

Addressing Energy Poverty in Texas

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ENERGY POVERTY



Photo credit: The Washington Post

Energy poverty describes a condition faced by many Americans in which the personal cost of consumption needed to maintain a healthy lifestyle creates a significant or unnecessary economic burden.

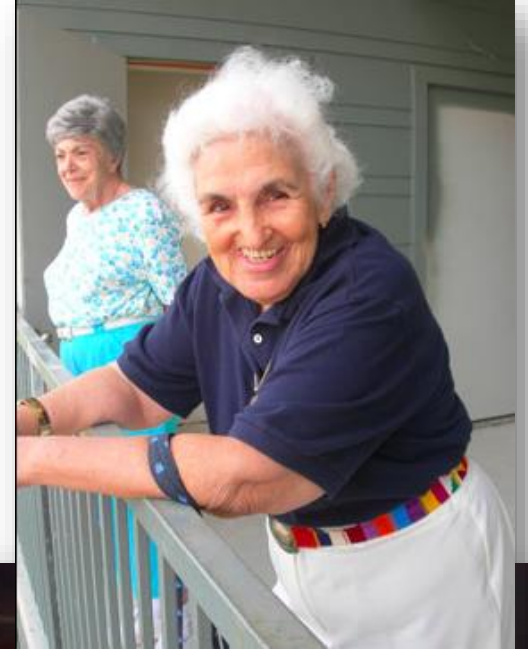
WHO IS **AFFECTED?**

>1 in 3 Texans (37%) are low income

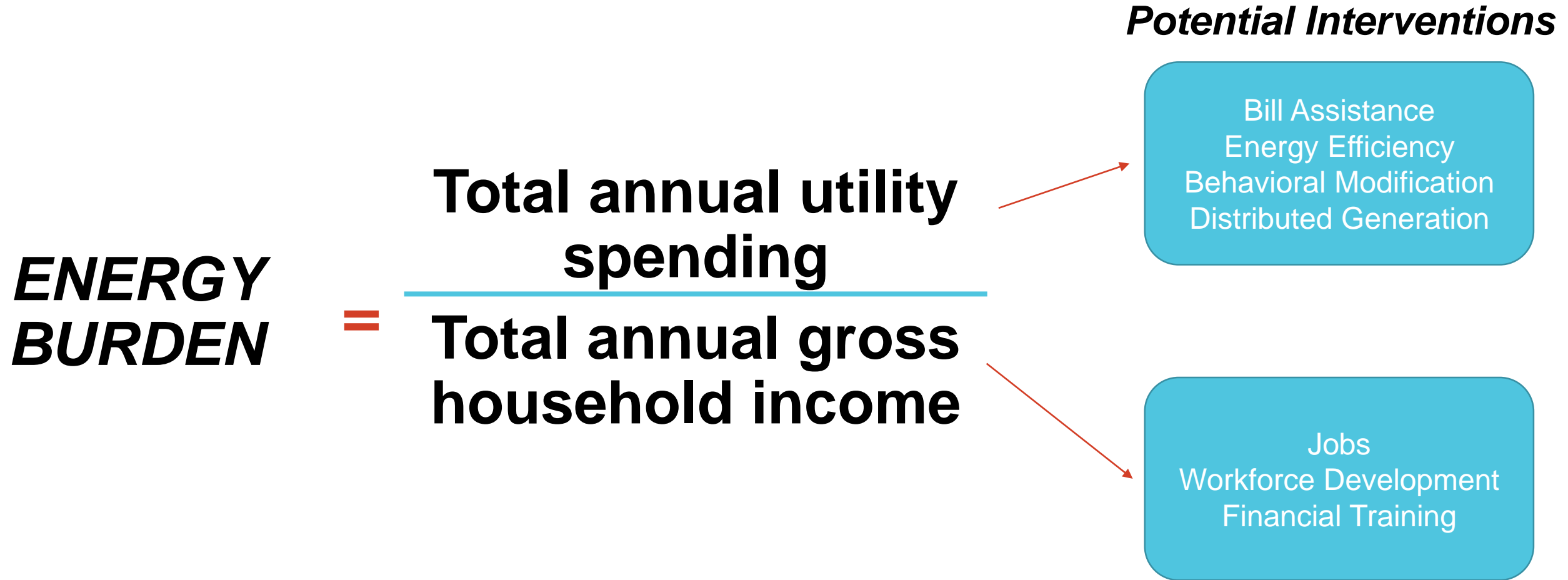
Latino and African-Americans have higher burdens

