## The Systemic Problem of Energy Affordability: Energy Burdens in the Midwest

Midwest Energy Solutions Conference February 18, 2021, 1:30–2:30pm

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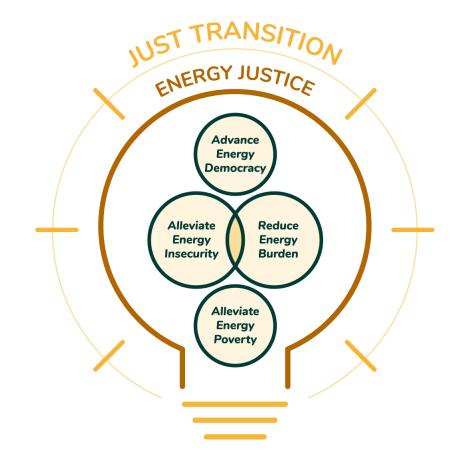


- Non-profit research organization
- Founded in 1980
- 58 staff and US \$10 million/year budget
- Act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors
- Funding comes from foundations, government agencies, contracts, conferences and corporate memberships



## What is Energy Justice?

- Energy justice (or energy equity) refers to:
  - The goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those historically harmed by the energy system (i.e., frontline communities)
- Dimensions of energy justice/equity:
  - Energy insecurity: the hardships households face when meeting basic household needs
  - Energy burden: the expense of energy expenditures relative to overall household income
  - Energy poverty: a lack of access to energy itself
  - Energy democracy: the vision that communities should have a say and agency in shaping their energy future



#### **Initiative for Energy Justice:**

iejusa.org/section-1-defining-energy-justice/



## Causes of Energy Insecurity

- Energy insecurity is the result of a system of procedural, distributional, structural, and intergenerational injustices
- Historic and current policies have led to underinvestment and social and economic exclusion in Black, Hispanic, and other communities of color
  - E.g., Redlining (see photo and article), lack of access to mortgages and other loans, mass incarceration, employment discrimination, underfunded schools
- These policies result in energy insecurity and additional economic and social injustices
  - E.g., Racial segregation, high unemployment, high poverty rates, poor housing conditions, high energy bills, high rates of certain health conditions, lower educational opportunity, and barriers to accessing financing

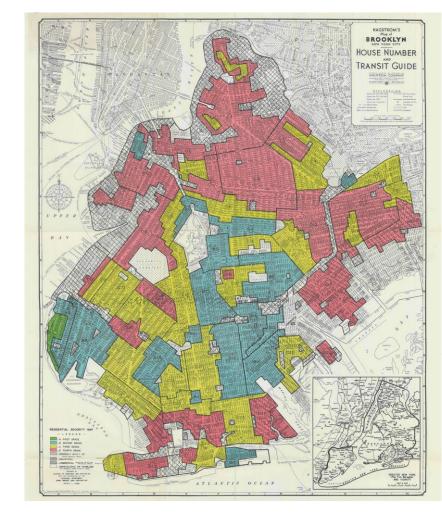
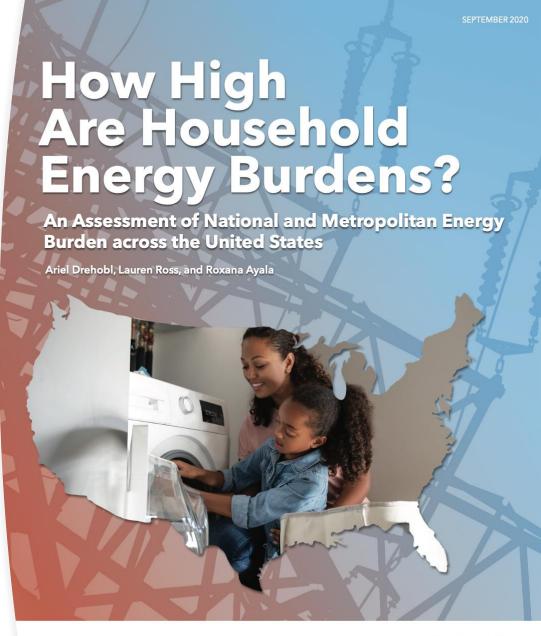


Image from NYT of redlining in NYC: https://www.nytimes.com/2017/08/24/upshot/how-redlinings-racist-effects-lasted-for-decades.html

