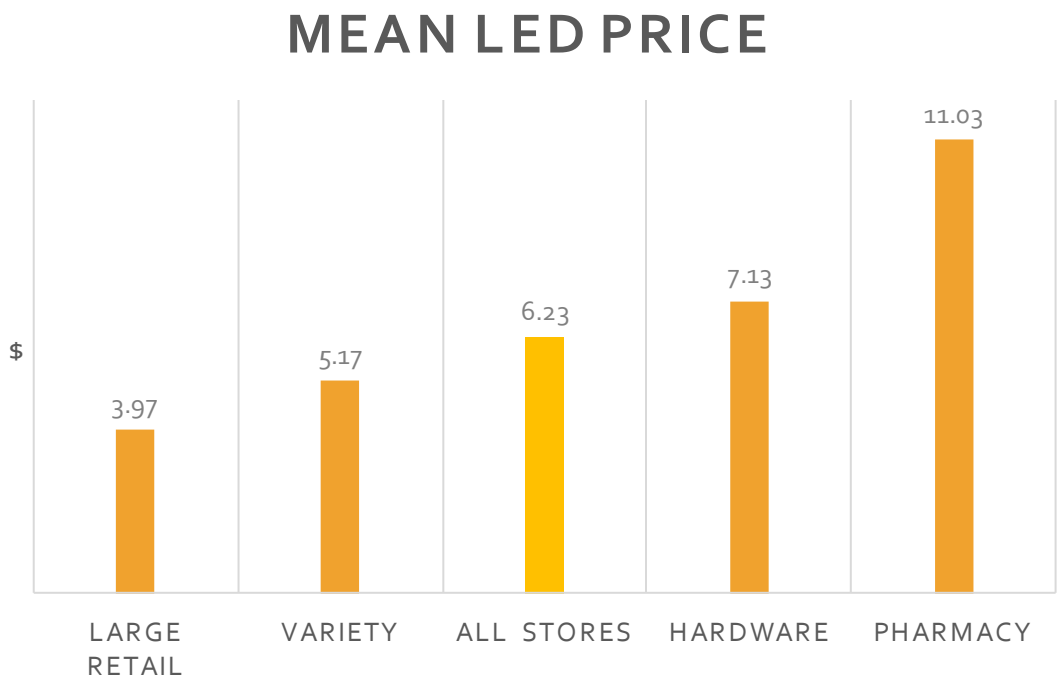


Information asymmetry

Consumers' **main source** of light bulb info is **at the retailer** (Sylvania, 2016)