Children and elderly members at greater risk

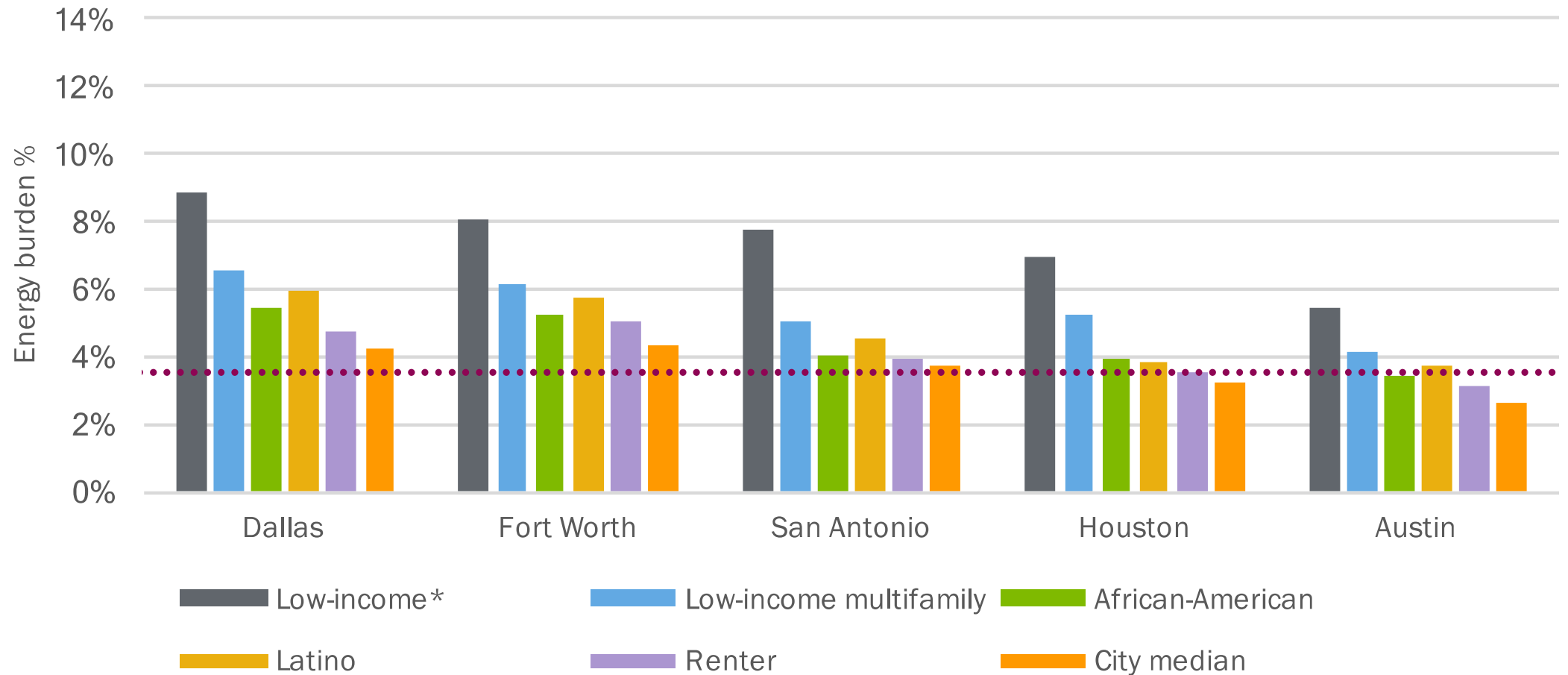
Renters and owners are differently burdened



