Using metrics to achieve energy affordability

IL Stakeholder Advisory Group
3.22.23

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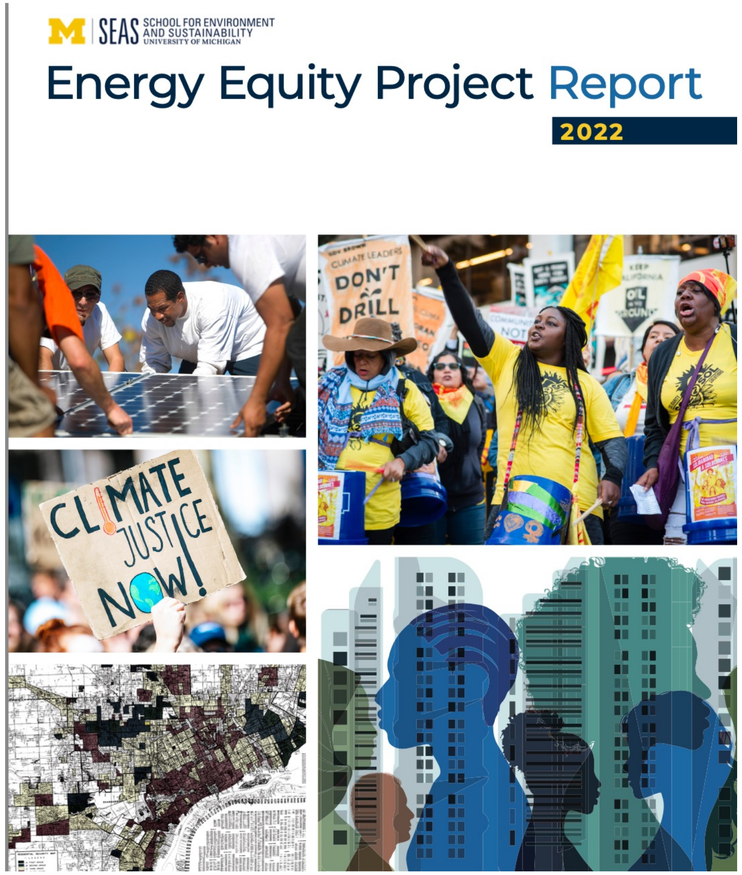
Agenda

- EEP Framework Overview
- The path we're on
- Using data and metrics
- Discussion


Flint Youth
ENERGY SQUAD
Team Leade
Flint Youth
ENERGY SQUAD
Flint Youth
ENERGY SQUAD
RYOBI
STANLEY

The Energy Equity Project Framework



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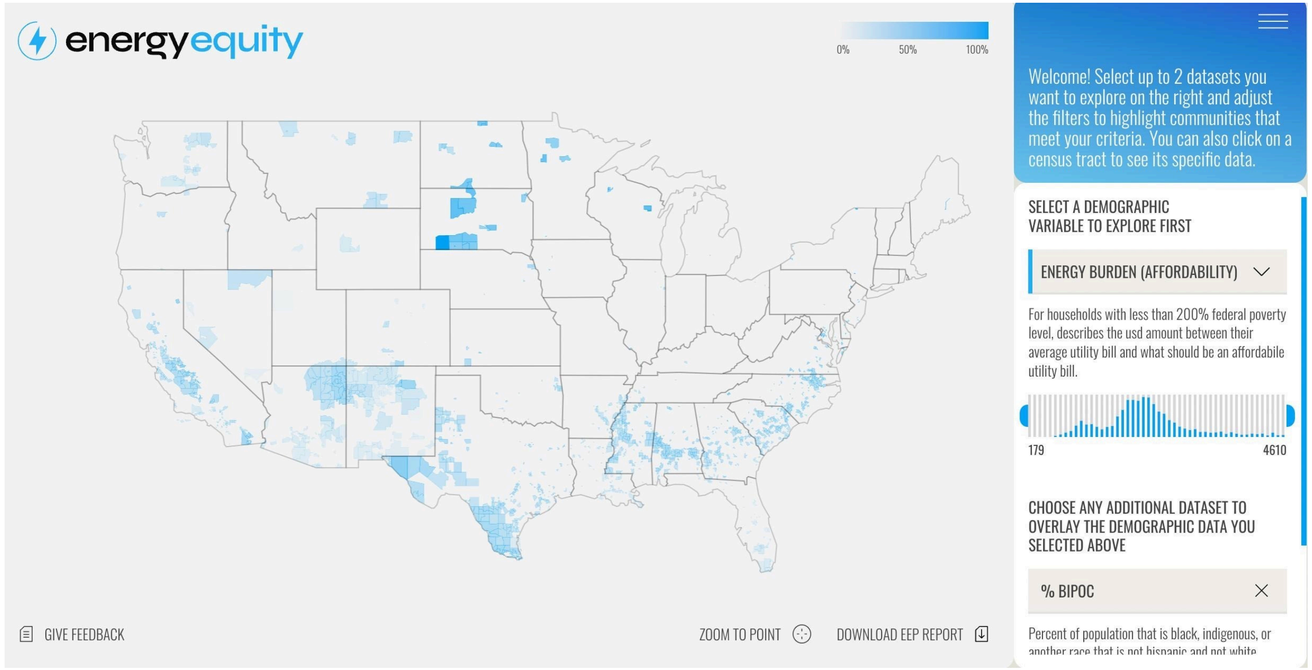
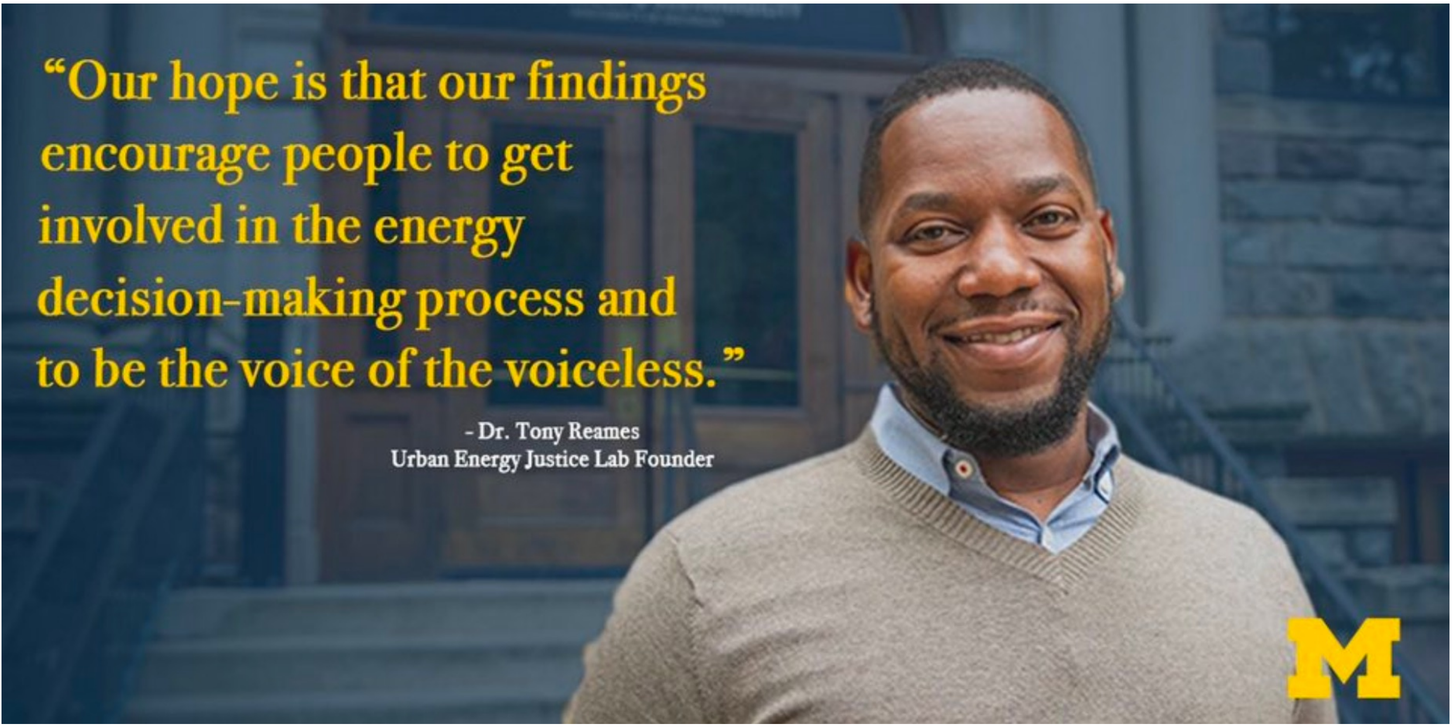


ENERGY FOUNDATION
building a new energy future

The Joyce Foundation

CROWN FAMILY PHILANTHROPIES

Founders & Staff



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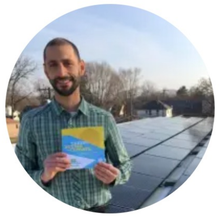

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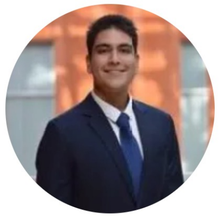

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Defining energy equity

RECOGNITION

Who is vulnerable, who is privileged, and how?

PROCEDURAL

Who is at the table? What voice and power do they have in influencing planning, decision-making, and implementation?

DISTRIBUTIVE

Who bears the brunt of the burdens? who benefits and how?

RESTORATIVE

How can we rectify past injustices caused by the energy system and prevent future harms?

What Justice40 requires (& doesn't)

>=40% benefits delivered to disadvantaged communities

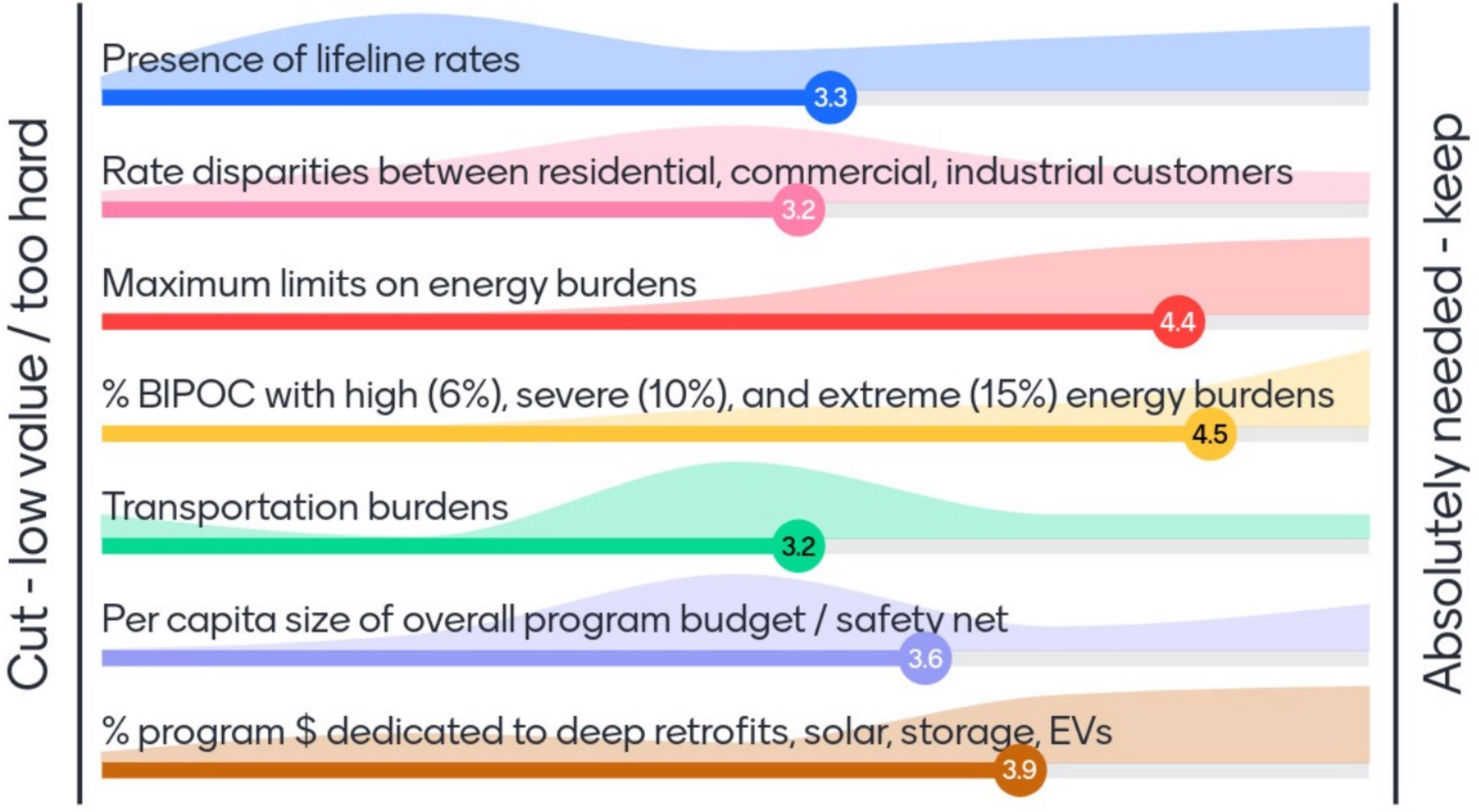
What Justice40 requires (& doesn't)

>=40% benefits delivered to disadvantaged communities

[Distributional + Recognition]

EVENT	DATE	REGISTERED	ATTENDED
Kickoff #1	6/9/21	210	130
Kickoff #2	6/17/21	165	85
Listening #1 - Practitioners #1	6/23/21	39	27
Listening #2 - Community #1	7/14/21	40	13
Listening #3 - Utility	8/4/21	67	36
Listening #4 - Regulator	8/11/21	50	25
Listening #5 - Philanthropy	8/18/21	26	9
Listening #6 - Community #2	8/19/21	36	17
Listening #7 - Practitioners #2	8/25/21	66	26
Listening #8 – Indigenous	2/21/22	70	45
10 EVENTS		**769**	**403**

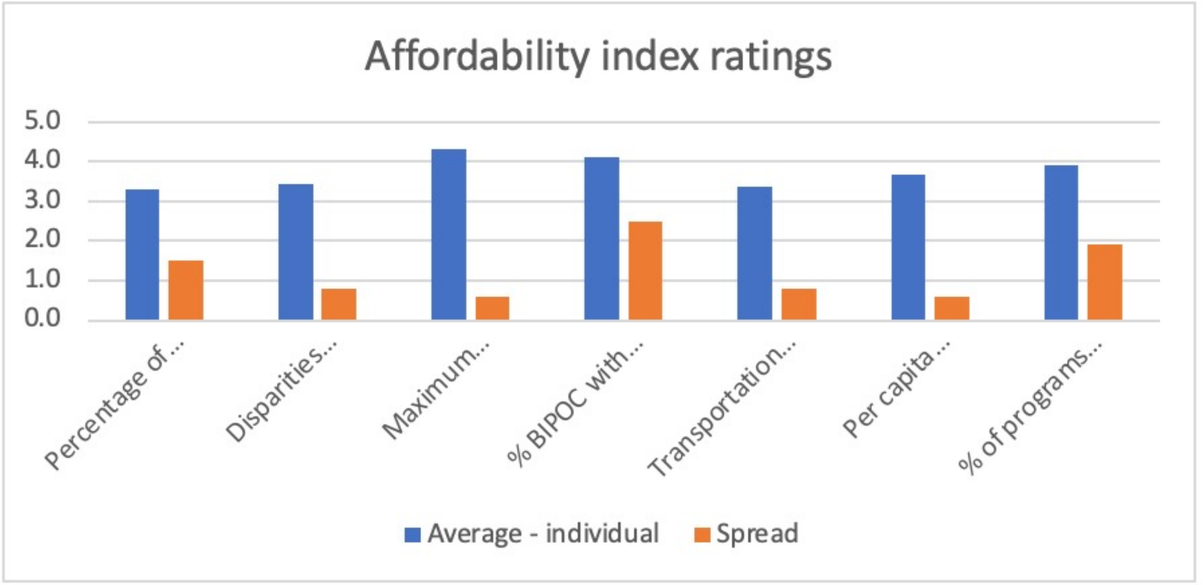
How essential are these metrics for the energy affordability index?



4 AFFORDABILITY INDEX – BY THE NUMBERS

Session	# of Raters
Community	7
Practitioner	26
Utility	11*
Regulator	
Philanthropy	

* Utility stakeholders only rated PIPPs, severe burdens, and deep savings.



Metric	Average - individual	Average - session	Low - session	High - session	Spread
Percentage of income payment plans (PIPP)	3.4	3.6	3.0	4.5	1.5
Disparities between customer classes	3.4	3.6	3.2	4.0	0.8
Maximum energy burdens	4.3	4.1	3.8	4.4	0.6
% BIPOC with severe burdens	3.9	3.9	2.5	4.8	2.3
Transportation burdens	3.4	3.6	3.2	4.0	0.8
Per capita energy program budget	3.6	3.5	3.4	3.6	0.2
% of programs dedicated to deep energy savings	3.7	3.8	3.0	4.4	1.4

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SCHOOL FOR ENVIRONMENT & SUSTAINABILITY
UNIVERSITY OF MICHIGAN

RECOGNITION

PROCEDURAL

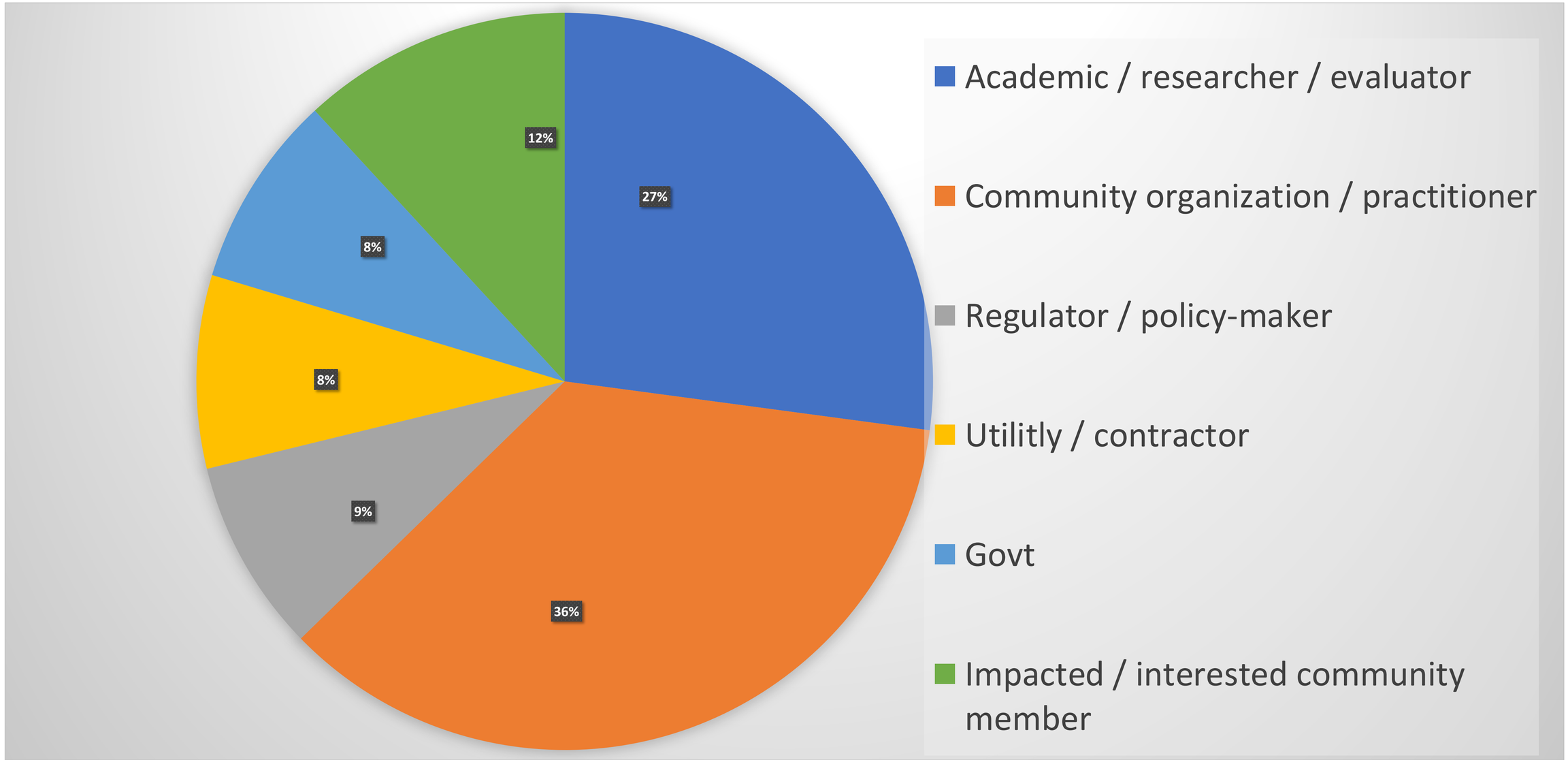
DISTRIBUTIVE

RESTORATIVE

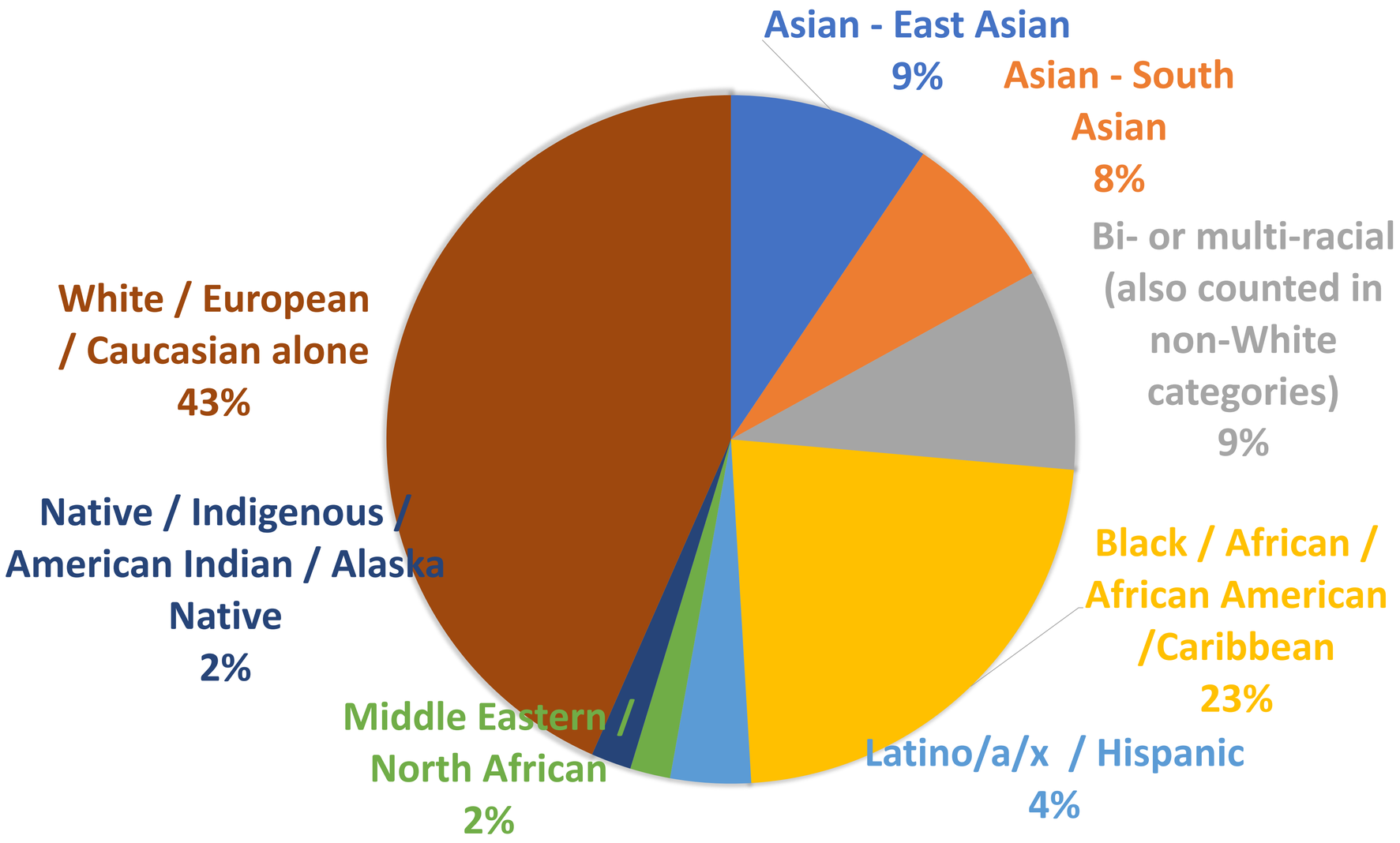
Each workgroup charged with developing:

1. Indices
2. Guiding principles
3. Quantitative metrics
4. Qualitative best practices

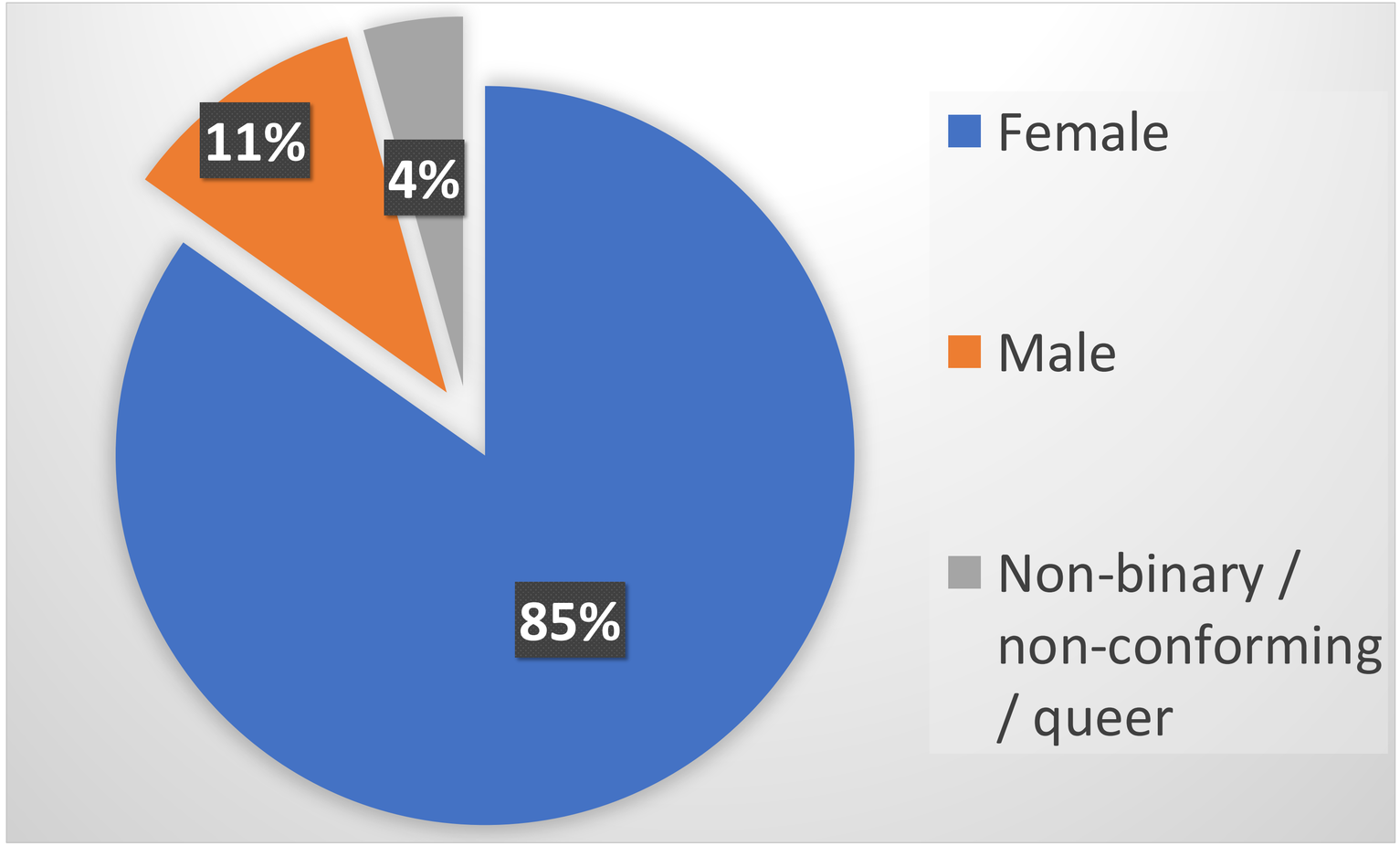
Professional Identity



Racial Identity



Gender Identity



What are our overarching goals and principles?

What does restorative justice mean to you?

Advancing progressive taxation to pay for universal utility service

Allowing communities to define and design energy that meets their needs.

Accountability mechanisms to shift power from traditional brokers to communities

Baseline of restorative, distributive and procedural justice PLUS community control and ownership of the benefits of the new energy system. The latter is not restorative in the absence of the former.

Public and/or cooperative ownership of the grid itself

Bringing everyone back on to the utility system, forever

power to the people

Redistribution

"Energy democracy is the notion that communities should have a say and agency in shaping and participating in their energy future."

Move from survive to thrive

Providing power to people without homes

Ensuring everyone's future energy needs are met regardless of ability to pay

Those who have historically been most burdened or benefitted least, benefit the most

supporting the sovereignty of Indigenous people

going deeper than "acknowledgement" of ancestral lands - meaningful consultation with Tribes

Reparations and land back

Any injustice caused by the energy sector should be rectified and be part of preventive and forward-looking action.

The part that experienced harm should be rectified to its former position before the harm occurred.

Making amends for wrongdoings

Acknowledgment and recognition of harms and impacts from energy system operators, active learning, and substantial investments in redistribution to address disparities without capitalist

Acknowledging and redressing harm done

providing for healing from the trauma caused by racist and genocidal policies

Repairing Past Harm & Transforming Going Forward

Restoration of relationships to ourselves and nature

Building justice into the process of energy - siting, access, types of energy used, sustainability - in order to repair past harm and build an sustainable energy future

centering well-being

Repairing past harms and ensuring the simultaneous presence of multiple dimensions of energy justice today.

Establishing balance and right relations

Requiring financing from people who have profited off the past harms of the utility system

Investigating utility disconnections, repairing any harm from debt collection, eviction, and health impacts suffered from being disconnected from utilities

Guiding questions

Reparation/ Accountability:

How can we create an equitable energy transition/system that is transparent and where accountability and reparations are

made to account for the past and ongoing social, economic, and environmental injustices faced by BIPOC, LI & FL communities?

Community Ownership

How can we decentralize the generation, distribution & transmission of energy and make sure to center the voices of previously excluded

BIPOC, LI & FL communities in the decision-making process and as recipients of benefits

Indigenous Allyship

How can we actively work to dismantle the structures of colonialism in the energy system and build long-lasting and true partnerships with Indigenous communities and Nations?