### **New ACEEE Research**

- Research on energy burdens illustrates inequities in the energy sector by showing who pays disproportionally more for energy
- Energy Burden = Annual energy bills/Annual income
  - E.g., \$1,500/\$50,000 = 3% energy burden
  - Annual energy bills include electricity, natural gas, and other heating fuels.
  - Does not include households who do not pay for their energy bills directly.
- Report published in September 2020
  - Analysis uses US Census Bureau's 2017 American Housing Survey Data nationally, regionally, and in 25 metropolitan statistical areas





## **Energy Burden Data for Midwestern Cities**

- ACEEE uses American Housing Survey (AHS) data for energy burden analysis
  - Includes metropolitan statistical data (MSA) for select metro areas
- 2017 AHS dataset includes
  - Chicago MSA: Chicago Naperville-Elgin, IL-IN-WI
  - Detroit MSA: Detroit-Warren-Dearborn, MI
  - Minneapolis MSA: Minneapolis-St. Paul-Bloomington, MN-WI
- 2019 AHS dataset includes
  - Cincinnati MSA: OH-KY-IN
  - Cleveland MSA: Cleveland-Elyria, OH
  - Kansas City MSA: MO-KS
  - Milwaukee MSA: Milwaukee-Waukesha-West Allis, WI

ACEEE will publish an update with 2019 data this year (i.e., Cincinnati, Cleveland, Kansas City, and Milwaukee)



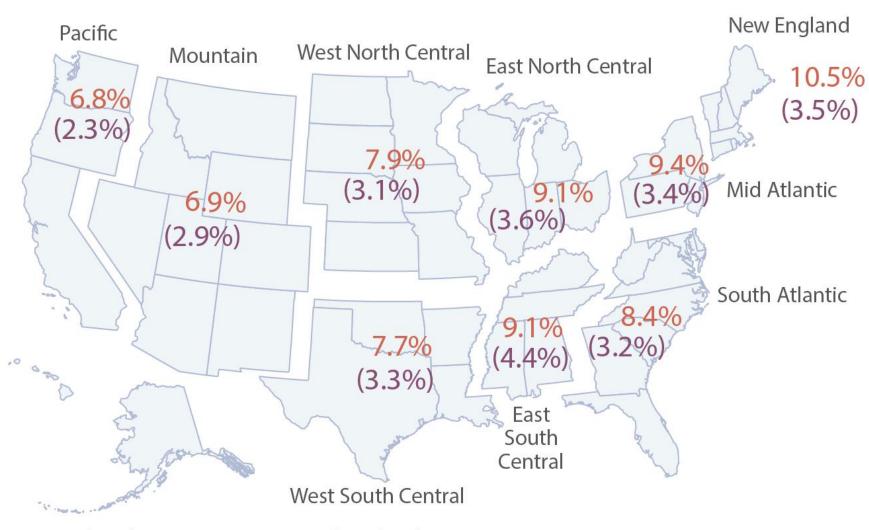
Images from https://www.census.gov/programs-surveys/ahs.html



# National Findings from ACEEE Energy Burden Study

- Low-income, Black, Hispanic, Native American, older adults, and renters, experience disproportionately high energy burdens.
- Disproportionally high burdens are a universal issue.
  - One-fourth of all US residents have a high burden (> 6%) and twothirds of low-income households have a high burden.
  - Energy burden inequities are present nationally, regionally, and across all the metro areas—all cities and states can work to address disproportional burdens.
- Energy efficiency is a promising long-term solution.
  - Weatherization can reduce low-income energy burdens by 25%.
  - While we found that energy affordability strategies are becoming more common, more cities and states can create and track progress towards energy burden-related policy goals.