ENERGY BURDEN



ENERGY BURDEN IN TEXAS CITIES



*Low-income defined as 80% Area Median Income, ACEEE, 2016

ADVERSE CONSEQUENCES

Social Consequences

- Residential instability
- Family disruption
- Tradeoffs

Health Consequences

- Chronic stress, anxiety, depression
- Asthma

Environmental Consequences

- Hazardous exposures
- Heat stress and cold stress



Source: Hernández, SSM, 2016

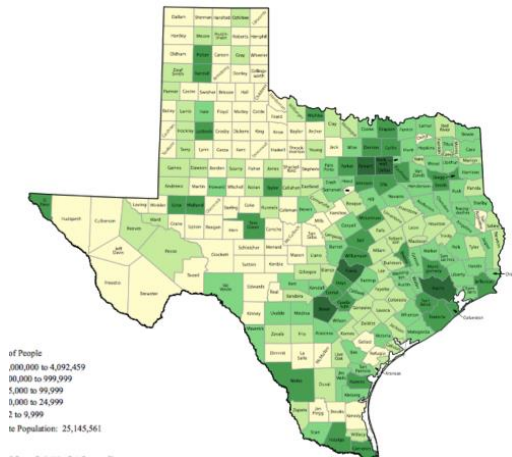
DRIVERS OF HIGH ENERGY BURDENS

DRIVERS	EXAMPLES OF FACTORS THAT INCREASE ENERGY BURDEN
Physical	Housing age and type (e.g., manufactured homes)
	Heating system, fuel type, and fuel cost
	Poor insulation, leaky roofs, inefficient and/or poorly maintained HVAC systems, and/or inadequate air sealing
	Inefficient large-scale appliances (e.g., refrigerators, dishwashers) and lighting sources
	Weather extremes that raise the need for heating and cooling
Economic	Chronic economic hardship due to persistent low income
	Sudden economic hardship (e.g., severe illness, unemployment, or disaster event)
	Inability to afford (or difficulty affording) up-front costs of energy efficiency investments
	Difficulty qualifying for credit or financing options to make efficiency investments
Behavioral	Lack of access to information about bill assistance or energy efficiency program options
	Lack of knowledge about energy conservation measures and impacts/cost savings
	Increased energy use due to age, number of people in the household, or disability
Policy	Insufficient or inaccessible policies and programs for bill assistance, weatherization, and energy efficiency for low-income households
	Certain utility rate design practices, such as high customer fixed charges, that limit customers' ability to respond to high bills through energy efficiency or conservation

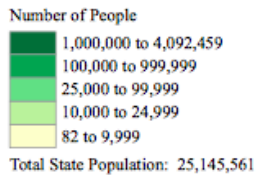
Source: American Council For An Energy Efficiency Economy

As Texas goes, so goes the nation

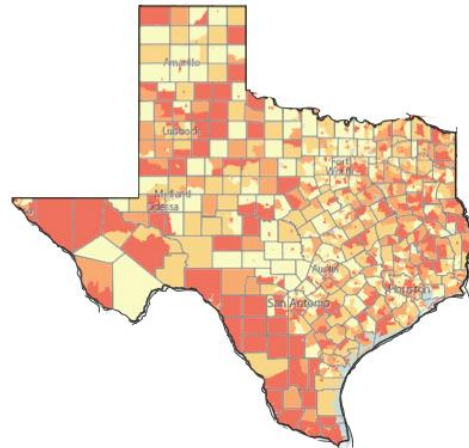
Total Population
By County



Source: US Census
Bureau, 2010 Census

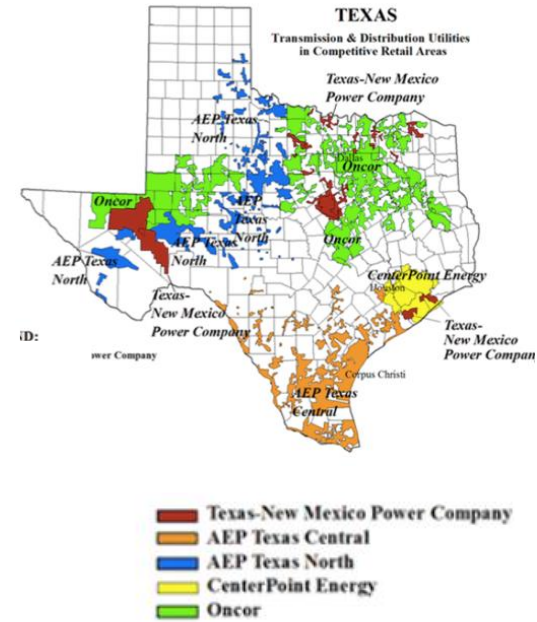


Households Below
Poverty Level



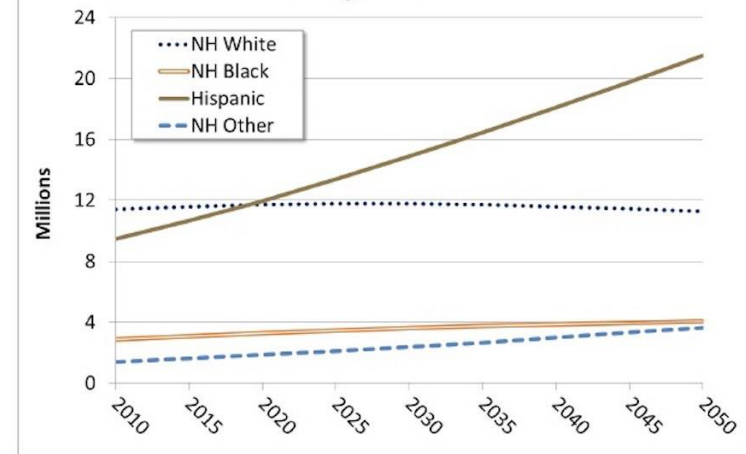
Source: Community Commons, ACS
2008-2012