EEP Workgroup Though Diagram

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Shapes

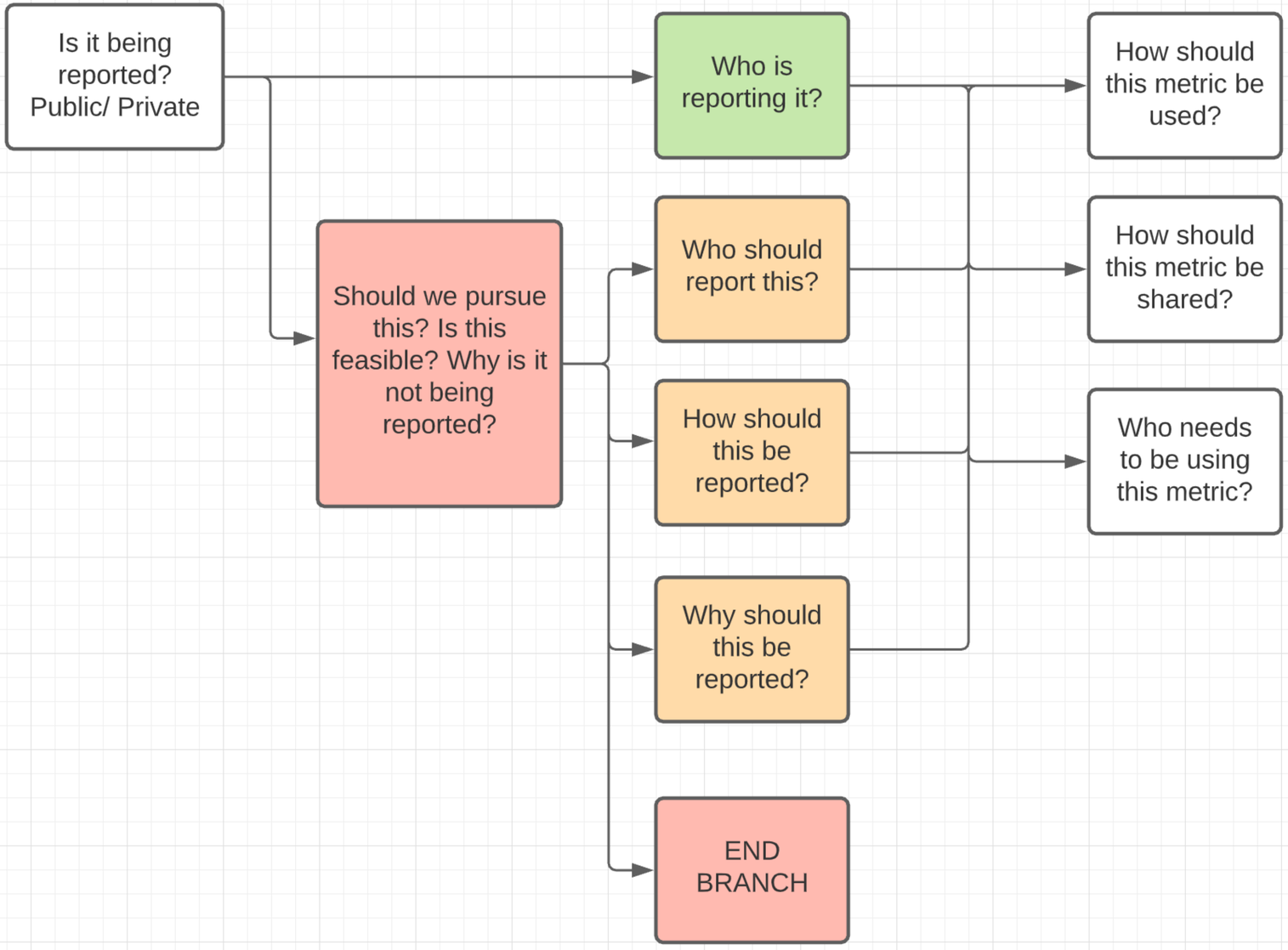
Shapes In Use

Standard

Flowchart

Shapes

Import Data



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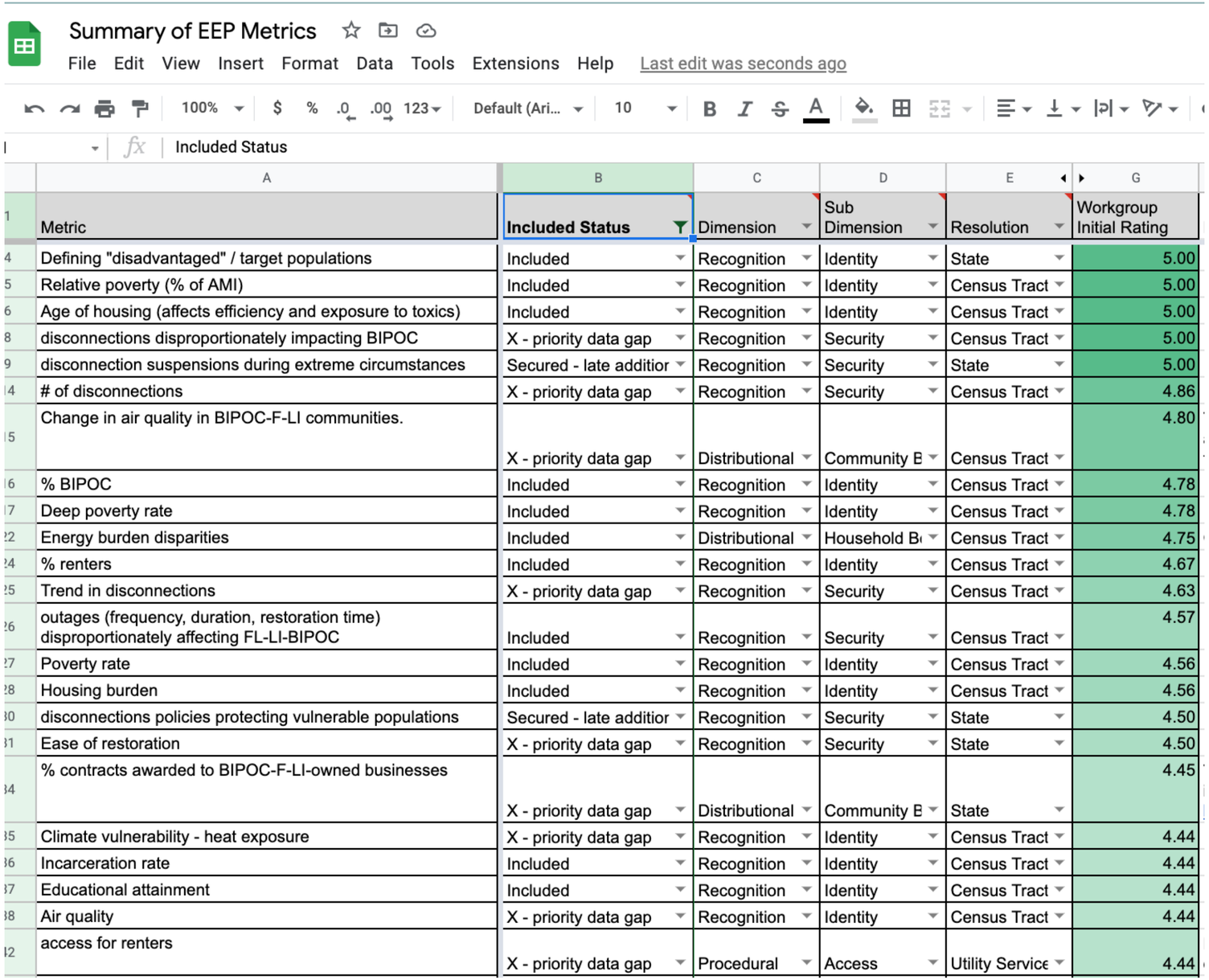
75%

148 potential metrics assessed:

- 29 included
- 16 priority data gaps
- 8 desired rating scales
- 27 best practices
- 68 nixed



Summary of EEP Metrics

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Included Status

	A	B	C	D	E	G
1	Metric	Included Status	Dimension	Sub Dimension	Resolution	Workgroup Initial Rating
4	Defining "disadvantaged" / target populations	Included	Recognition	Identity	State	5.00
5	Relative poverty (% of AMI)	Included	Recognition	Identity	Census Tract	5.00
6	Age of housing (affects efficiency and exposure to toxics)	Included	Recognition	Identity	Census Tract	5.00
8	disconnections disproportionately impacting BIPOC	X - priority data gap	Recognition	Security	Census Tract	5.00
9	disconnection suspensions during extreme circumstances	Secured - late additior	Recognition	Security	State	5.00
14	# of disconnections	X - priority data gap	Recognition	Security	Census Tract	4.86
15	Change in air quality in BIPOC-F-LI communities.	X - priority data gap	Distributional	Community E	Census Tract	4.80
16	% BIPOC	Included	Recognition	Identity	Census Tract	4.78
17	Deep poverty rate	Included	Recognition	Identity	Census Tract	4.78
22	Energy burden disparities	Included	Distributional	Household B	Census Tract	4.75
24	% renters	Included	Recognition	Identity	Census Tract	4.67
25	Trend in disconnections	X - priority data gap	Recognition	Security	Census Tract	4.63
26	outages (frequency, duration, restoration time) disproportionately affecting FL-LI-BIPOC	Included	Recognition	Security	Census Tract	4.57
27	Poverty rate	Included	Recognition	Identity	Census Tract	4.56
28	Housing burden	Included	Recognition	Identity	Census Tract	4.56
30	disconnections policies protecting vulnerable populations	Secured - late additior	Recognition	Security	State	4.50
31	Ease of restoration	X - priority data gap	Recognition	Security	State	4.50
34	% contracts awarded to BIPOC-F-LI-owned businesses	X - priority data gap	Distributional	Community E	State	4.45
35	Climate vulnerability - heat exposure	X - priority data gap	Recognition	Identity	Census Tract	4.44
36	Incarceration rate	Included	Recognition	Identity	Census Tract	4.44
37	Educational attainment	Included	Recognition	Identity	Census Tract	4.44
38	Air quality	X - priority data gap	Recognition	Identity	Census Tract	4.44
42	access for renters	X - priority data gap	Procedural	Access	Utility Service	4.44

EEP Data Pipeline

Data Retrieval

How we collected data:

- API requests
- CSV file downloads from org site
- Contacting orgs directly and making a request for data

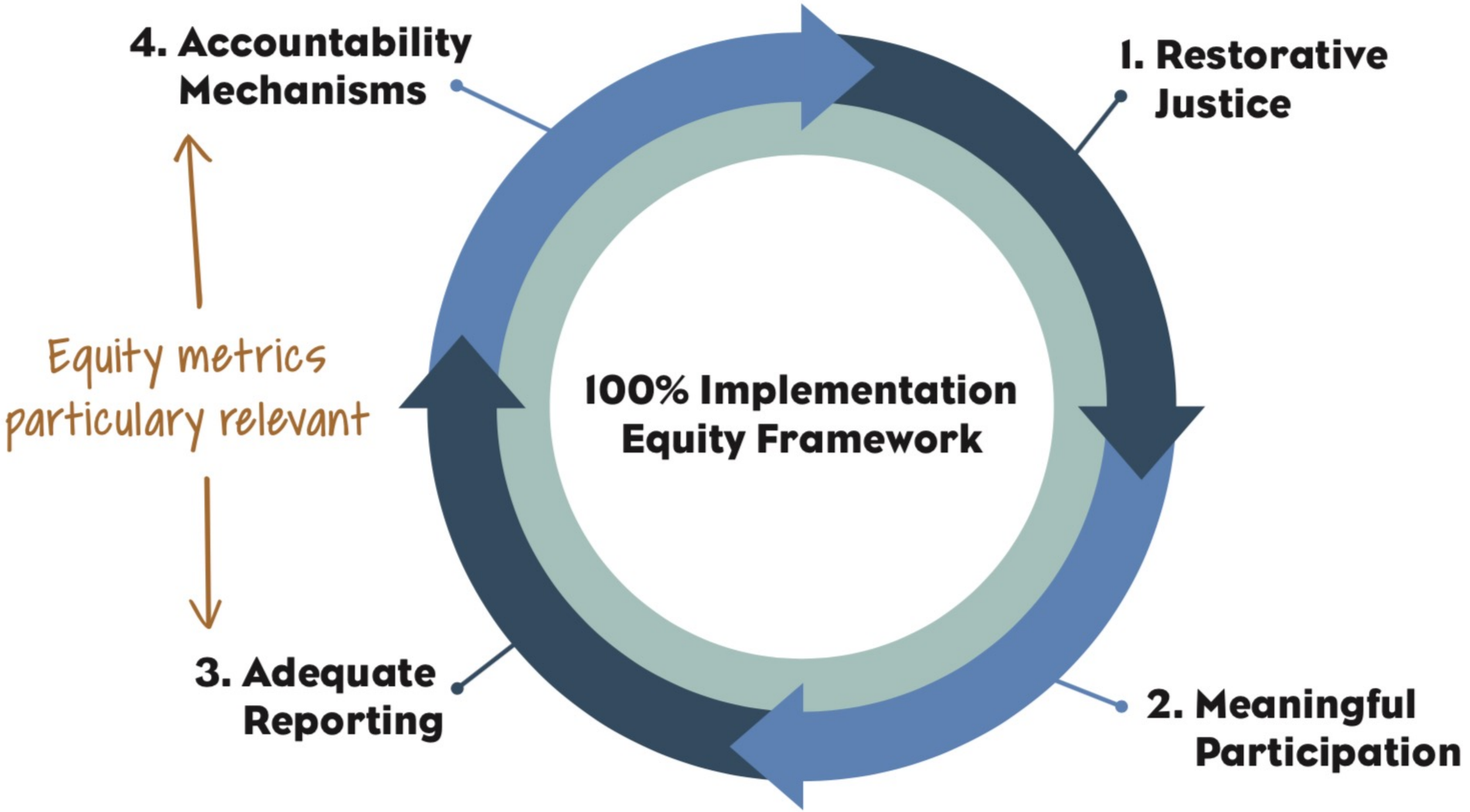
We collected data from:

- US Census Bureau (Demographics)
- FEMA (Climate Risk)
- CDC (Social Vulnerability)
- Eviction Lab
- DOE LEAD
- ACEEE
- Institute for Local Self Reliance
- Lawrence Berkeley National Lab
- Fisher, Sheehan & Colton

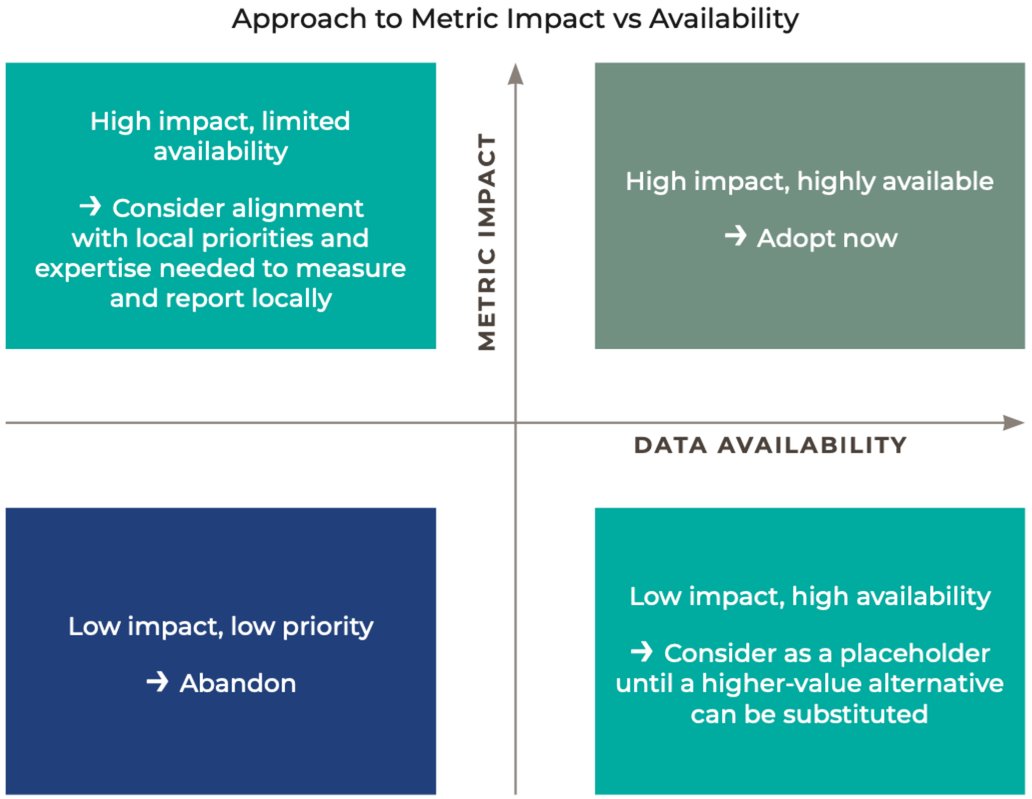
An Atlas of 148 Energy Equity Measures

Dimension	Total # Proposed Metrics	Included	Priority Data Gap	Desire to Create Rating	Shift to Best Practice	Unlimited Coverage or Unreliable Data	No Potential, Not Requested, Abandoned
Recognition	55	26	10	0	9	4	6
Procedural	40	0	1	8	10	5	16
Distributional	47	3	5	0	6	8	25
Restorative	6	0	0	0	2	4	0
TOTALS	**148**	**29**	**16**	**8**	**27**	**21**	**47**

Energy Equity Guidance


4. Accountability Mechanisms
1. Restorative Justice
Equity metrics particulary relevant
100% Implementation Equity Framework
3. Adequate Reporting
2. Meaningful Participation

Metrics guidance



Ideally, many of the measures selected in an energy equity plan will be both high impact and highly available.

ENERGY EQUITY DIMENSION	CORE MEASURES	INTERMEDIATE MEASURES	ADVANCED MEASURES
Recognition			
Procedural			
Distributional			
Restorative			

Distributional

CORE	INTERMEDIATE	ADVANCED
Exceeding the E3b metric – spending	Exceeding the E3b metric – savings	Exceeding E3b at the program level
Average energy burden by census tract	Energy burden disparities among BIPOC, low-income and frontline communities	Percentage of income payment plans and/ or arrearage management plans
Disparity in energy savings	% frontline participants achieving substantial energy savings (>20%)	Time to serve all frontline households with significant retrofits
% Contracts awarded to frontline-owned businesses	% jobs to individuals from frontline communities	% total economic benefits (including wages, wealth generation) to priority communities
Reductions in asthma or respiratory distress	Indoor air quality improvements	Climate and resilience benefits to frontline communities

Goals for Energy Equity Metrics:

Accept the limits of data:

1. Tie back to guiding principles
2. Supplement with qualitative best practices
3. Less is more – many priorities mean none have power

Work with community:

1. Co-create – meet a meaningful need defined by frontline communities; community-driven define weighting
2. "Maxi-Min" principle –maximize the outcomes for the most impacted & vulnerable
   → combining Recognition and Distributional metrics
3. Address all four dimensions of energy equity
4. Address cumulative impacts

Metrics summaries

EQUITY DIMENSION	MEASUREMENT SUMMARY	FUTURE NEEDS AND APPROACHES
RECOGNITION	Extensive data availability for demographic sub-dimension, especially through U.S. Census and American Community Survey datasets.	i) Develop historical dimension to: a) Measure cumulative disparities in benefits and burdens when possible (e.g. receipt of financial incentives). b) Suggest a process for integrating narratives of historical concerns into equity assessment. ii) Secure energy insecurity data for every census tract. Shutoff data is already held by utilities but infrequently disclosed.
PROCEDURAL	Numerous best practices have been identified in guides and reports, but almost none are measured quantitatively.	i) Create quantitative rating scales to assess qualitative performance in procedural and program access sub-dimensions.
DISTRIBUTIONAL	A limited number of national data sets exist; some of these are state-wide scores that need to be applied.	i) Pursue priority data gaps in affordability, household benefits (e.g. energy savings by race, health benefits) and community benefits (e.g. job creation and quality.)
RESTORATIVE	Primary approach is qualitative best practices; majority does not lend itself to quantitative measurement.	i) Develop an overarching process for setting standards in the other three dimensions that must be met from a restorative perspective. ii) Continue to hone conceptual development of sub-dimensions and identify applications specific to the energy system. iii) Compile and develop new resources that promote holistic consideration of restorative equity in energy planning, programming and decision-making.

DISTRIBUTIONAL EQUITY

1. Included

METRIC	INCLUDED STATUS	DIMENSION	SUB-DIMENSION	RESOLUTION	WORKGROUP INITIAL RATING
Energy burden disparities	Included	Distributional	Household Benefits	Census Tract	4.75
Average energy burden among low-income households, BIPOC-F-LI households, and/or other groups (e.g. renters)	Included	Distributional	Affordability	Census Tract	4.43
Disparity in rates between residential vs commercial & industrial	Secured – late addition	Distributional	Affordability	State	3

2. Priority data gaps & desire to create rating scales

METRIC	INCLUDED STATUS	DIMENSION	SUB-DIMENSION	RESOLUTION	WORKGROUP INITIAL RATING
Change in air quality in BIPOC-F-LI communities	X – priority data gap	Distributional	Community Benefits	Census Tract	4.80
% contracts awarded to BIPOC-F-LI-owned businesses	X – priority data gap	Distributional	Community Benefits	State	4.45
BIPOC-F-LI community and climate resilience benefits, reduction in disparities	X – priority data gap	Distributional	Community Benefits	Census Tract	4.33
Reduction in asthma rates	X – priority data gap	Distributional	Community Benefits	Census Tract	4.27
% electricity generation from renewables	X – priority data gap	Distributional	Community Benefits	Utility Service Territory	3.18

3. Shift to best practice

METRIC	INCLUDED STATUS	DIMENSION	SUB-DIMENSION	RESOLUTION	WORKGROUP INITIAL RATING
BIPOC-F-LI quality of new jobs/wage disparities	X – shift to qualitative/best practice	Distributional	Community Benefits	Census Tract	4.00
% of new jobs obtained by impacted communities/ households	X – shift to qualitative/best practice	Distributional	Community Benefits	Census Tract	4.00
Arrears forgiveness policies/ plans/funding (aka AMPs – arrearage management plans)	X – shift to qualitative/best practice	Distributional	Affordability	Utility Service Territory	3.85
% BIPOC-F-LI participants achieving "substantial" (20%+?) energy savings	X – shift to qualitative/best practice	Distributional	Household Benefits	Utility Service Territory	3.82
Maximum energy burden for renters	X – shift to qualitative/best practice	Distributional	Affordability	State	3.21

Principles of Distributional Equity

In an equitable energy system, all households would have access to affordable, clean, reliable energy services. In practice this would mean:

- No households face extreme/severe burdens (>10%).
- A plan and pathway to reducing high energy burdens (>6%) within the next three years
- The distribution of energy burdens does not disproportionately impact any particular demographic or socioeconomic group. In other words, no disparities in energy burden by race, income, education, disabilities or health conditions, age, family structure, or property ownership.
- All households have access to a minimum level of energy services at a cost they can afford without sacrificing other needs.

PROCEDURAL EQUITY: PROCEDURAL INDEX

Recommendations and Best Practices

MEANINGFUL PARTICIPATION

Create and use indices for information accessibility and ease of procedural participation

TRANSPARENCY

Adopt measures for regulatory agencies, independent organizations, utilities and businesses

UTILITY INTERNAL PRACTICES

Assess internal best practices and initiatives related to equity

PUBLIC ADVOCATES

Adopt tailored oversight roles relevant to program types and community interests

PARTICIPATORY BUDGET

Adopt participatory budget with community involvement and design

UTILITY EQUITY PENALTIES

Assess penalties for clean energy plan and program commitments

DEFINED EQUITY GOALS

Create equity assessment and rating scales to guide eqiuty principles

POLICY DESIGN ENGAGEMENT

Prioritize community engagement in policy-making processes

ACCESS TO INTERVENOR FUNDS

Promote equitable distribution of and access to intervenor compensation funds

STAFF REPRESENTATION

Ensure meaningful hiring practices, hire representatives from marginalized communities

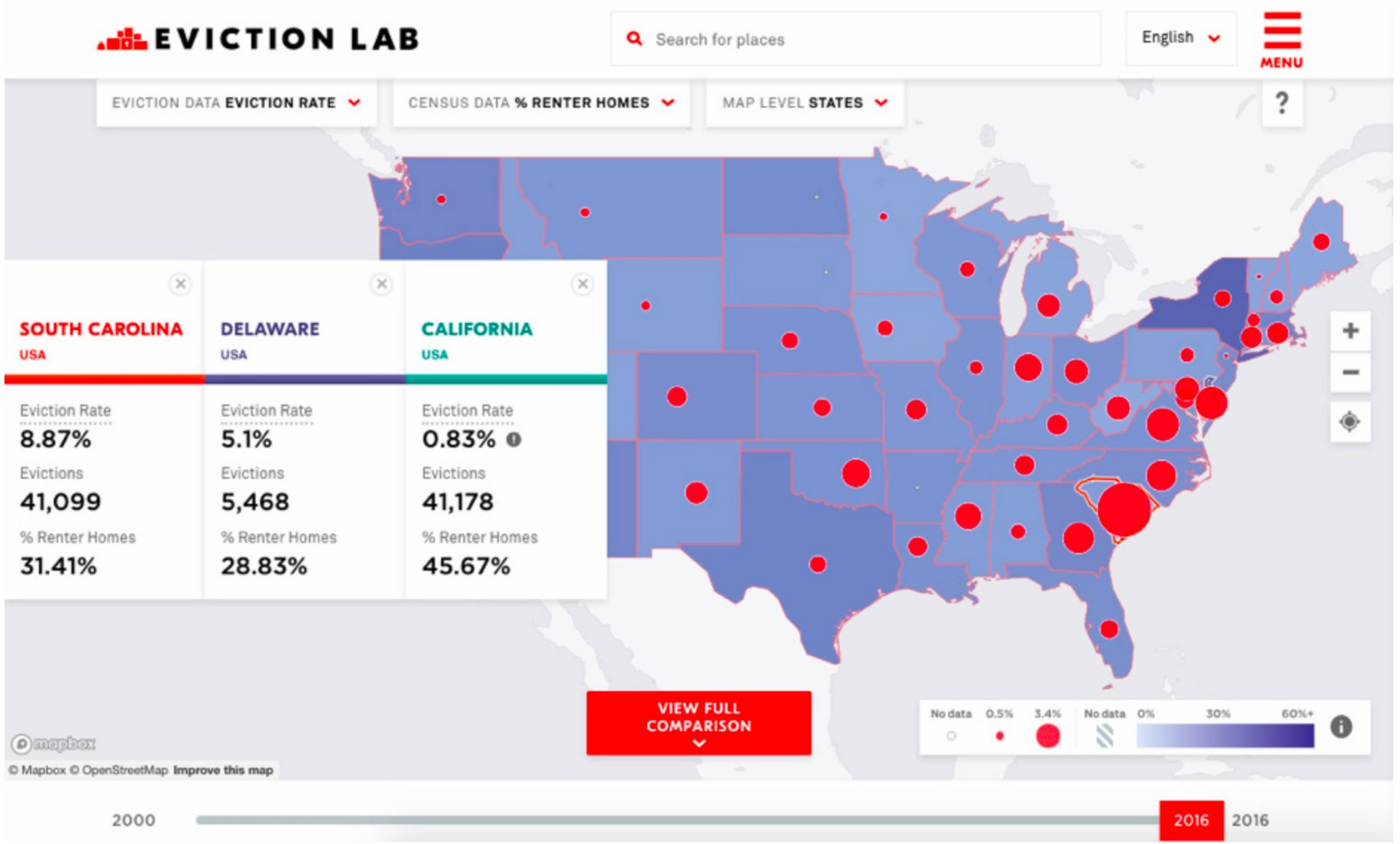
LIMIT UTILITY INFLUENCE

Assess, track influence on legislators and regulators, impose strict limits, transparency

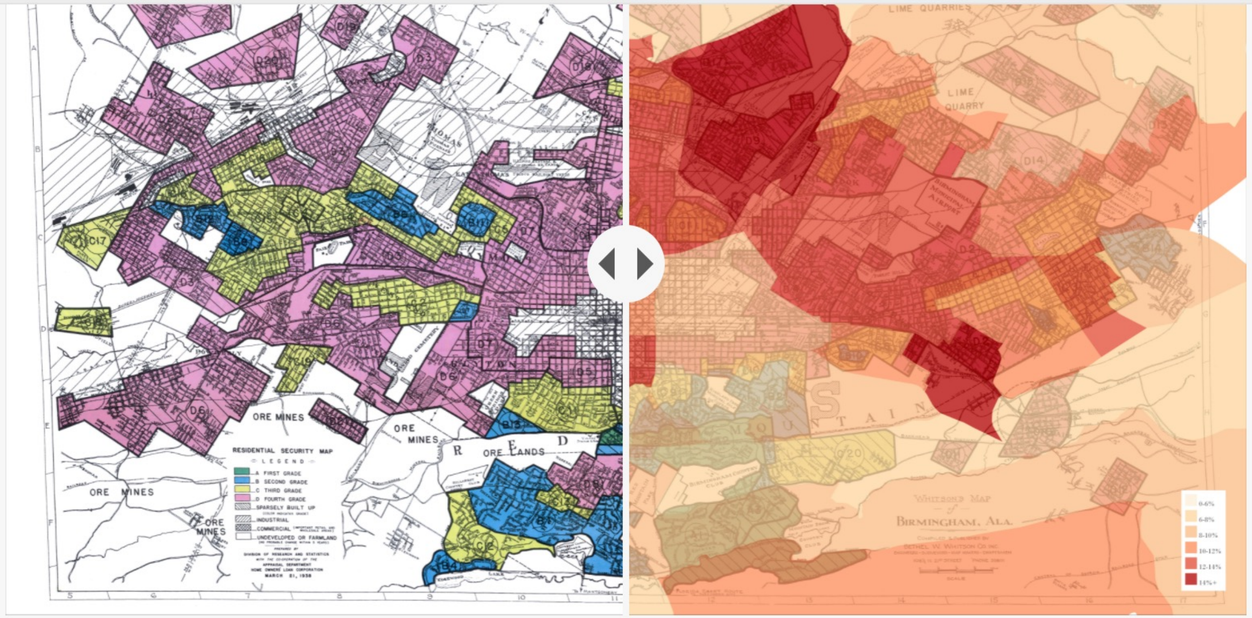
INVESTMENT SCALE

Allocate sufficient resources to meaningfully advance/track equity initiatives, DEI trends

Image source: Eviction Lab



GUIDANCE ON INTEGRATING QUALITATIVE INFORMATION



Home Owners' Loan Corporation (HOLC) Redlining Maps vs. Current Energy Burden

Birmingham, Alabama (above) and Dallas, Texas (below)

The solutions for addressing energy insecurity are complex. Accurately identifying the groups most vulnerable to energy insecurities is essential to creating meaningful and effective policy to address the cascading effects of energy insecurity. The **built environment** team at SEEA is actively researching and analyzing metrics to identify energy insecure households and how policy and programs can best support affected communities in the Southeast.

Questions? Contact built environment project managers **Maggie Kelley** or **Will Bryan**.

HOW ARE WE REPRESENTING COMMUNITY NARRATIVES?

Indigenous Sovereignty

- Environmental justice is Indigenous justice
- Colonialism & capitalism are at the core of climate change and deep inequities
- Indigenous liberation & sovereignty are our path forward
- Restoring balance and returning to our sacred role as original caretakers

People vector created by freepik

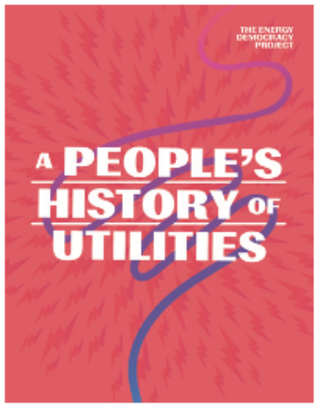
Steps to advancing energy equity

1. Review equity prompts
2. Map a robust community engagement process
3. Adopt a holistic energy equity definition
4. Co-create guiding principles
5. Set equity targets
6. Establish metrics for accountability
7. Adopt best practices for qualitative

Equity prompts for different audiences:

Frontline communities:

- What guiding principles do we want to see established in the energy system?
- What is the extent of energy inequities we face? What data is available to help us quantify these inequities? How can we compliment this data with the stories of our lived experiences?
- What are the structural issues in the energy system (financial, regulatory, policy) that have and continue to contribute to these inequities? How would we remediate them?
- Power mapping – who are making energy decisions that impact us? What specific powers do they have and what maintains those forms of power? What levers do we have to intervene?
- What tools, tactics, and narratives would inspire our community members to action?



- What do we want from people in power? What are our asks? If we must start somewhere, what are our highest priorities?

RECOMMENDED RESOURCE:

- Rivera et al, 2021. A People's History of Utilities. The Energy Democracy Project

Energy equity considerations for different users

	RECOGNITION	PROCEDURAL	DISTRIBUTIVE	RESTORATIVE
Frontline communities	Data gaps, undercounts/ underrepresentation, misrepresentation of local realities	Understanding of complex regulatory processes; resources, partners and expertise to engage effectively	Workforce development and clean energy business benefits, health, energy savings, wealth creation, climate resilience	Defining and communicating a vision of an equitable energy and climate future that centers frontline communities
Non-profits and researchers	Authentic, non-extractive relationships with frontline communities	Decisions made by or with frontline community, not for them; making space for narratives and qualitative data; reaching groups that have historically not participated due to access or trust issues	Documenting actual vs "deemed" savings; measuring and accounting for non-energy benefits	Advocating for durable, longterm solutions that address deep structural issues vs. band-aid solutions that do not address systemic or root causes; addressing lack of internal equity and representation
Regulators and government agencies	Community definitions; documenting historical legacies on the record; staff and commissioner representation	On-going engagement; decision-making and co-creation; informal opportunities to participate; range of supports and compensation to participate	Use of most inclusive societal cost tests; support for decentralized and cooperatively owned and managed systems; establishing mandatory targets for specific benefits (energy savings, jobs and wages)	Ensuring basic human rights and needs/ protecting human health and well-being; considering historical legacies and cumulative impacts; precautionary approach to infrastructure investment
Philanthropists	Representation of frontline communities among grantee staff, leadership, and boards	Accessibility of the grant application process; sufficient payoff for time required to apply; offering meaningful feedback and supporting organizations time to apply (e.g. capacity-building benefits for non-grantees); transparent reporting	Documenting recipients and beneficiaries and increasing funding to frontline communities; plugging gaps	Equity in endowments; community decision-making power; being an ally/aligning with frontline communities in advocacy work
Policy-makers	Community definitions and prioritization methodologies	Meeting with frontline communities	Mandating equitable targets for investments and benefits with strong implementation and accountability	Exceeding the proportionality/Justice40 standard
Utilities and contractors	Tracking and prioritization beyond income factors; outreach to most vulnerable,	Transparency and public data reporting; community led program design and evaluation; abstaining from lobbying	Coordinating with and leveraging multiple service providers; maximizing investment in deep retrofits and lasting benefits; measuring and minimizing disparities;	Supporting community ownership; lifting caps on participation; holistically and deeply valuing

Templates

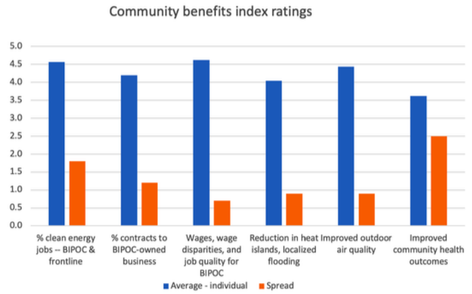
PLAN ELEMENT	STAKEHOLDERS INVOLVED	TIME TO DEVELOP	LENGTH AND FORMAT	ANTICIPATED BENEFITS	PITFALLS TO WATCH FOR
Review equity prompts					
Map a robust process of engagement					
Define equity dimensions					
Co-create equity principles					
Set equity targets					
Establish accountability measures					
Develop a process for collecting and reporting data					
Establish roles and responsibilities for implementation					
Establish evaluation practices					

Transparency

COMMUNITY BENEFITS INDEX – BY THE NUMBERS

SESSION	# OF RATERS
Community	5
Practitioner	6
Utility	11*
Regulator	
Philanthropy	

* Utilities did not rate wage disparities.



METRIC	AVERAGE – INDIVIDUAL	AVERAGE – SESSION	LOW – SESSION	HIGH – SESSION	SPREAD
% clean energy jobs — BIPOC & frontline	4.6	4.1	3.2	5.0	1.8
% contracts to BIPOC-owned business	4.2	3.8	3.0	4.2	1.2
Wages, wage disparities, and job quality for BIPOC	4.6	4.7	4.3	5.0	0.7
Reduction in heat islands, localized flooding	4.0	4.2	3.7	4.6	0.9
Improved outdoor air quality	4.4	4.2	3.7	4.6	0.9
Improved community health outcomes	3.6	4.0	2.5	5.0	2.5

Community Benefits Index – Discussion

Highlights:
Economic benefits and improved community health benefits rate highly among most stakeholder groups (although averages were lowered by utility ratings, which was a common theme).

If the Community Benefits Index identifies inequities, how should those be addressed by different stakeholders? As a starting point, they may be used for identifying disadvantaged communities and targeting program investments. But there may be more nuanced, stakeholder specific guidance. If a community action agency notes a household is located within an urban heat island and has

Figure 1. This figure showcases some of the questions asked during our discussions.