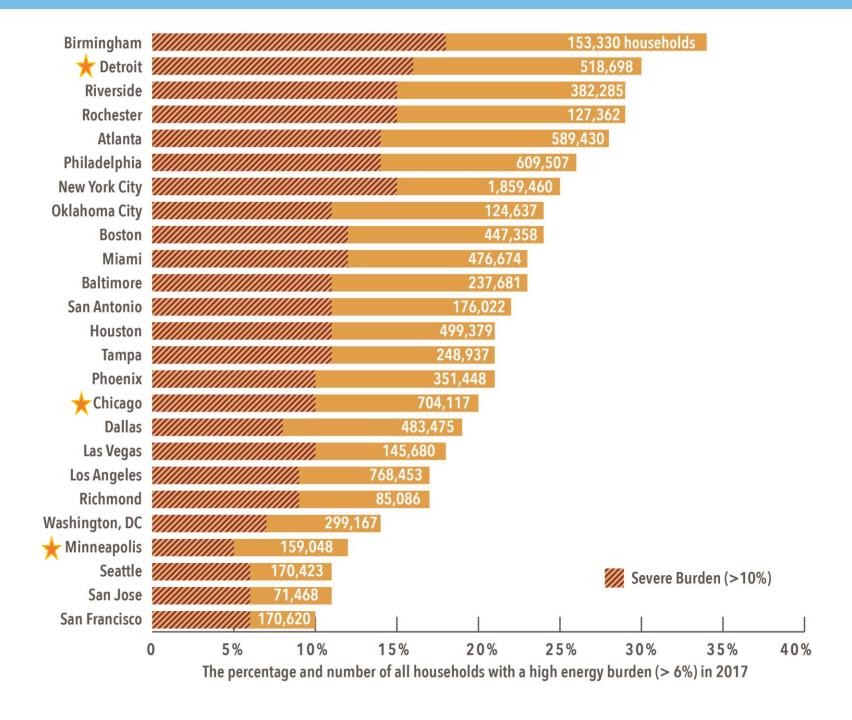
## Regional Energy Burdens



- Median low-income energy burden by region
- Median energy burden by region

# High Energy Burdens (>6%) in Metro Areas

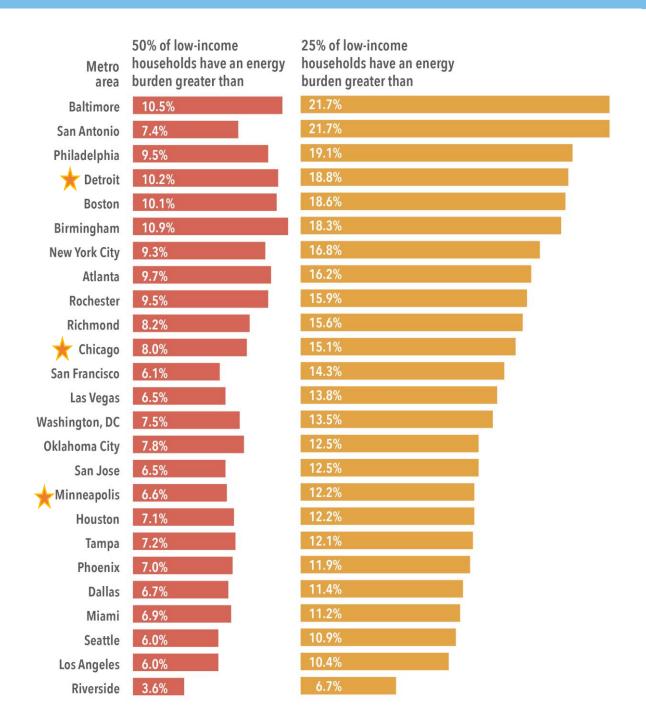
The percentage of households in each metro area with a high energy burden (above 6%) and total number of households with a high burden



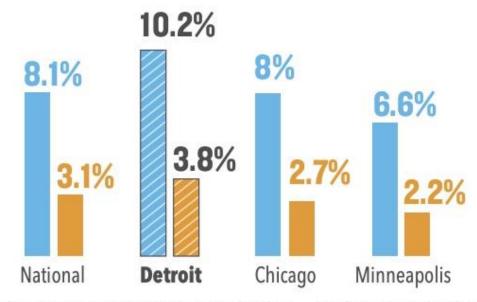
## Low-Income Metro Energy Burdens

Median burdens and upper quartile burdens for lowincome households in 25 metro areas





## Midwestern Metro Burdens



Median low-income (<%200 FPL) energy burden Median energy burden</p>

Fact sheets for Chicago, Detroit, and Minneapolis available at <a href="https://www.aceee.org/energy-burden">www.aceee.org/energy-burden</a>



#### **CHICAGO**

**3.9X** 

The median energy burden of low-income households in Chicago is 3.9 times higher than non-low-income households

**1 2.3 X** 

The median energy burden of low-income multifamily households in Chicago is 2.3 times higher than multifamily households

**171%** 

The median energy burden of Black households in Chicago is 71% higher than that of non-Hispanic white households

#### **DETROIT**

**3.7X** 

The median energy burden of low-income households in Detroit is 3.7 times higher than non-low-income households

**© 2.4X** 

The median energy burden of low-income multifamily households in Detroit is 2.4 times higher than multifamily households

**© 54%** 

The median energy burden of Black households in Detroit is 54% higher than that of non-Hispanic white households

#### **MINNEAPOLIS**

**3.3X** 

The median energy burden of low-income households in Minneapolis is 3.3 times higher than non-low-income households