Transmission & Distribution Utilities
in Competitive Retail Areas



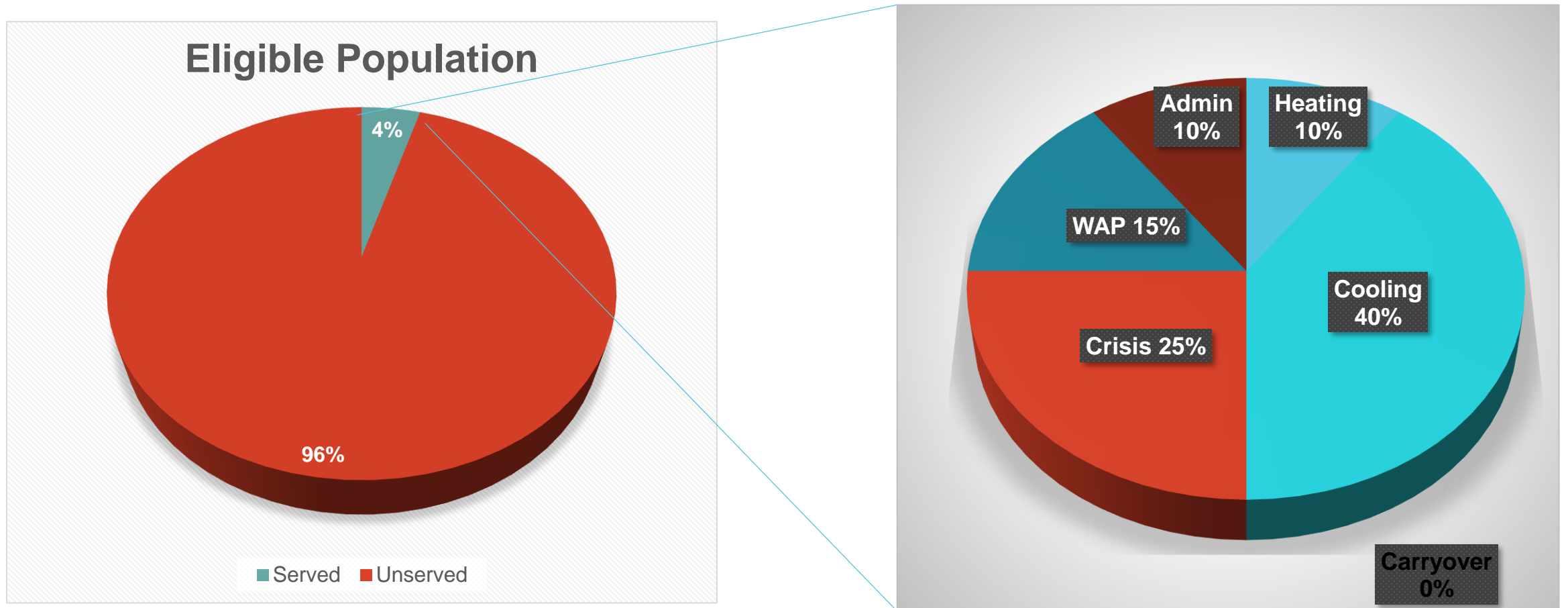
Source: Public Utility Commission of
Texas

Projected Texas Population by Race/Ethnicity, 2010 to 2050
0.5 Migration Scenario