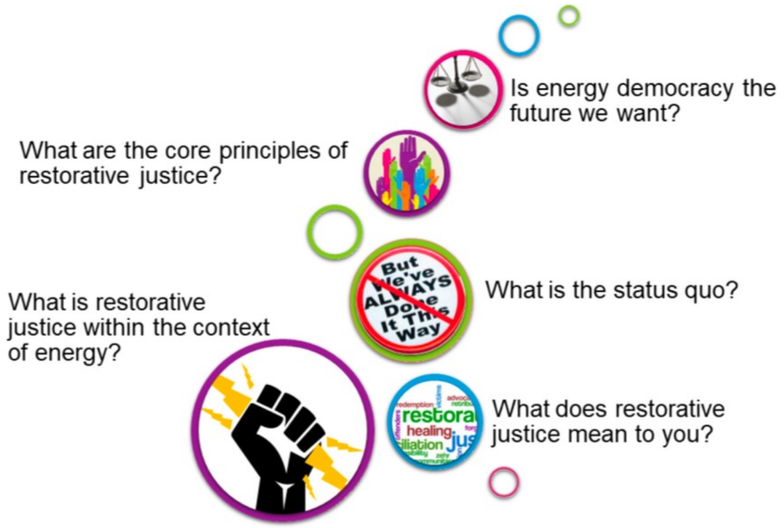
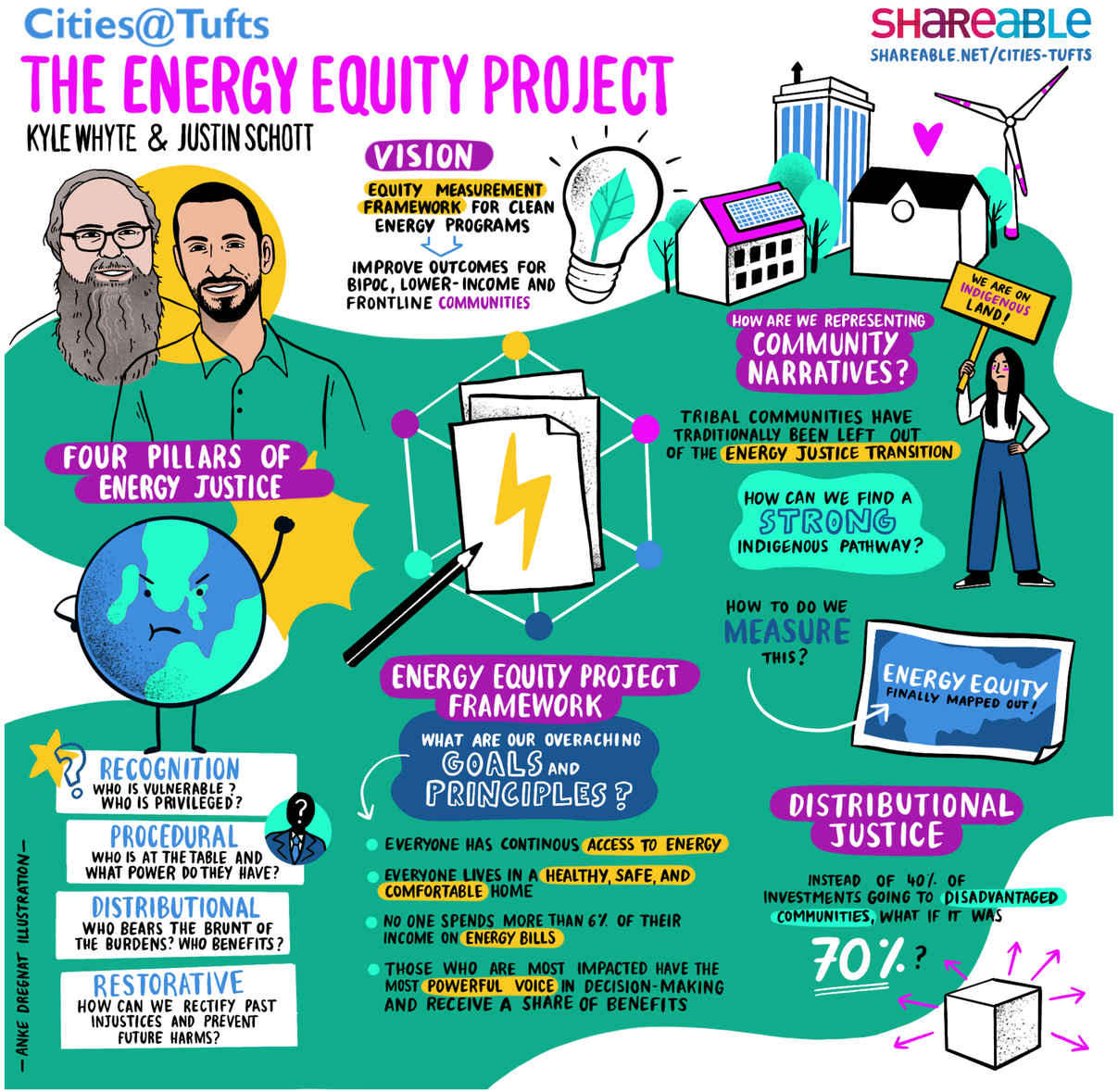


Figure 2. A snapshot of one of the jamboard pages designed to break down "What does Restorative Justice mean to you?"

Accessibility



“In every moment lies an opportunity to advance energy equity….Reversing energy inequities is possible at any time, provided there is a willingness to shift the underlying structures.”
EEP, p.11

The Path We're On

What's At Stake?

"energy-burdened households were at about 150%–200% greater risk of transitioning into or extending the duration of economic poverty over a two-year timeframe relative to non-burdened households." (Bohr & McCreery, 2020)

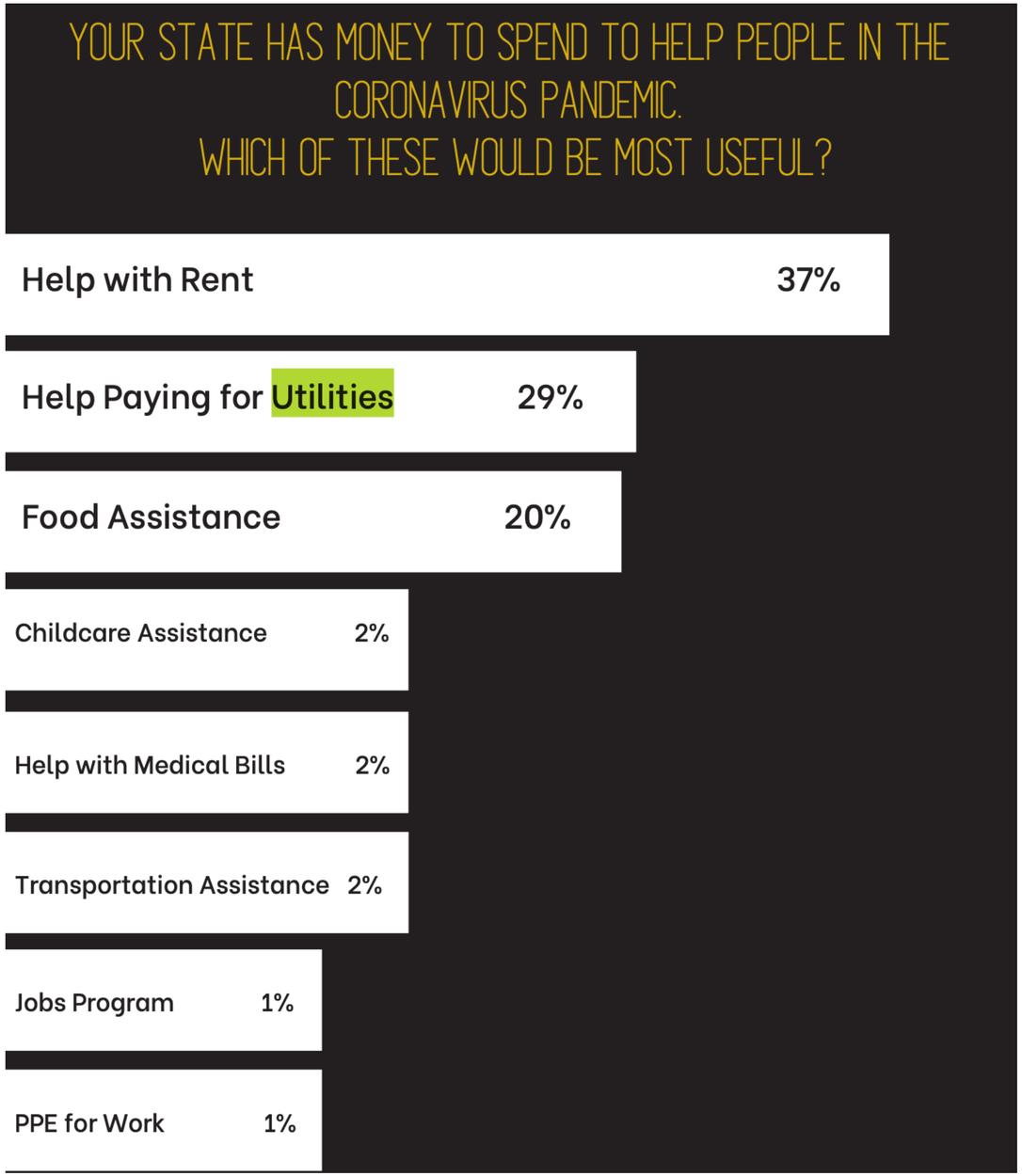
What's At Stake?

"energy-burdened households were at about 150%–200% greater risk of transitioning into or extending the duration of economic poverty over a two-year timeframe relative to non-burdened households." (Bohr & McCreery, 2020)

***"For moratoria on utility disconnections, COVID-19 infections rates could have been reduced by 8.7% and deaths by 14.8%."* (Jowers et al, 2021)**

People are desperate for help with unaffordable utility costs

Source: SouthStrong campaign, 2020.



What is the top housing challenge you have experienced in Detroit within the last 12 months?

33% Utility Affordability
22% Housing Affordability
19% Housing Quality
17% Other
5% Housing Access
4% None

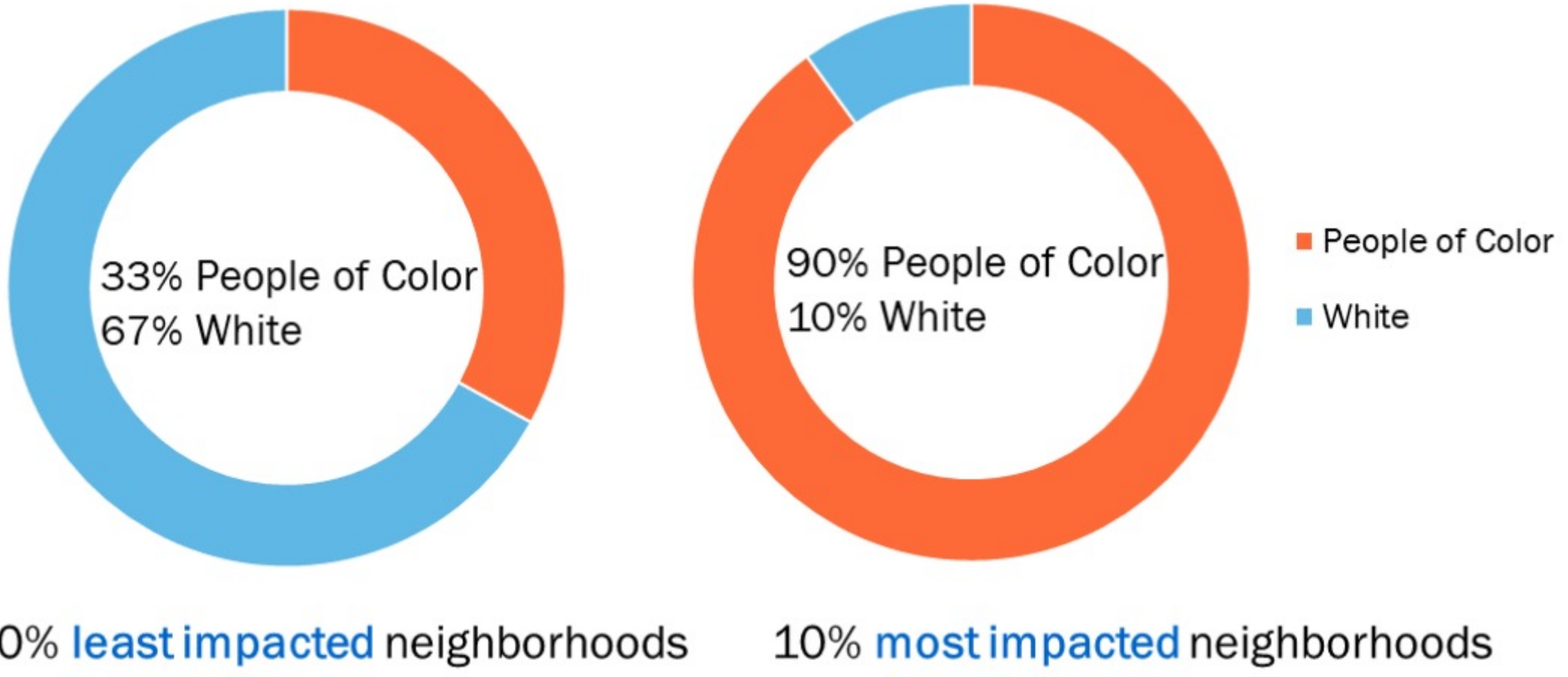
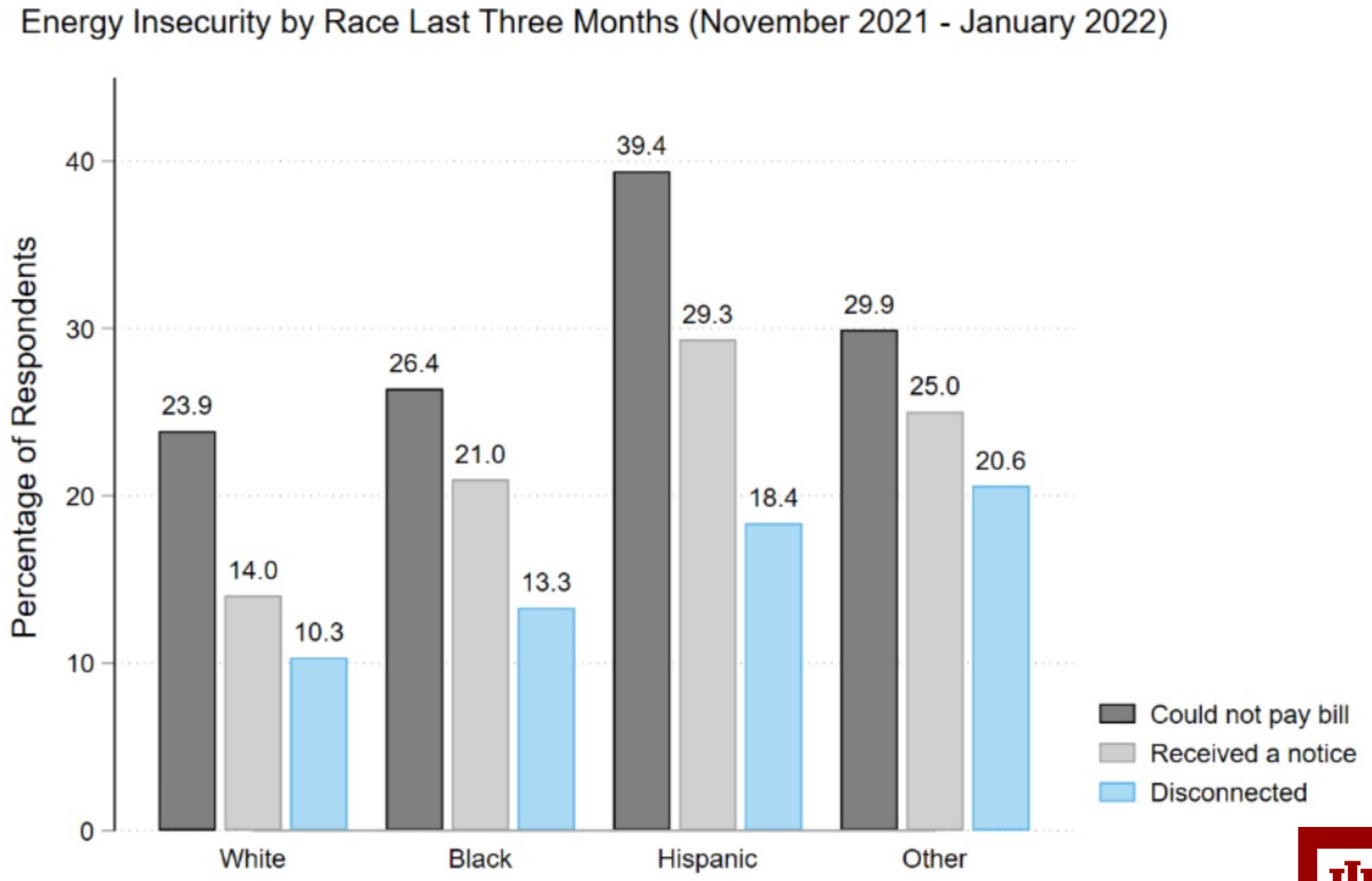
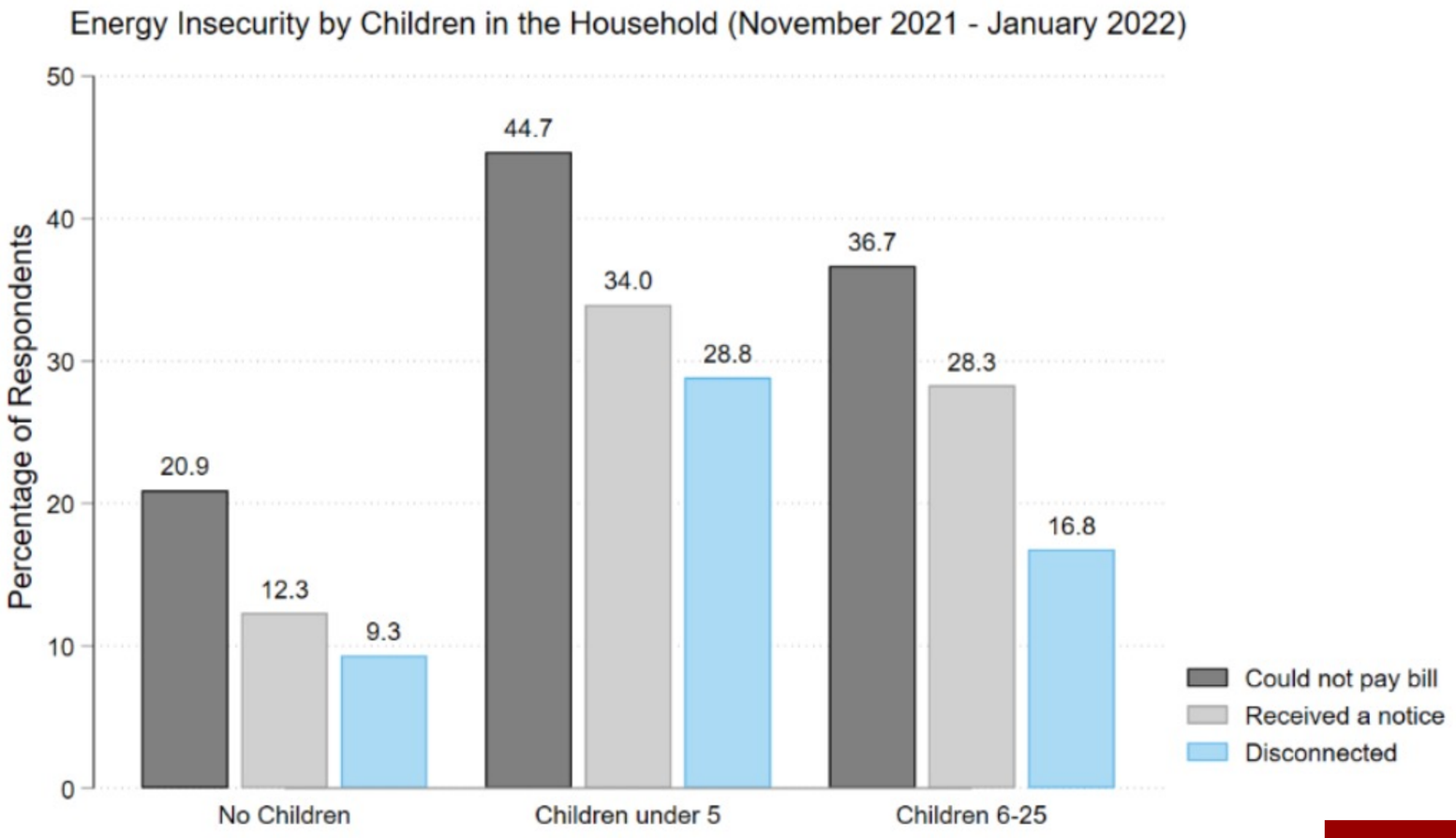


Figure 2. Race in the Least and Most Impacted Census Tracts by Draft CalEnviroScreen 4.0 Decile.

The Path We're On



The Path We're On



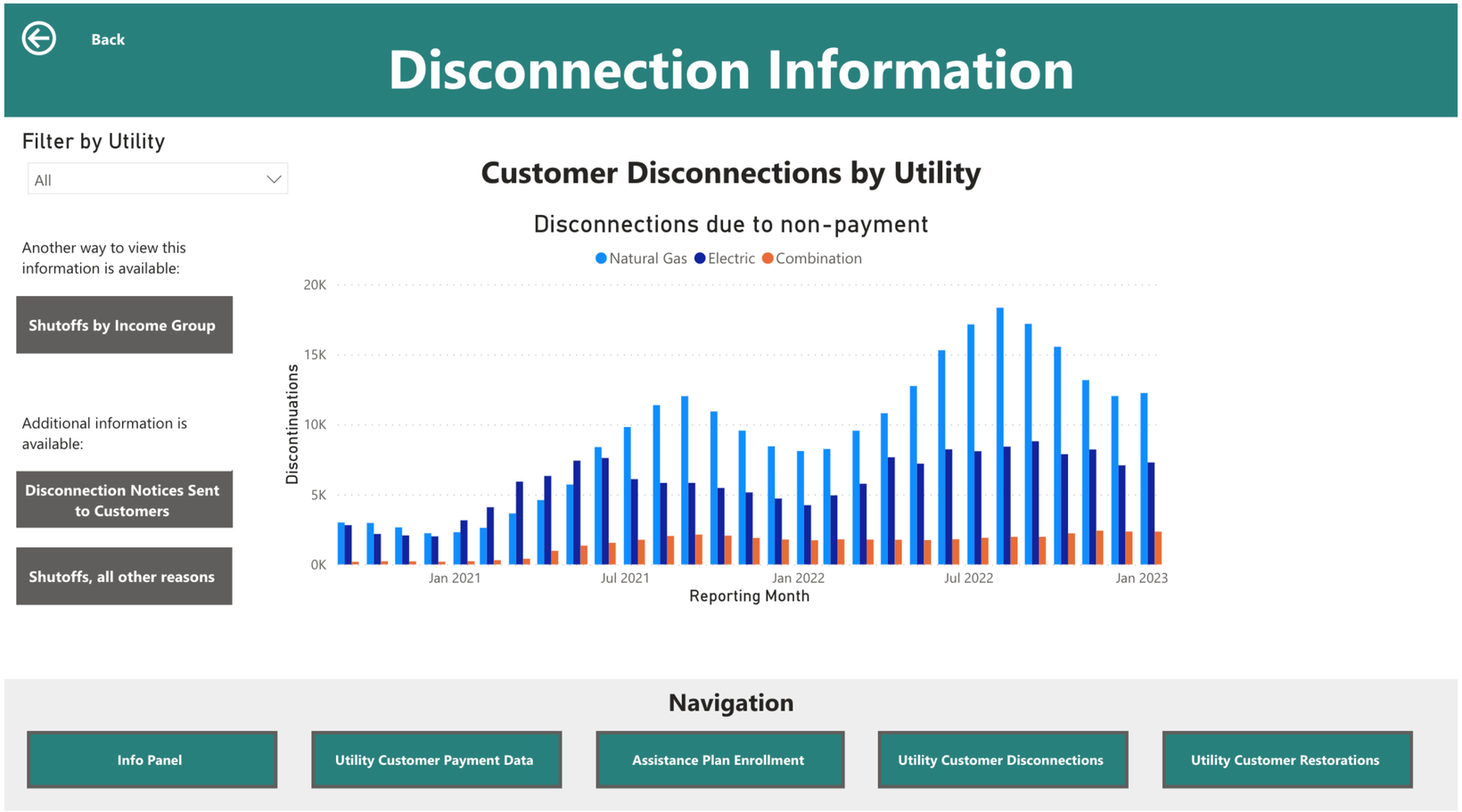
The Path We're On

Rate of Disconnects Relative to Eligible Disconnects

Month	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	37%	19%	15%	31%	33%	35%	52%	51%	52%
February	36%	21%	19%	37%	37%	41%	47%	51%	49%
March	18%	22%	20%	31%	37%	39%	54%	61%	56%
April	18%	22%	19%	35%	46%	45%	58%	51%	53%
May	22%	21%	20%	42%	60%	56%	60%	60%	62%
June	26%	21%	17%	39%	51%	52%	68%	65%	59%
July	27%	20%	14%	38%	45%	56%	59%	54%	41%
August	29%	25%	12%	39%	45%	39%	55%	56%	53%
September	23%	20%	14%	30%	25%	37%	52%	52%	N/A
October	23%	20%	17%	30%	37%	41%	43%	45%	N/A
November	18%	14%	19%	27%	26%	34%	42%	45%	N/A
December	12%	7%	15%	19%	22%	32%	33%	21%	N/A
Total	22%	19%	17%	32%	36%	41%	51%	50%	53%

Disconnection rates based on SCE's Data Response to ALJ Ruling, Tables II-1 and II-2

The Path We're On



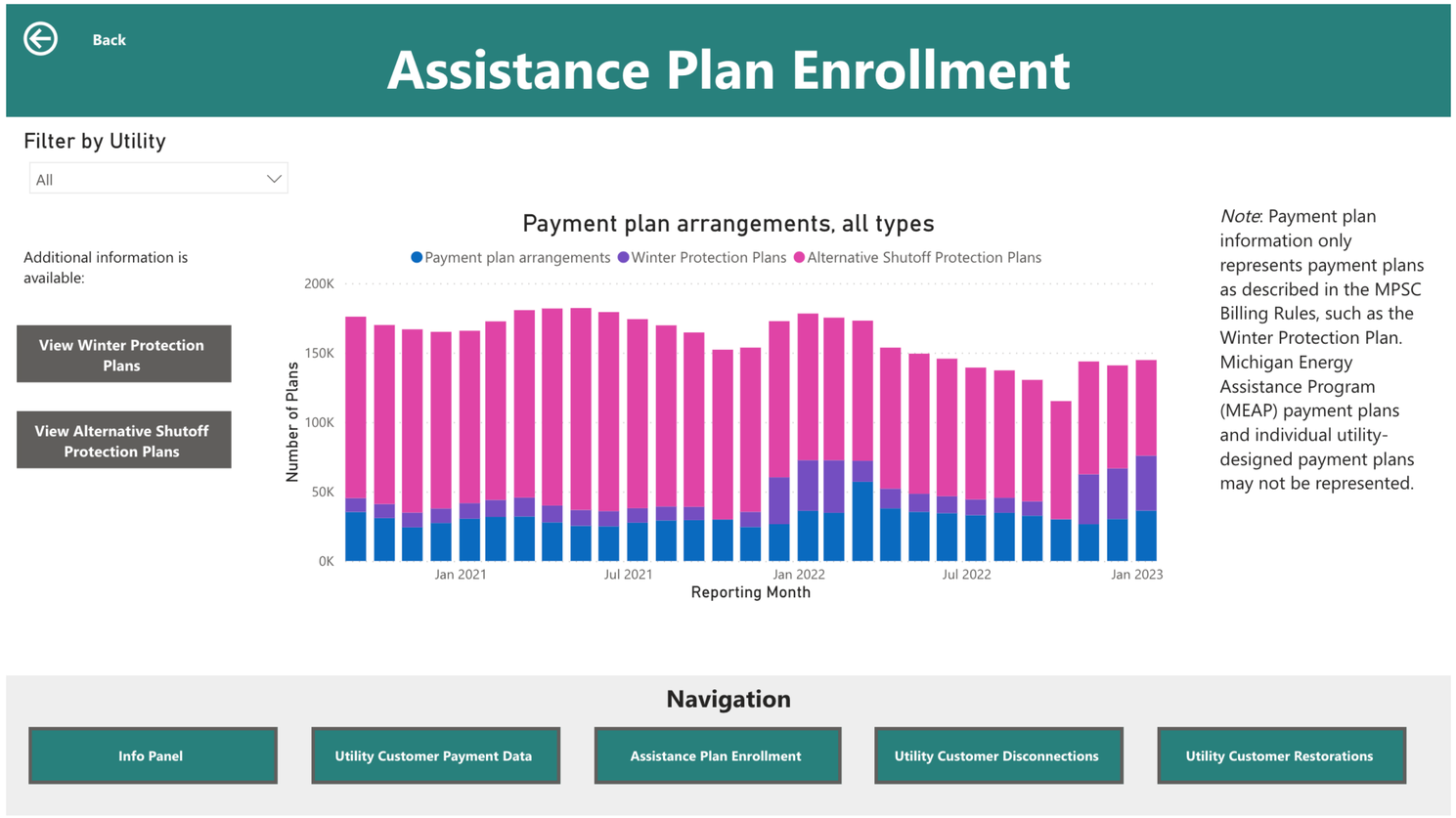
The Path We're On

TABLE 1
STATE DISCONNECT DATA
Top 10 states

State (latest month of reporting in 2022)*	Disconnects in 2021*	Disconnects in 2022*	Change in Disconnects from 2021 to 2022	% Change in Disconnects from 2021 to 2022
Illinois (October)	225,504	284,720	59,216	26
Pennsylvania (October)	180,219	198,627	18,408	10
Georgia (October)	189,649	198,463	8,814	5
Michigan (June)	142,904	166,284	23,380	16
Ohio (May)	106,378	107,271	893	1
Missouri (September)	68,534	84,754	16,220	24
Maryland (October)	41,416	74,345	32,929	80
Connecticut (October)	153	58,945	58,792	38,426
Kentucky (June)	16,029	52,609	36,580	228
New York (October)	0	41,235	41,235	N/A
Total	970,786	1,267,253	296,467	31

**The data cover states' disconnections up until their latest month of reporting in 2022. See the Year-Over-Year Comparison section in Methodology (Annex 3) for a full explanation.*

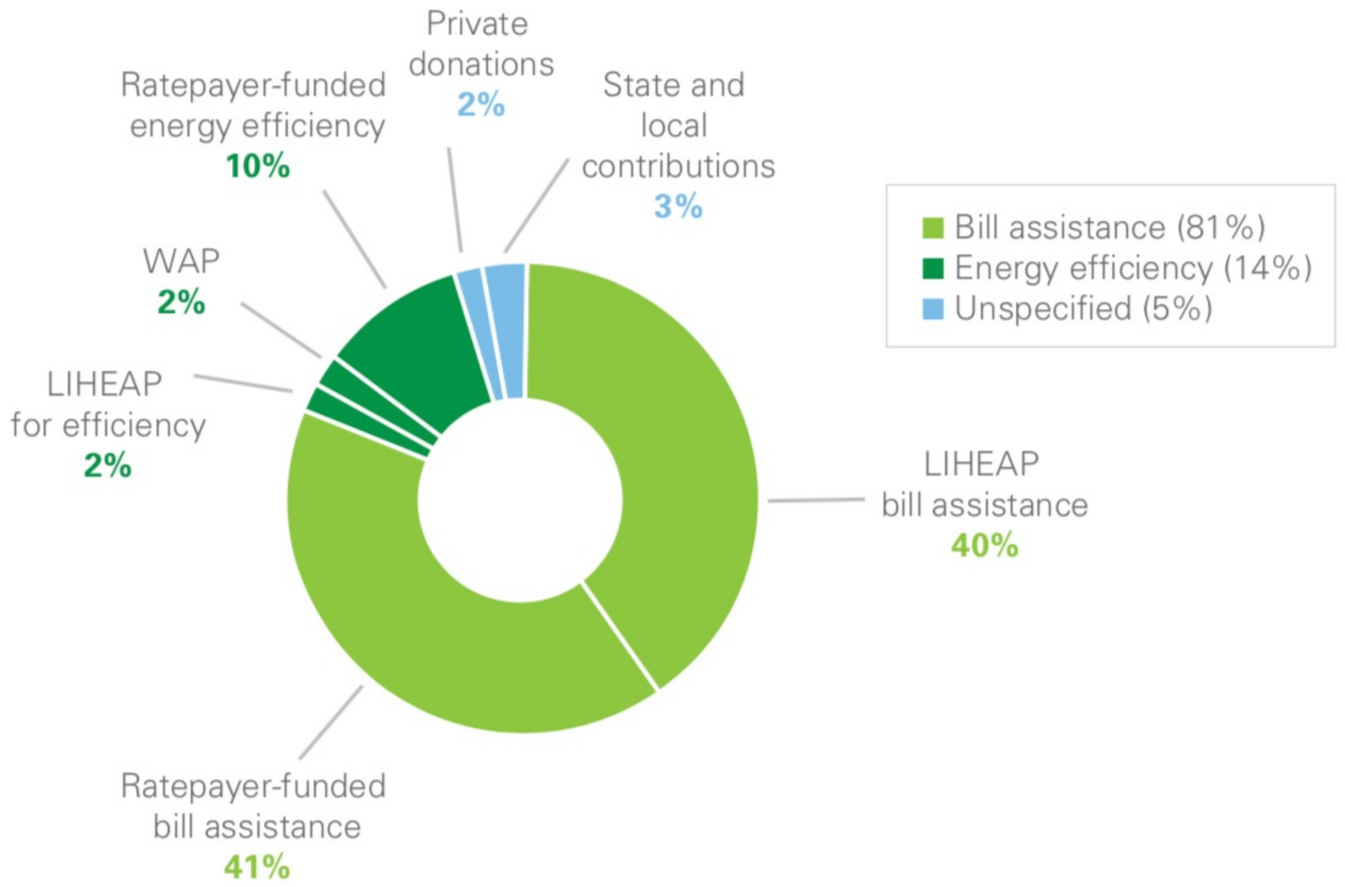
The Path We're On



12 UTILITIES SHUT OFF
U.S. HOUSEHOLDS
4.9 MILLION TIMES.

JUST 1% OF
THEIR DIVIDENDS
TO SHAREHOLDERS COULD
HAVE STOPPED THAT.