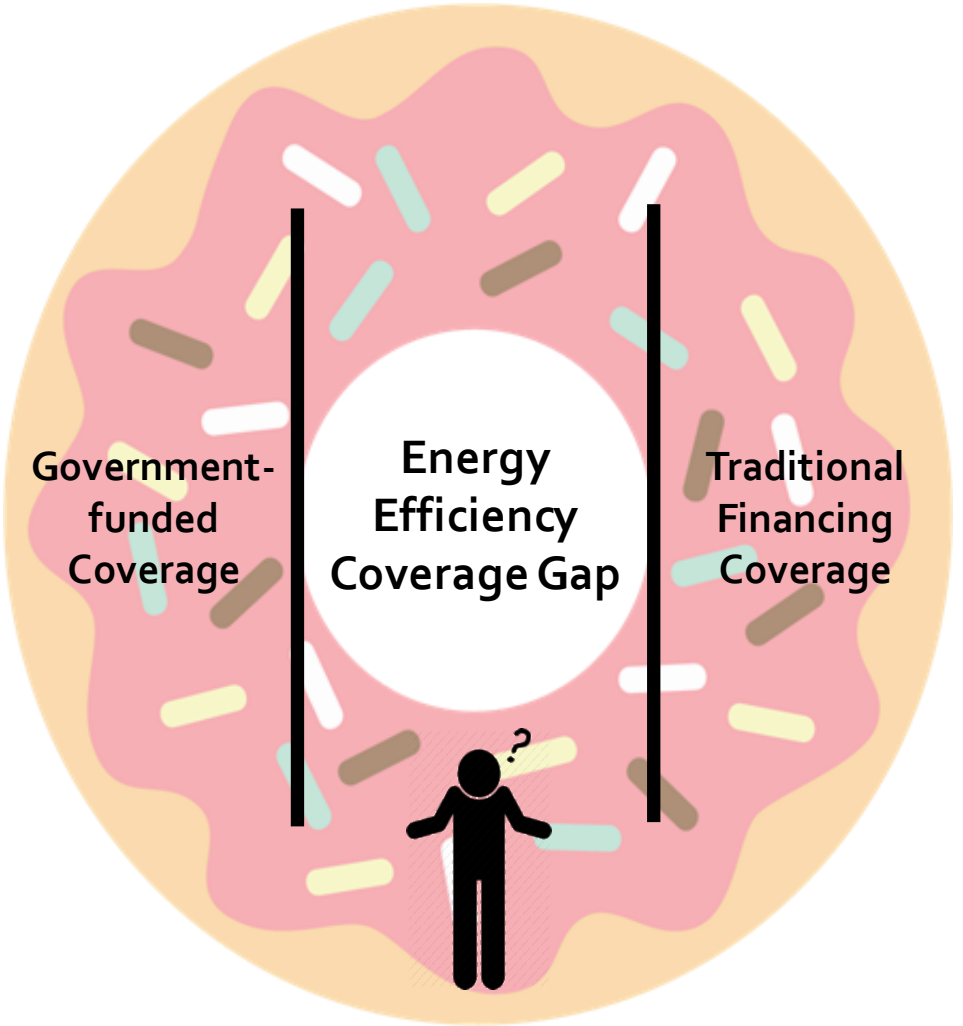
Big-box stores: knowledgeable clerks; bright displays; easy to read signage

Dollar stores: Items difficult to find; lack of signage; products poorly labeled (different brands)



The Energy Efficiency Financing Donut Hole

200% FPL



Credit Worthy

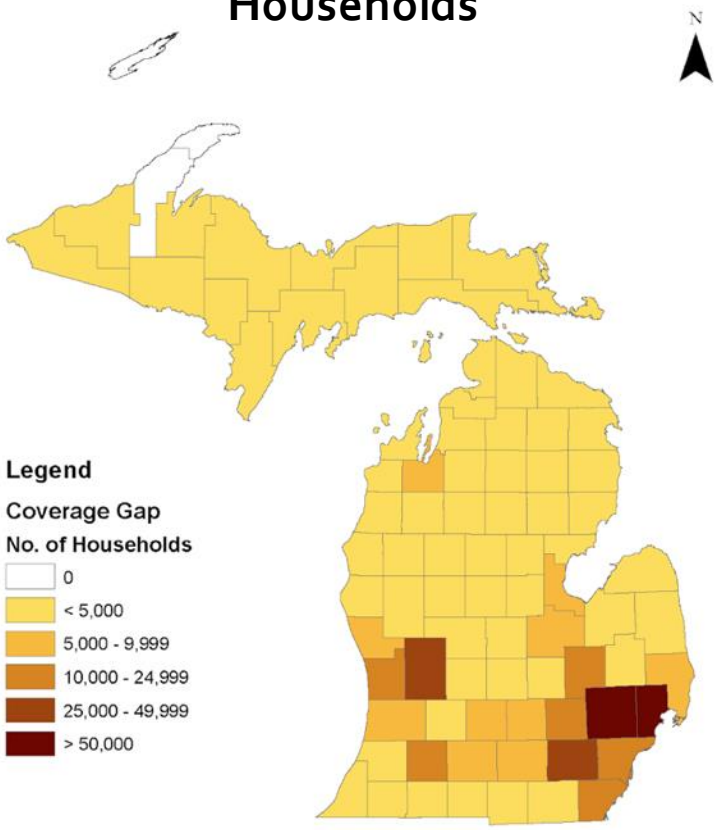
Forrester, S. P., & Reames, T. G. (2020). Understanding the residential energy efficiency financing coverage gap and market potential. *Applied Energy*, 260, 114307.