FEDERAL FUNDING

Comprehensive Energy Assistance Program



OUR MISSION

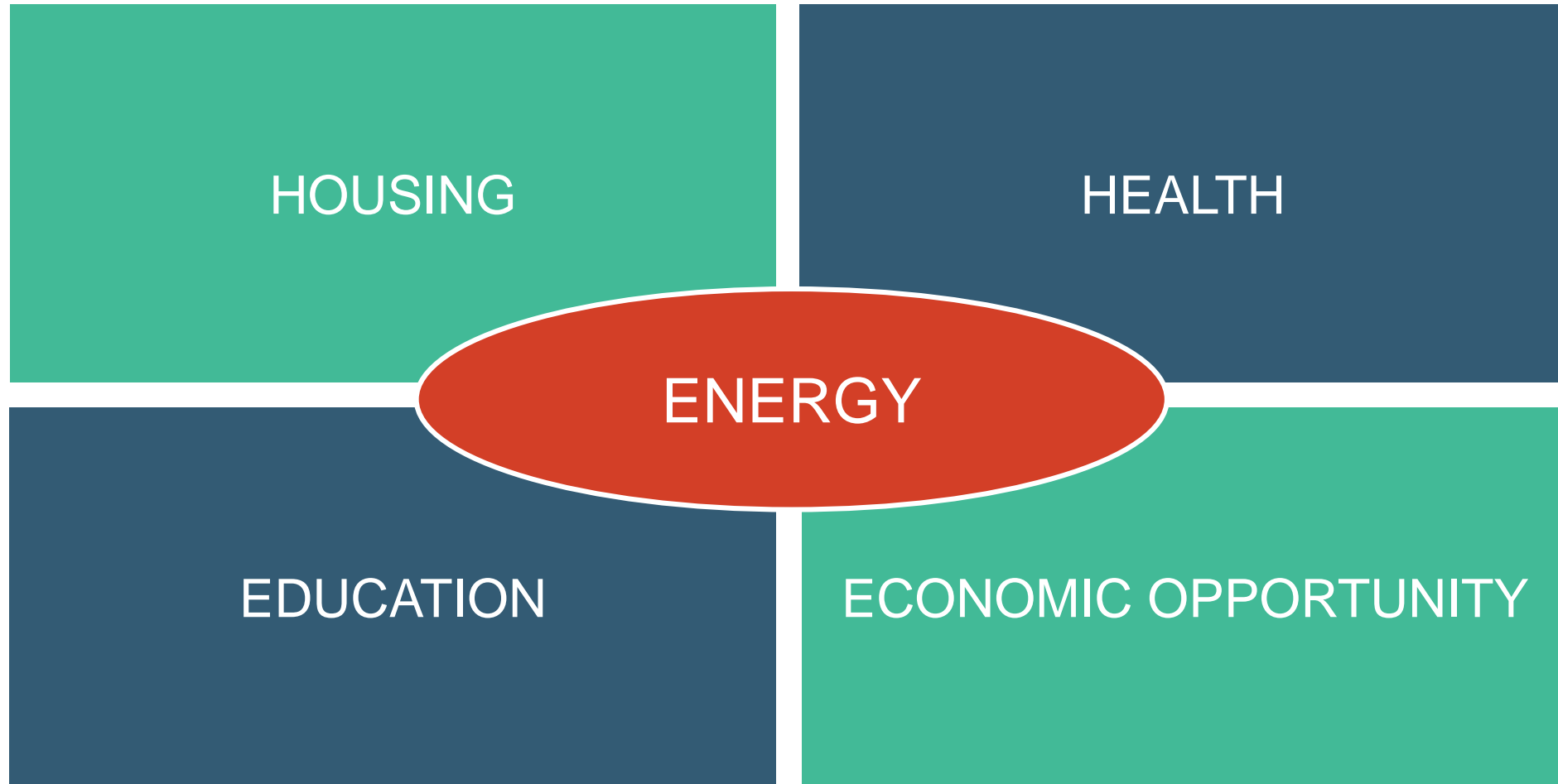
TEPRI's mission is to inspire lasting energy solutions for low-income communities.