**2.4X** 

The median energy burden of low-income multifamily households in Minneapolis is 2.4 times higher than single-family households

**34%** 

The median energy burden of older adults in Minneapolis is 34% higher than the median household

## Low-Income Energy Efficiency Strategies



Design to meet the needs of highly burdened communities

Set energy affordability goals and track outcomes

Identify highly burdened groups for programs to serve



Ramp-up investment in low-income housing retrofits, energy efficiency, and weatherization

Increase federal funding for LIHEAP and WAP

Increase local, state, and utility funding for energy efficiency and weatherization

Integrate energy, health, and housing funding and resources

Enable accessible and fair financing options



Improve program design, delivery, and evaluation through best practices and community engagement

Conduct collaborative and effective community engagement

Encourage best practices for program design, delivery, and evaluation to maximize program benefits in low-income communities



## **Energy Affordability Policy Examples**

## Midwest City and State-Led Policies

- Cincinnati Green Cincinnati Plan goal to reduce energy burden by 10% by 2023; city partnered with Duke Energy Ohio on Warm Up Cincy pilot
- Minneapolis Climate Action Plan prioritizes high energy burden neighborhoods and includes energy burden as an equity indicator
- Pittsburgh Switch PGH to address high energy burdens through civic engagement tool
- Saint Paul Goal to lower energy burdens in 10 years so all households have burden of 4%
- Minnesota Under 5% campaign to reduce energy burden by 2025

Clean Energy Resource Teams,

www.cleanenergyresourceteams.org/under5#int

reduction

#### **Public Utility Commission Policies**

- Low-income program spending and savings requirements
- Different cost-effectiveness rules for lowincome programs
- Targeting disadvantaged communities with programs and resources

For more info on PUC and state level policies, see

database.aceee.org/state/guidelines-low-income-programs

For more city and state policy examples, see <a href="https://www.aceee.org/research-report/u2006">www.aceee.org/research-report/u2006</a>

## **Energy Burden Report and Factsheets**

- aceee.org/energy-burden
- Report and short video
- Fact sheets: 1
   national/regional and 25 metro
   areas
  - Atlanta, Baltimore, Birmingham, Boston, Chicago, Dallas, Detroit, Houston, Las Vegas, Los Angeles, Miami, Minneapolis, New York city, Oklahoma City, Philadelphia, Phoenix, Richmond, Riverside, Rochester, San Antonio, San Francisco, San Jose, Seattle, Tampa,
     Washington DC

#### **ENERGY BURDENS IN CHICAGO**

A household's energy burden is the percentage of income spent on home energy bills. A high energy burden is considered to be above 6% and a severe energy burden above 10%. ACEEE finds that certain groups have disproportionally higher energy burdens than the median household, such as Black, Hispanic, Native American, older adults (65+), renters, and low-income multifamily building residents. The graph below provides a comparison of Chicago's median energy burden and median low-income energy burden compared to other select metropolitan areas in the region and nationally.



Median low-income (<%200 FPL) energy burden</li>
 Median energy burden

See ACEEE's 2020 report, How High Are America's Residential Energy Burdens, for a breakdown of median energy burdens for other groups nationally, regionally, and in 25 select metro areas: www.aceee.org/energy-burden.

#### **ENERGY BURDENS IN CHICAGO**

- Median energy burden is 2.7%, and the median low-income energy burden is 8.0% in the Chicago metropolitan area.
- A quarter of low-income households have an energy burden above 15% in the Chicago metropolitan area, which is more
  than 5.5 times higher than the median energy burden.
- 20% of Chicago households (704,117) have a high energy burden (above 6%)
- 10% of Chicago households (362,906) have a severe energy burden (above 10%)
- 37% of Black households (252,636) and 19% of Hispanic households (106,704) in the Chicago metropolitan area experience a high energy burden (above 6%).
- Based on the groups in the study, low-income (8.0%), low-income multifamily households (6.4%), and Black households (4.1%) experienced the highest median energy burdens in Chicago.





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## ACEEE's New Leading with Equity Initiative

- New initiative to incorporate more equity-centered metrics into our City, State, and Utility Scorecards
- Goal to move the needle so that Scorecard leaders need to be doing more on equity
- Project will convene communitybased organizations, advocates, and utilities to jointly define success for equitable decarbonization and data needed to track progress

- More information: <u>www.aceee.org/energy-equity-initiative</u>
- Sign up for updates and ways to participate:

survey.alchemer.com/s3/616874 5/ACEEE-LWE-Interest-Form







# Thank you for your attention!

Please send additional questions to:

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