Funded by: Alfred P. Sloan Foundation

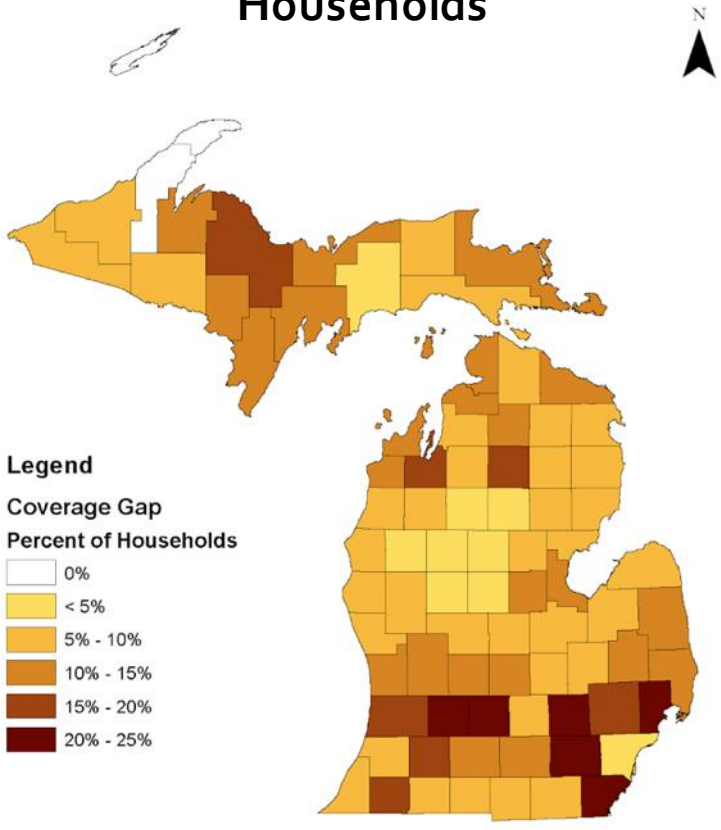
The Donut Hole Market Potential in Michigan

1 in 8 Michigan households fall into an energy efficiency funding coverage gap.