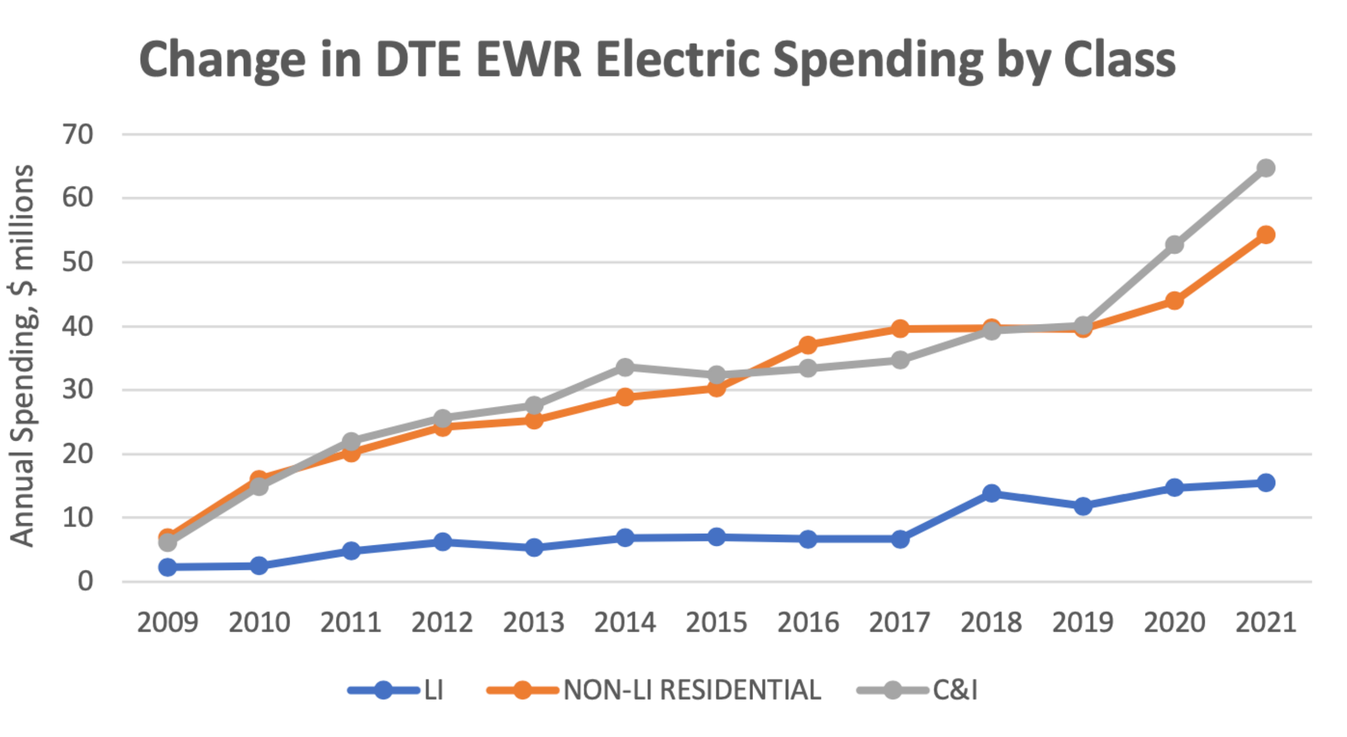
FIGURE 6. **Support for low-income energy needs. Data on ratepayer-funded bill assistance, ratepayer-funded energy efficiency, WAP, and LIHEAP assistance are from 2013. LIHEAP spending on efficiency is approximated based on 6% of LIHEAP funds spent on efficiency in 2006. Data on state and local contributions and private donations are from 2010. Data collected from the LIHEAP Clearinghouse in 2016. *Source:* Cluett, Amann, and Ou 2016.**



The Path We're On

- Michigan ranks 46th out of 51 (including DC) for the ratio of residential rates to C&I rates (123%).
- The national average is 115%.
- Alabama is #1 at 97%.

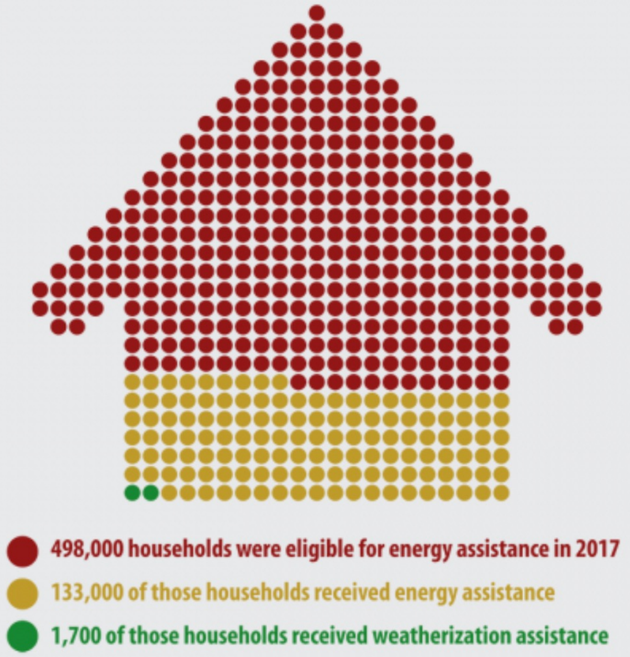
DTE Rate Increase Proposal – U-21297_0002	
Residential	13.9%
Secondary (Commercial)	11.5%
Primary (Industrial)	7.0%



The Path We're On

WE CAN DO EVEN MORE

At the current rate, it would take 291 years to weatherize all eligible homes in Minnesota.



498,000 households were eligible for energy assistance in 2017

133,000 of those households received energy assistance

1,700 of those households received weatherization assistance

1. In 2017, 498,000 Minnesota households were eligible for energy assistance.
2. Of those, only 133,000 households received support paying their energy bills through the program.
3. 1,700 households received weatherization assistance to make their homes more energy efficient, comfortable, and safe.
4. At this rate, it would take 291 years to weatherize all eligible homes in Minnesota. That's far too long, and we can do better.

WEATHERIZATION FACTS

Envisioning a World Without Hunger?

- **“Visions are fantasies, they don’t change anything. Talking about them is a waste of time. We don’t need to talk about what the end of hunger will be like, we need to talk about how to get there.”**

Envisioning a World Without Hunger?

- "Visions are fantasies, they don't change anything. Talking about them is a waste of time. We don't need to talk about what the end of hunger will be like, we need to talk about how to get there."

- **"We all know what it's like not to be hungry. What's important to talk about is how terrible it is to be hungry"**

Envisioning a World Without Hunger?

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- "We all **know** what it's like **not** to be hungry. What's important to talk about is how terrible it is to be hungry"

- **"I never really thought about it. I'm not sure what the world would be like without hunger, and I don't see why I need to know."**

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- **"Stop being unrealistic. There will always be hunger. We can decrease it, but we can never eliminate it."**

Envisioning a World Without Hunger?

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- "I never really thought about it. I'm not sure what the world would be like without hunger, and I don't see why I need to know."

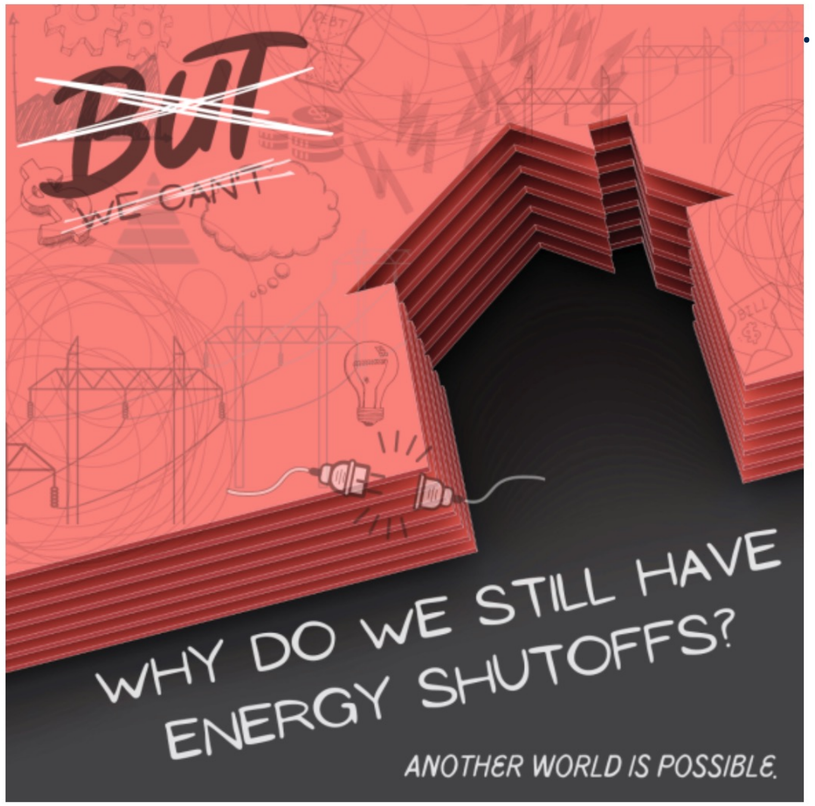
- "Stop being unrealistic. There will always be hunger. We can decrease it, but we can never eliminate it."

- **"You have to be careful with visions. They can be dangerous. Hitler had a vision. I don't trust visionaries and I don't want to be one."**

Envisioning an Energy Secure World….

Could IL be the first state to end shutoffs AND achieve universal affordability?

The Mythology of Necessity



#1: BUT we can't force people to subsidize low-income households.
#2: BUT it would cost too much money.
#3: BUT we need more data.
#4: BUT we can't give away energy for free.
#5: BUT who will pay if low-income households just keep racking up utility debt?
#6. BUT it would not be cost effective.
#7. BUT it would disincentivize personal responsibility.
#8. BUT if we can't shut people off, people will just stop paying.

Zero is Possible...And Proven

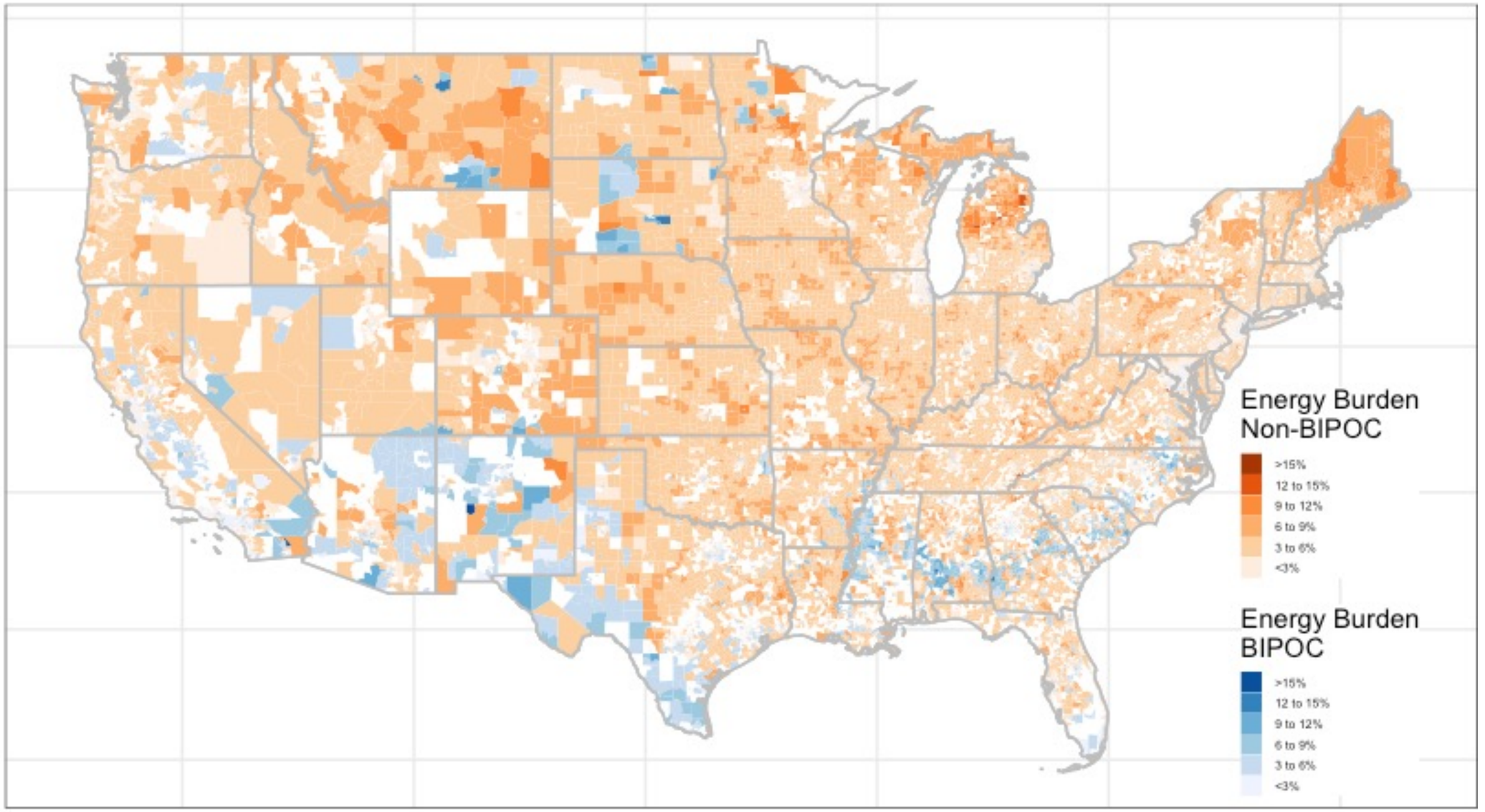
Don't Count Utility Shutoffs, Ban Them

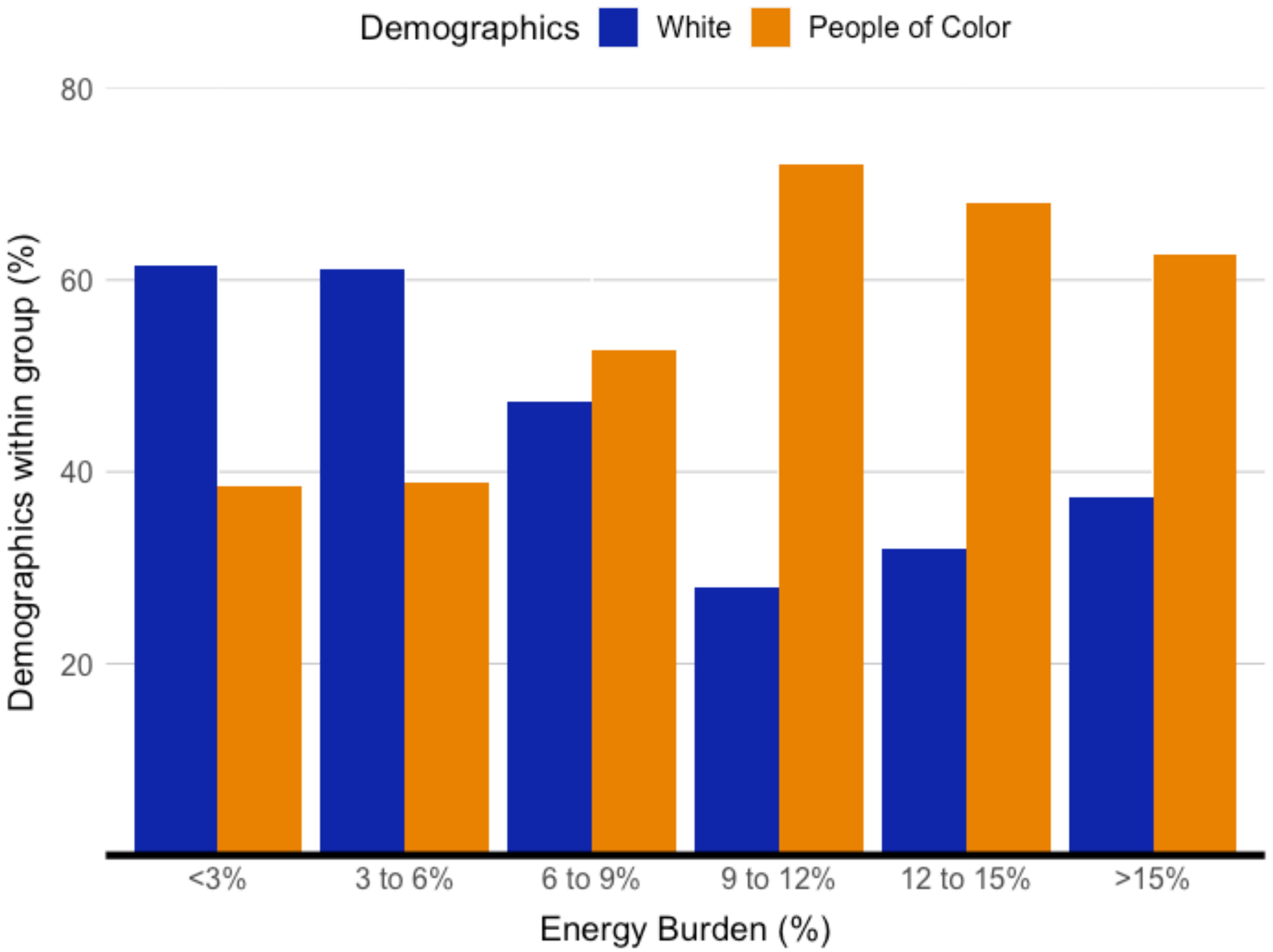
by isaac sevier · Sep 12, 2022 18:04 · 7 minute read

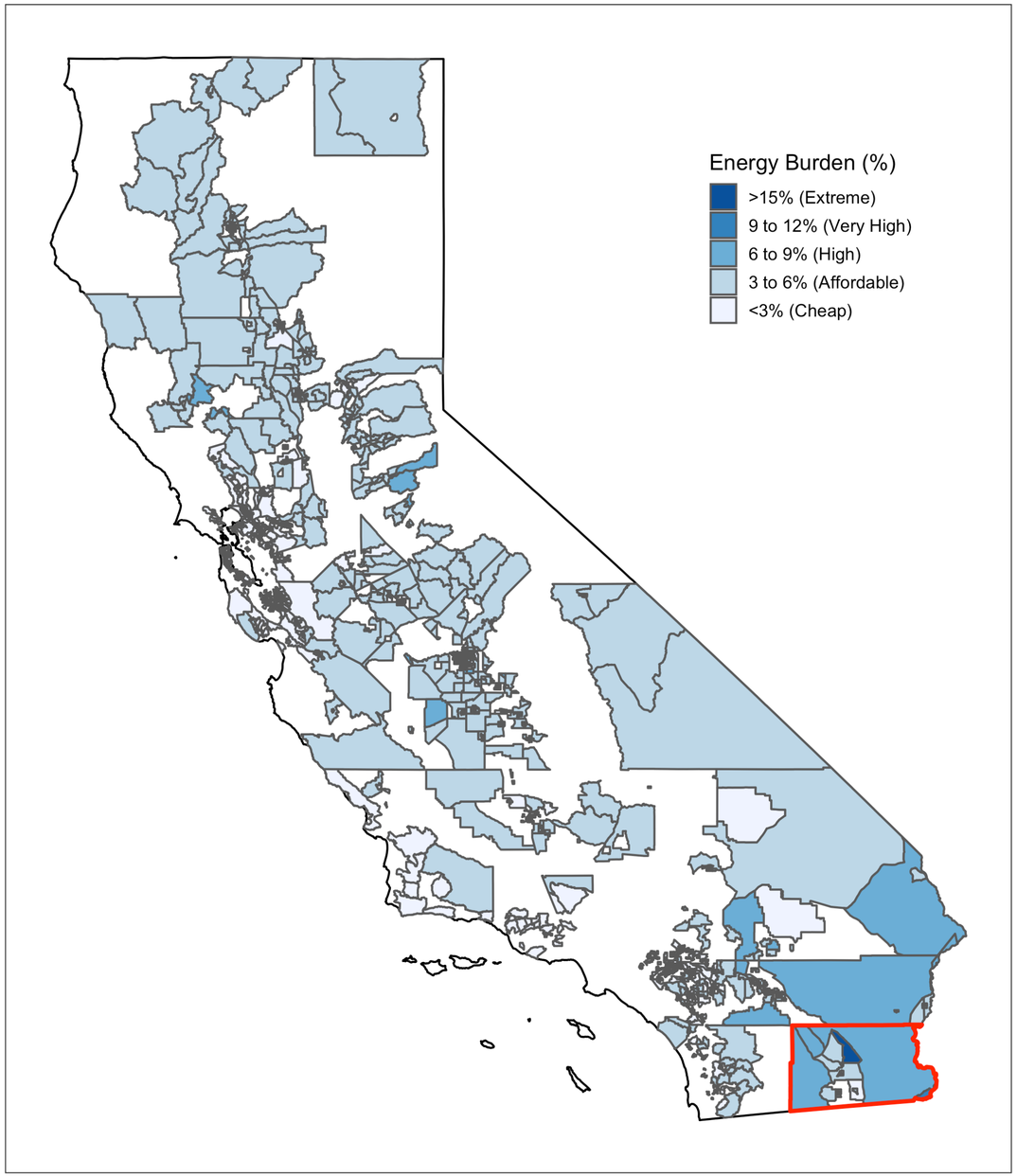
Utility shutoffs are a blunt tool that benefits utilities more than people. Creating new standards for counting them help might be valuable but isn't necessary and could potentially produce more harm than good. Our time will be better spent to try to ban them permanently and immediately.

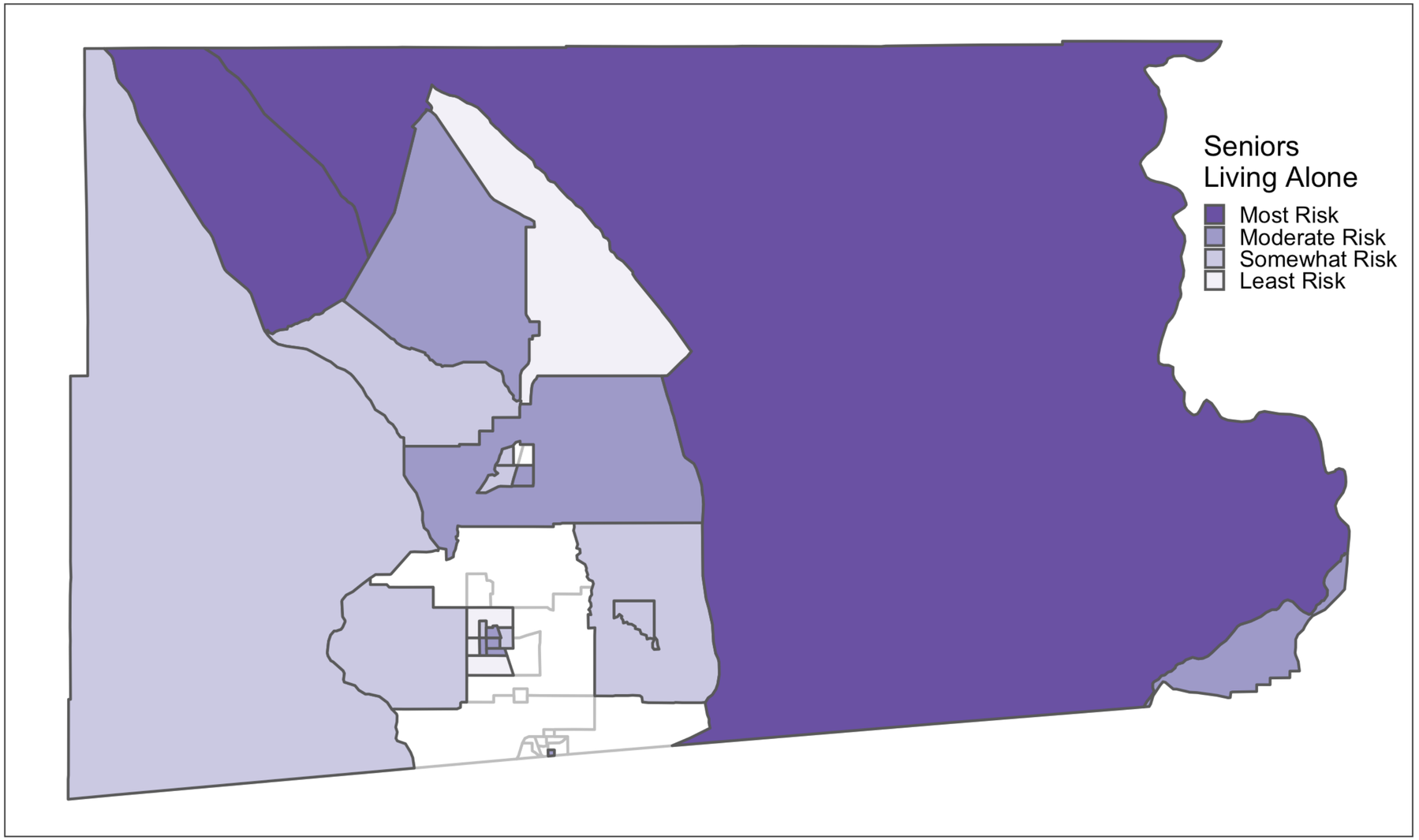
Photo by Sesame Street from YouTube

Visualizing Energy Equity Examples


Energy Burden
Non-BIPOC
>15%
12 to 15%
9 to 12%
6 to 9%
3 to 6%
<3%
Energy Burden
BIPOC
>15%
12 to 15%
9 to 12%
6 to 9%
3 to 6%
<3%


Demographics
White
People of Color
80
60
40
20
Demographics within group (%)
<3%
3 to 6%
6 to 9%
9 to 12%
12 to 15%
>15%
Energy Burden (%)


Energy Burden (%)
>15% (Extreme)
9 to 12% (Very High)
6 to 9% (High)
3 to 6% (Affordable)
<3% (Cheap)


Seniors
Living Alone
Most Risk
Moderate Risk
Somewhat Risk
Least Risk

Mapping Equity

Distributional Equity Examples

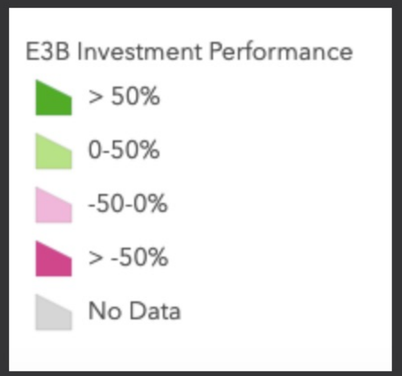
E3B Metric

Welcome to the Interactive Energy Efficiency Equity Baseline (E3B) Map!

Share

The E3B Investment Performance Map illustrates utilities' performance relative to their E3B investment target. Selecting a utility activates a pop-up presenting additional energy efficiency investment metrics.

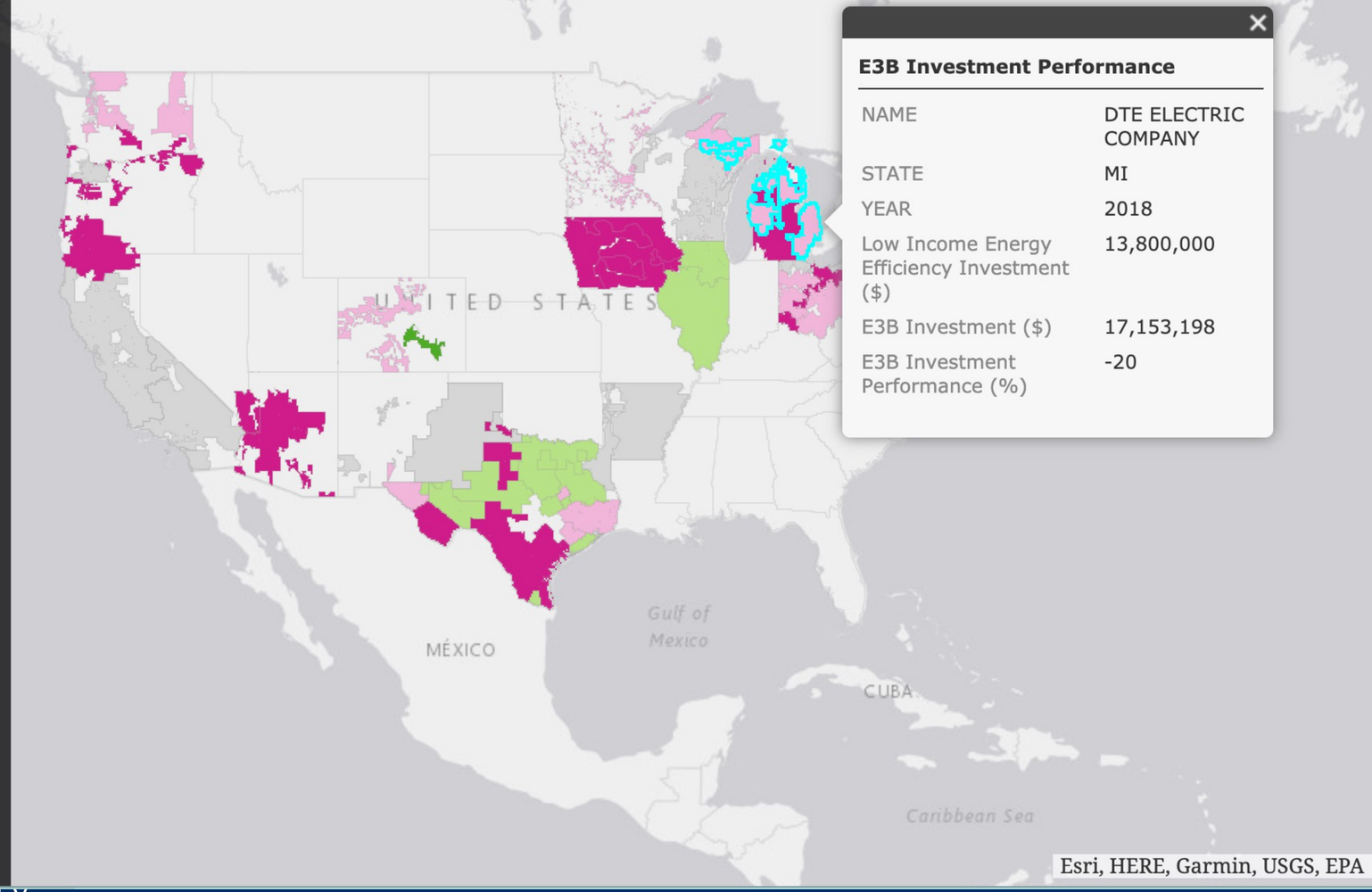
E3B Investment Performance Legend



Where 0% represents equitable investment
Green represents overperformance
Red represents underperformance

Of the 74 studied utilities, 16 invest in low-income energy efficiency programs at an above-equitable rate. 33 utilities invest in low-income programs at a below-equitable rate, and 25 utilities did not provide data.

E3B Investment Performance

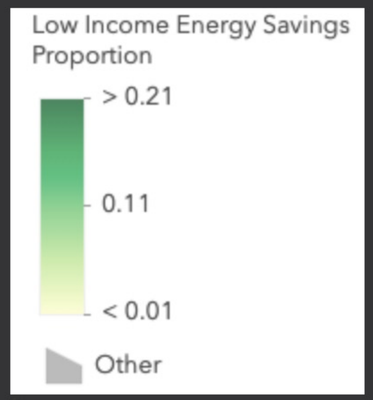


Welcome to the Interactive Energy Efficiency Equity Baseline (E3B) Map!

Share

Low Income Energy Savings Proportion

The Low Income Energy Savings Proportion Map illustrates the proportion of energy savings attributed to low-income households. Selecting a utility activates a pop-up containing additional energy savings data.



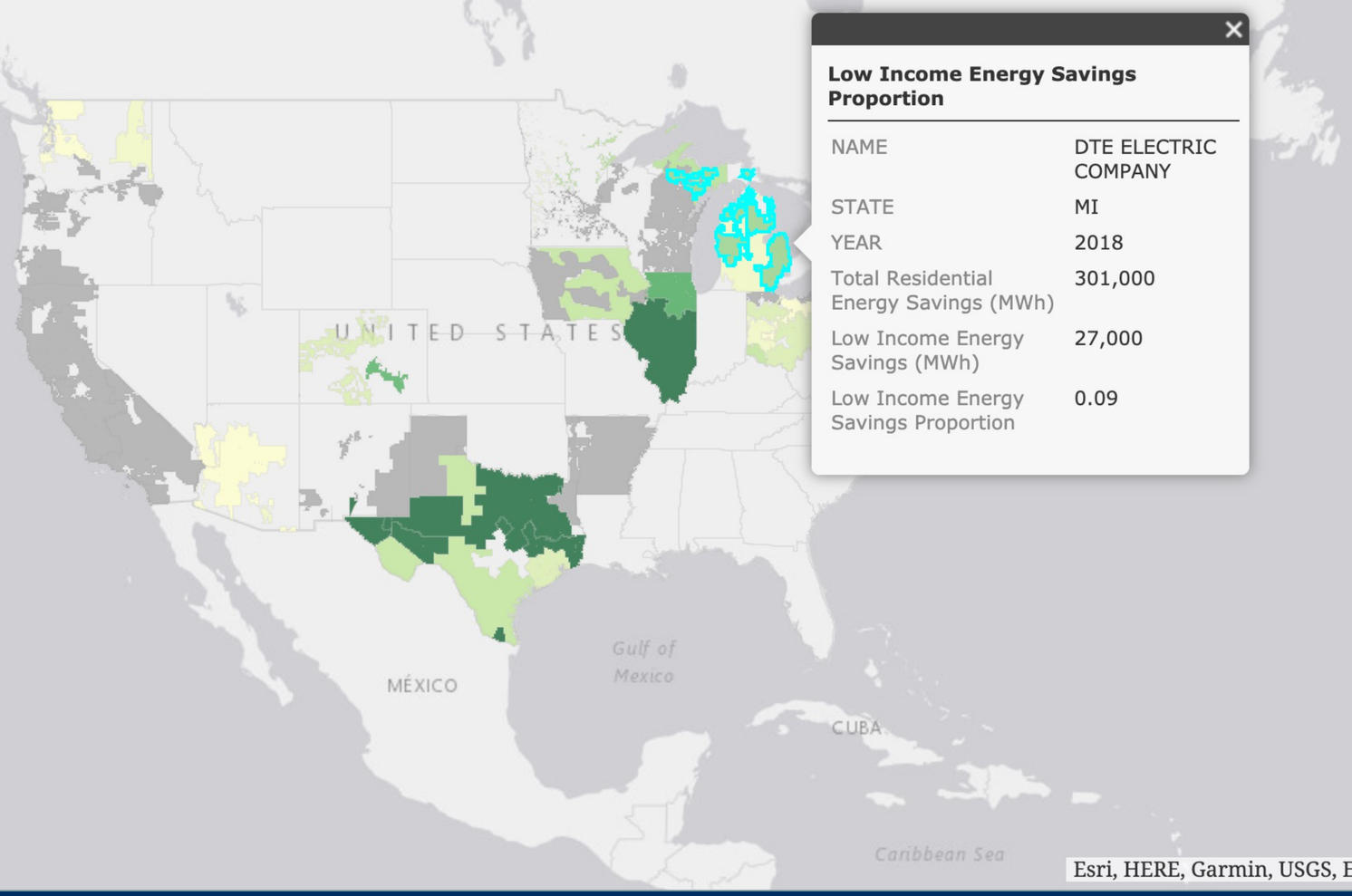
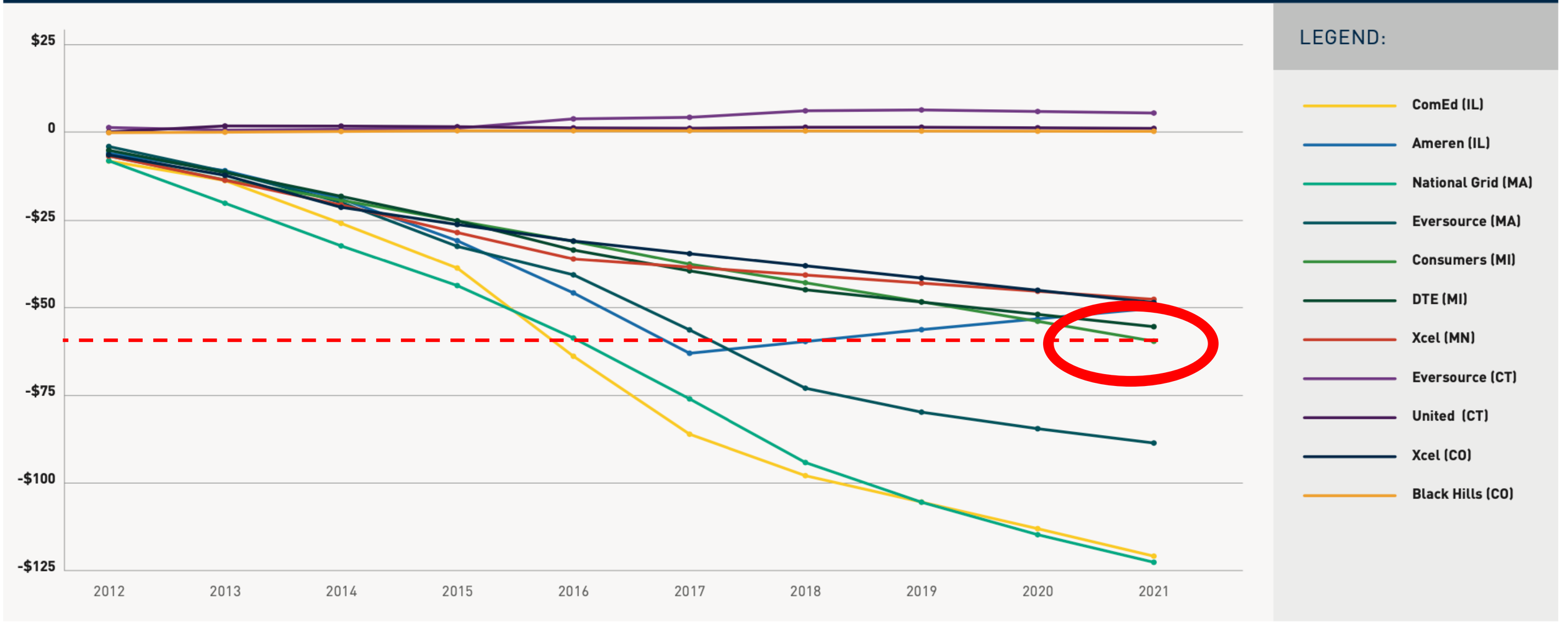
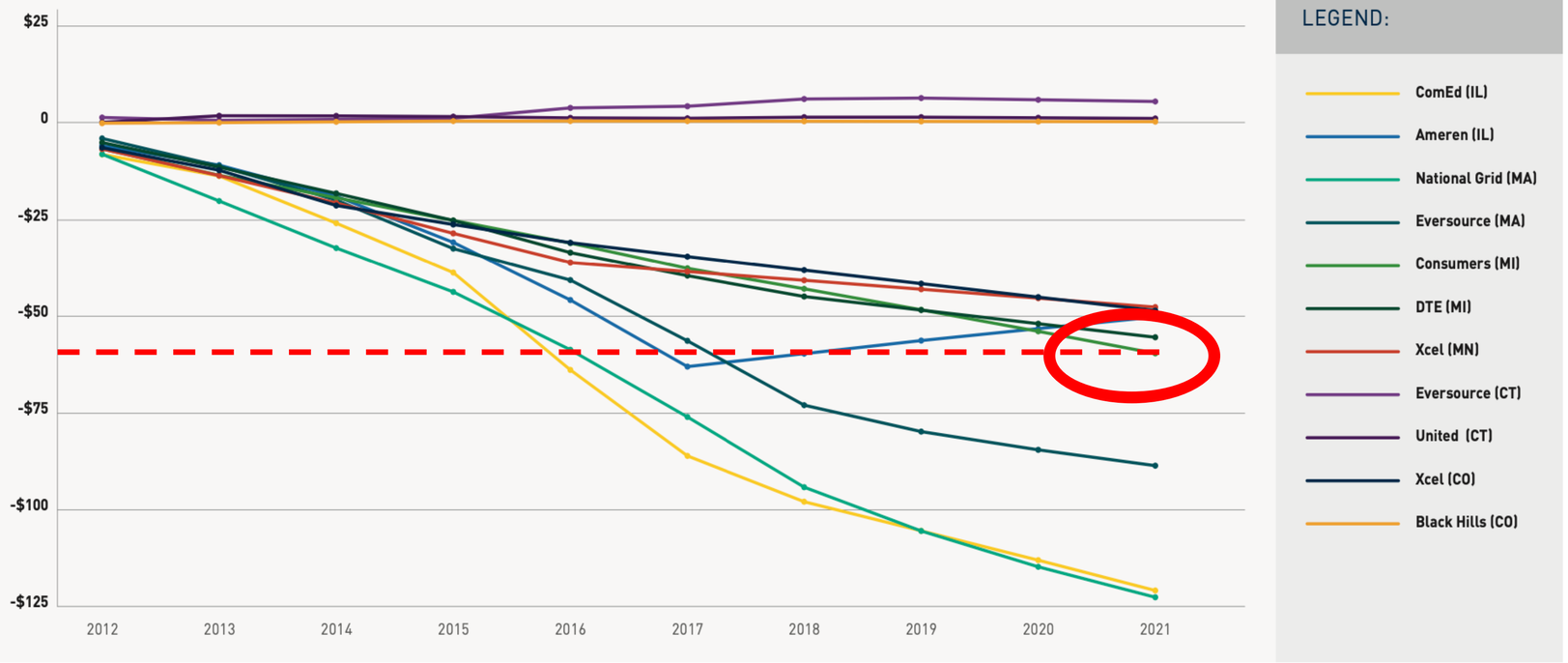


FIGURE 8: CUMULATIVE LOW-INCOME PROGRAM INVESTMENT TRENDS, INCLUDING E3B DEFICIT ($), FOR EACH UTILITY RESIDENTIAL PORTFOLIO



From 2012-2021, DTE & Consumers LI customers should have received **AT LEAST** *an additional $120M in energy efficiency funds.*

FIGURE 8: CUMULATIVE LOW-INCOME PROGRAM INVESTMENT TRENDS, INCLUDING E3B DEFICIT ($), FOR EACH UTILITY RESIDENTIAL PORTFOLIO



Definitions of affordability matter

TABLE 1: STATE POLICY APPROACHES TOWARDS LOW-INCOME ENERGY EFFICIENCY PROGRAMS INCLUDING SPECIFICATIONS FOR INCOME QUALIFICATIONS, AND PROGRAM INVESTMENT REQUIREMENTS

STATE	UTILITY	YEARS	LOW-INCOME QUALIFIER	REQUIRED LOW-INCOME INVESTMENT
CO	Xcel	2012-2021	150% Federal Poverty Level or 60% State Median Income	No requirement
	Black Hills			
MI	DTE	2012-2021	200% Federal Poverty Level	No requirement
	Consumers			
MA	Eversource	2012-2021	60% State Median Income	10% of total portfolio including C&I
	National Grid			
IL	Ameren	2012-2016	80% Area Median Income	$8.4 million (after 2017)
		2017-2021	300% Federal Poverty Level	
	ComEd	2012-2021	80% Area Median Income	$25 million (after 2017)
CT	Eversource	2012-2021	60% State Median Income	No requirement
	United			
MN	Xcel	2012-2016	200% Federal Poverty Level or 80% AMI, whichever is greater	0.2% of residential retail revenues
		2017-2021	110% Federal Poverty Level or 50% SMI, whichever is greater	

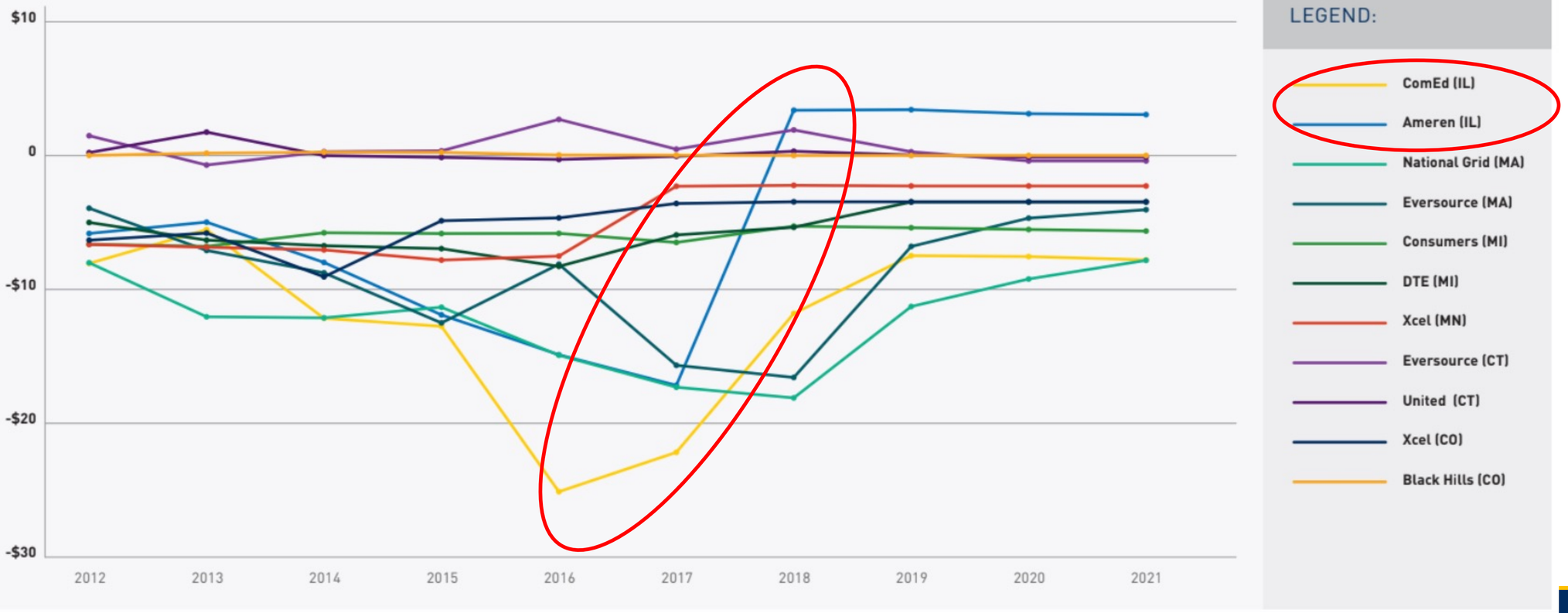
Affordability defines % of LI customers

TABLE 2: ESTIMATED E3B INVESTMENT FOR 2018, BASED UPON TOTAL RESIDENTIAL EERS SPENDING AND PERCENT OF POPULATION QUALIFIED FOR LOW-INCOME PROGRAMS

STATE	UTILITY	TOTAL RESIDENTIAL EE INVESTMENT ($, MILLIONS)	LOW-INCOME POPULATION (%)	ESTIMATED E3B INVESTMENT ($, MILLIONS)	ACTUAL INVESTMENT ($, MILLIONS)
CO	Black Hills	$2.0	34%	$0.7	$0.66
	Xcel	$26.1	28%	$7.3	$3.8
CT	Eversource	$37.0	31%	$11.4	$13.2
	United	$6.4	31%	$1.9	$2.2
IL	Ameren	$29.1	44%	$12.7	$16.1
	ComEd	$132.4	45%	$60.0	$48.2
MA	Eversource	$144.6	32%	$45.9	$29.3
	National Grid	$167.8	31%	$51.1	$33.0
MI	DTE	$52.1	34%	$17.9	$12.5
	Consumers	$32.0	34%	$10.7	$5.4
MN	Xcel	$28.2	17%	$4.6	$2.4

It changes the leaderboard....

FIGURE 6: YEAR-TO-YEAR E3B DEFICIT TRENDS FOR ELEVEN IOUS. FIGURES ABOVE $0 REFLECT LOW-INCOME PROGRAM INVESTMENT LEVELS ABOVE THE E3B, WHEREAS FIGURES BELOW $0 REFLECT LOW-INCOME PROGRAM INVESTMENTS BELOW THE E3B



It changes the leaderboard....

TABLE 3: UTILITY RANKINGS OF ANNUAL E3B INVESTMENT PERFORMANCE (% E3B ACHIEVED) AT THREE-YEAR INTERVALS AND CUMULATIVELY (2012-2021)

RANK	2012	2015	2018	2021	CUMULATIVE INVESTMENT (2012-2021)
#1	Eversource (CT) 113%	Black Hills (CO) 133%	Ameren (IL) 126%	Ameren (IL) 123%	Black Hills (CO) 106%
#2	United (CT) 107%	Eversource (CT) 102%	Eversource (CT) 116%	Eversource (CT) 98%	Eversource (CT) 104%
#3	Black Hills (CO) 94%	United (CT) 95%	United (CT) 114%	United (CT) 96%	United (CT) 104%
#4	Eversource (MA) 83%	National Grid (MA) 75%	Black Hills (CO) 95%	Black Hills (CO) 95%	Eversource (MA) 75%
#5	National Grid (MA) 70%	Eversource (MA) 61%	ComEd (IL) 80%	Eversource (MA) 89%	National Grid (MA) 71%
#6	ComEd (IL) 59%	DTE (MI) 51%	DTE (MI) 70%	ComEd (IL) 86%	ComEd (IL) 68%
#7	DTE (MI) 55%	Xcel (CO) 39%	National Grid (MA) 65%	DTE (MI) 81%	DTE (MI) 65%
#8	Ameren (IL) 41%	Consumers (MI) 39%	Eversource (MA) 64%	National Grid (MA) 81%	Ameren (IL) 63%
#9	Xcel (CO) 23%	ComEd (IL) 36%	Xcel (CO) 52%	Xcel (CO) 52%	Xcel (CO) 40%
#10	Xcel (MN) 22%	Xcel (MN) 23%	Xcel (MN) 51%	Xcel (MN) 51%	Consumers (MI) 40%
#11	Consumers (MI) 19%	Ameren (IL) 20%	Consumers (MI) 50%	Consumers (MI) 49%	Xcel (MN) 32%

Tax credits for solar and EVs

What does distributional equity look like?

2006-2014;
~18B in federal tax credits

How much was received by:

Richest 10% ??

Bottom 60% ??

What does distributional equity look like?

2006-2014;
~18B in federal tax credits

How much was received by:

Richest 10% ??
$10.8B

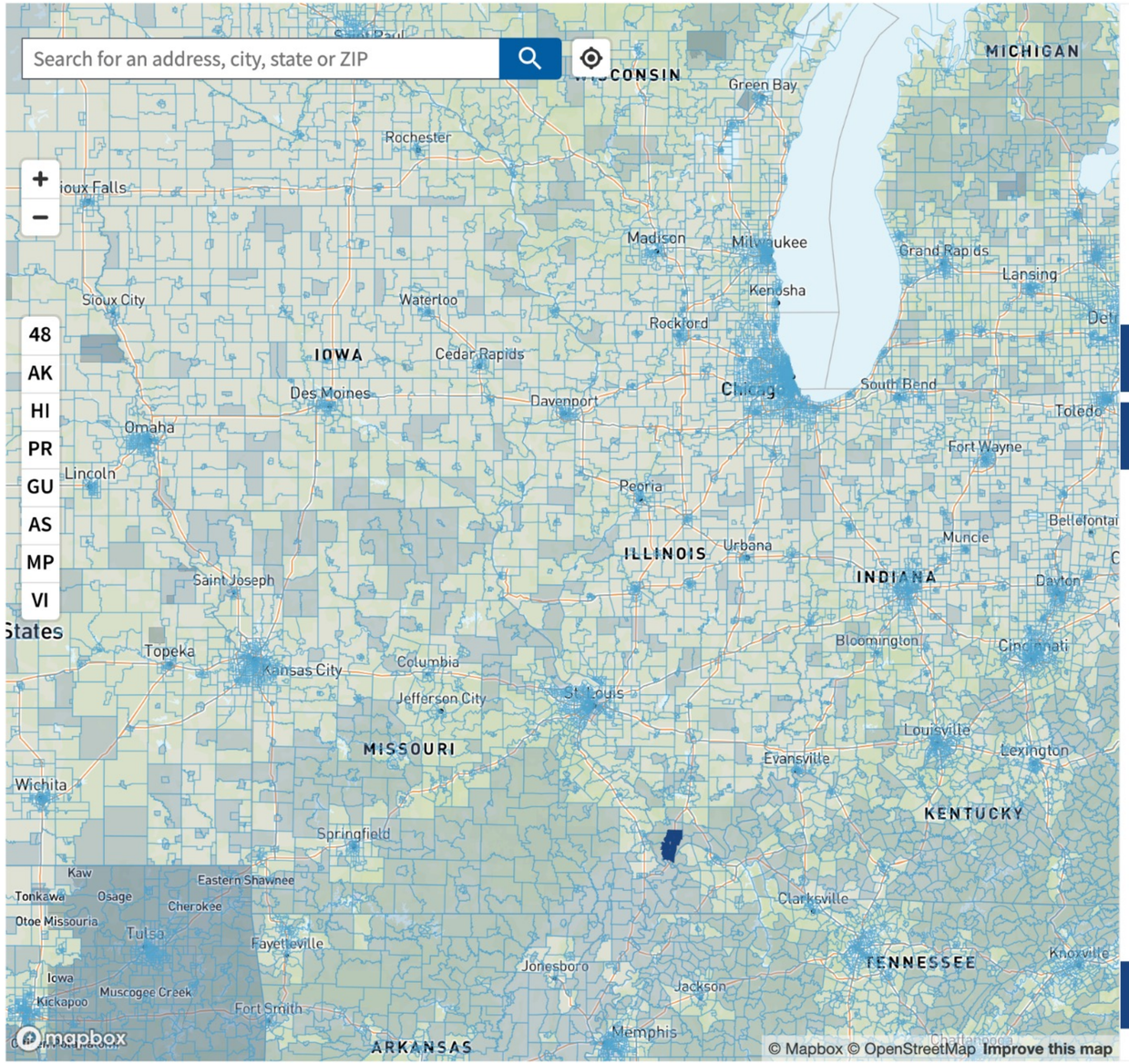
Bottom 60% ??
$1.8B
36X less

What does distributional equity look like?

Median income of households installing solar is $113,000.

>90% of federal tax credits for electric vehicles are received by households that earn > $200,000.

Justice40



Identified as disadvantaged?

YES

This tract is considered disadvantaged because it meets more than 1 burden threshold **AND** the associated socioeconomic threshold.

Send feedback

Climate change +

Energy −

Energy cost — 99th (above 90th percentile)
Average annual energy costs divided by household income

PM2.5 in the air — 66th (not above 90th percentile)
Level of inhalable particles, 2.5 micrometers or smaller

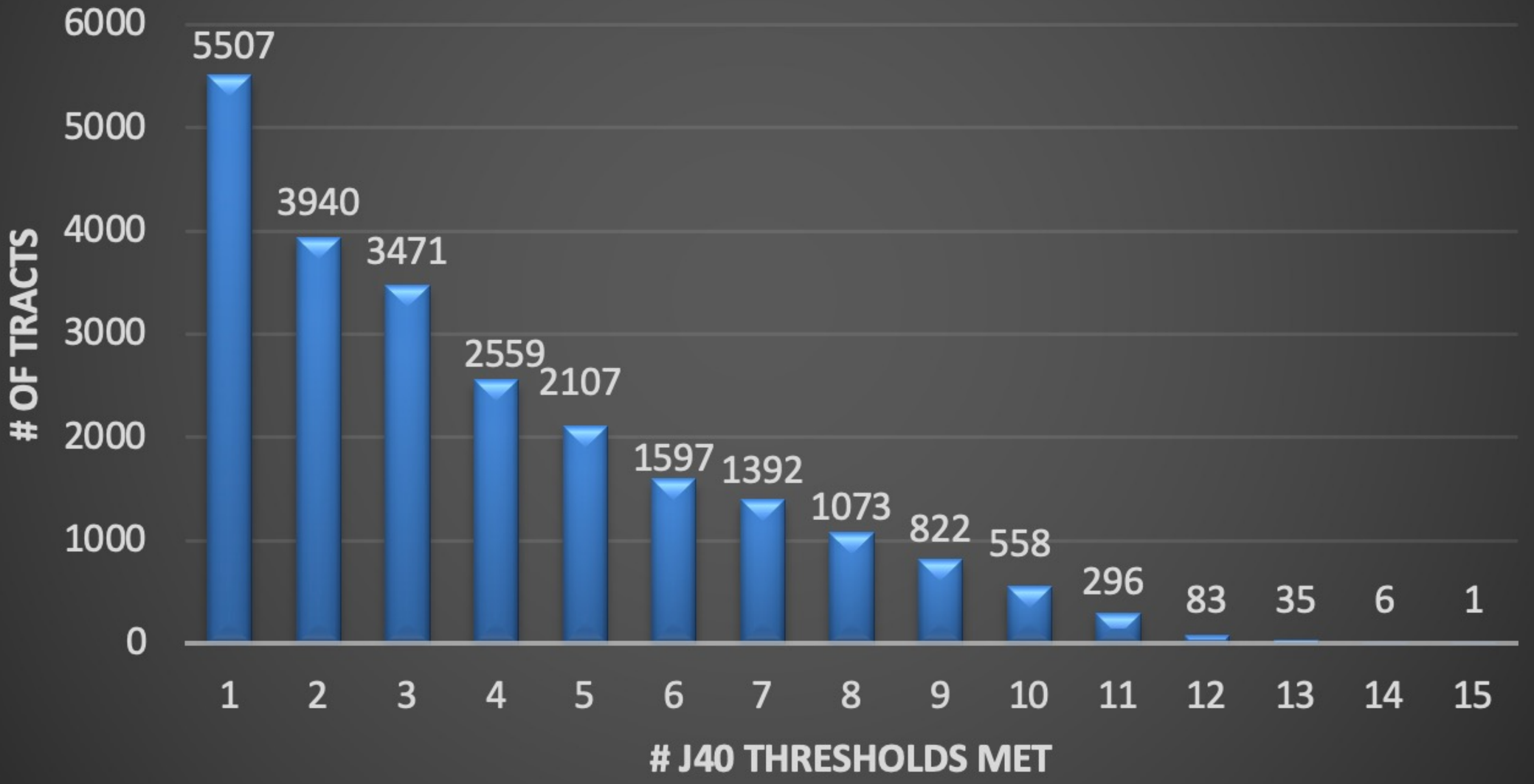
AND

Low income — 91st (above 65th percentile)
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed

Health −

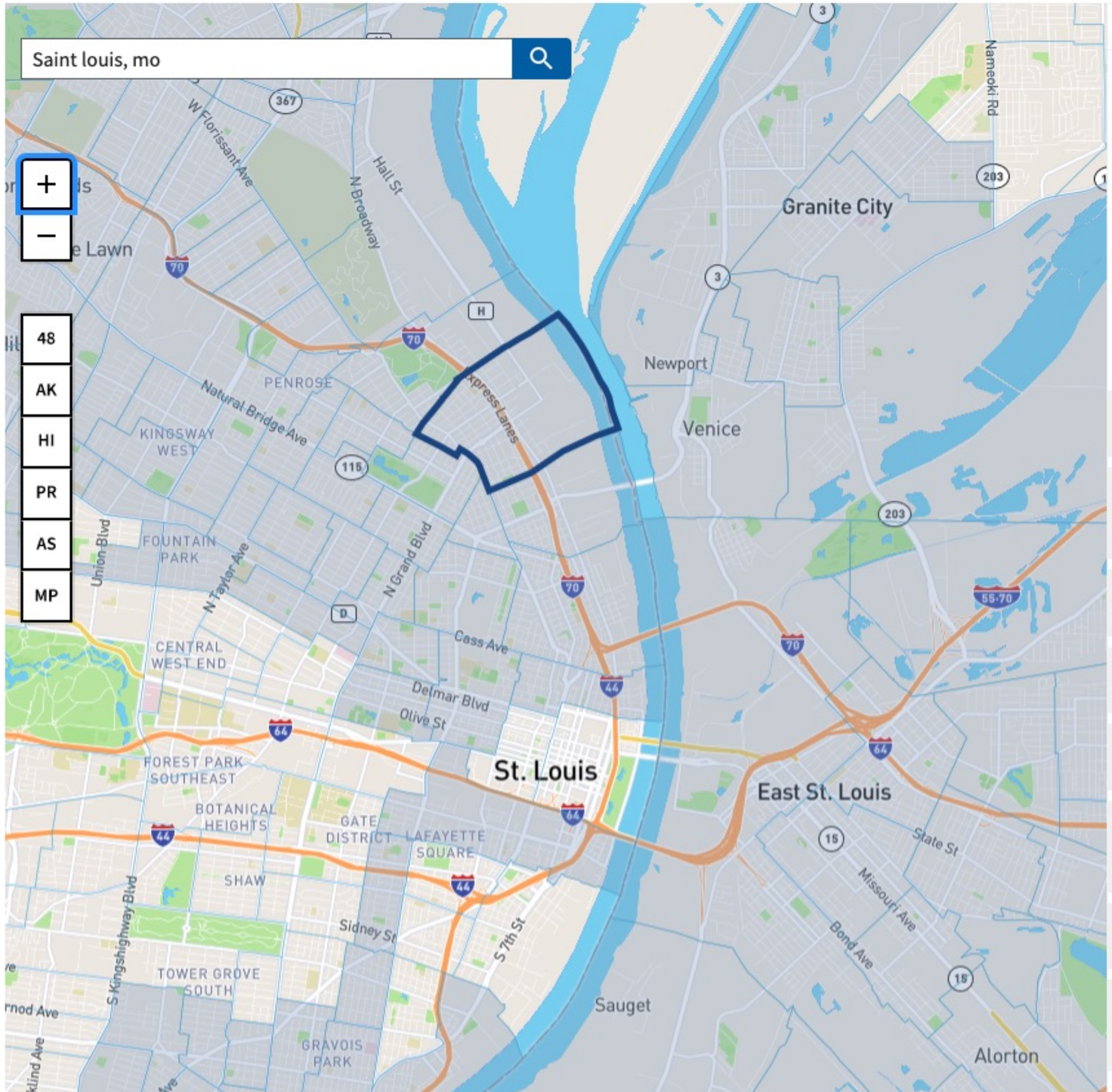
Help improve the tool

Census tracts by # of J40 thresholds met



Maximum# thresholds = 15

Census Tract 29510109700, St. Louis, MO



Methodology version 0.1

Census tract: 29510109700
County: St. Louis city
State: Missouri
Population: 2,142

Identified as disadvantaged?

YES

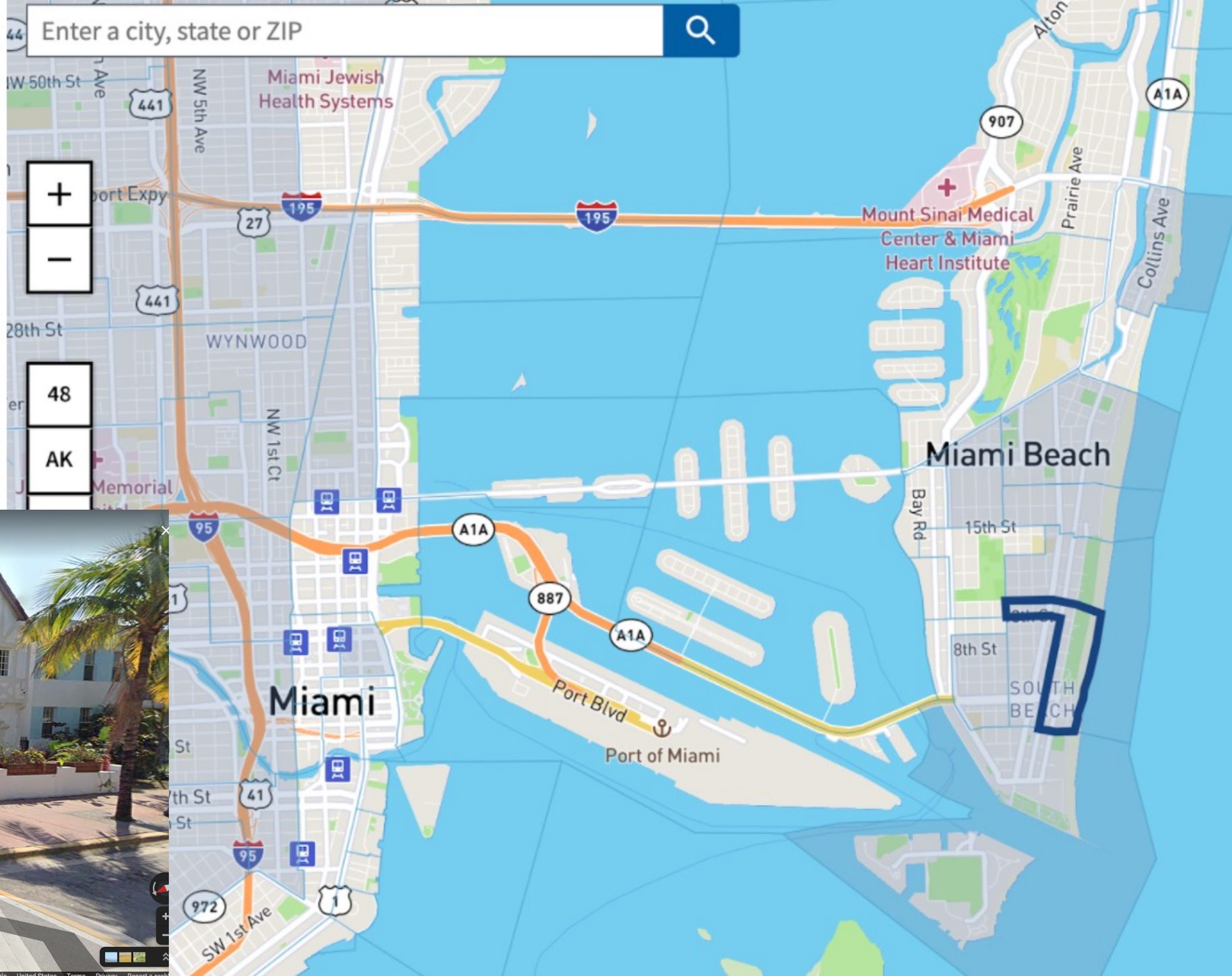
15 of 21 thresholds exceeded

Send feedback

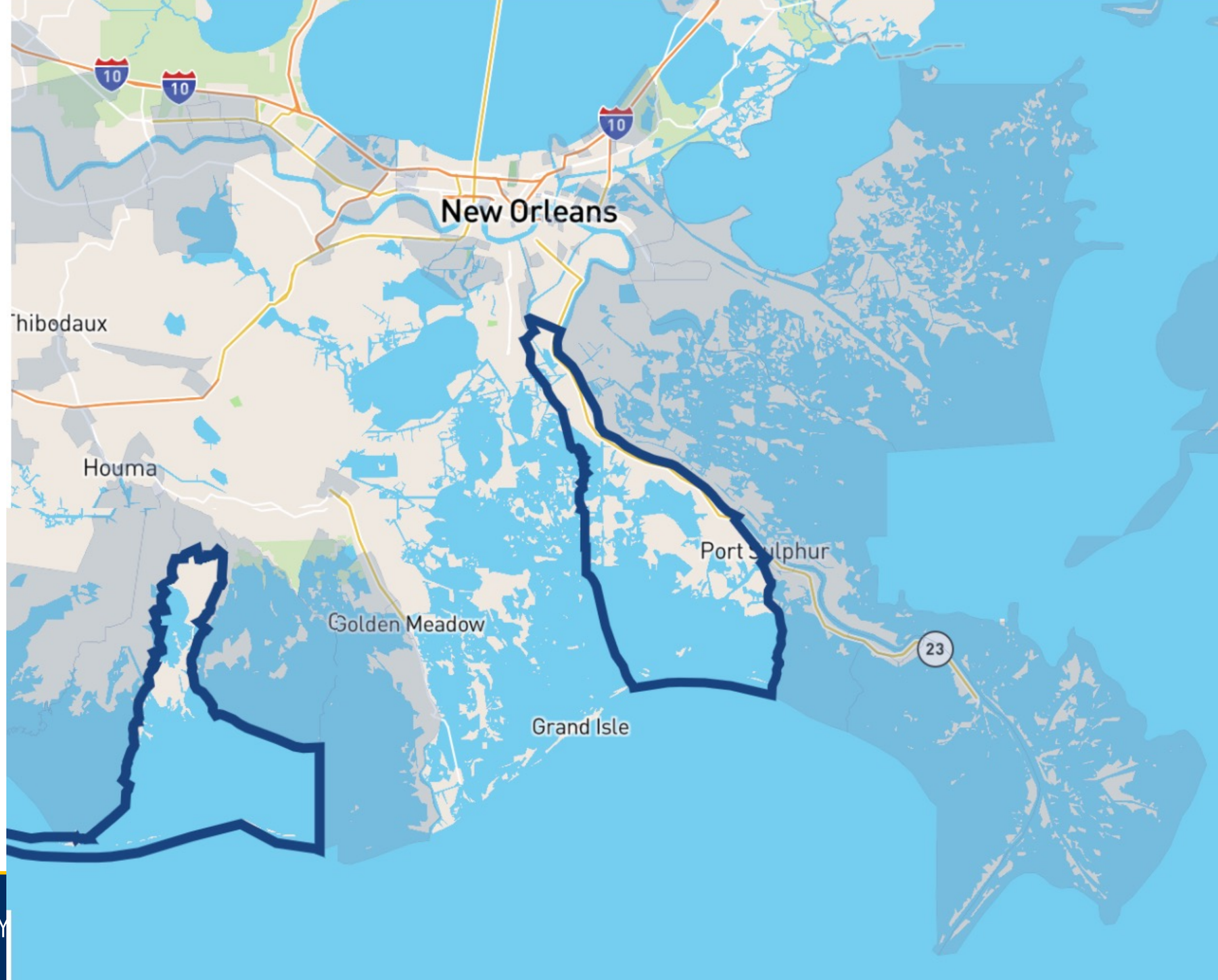
- **Climate change** +
- **Clean energy and energy efficiency** +
- **Clean transportation** +
- **Sustainable housing** +
- **Legacy pollution** +
- **Clean water and waste infrastructure** +
- **Health burdens** +
- **Workforce development** +

SCHOOL FOR ENVIRONMENT & SUSTAI
UNIVERSITY OF MICHIGAN

The need for groundtruthing



The danger of binary thresholds

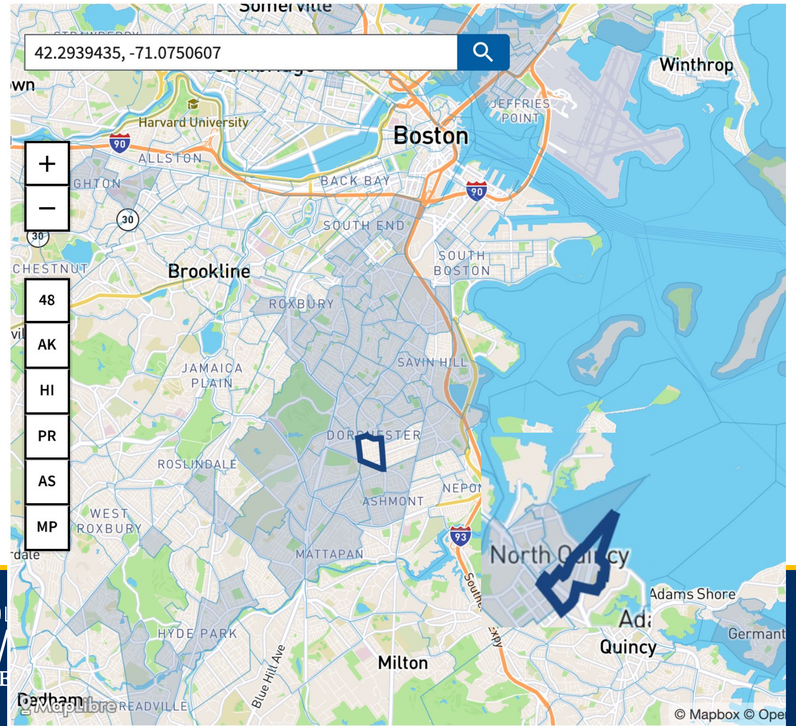


DORCESTER | NORTH QUINCY

How well can we distinguish between tracts?