Number of Households

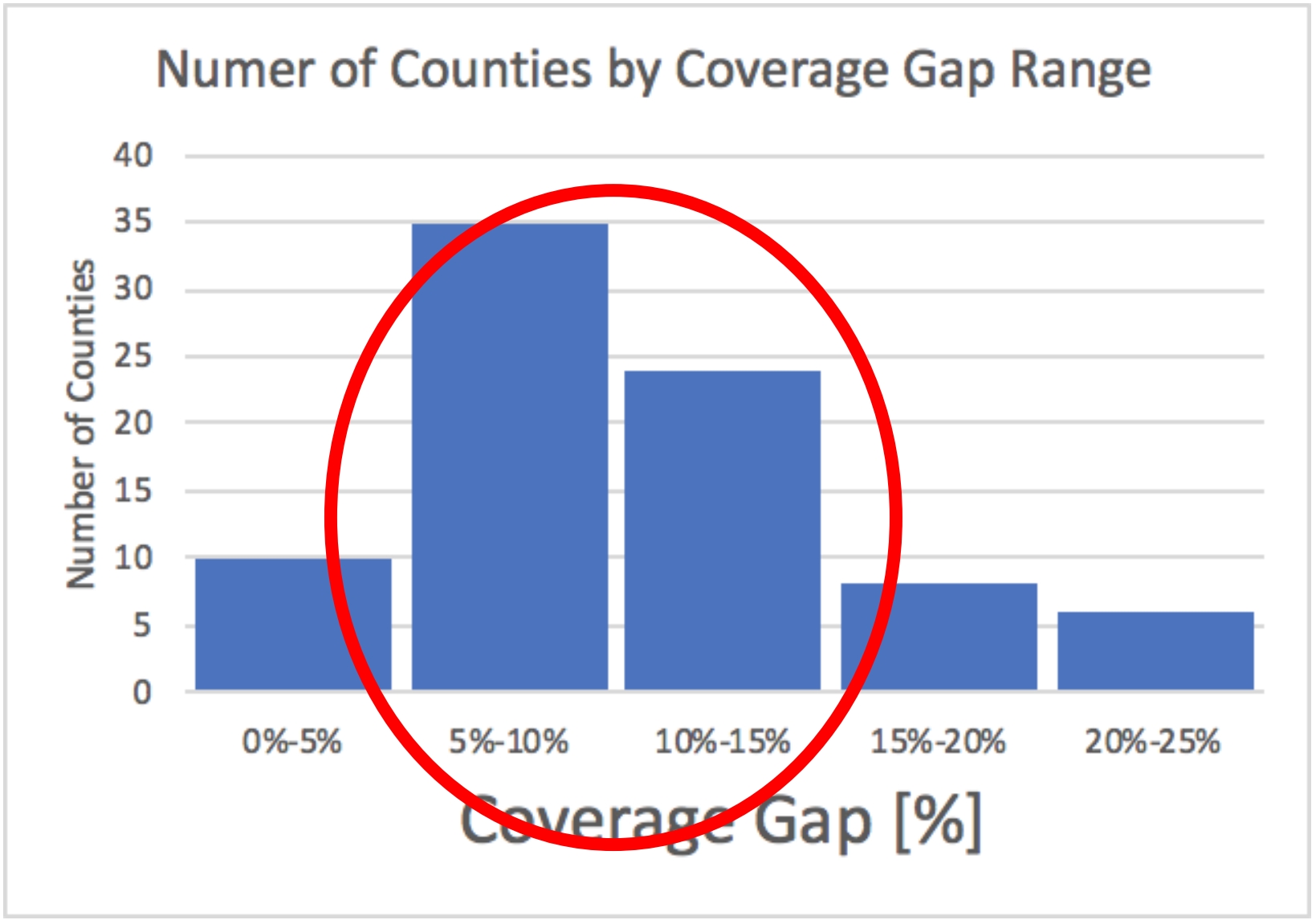


Percent of Households



Statewide, an estimated 12%, or nearly 460,000 households fall into the energy efficiency funding coverage gap

Donut Hole Market Potential in Michigan



A community-based approach to low-income residential energy efficiency participation barriers

Reames, T.G., 2016. *Local Environment*, 21(12), pp.1449-1466.

Case study exploring community-based approach to implementing the Weatherization Assistance Program

Research Questions

1. What barriers to energy efficiency participation continue to manifest in the absence of financial impediments?
2. Can a community-based approach effectively identify and overcome those barriers?

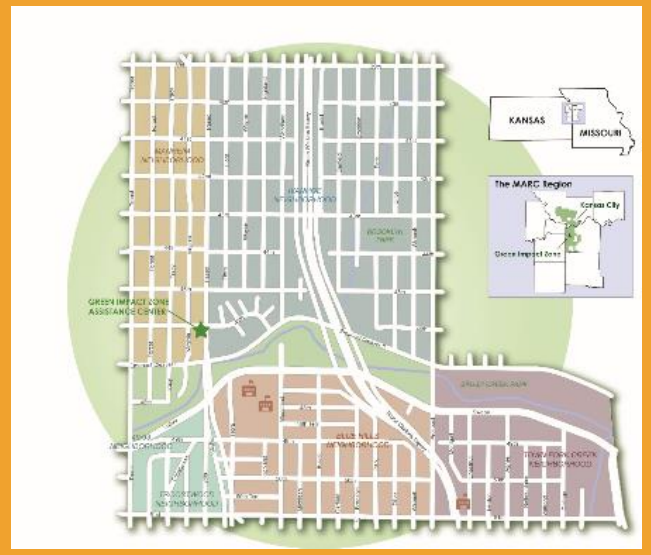
Data

21 walk-along and semi-structured interviews (and follow up) with neighborhood association leaders and other stakeholders