Dorcester = 65% Black, 22% Latinx, 5% white
= NOT disadvantaged

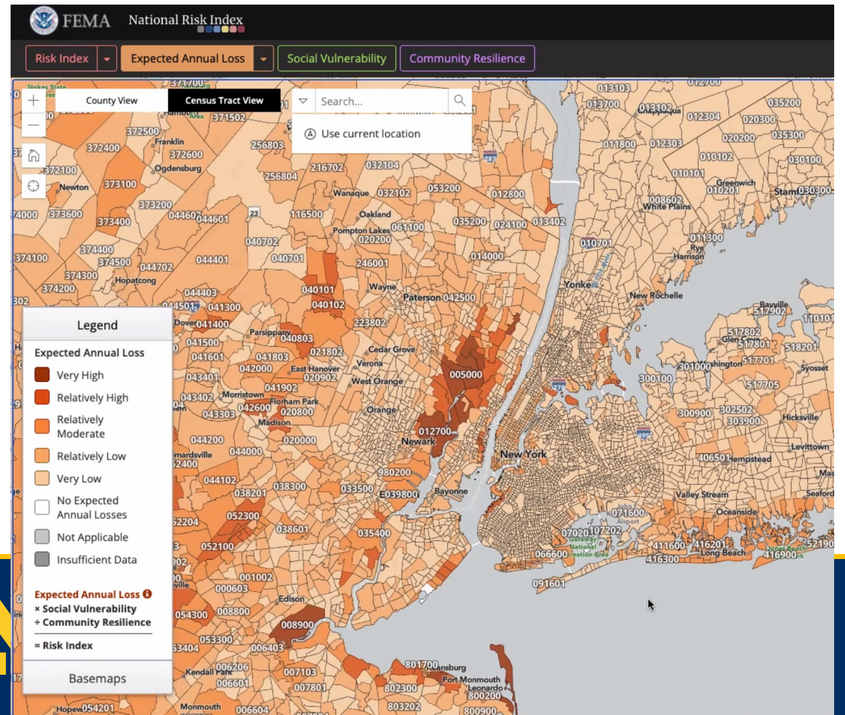
North Quincy = 41% Asian, 50% white
= IS disadvantaged

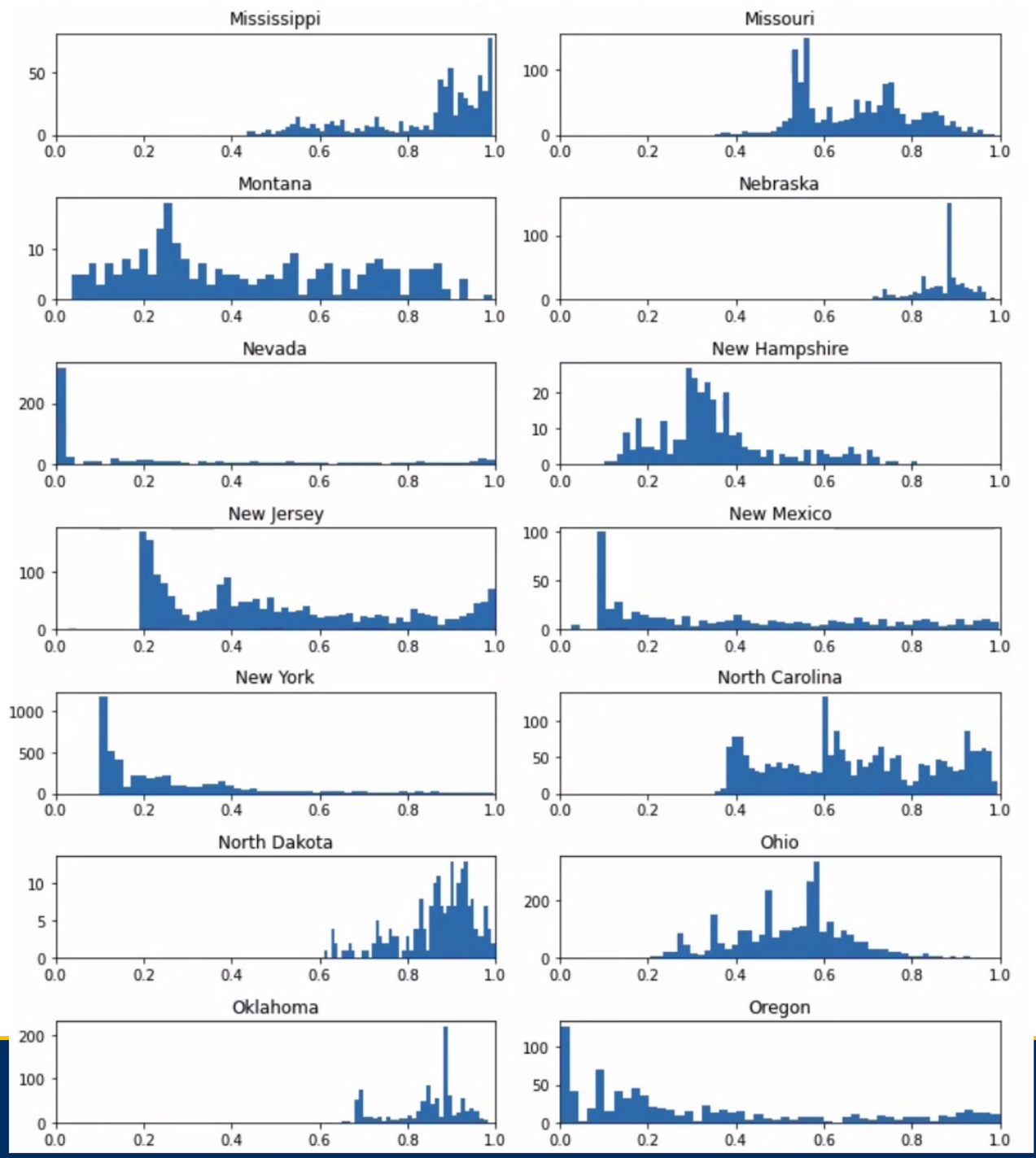


	25025092300	25021417601
Indicator	**Percentile**	**Percentile**
Low-income	59	48
Higher ed enrollment	5	16
Expected agricultural loss rate	*0*	0
Expected building loss rate	12	42
Expected population loss rate	10	75
Energy burden	86	59
PM 2.5 exposure	13	11
Diesel particulate matter	75	67
Traffic proximity	41	74
Housing burden	**91**	76
Lead paint	88	85
Hazardous waste facilities	84	81
Superfund sites	49	56
Proximity to RMP sites	40	36
Wastewater discharge	2	53
Asthma	97	52
Diabetes	75	34
Heart disease	37	41
Life expectancy	19	60
Linguisitic isolation	87	94
Unemployment	75	68
Below 100% federal poverty	59	67
Low HS attainment	19	20

Eye-Testing

E.g. expected Building Loss Histograms

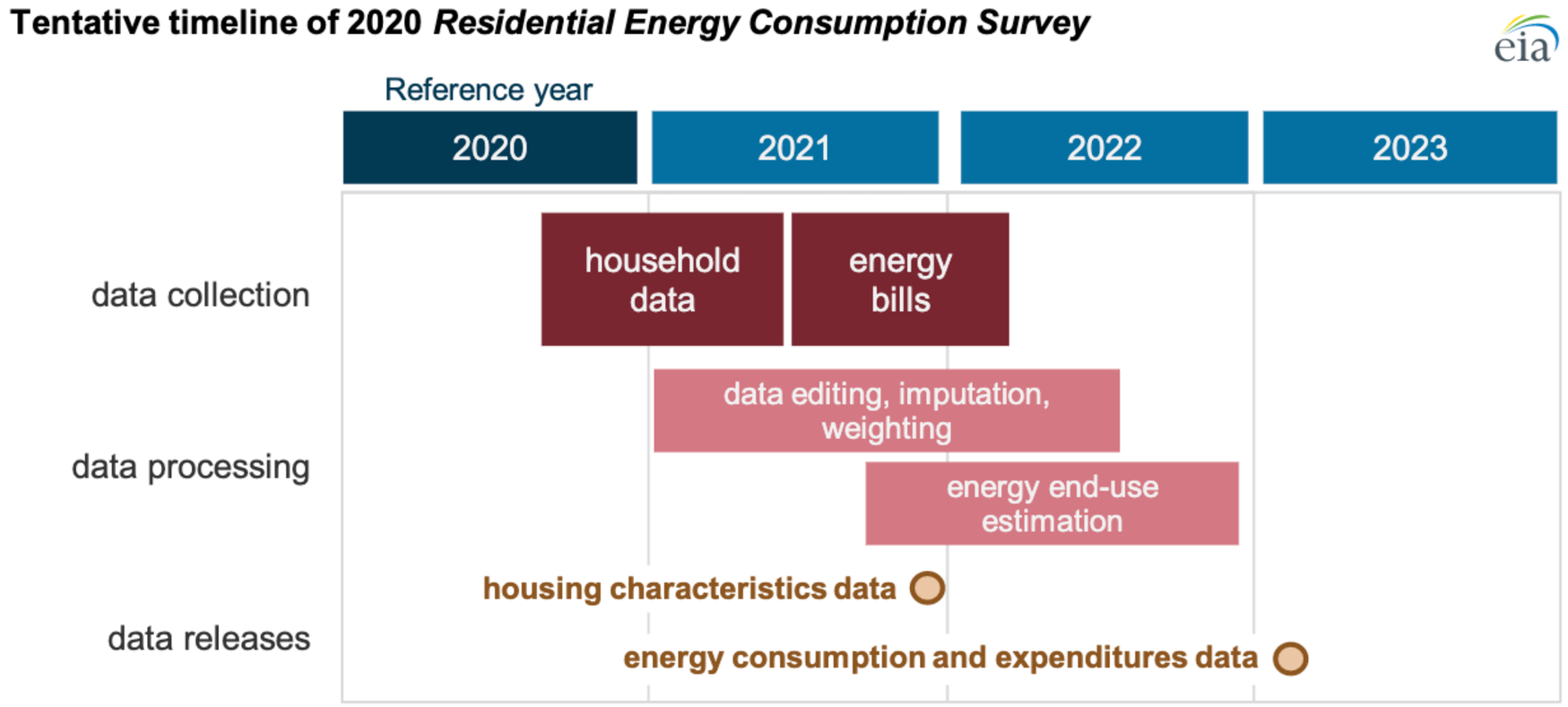




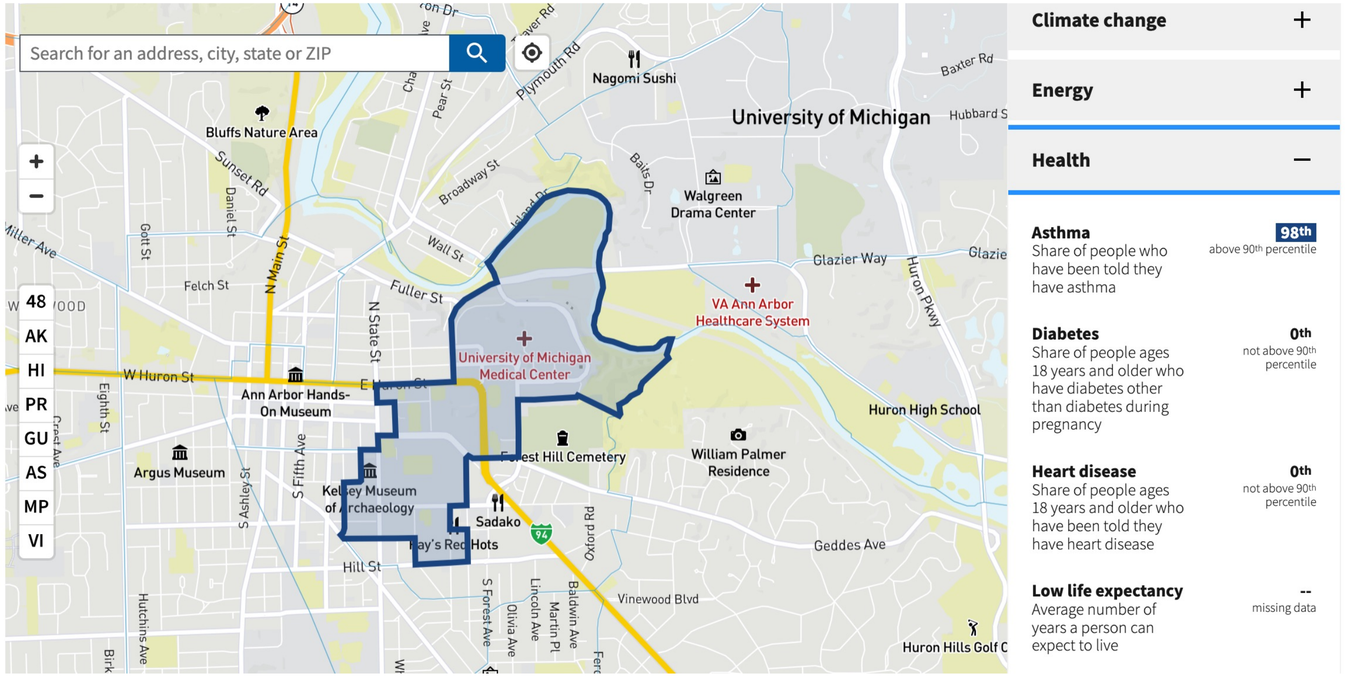
Data reliability: gaps, errors, & manipulation

Need for consistent and current data

EIA's upcoming Residential Energy Consumption Survey will collect data from all 50 states



CEJST



Climate change +

Energy +

Health −

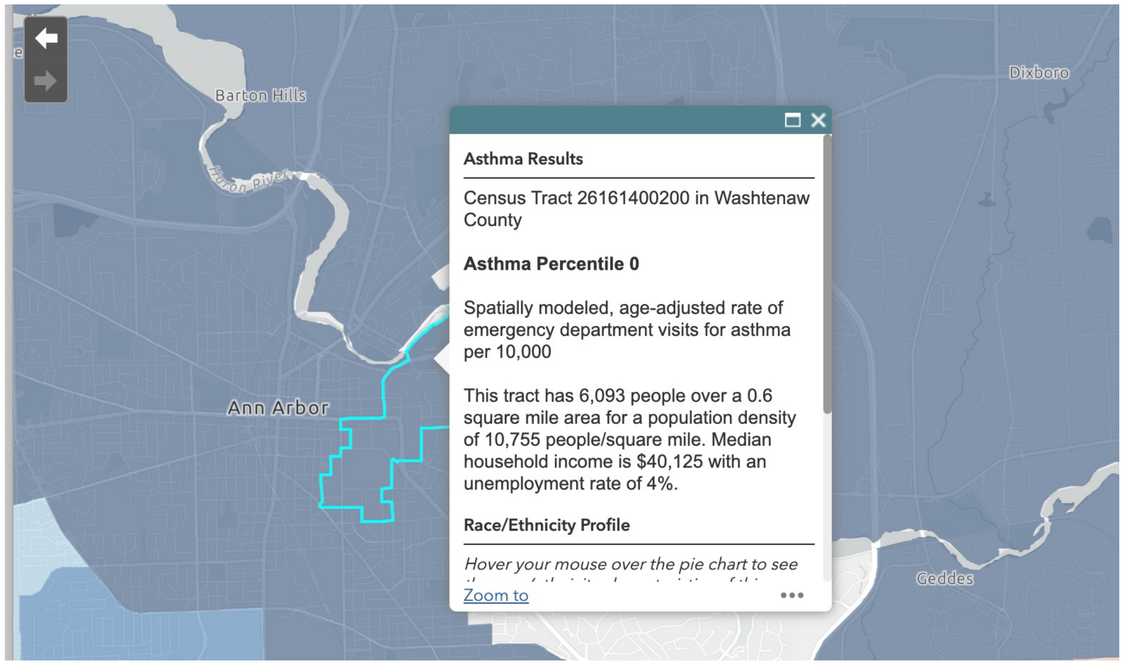
Asthma — 98th (above 90th percentile)
Share of people who have been told they have asthma

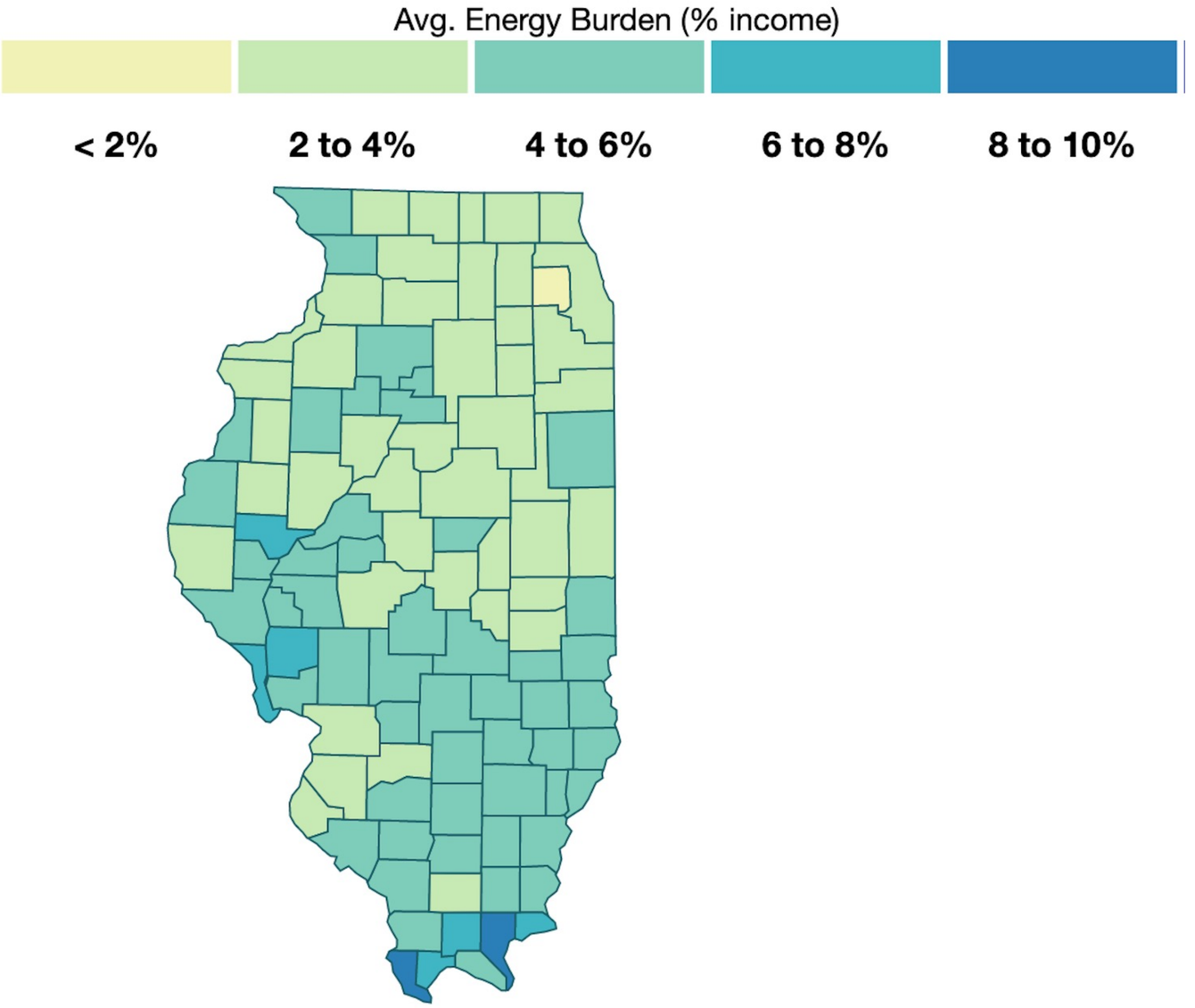
Diabetes — 0th (not above 90th percentile)
Share of people ages 18 years and older who have diabetes other than diabetes during pregnancy

Heart disease — 0th (not above 90th percentile)
Share of people ages 18 years and older who have been told they have heart disease

Low life expectancy — -- (missing data)
Average number of years a person can expect to live

MI EJScreen





Low-Income Energy Affordability Data Tool Map Export (https://lead.openei.org/)
Exported On: 3/20/2023
Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+
Heating Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None
Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ units, Boat/RV/Van, Mobile/Trailer
Rent/Own: Renter-occupied, Owner-occupied
AMI: 0% - 30%, 30% - 60%, 60% - 80%, 80% - 100%, 100%+

Select or deselect any filter to customize maps and charts.

combine filters

Area Median Income

0% - 30%

At least one selection required

select all

- [x] 0% - 30%
- [ ] 30% - 60%
- [ ] 60% - 80%
- [ ] 80% - 100%
- [ ] 100%+

Switch Income Model

Building Age

Before 1940, 1940 - 59

select all

- [x] Before 1940
- [x] 1940 - 59
- [ ] 1960 - 79
- [ ] 1980 - 99
- [ ] 2000 - 09
- [ ] 2010+

Heating Fuel Type

Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None

deselect all

- [x] Utility Gas

0 to 21% | 21 to 43% | 43 to 79% | 79 to 438% | 438 to 945% | > 945% | No Data

United States > Illinois > Census Tracts

(View Counties View Cities View Census Tracts)

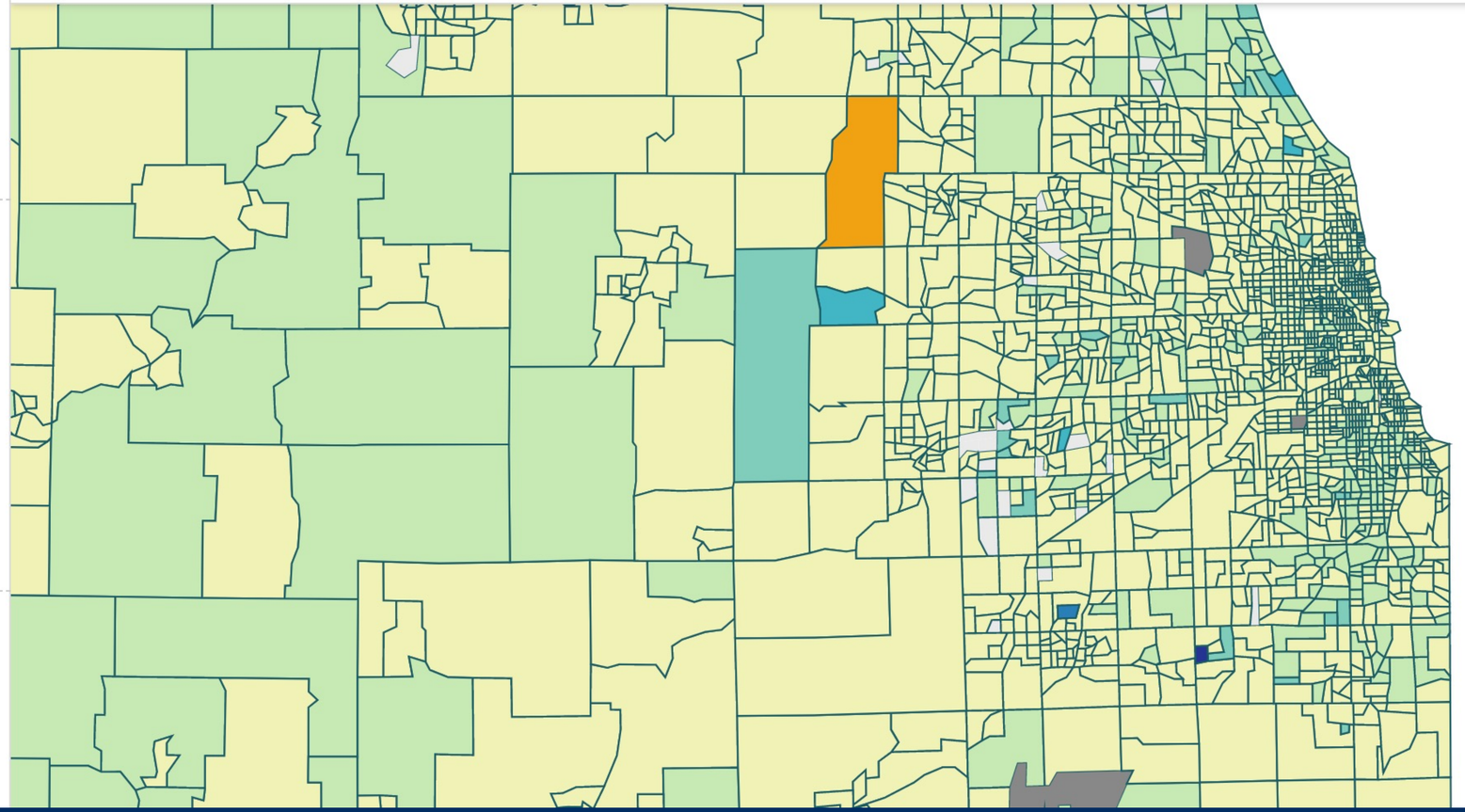
Avg. Energy Burden (% income) for Illinois: **16%**

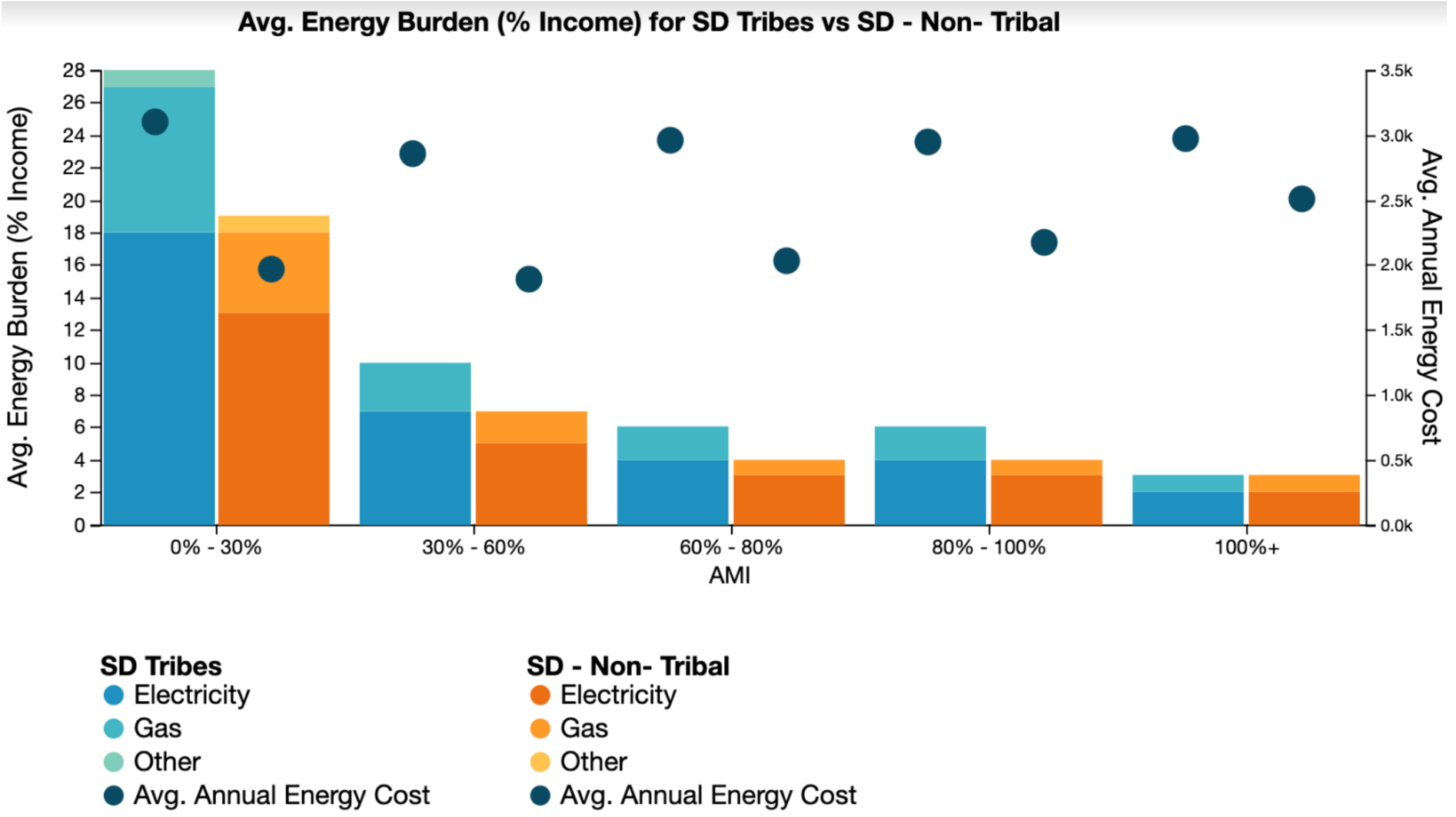
Census Tract 8507.01 in Kane County

compare tract

search

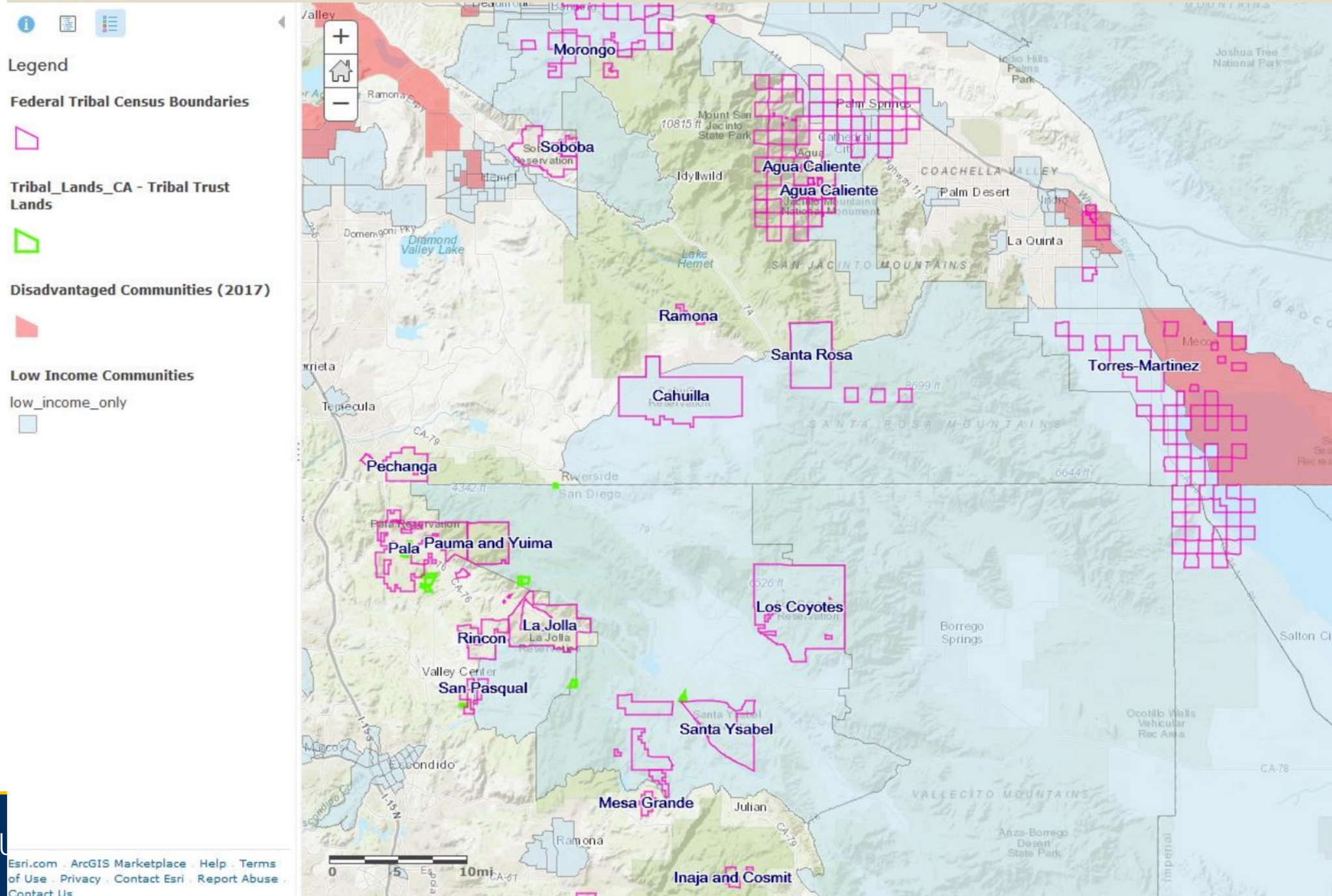
Avg. Energy Burden (% income): **966%**



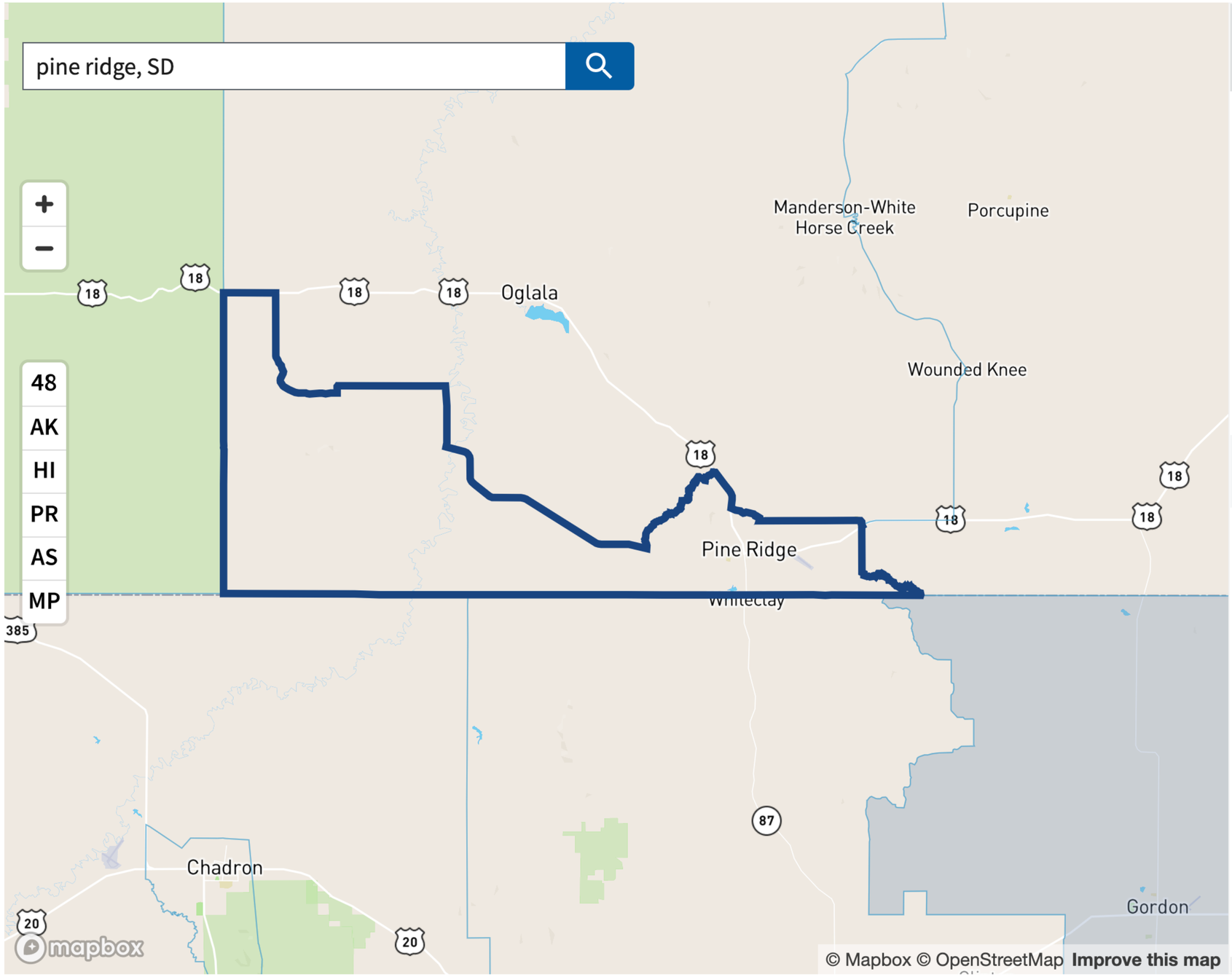


Low-Income Energy Affordability Data Tool Chart Export (https://lead.openei.org/)
Exported On: 3/16/2023
SD Tribes: Standing Rock Reservation, Lake Traverse Reservation, Cheyenne River Reservation, Lower Brule Reservation, Pine Ridge Reservation, Ros
SD - Non-Tribal: South Dakota
AMI: 0% - 30%, 30% - 60%, 60% - 80%, 80% - 100%, 100%+
Building Age: Before 1940, 1940 - 59, 1960 - 79, 1980 - 99, 2000 - 09, 2010+
Heating Fuel Type: Utility Gas, Bottled Gas, Electricity, Fuel Oil, Coal, Wood, Solar, Other, None
Building Type: 1 unit detached, 1 unit attached, 2 units, 3 - 4 units, 5 - 9 units, 10 - 19 units, 20 - 49 units, 50+ units, Boat/RV/Van, Mobile/Trailer
Rent/Own: Renter-occupied, Owner-occupied