Community-based Energy Projects

- **Support** equity, justice and democracy; serves as a conduit for community empowerment and self-determination (Teron & Ekoh 2018)
- **Acknowledge** that complex decision-making processes guide energy choices and cannot be described using a simple rational-economic model (Wilk and Wilhite 1985; McKenzie-Mohr and Smith 2011; Anda and Temmen 2014)
- **Foster** social connectedness to transform the way people consume energy – relying on group interaction, peer support, and communal resolve to impact behavior (Wisconsin Energy Conservation Corp.)
- **Create** institutional capabilities to effectively deliver services, and recognize, and respond to fluid conditions (Berry 2010)

green impact zone® of MISSOURI



- $200M public-private, 150-block "green" urban renewal project
- September 2009-January 2014
- $4.5 million to weatherize 659 homes
- Completed 329 homes
- http://www.greenimpactzone.org

	Green Impact Zone	Kansas City
Population	10,742	474,396
% Black	**86.2**	**28.1**
% White	9.5	57.7
Housing units	5,810	225,569
% Built before 1980	**91.4**	**48.3**
% Vacant	27.8	13.3
% Home ownership	**49.1**	**61.4**
Median HH Inc.	$24,125	$44,436
% Below poverty	**35.2**	**19.1**
Unemployment	16.3	7.7

Community-based Approach Barriers

Social/Cultural

Public distrust

Public priorities

Market

Split incentive

Lack of information

Regulatory

Pre-weatherization

Previous weatherization

Social barriers: Public Distrust

- Pursuing energy equity requires recognition of social characteristics that impede participation
- Distrust in government
  - Fear of "energy audit"
- Distrust in others
  - Fear of unknown individuals
- To overcome; used known, trusted messengers (e.g. community-based social marketing)
  - African American implementation staff
  - Neighbors (Neighborhood associations, block captains)

"Let's be honest, I'm a blue-eyed, white woman… Now I've got a lot of cred with those neighborhood leaders, but they needed a strong African American presence and leadership…"

"… I am very happy…I can recommend it to anybody, everybody, they won't have anything to worry about".

Market barriers: Split-incentive

- GIZ magnified a major barrier to targeted, community-based implementation of WAP
- **51%** of houses in the GIZ were renter-occupied
- **82%** of WAP benefits owner-occupied units
- WAP may require **landlords pay** up to **50%** of costs
- **86%** of renters pay own energy costs, retrofitting is an unprofitable proposition for landlords (split incentive)
- To overcome barrier, GIZ requested reduction in **landlords' share** to **5%** for dwellings with less than five units

Regulatory barriers: Pre-weatherization Repairs

- Older homes often require repairs before weatherization improvements can be made
- Older housing stock + low household incomes increased likelihood of deferred maintenance
- Health and safety issues (i.e., mold, lead)
- Lack of integration between programs limited participation
- Community-based approach facilitated coordination with Kansas City's minor home repair program

*"Ok you're not doing it because you're afraid when they come in the house and see that you have a hole in the roof… the **minor home [repair] program**, you're probably eligible for that."*

Conclusions

- Energy poverty is the result of a system of procedural, distributive, and recognition injustices
- Spatial, racial, and socioeconomic disparities exist in residential energy efficiency, affordability, 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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- On-demand pre-recorded presentations
  At-your-own-pace learning opportunities related to the evolving low-income energy landscape
- Continuing legal education training hosted by Public Utility Law Project of NY
  New York State Shared Meter Law and the New York State Public Service Commission Complaints and Appeals Process
- Resource repository
  Information about programs and services to assist communities and individuals

Details about the event: nyserda.ny.gov/LIFE-Mailing-List

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