Map of Disadvantaged Communities, Low-Income Communities & Tribal Boundaries



Gaps in tribal data result in exclusion



Clean energy and energy efficiency

At or above at least one threshold? **No**

Energy burden
Average annual energy costs divided by household income
data is not available

PM2.5 in the air
Fine inhalable particles, 2.5 micrometers or smaller
data is not available

AND

At or above both associated thresholds? **No**

Low income
Household income is less than or equal to twice the federal poverty level
data is not available

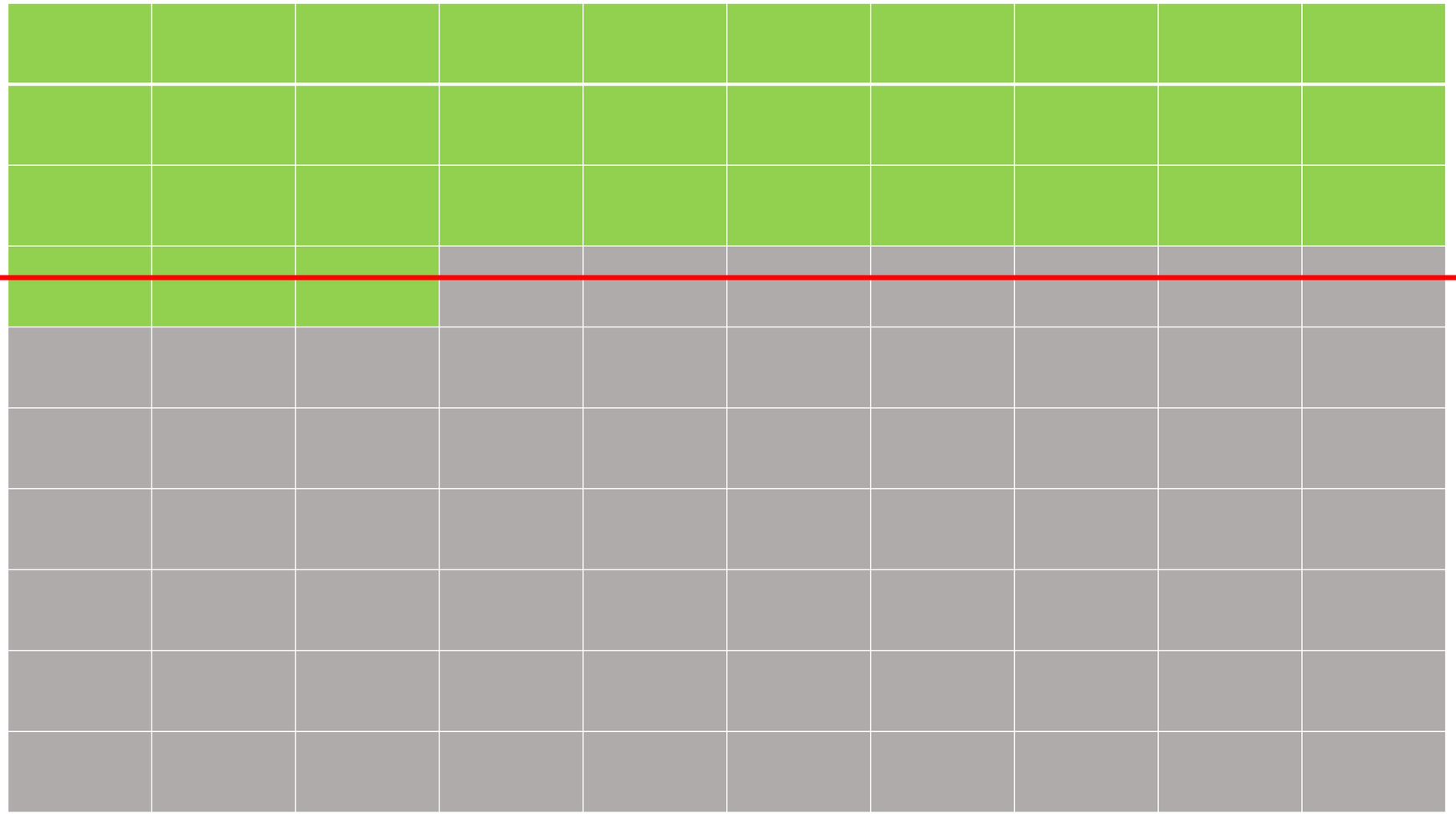
Higher education non-enrollment
Percent of the census tract's population 15 or older not enrolled in college, university, or graduate school
data is not available

[Download the current list] of communities and datasets used (ZIP file will contain one .xlsx and one .csv, with a size of 52MB unzipped). Last updated: 04/06/22.

Help improve the site & data

Traditional Justice40 Application

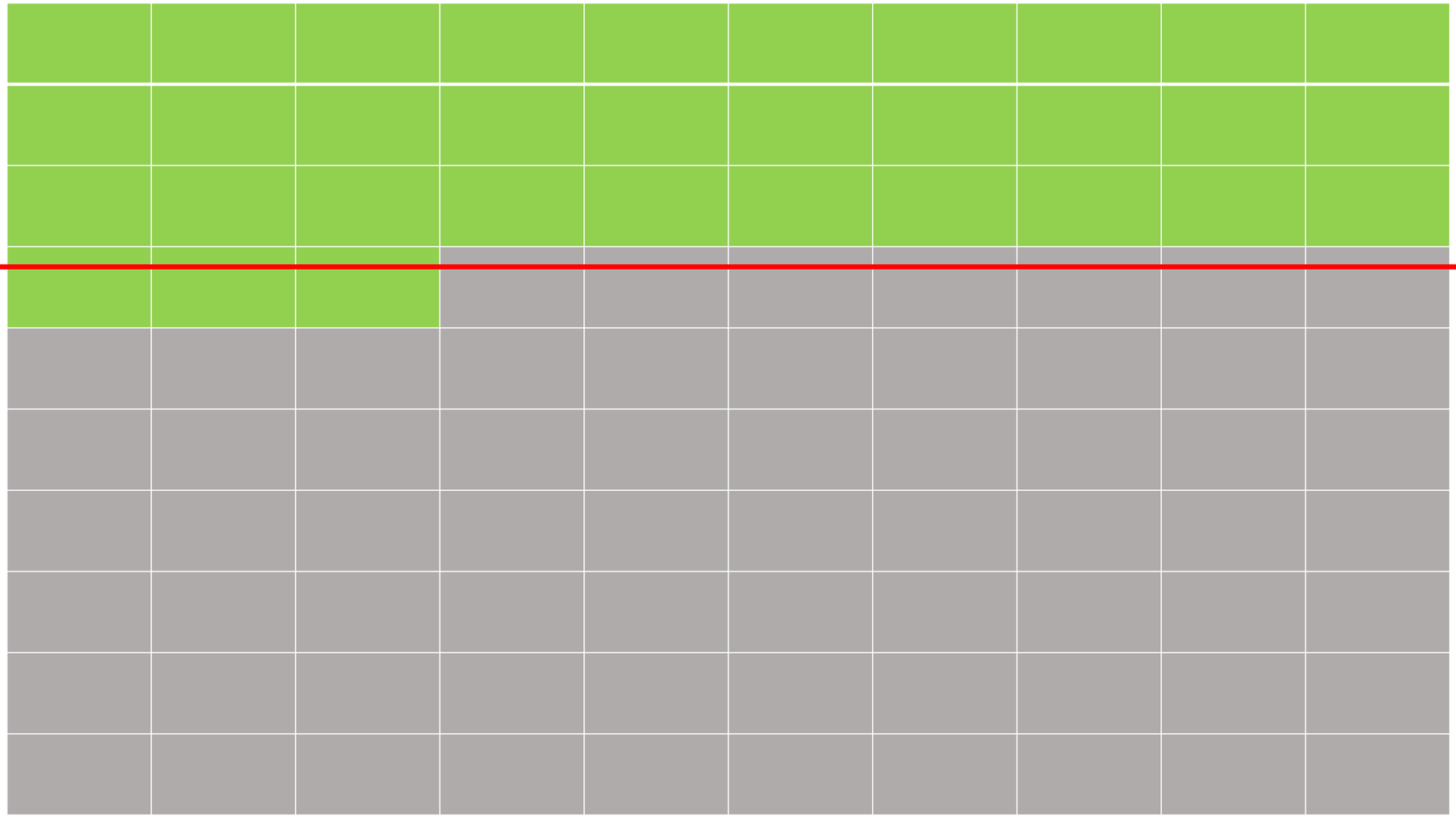
33% of population received 40% of benefits



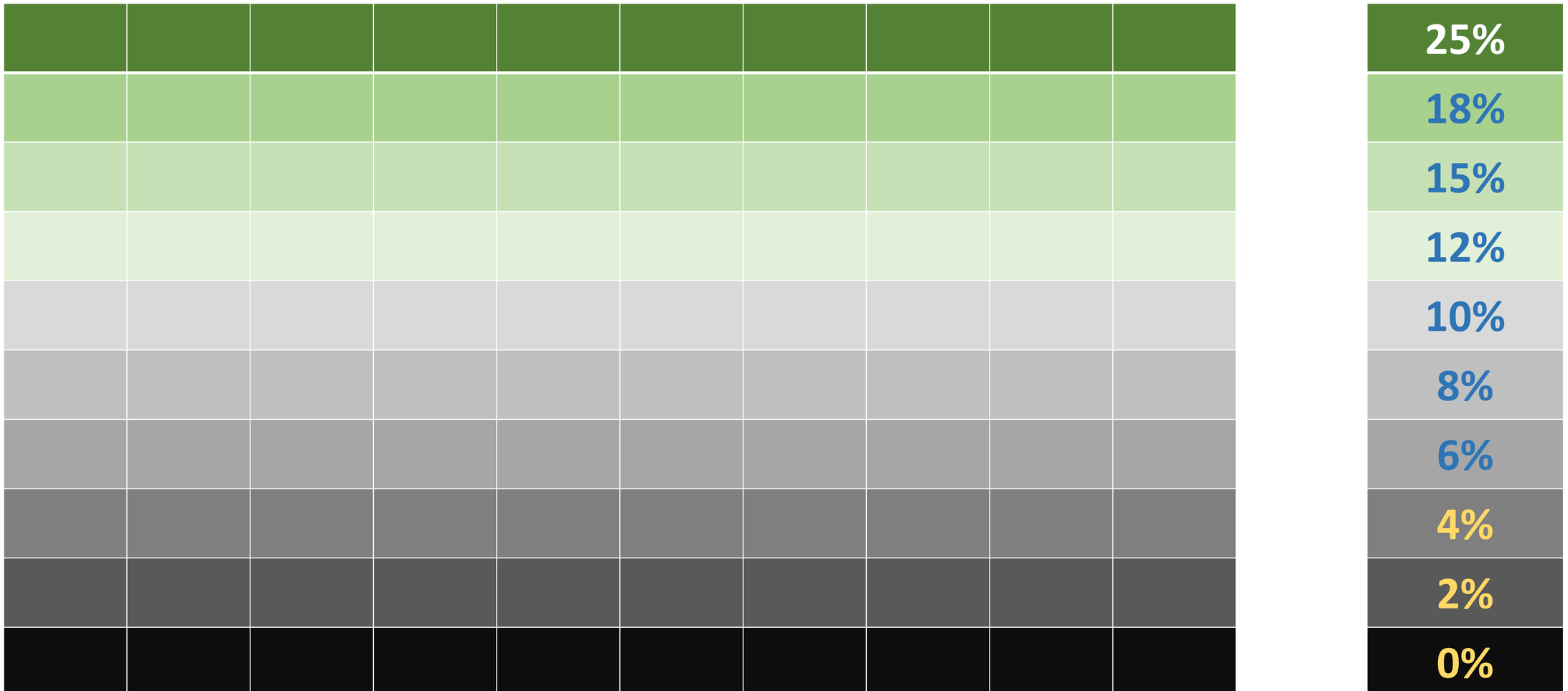
67% of the population receives 60% of benefits

Traditional Justice40 Application

- If top 10% got $10.8B; bottom 60% should have received $64.2B
- Cumulative gap is $53.2B
- Of $2B / year spending, J40 recovers $0.13B per year.
- Takes 409 years to eliminate the gap

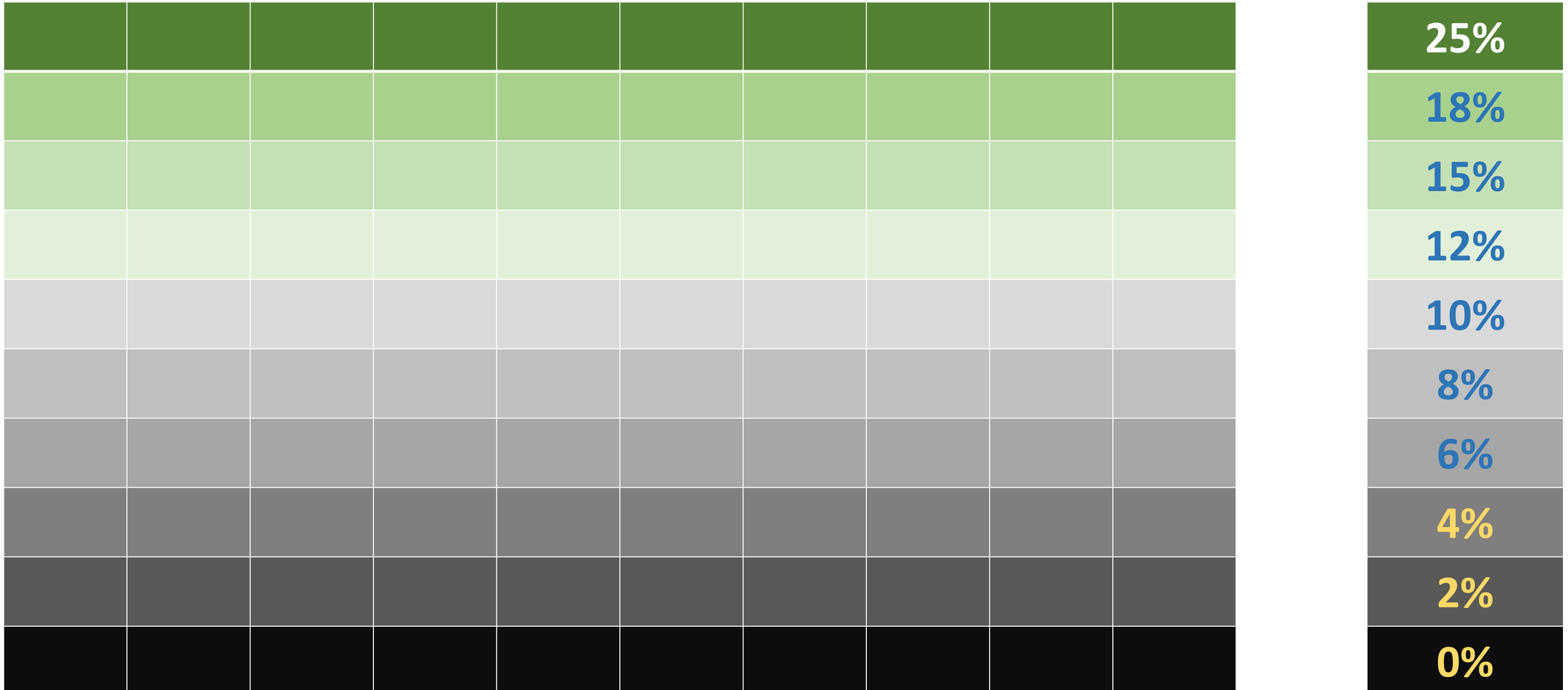


Progressive Justice~~40~~70 Application



Progressive Justice~~40~~70 Application

- Benefits assigned by decile; from 0 to 2.5x
- Closes cumulative $53B gap at $1.76B / year
- 30.2 years for bottom 60% to catch richest 10% in federal tax credits



How do we ensure that IRA incentives for home retrofits follow a different path?

Pathways to universal affordability are within reach

$61,000 in retrofits – for $23,000?

Pathways to universal affordability are within reach

$61,000 in retrofits – for $23,000?

IRA: $14,000 x 2 years – full electrification + super-efficiency
$10,000 x 1 year - tax credit for solar + storage

$38,000 in federal funds

Pathways to universal affordability are within reach

$61,000 in retrofits – for $23,000?

IRA: $14,000 x 2 years – full electrification + super-efficiency
$10,000 x 1 year - tax credit for solar + storage

$38,000 in federal funds

$23,000 balance repaid over 10 years:
Customer @ $50 - $100 / month
MEAP
Local & state sources

Pathways to universal affordability are within reach

$61,000 in retrofits – for $23,000?

IRA: $14,000 x 2 years – full electrification + super-efficiency
$10,000 x 1 year - tax credit for solar + storage

$38,000 in federal funds

$23,000 balance repaid over 10 years:
Customer @ $50 - $100 / month
MEAP
Local & state sources

→ In 2033, customer has permanent energy security & affordability

→ $50 / month energy bill
2% energy burden @ $30,000 | 4% @ $15,000

Using Energy Justice Data for Good

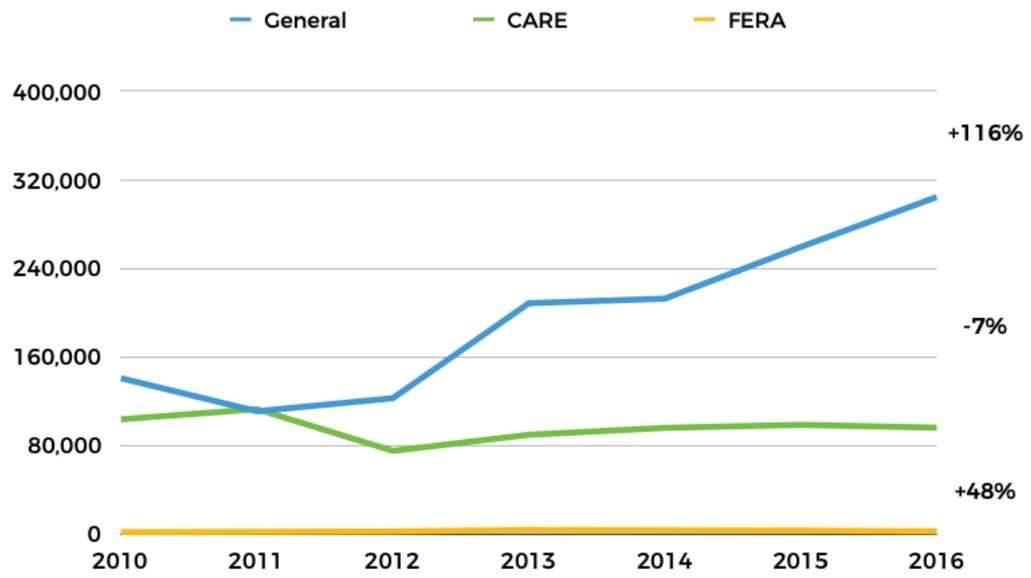
Targeting Reductions in Shutoffs

WHO IS MOST VULNERABLE?

Southern California Edison

Edison's CARE customers experienced a 7% drop in shutoffs from 2010 to 2016. Shutoffs among FERA customers increased by 48%. General customers experienced a 116% rise in shutoffs, doubling from 140,717 shutoffs in 2010 to over 300,000 shutoffs in 2016.

Shutoff Trends by Customer Type: Edison



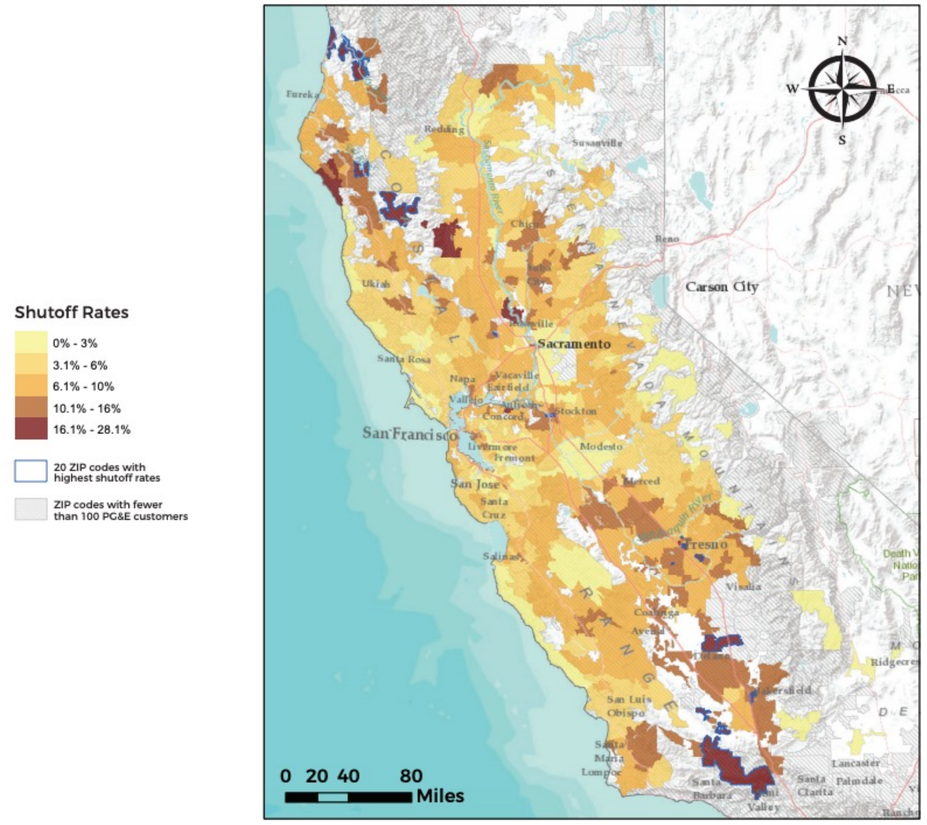
Source: Disconnections Rulemaking Data

Rate of Disconnects Relative to Eligible Disconnects

Month	2010	2011	2012	2013	2014	2015	2016	2017	2018
January	37%	19%	15%	31%	33%	35%	52%	51%	52%
February	36%	21%	19%	37%	37%	41%	47%	51%	49%
March	18%	22%	20%	31%	37%	39%	54%	61%	56%
April	18%	22%	19%	35%	46%	45%	58%	51%	53%
May	22%	21%	20%	42%	60%	56%	60%	60%	62%
June	26%	21%	17%	39%	51%	52%	68%	65%	59%
July	27%	20%	14%	38%	45%	56%	59%	54%	41%
August	29%	25%	12%	39%	45%	39%	55%	56%	53%
September	23%	20%	14%	30%	25%	37%	52%	52%	N/A
October	23%	20%	17%	30%	37%	41%	43%	45%	N/A
November	18%	14%	19%	27%	26%	34%	42%	45%	N/A
December	12%	7%	15%	19%	22%	32%	33%	21%	N/A
Total	22%	19%	17%	32%	36%	41%	51%	50%	53%

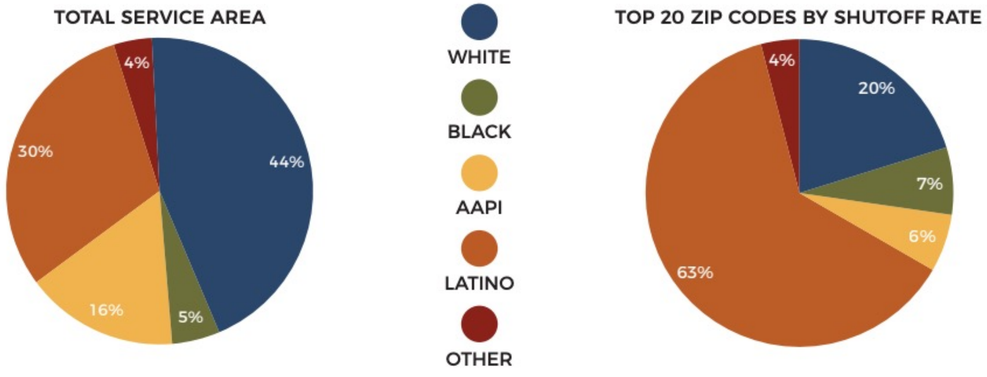
Disconnection rates based on SCE's Data Response to ALJ Ruling, Tables II-1 and II-2

2016 PG&E Shutoff Rates by ZIP Code



Source: PG&E ZIP Code Data. Shutoff rates show the number of shutoffs per total customers, not the percentage of customers experiencing disconnection. Only ZIP codes with over 100 PG&E customers in 2016 are displayed.

Racial Demographics: PG&E



Identifying outliers

	Total Disconnections	Reconnections	Never Reconnected	% Never Reconnected
PG&E	312,007	275,059	36,948	12%
Edison	402,761	358,403	44,358	11%
SoCal Gas	129,545	89170	40,375	31%
SDG&E	40,067	35,628	4,439	11%

	Average total customers	Unique 48-hour disconnection notices	Percent of customers receiving notices	Customers 60+ days in arrears in Dec 2016	Percent of customers 60+ days in arrears in Dec 2016	Total shutoffs	Shutoff rate
PG&E	5,451,347	785,004	14%	528,230	10%	312,007	5.7%
Edison	4,353,680	1,234,601	28%	495,726	11%	402,761	9.2%
SoCal Gas	5,496,386	609,960	11%	758,239	14%	129,545	2.3%
SDG&E	1,350,527	78,915	6%	255,240	19%	40,067	2.9%

Source: Disconnections Rulemaking Data. Shutoff rates show the number of shutoffs per total customers, not the percentage of

Data Driving action:

In 2020, this led to significant new rules:

1. A cap on all residential disconnections as a percentage of their customers.
2. A requirement to have received **an offer for** all programs (discount rates, EE, etc) to avoid disconnection for which the customer is eligible (but is not required to actually receive them… boo!)
3. Prior to disconnection, the customer must be put on a 12-month payment plan.
4. Customer cannot be disconnected if they have a LIHEAP application pending.
5. Customer cannot be disconnected during 72 hour periods of extreme heat or cold.
6. These orders will become relevant immediately after COVID protections (which are more comprehensive) expire.

Rolling Methodology for the Disconnection Cap

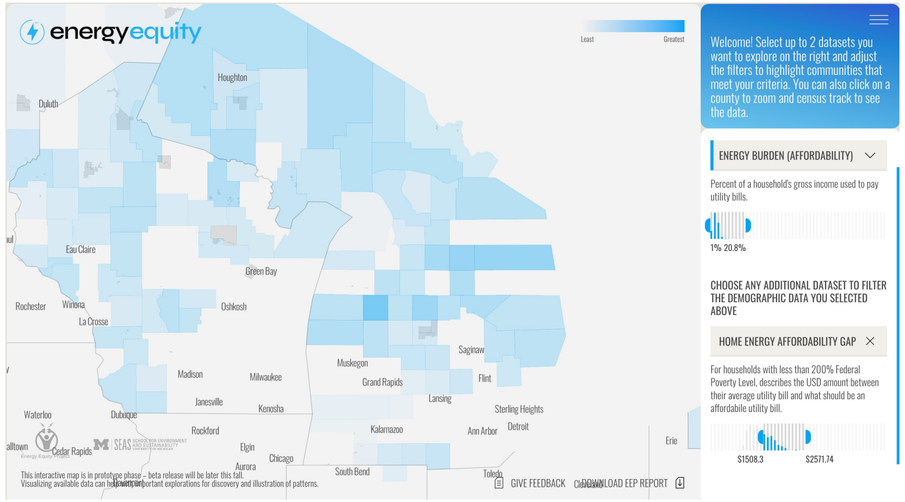
Target Date	PG&E	SDG&E	SCE	SoCalGas
07/01/2020	4%	3%	8%	2%
01/01/2021	4%	3%	7%	2%
01/01/2022	4%	3%	6%	2%
01/01/2023	3.5%	3%	5%	2%
01/01/2024	3.5%	3%	4%	2%

COMBINING KNOWLEDGE SOURCES TO EXPLORE & PRIORITIZE COMMUNITIES FOR INVESTMENT:

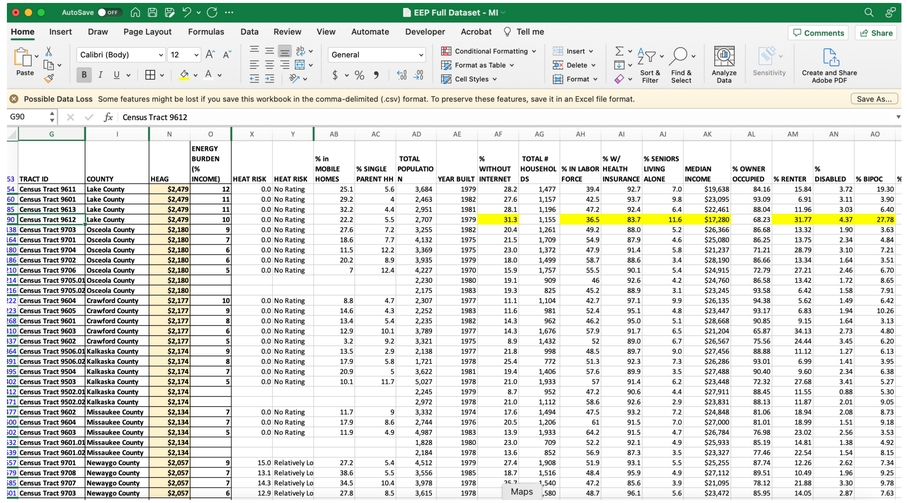
A Case Study of [to be revealed!], MI

Drawing on all our knowledge to prioritize investments

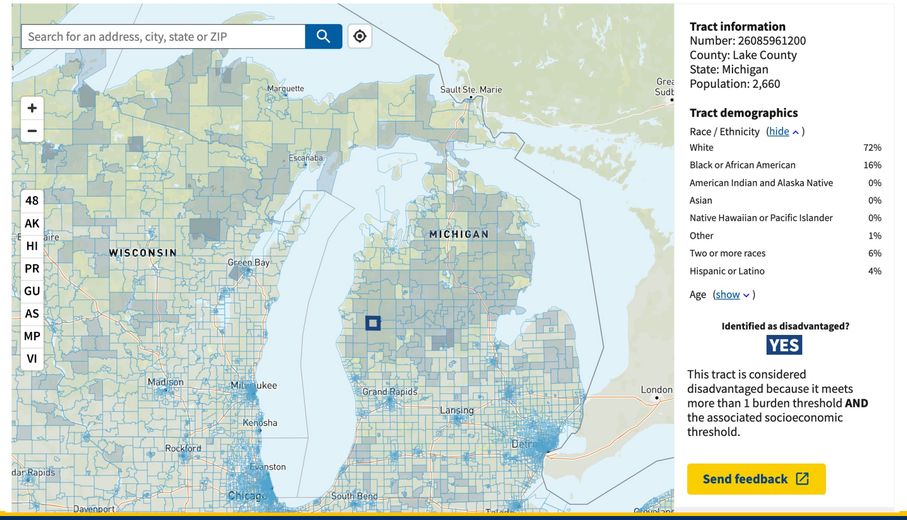
EEP Map



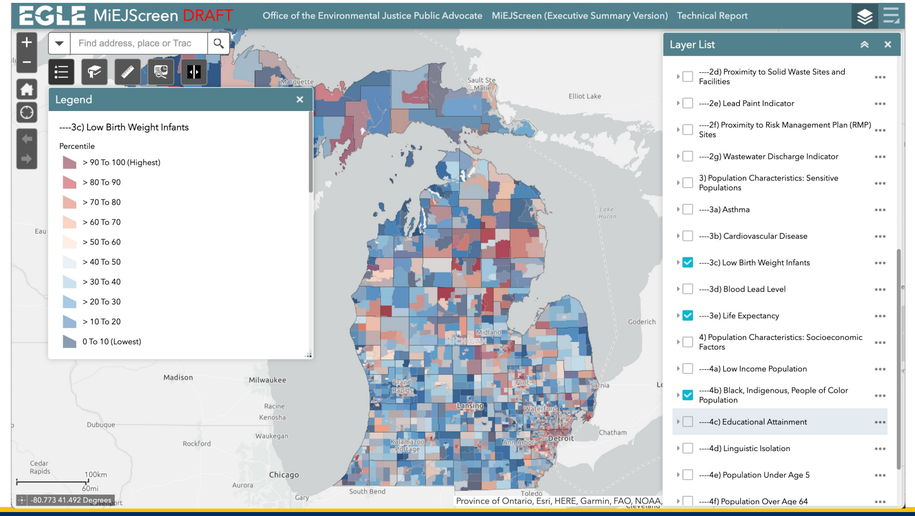
EEP Data



CEJST Map



MI EJ Screen



Drawing on all our knowledge to prioritize investments

EEP Map

EEP Data

CEJST Map

MI EJ Screen

SCHOOL FOR ENVIRONMENT & SUSTAINABILITY
UNIVERSITY OF MICHIGAN

ENERGY BURDEN

- *Reflects income*
- *Suggests likelihood of other insecurity (housing, food, transportation, health)*
- *Tells us: % bill reduction needed*
  e.g. 50% bill reduction = 50% burden reduction (12% to 6%)

VS.

HOME ENERGY AFFORDABILITY GAP

- *Reflects energy costs*
- *Tells us: $ energy savings needed (per household and total)*

TRACT ID	COUNTY	HEAG	BURDEN (% INCOME)
Census Tract 9611	Lake County	$2,479	12
Census Tract 9601	Lake County	$2,479	11
Census Tract 9613	Lake County	$2,479	11
Census Tract 9612	Lake County	$2,479	10
Census Tract 9703	Osceola County	$2,180	9
Census Tract 9701	Osceola County	$2,180	7
Census Tract 9704	Osceola County	$2,180	6
Census Tract 9702	Osceola County	$2,180	6
Census Tract 9706	Osceola County	$2,180	5
Census Tract 9705.01	Osceola County	$2,180	
Census Tract 9705.02	Osceola County	$2,180	
Census Tract 9604	Crawford County	$2,177	10
Census Tract 9605	Crawford County	$2,177	9
Census Tract 9601	Crawford County	$2,177	8
Census Tract 9603	Crawford County	$2,177	6
Census Tract 9602	Crawford County	$2,177	5
Census Tract 9506.01	Kalkaska County	$2,174	9
Census Tract 9506.02	Kalkaska County	$2,174	8
Census Tract 9504	Kalkaska County	$2,174	7
Census Tract 9503	Kalkaska County	$2,174	5
Census Tract 9502.01	Kalkaska County	$2,174	
Census Tract 9502.02	Kalkaska County	$2,174	
Census Tract 9602	Missaukee County	$2,134	7
Census Tract 9604	Missaukee County	$2,134	7
Census Tract 9603	Missaukee County	$2,134	5
Census Tract 9601.01	Missaukee County	$2,134	
Census Tract 9601.02	Missaukee County	$2,134	

AutoSave OFF

EEP Full Dataset - MI

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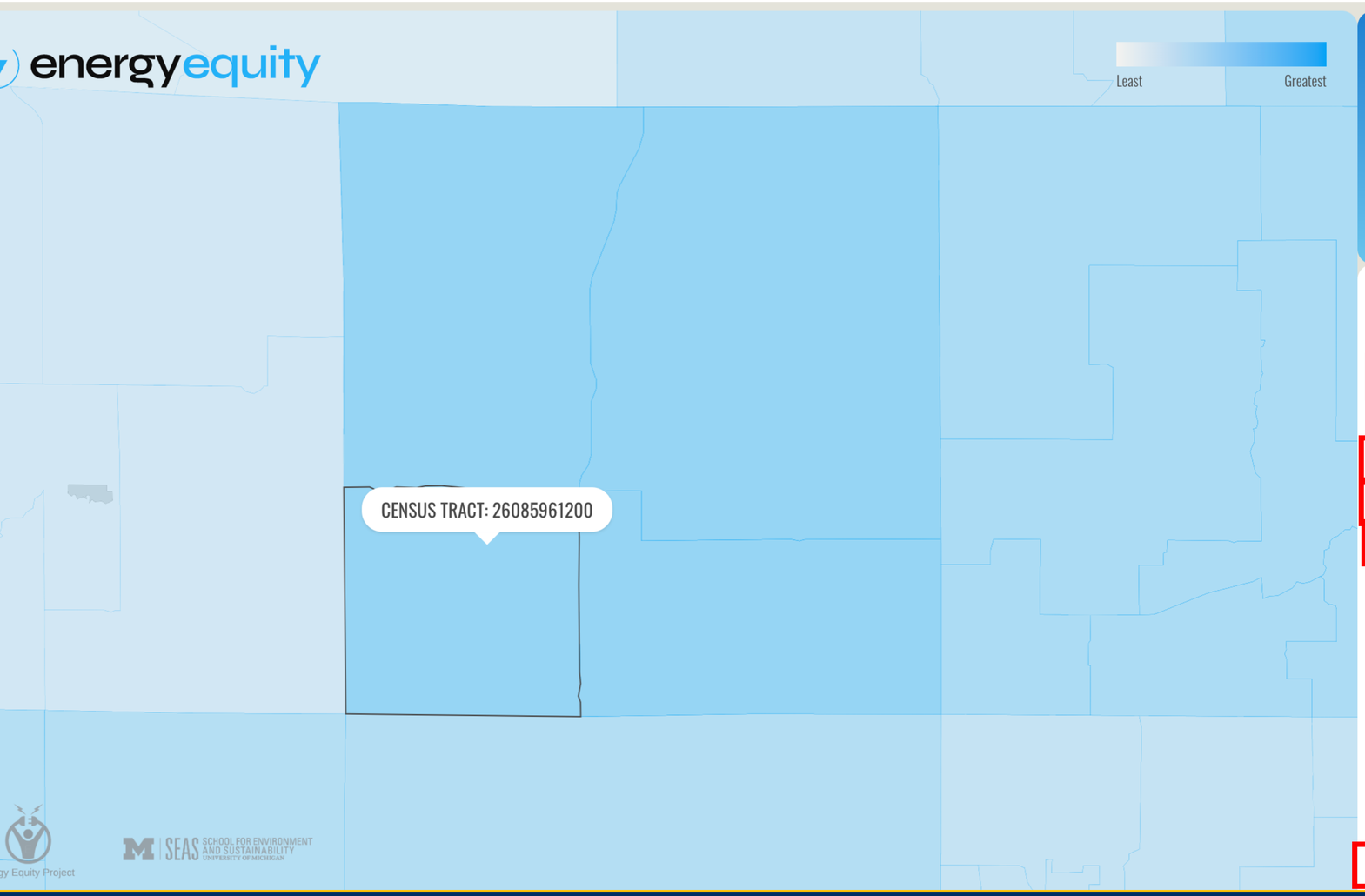
G90 fx Census Tract 9612

G	I	N	O	X	Y	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO
TRACT ID	COUNTY	HEAG	ENERGY BURDEN (% INCOME)	HEAT RISK	HEAT RISK	% in MOBILE HOMES	% SINGLE PARENT HH	TOTAL POPULATION	YEAR BUILT	% WITHOUT INTERNET	TOTAL # HOUSEHOLDS	% IN LABOR FORCE	% W/ HEALTH INSURANCE	% SENIORS LIVING ALONE	MEDIAN INCOME	% OWNER OCCUPIED	% RENTER	% DISABLED	% BIPOC
Census Tract 9611	Lake County	$2,479	12	0.0	No Rating	25.1	5.6	3,684	1979	28.2	1,477	39.4	92.7	7.0	$19,638	84.16	15.84	3.72	19.30
Census Tract 9601	Lake County	$2,479	11	0.0	No Rating	29.2	4	2,463	1982	27.6	1,157	42.5	93.7	9.8	$23,095	93.09	6.91	3.11	3.90
Census Tract 9613	Lake County	$2,479	11	0.0	No Rating	32.2	4.4	2,951	1981	28.1	1,196	47.2	92.4	6.4	$22,461	88.04	11.96	3.03	6.40
Census Tract 9612	Lake County	$2,479	10	0.0	No Rating	22.2	5.5	2,707	1979	31.3	1,155	36.5	83.7	11.6	$17,280	68.23	31.77	4.37	27.78
Census Tract 9703	Osceola County	$2,180	9	0.0	No Rating	27.6	7.2	3,255	1982	20.4	1,261	49.2	88.0	5.2	$26,366	86.68	13.32	1.90	3.63
Census Tract 9701	Osceola County	$2,180	7	0.0	No Rating	18.6	7.7	4,132	1975	21.5	1,709	54.9	87.9	4.6	$25,080	86.25	13.75	2.34	4.84
Census Tract 9704	Osceola County	$2,180	6	0.0	No Rating	11.5	12.2	3,369	1975	23.0	1,372	47.9	91.4	5.8	$21,237	71.21	28.79	3.10	7.21
Census Tract 9702	Osceola County	$2,180	6	0.0	No Rating	20.2	8.9	3,935	1979	18.0	1,499	58.7	88.6	3.4	$28,190	86.66	13.34	1.64	3.51
Census Tract 9706	Osceola County	$2,180	5	0.0	No Rating	7	12.4	4,227	1970	15.9	1,757	55.5	90.1	5.4	$24,915	72.79	27.21	2.46	6.70
Census Tract 9705.01	Osceola County	$2,180						2,230	1980	19.1	909	46	92.6	4.2	$24,760	86.58	13.42	1.72	8.65
Census Tract 9705.02	Osceola County	$2,180						2,175	1983	19.3	825	45.2	88.9	3.1	$23,245	93.58	6.42	1.58	7.91
Census Tract 9604	Crawford County	$2,177	10	0.0	No Rating	8.8	4.7	2,307	1977	11.1	1,104	42.7	97.1	9.9	$26,135	94.38	5.62	1.49	6.42
Census Tract 9605	Crawford County	$2,177	9	0.0	No Rating	14.6	4.3	2,252	1983	11.6	981	52.4	95.1	4.8	$23,447	93.17	6.83	1.94	10.26
Census Tract 9601	Crawford County	$2,177	8	0.0	No Rating	13.4	5.4	2,235	1982	14.3	962	46.2	95.0	5.1	$28,668	90.85	9.15	1.64	3.13
Census Tract 9603	Crawford County	$2,177	6	0.0	No Rating	12.9	10.1	3,789	1977	14.3	1,676	57.9	91.7	6.5	$21,204	65.87	34.13	2.73	4.80
Census Tract 9602	Crawford County	$2,177	5	0.0	No Rating	3.2	9.2	3,321	1975	8.9	1,432	52	89.0	6.7	$26,567	75.56	24.44	3.45	6.20
Census Tract 9506.01	Kalkaska County	$2,174	9	0.0	No Rating	13.5	2.9	2,138	1977	21.8	998	48.5	89.7	9.0	$27,456	88.88	11.12	1.27	6.13
Census Tract 9506.02	Kalkaska County	$2,174	8	0.0	No Rating	17.9	5.8	1,721	1978	25.4	772	51.3	92.3	7.3	$26,286	93.01	6.99	1.41	3.95
Census Tract 9504	Kalkaska County	$2,174	7	0.0	No Rating	20.9	5	3,622	1981	19.4	1,406	57.6	89.9	3.5	$27,488	90.40	9.60	2.34	6.38
Census Tract 9503	Kalkaska County	$2,174	5	0.0	No Rating	10.1	11.7	5,027	1978	21.0	1,933	57	91.4	6.2	$23,448	72.32	27.68	3.41	5.27
Census Tract 9502.01	Kalkaska County	$2,174						2,245	1979	8.7	952	47.2	90.6	4.4	$27,911	88.45	11.55	0.88	5.30
Census Tract 9502.02	Kalkaska County	$2,174						2,972	1978	21.0	1,112	58.6	92.6	2.9	$23,831	88.13	11.87	2.01	9.05
Census Tract 9602	Missaukee County	$2,134	7	0.0	No Rating	11.7	9	3,332	1974	17.6	1,494	47.5	93.2	7.2	$24,848	81.06	18.94	2.08	8.73
Census Tract 9604	Missaukee County	$2,134	7	0.0	No Rating	17.9	8.6	2,744	1976	20.5	1,206	61	91.5	7.0	$27,000	81.01	18.99	1.51	9.18
Census Tract 9603	Missaukee County	$2,134	5	0.0	No Rating	11.9	4.9	4,987	1983	13.9	1,933	64.2	91.5	4.7	$26,784	76.98	23.02	2.56	3.53
Census Tract 9601.01	Missaukee County	$2,134						1,828	1980	23.0	709	52.2	92.1	4.9	$25,933	85.19	14.81	1.38	4.92
Census Tract 9601.02	Missaukee County	$2,134						2,184	1978	13.6	852	56.9	87.3	3.5	$23,327	77.46	22.54	1.54	8.15
Census Tract 9701	Newaygo County	$2,057	9	15.0	Relatively Lo	27.2	5.4	4,512	1979	27.4	1,908	51.9	93.1	5.5	$25,255	87.74	12.26	2.62	7.34
Census Tract 9708	Newaygo County	$2,057	7	13.1	Relatively Lo	38.6	5.5	3,556	1985	18.7	1,516	48.4	95.9	4.9	$27,112	89.51	10.49	1.96	9.25
Census Tract 9707	Newaygo County	$2,057	7	14.3	Relatively Lo	34.5	10.4	3,978	1978	25.7	1,540	47.2	85.6	3.9	$21,095	78.12	21.88	3.30	9.78
Census Tract 9703	Newaygo County	$2,057	6	12.9	Relatively Lo	27.8	8.5	3,615	1978		,580	48.7	96.1	5.6	$23,472	85.95	14.05	2.87	7.63

Maps

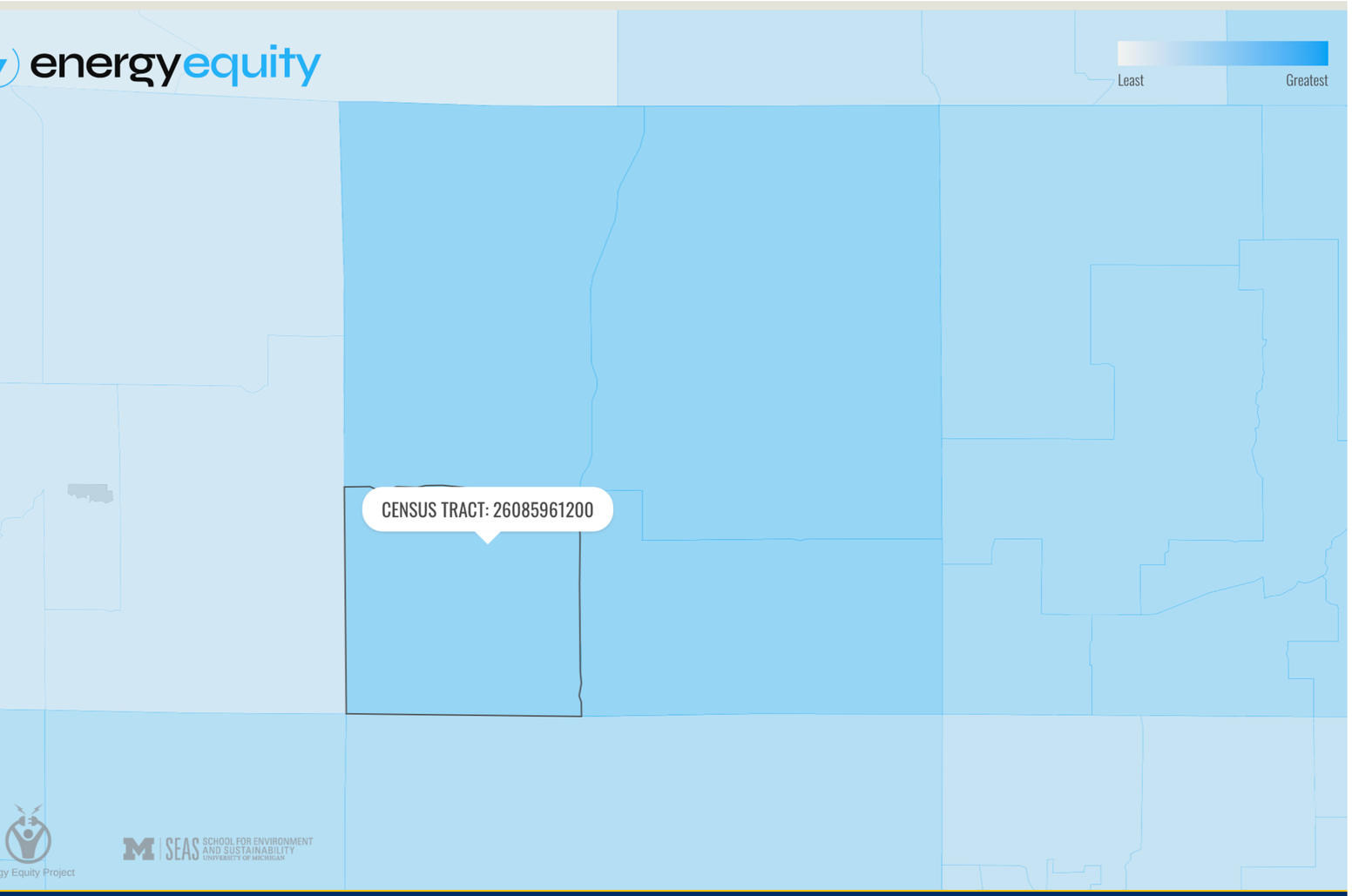
Lake County, Census Tract 9312 Stands Out



Welcome! Select up to 2 datasets you want to explore on the right and adjust the filters to highlight communities that meet your criteria. You can also click on a county to zoom and census track to see the data.

CENSUS TRACT: 26085961200	
% BIPOC	27.78
Community Power Score (state)	28
% with a disability	4.369
Employment rate	36.5
Energy burden (affordability)	10
Energy efficiency savings - electric (state)	1.63
Energy efficiency savings - natural gas (state)	1.33
Equity in residential electric rates (state)	123
Heat wave risk	0
Health insurance	83.746
Home Energy Affordability Gap	2479
Age of housing	1979
% less than HS diplopma	12.006
Hurricane risk	5.304
Internet access	31.342
Mobile homes	22.2
% owner occupied	68.225
% renters	31.775
% seniors, living alone	11.636
Single parent households	5.5
Number of households	1155
Wildfire risk	11.485

EEP Map Data



<u>COMMUNITY CHARACTERISTICS:</u>

Home energy affordability gap: $2,479

Energy burden: 10%

% BIPOC: 27.8%

% With a disability: 4.4%

Employment rate: 36.5%

% Without HS Diploma: 12%

% Without Internet: 31.3%

% Renters: 31.8%

% in Mobile Homes: 22.2%

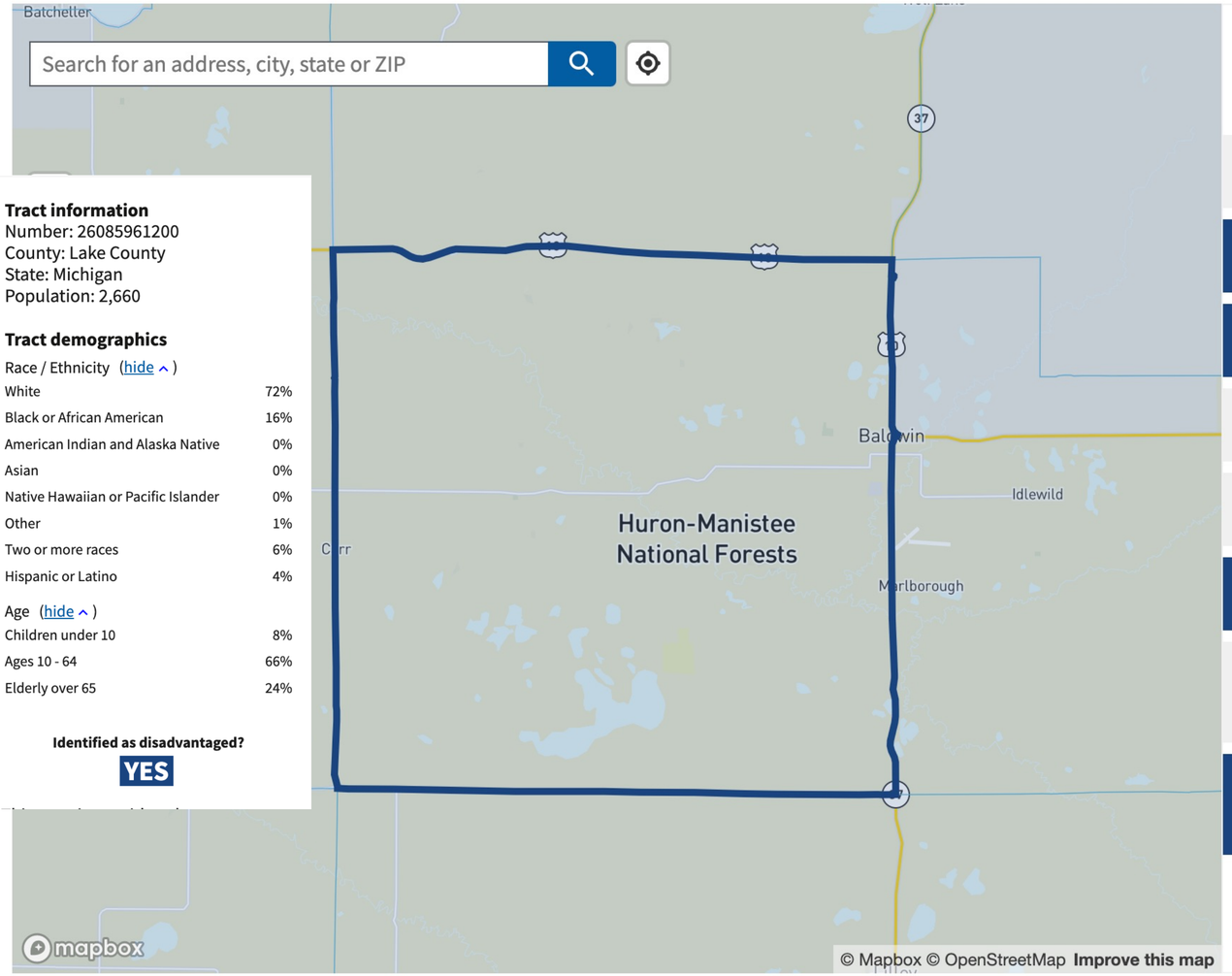
% Seniors Living Alone: 11.6%

% Single Parent Households: 5.5%

CEJST Data

screeningtool.geoplatform.gov/en/#10.52/43.8883/-85.944

6% Path ToDo | 6% Tool | Readings | EEP | SEAS EJ | SSI folder | U of M | 0. EAS525 | Funding | Community orgs | Metrics & Tools



Tract information
Number: 26085961200
County: Lake County
State: Michigan
Population: 2,660

Tract demographics

Race / Ethnicity (hide)

White	72%
Black or African American	16%
American Indian and Alaska Native	0%
Asian	0%
Native Hawaiian or Pacific Islander	0%
Other	1%
Two or more races	6%
Hispanic or Latino	4%

Age (hide)

Children under 10	8%
Ages 10 - 64	66%
Elderly over 65	24%

Identified as disadvantaged?
YES

Send feedback

- Climate change +
- Energy +
- Health +
- Housing +
- Legacy pollution +
- Transportation +
- Water and wastewater +
- Workforce development +

Methodology version 1.0

Help improv

Energy −

Energy cost — 99th (above 90th percentile)
Average annual energy costs divided by household income

PM2.5 in the air — 11th (not above 90th percentile)
Level of inhalable particles, 2.5 micrometers or smaller

AND

Low income — 83rd (above 65th percentile)
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed

Health −

Asthma — 90th (above 90th percentile)
Share of people who have been told they have asthma

Diabetes — 92nd (above 90th percentile)
Share of people ages 18 years and older who have diabetes other than diabetes during pregnancy

Heart disease — 98th (above 90th percentile)
Share of people ages 18 years and older who have been told they have heart disease

Low life expectancy — 87th (not above 90th percentile)
Average number of years a person can expect to live

AND

Low income — 83rd (above 65th percentile)
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed

Transportation −

Diesel particulate matter exposure — 4th (not above 90th percentile)
Amount of diesel exhaust in the air

Transportation barriers — 96th (above 90th percentile)
Average of relative cost and time spent on transportation

Traffic proximity and volume — 23rd (not above 90th percentile)
Count of vehicles at major roads within 500 meters

AND

Low income — 83rd (above 65th percentile)
People in households where income is less than or equal to twice the federal poverty level, not including students enrolled in higher ed

Workforce development −

Linguistic isolation — 12th (not above 90th percentile)
Share of households where no one over age 14 speaks English very well

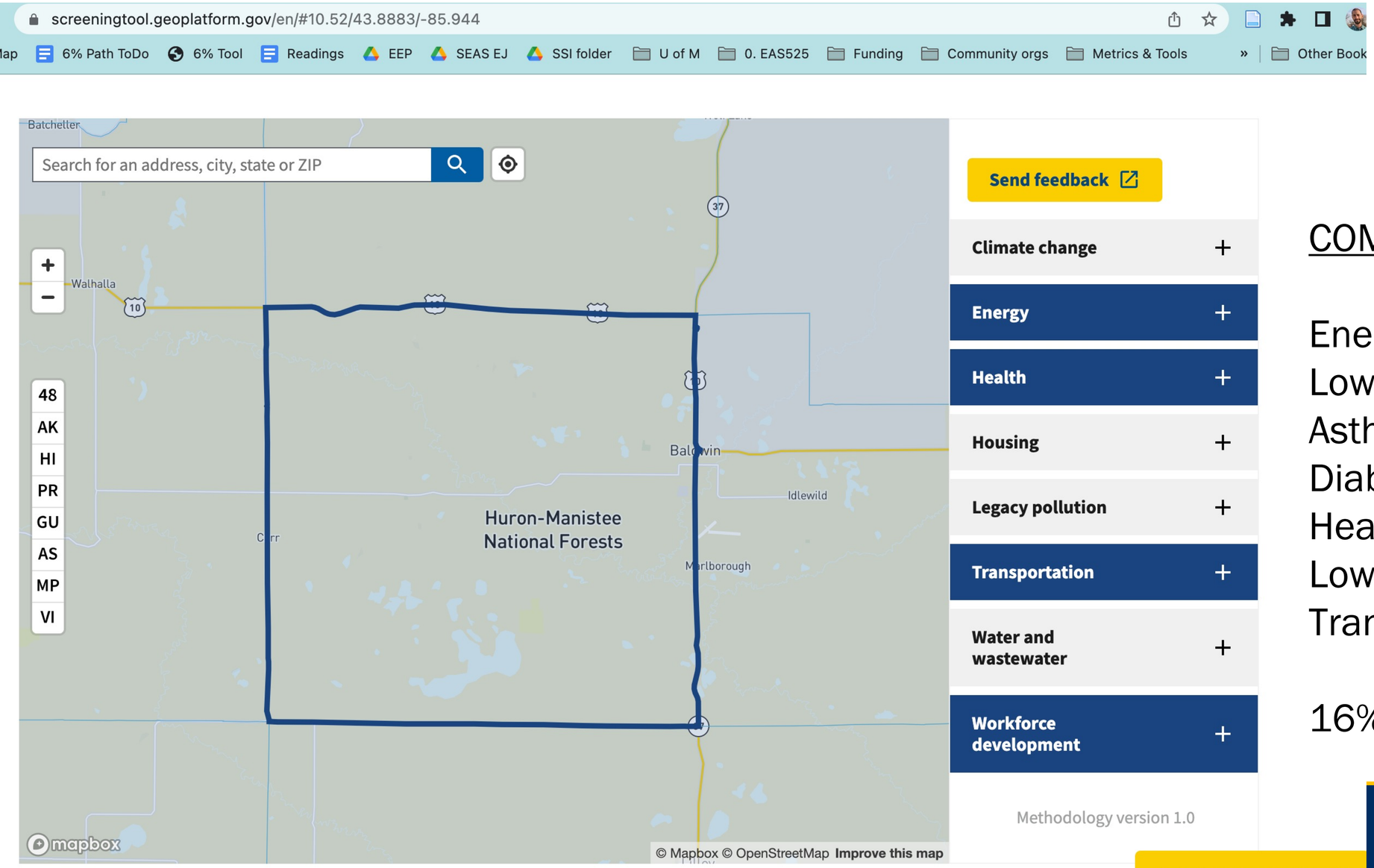
Low median income — 90th (above 90th percentile)
Comparison of median income in the tract to median incomes in the area

Poverty — 86th (not above 90th percentile)
Share of people in households where income is at or below 100% of the Federal poverty level

Unemployment — 84th (not above 90th percentile)
Number of unemployed people as a part of the labor force

AND

CEJST Data



COMMUNITY CHARACTERISTICS:

Energy cost – 99th
Low income – 83rd
Asthma – 90th
Diabetes – 92nd
Heart Disease – 98th
Low life expectancy – 87th
Transportation barriers – 96th

16% Black

Idlewild: “Michigan’s Black Eden”

Idlewild, Michigan

1 language

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Idlewild is an unincorporated community in Yates Township, located just east of Baldwin in southeast Lake County, a rural part of northwestern lower Michigan. During the first half of the 20th century, it was one of the few resorts in the country where African-Americans were allowed to vacation and purchase property, before discrimination was outlawed in 1964 through the Civil Rights Act of 1964. The surrounding area is within Manistee National Forest. The community encompasses Lake Idlewild, and the headwaters of the Pere Marquette River extends throughout the region.

Called the "Black Eden of Michigan",[2] from 1912 through the mid-1960s, Idlewild was an active year-round community and was visited by well-known entertainers and professionals from throughout the country.[3] At its peak, it was one of the most popular resorts in the Midwest and as many as 25,000 would come to Idlewild in the height of the summer season to enjoy camping, swimming, boating, fishing, hunting, horseback riding, roller skating, and night-time entertainment. When the 1964 Civil Rights Act opened up other resorts in many states to African-Americans, Idlewild's boomtown period subsided.

Though not quite a "ghost town" as claimed in the book *Ghost Towns of Michigan*, Chapter 7,[4][5] the population was under 1,000 in 2019,[6] and numerous buildings were vacant. The Idlewild African American Chamber of Commerce,[7] founded in 2000 by John O. Meeks, continues to promote existing local businesses and seeking new ones. It is also striving to attract more visitors to the area, with events and other strategies, in hopes of resuscitating the once lively town.[8]

Idlewild Historic District

U.S. National Register of Historic Places

U.S. Historic district

Michigan State Historic Site

Community Tabernacle

Establishment (1912–1920s) [edit]

Idlewild was founded in 1912. During this period, a small yet clearly distinguishable African American middle class – largely composed of professionals and small business owners – had been established in many urban

Idlewild: “Michigan’s Black Eden”

SECOND WAVE Michigan

Michigan's 'Black Eden': A short history of Idlewild

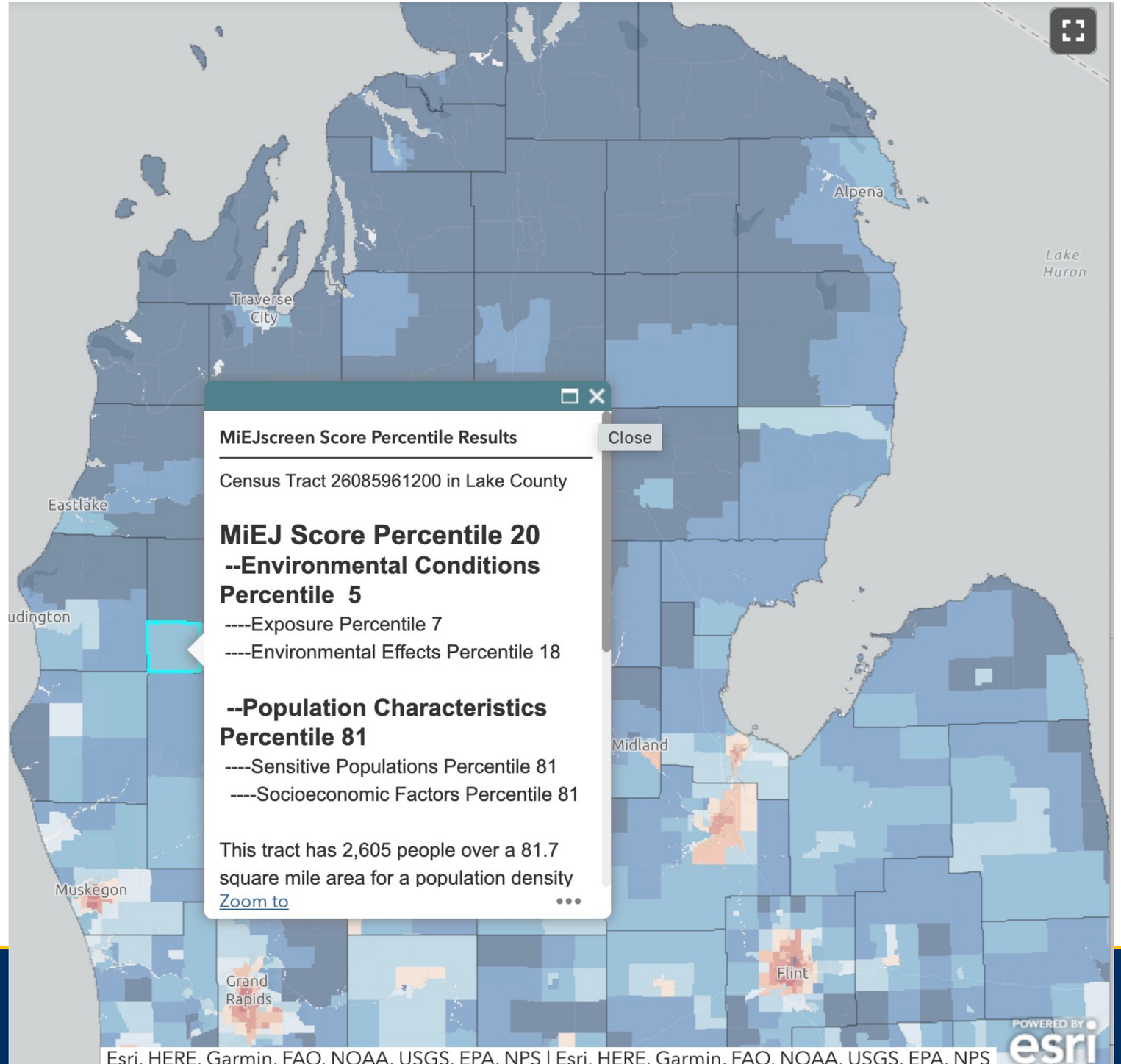
PATRICK DUNN | SATURDAY, OCTOBER 10, 2020

"In the era of Black Lives Matter, revitalizing Idlewild while preserving its history is more vital than ever."

MIEJScreen Comparison

Overall percentile: 20th

Range: 5th - 81st



”The Town That Segregation Built”
‘This is where black people could come and not have to worry about not being served or not being allowed to use the hotel or the motel or the facilities," says Maxine Martin, a longtime Idlewilder.

“Six generations of my family have been in the house that I now own. So that’s how long we’ve been coming up a long, long time,” Judith Berry Griffin said. “It goes back beyond the entertainment. And we have to start with why Idlewild was important when it started. Because there was a lot of unrest in the country, people didn’t feel safe. People were being lynched and harassed.”

Questions?

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