TARGET IMPACT AREAS

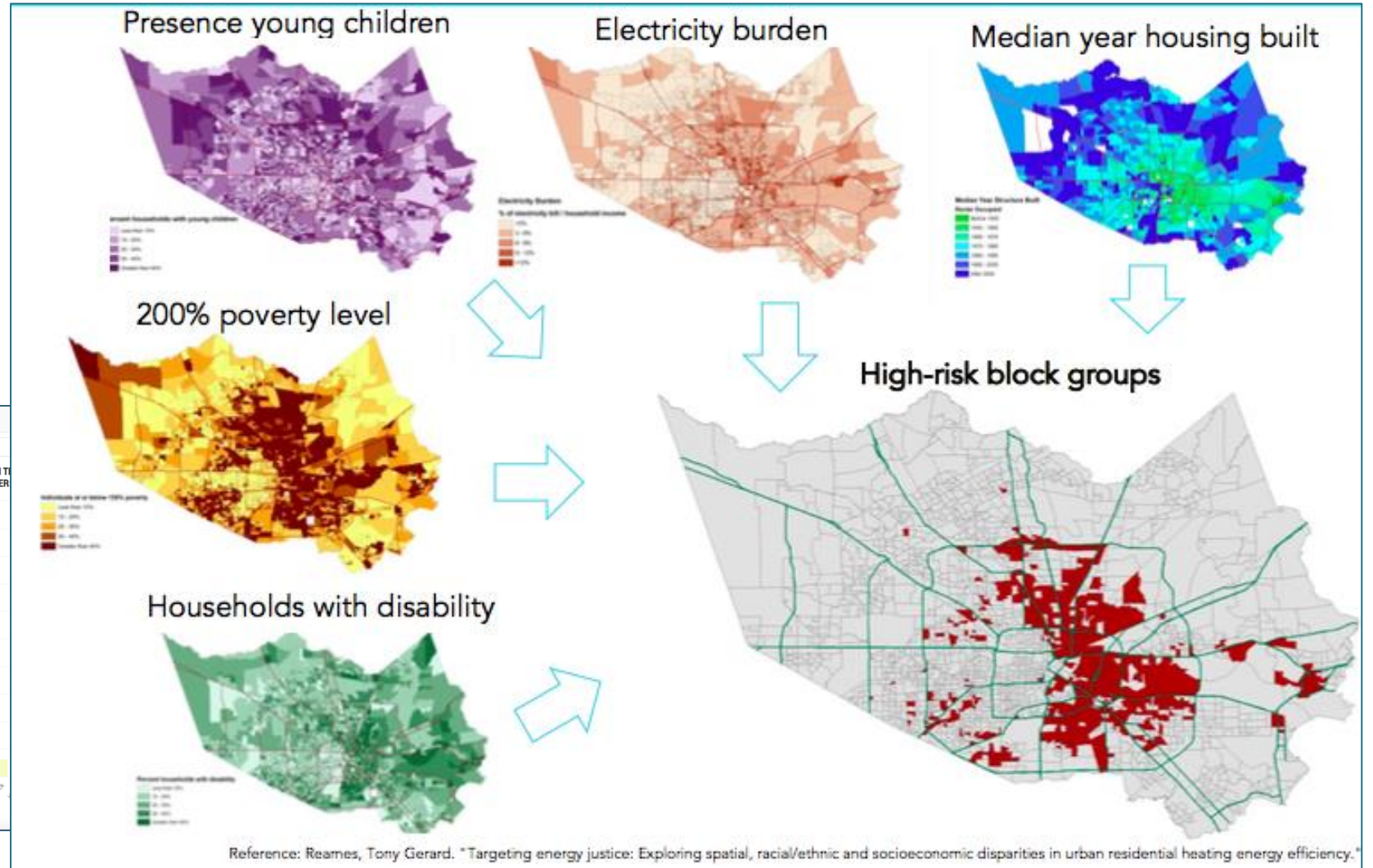
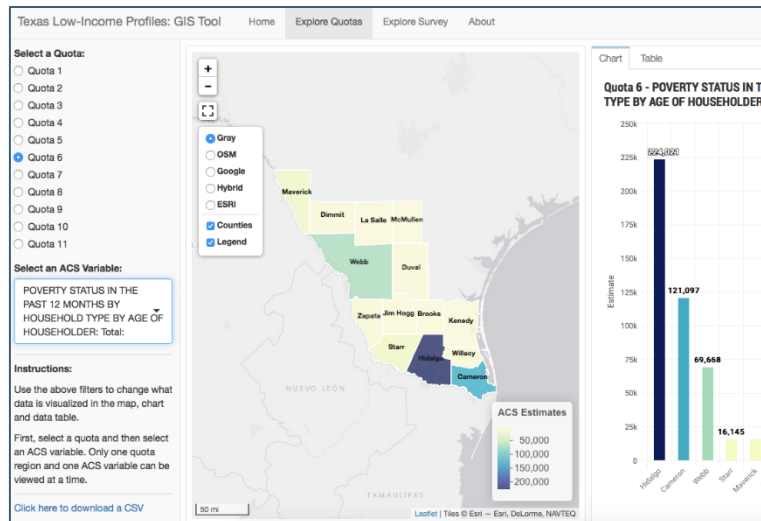
- Advance the role of distributed energy resources in addressing energy burden
- Reduce barriers to outreach and education
- Increase energy efficiency in low-income housing
- Address access to capital and credit barriers
- Pair crisis assistance with solutions that address root causes of energy poverty
- Leveraging federal, state, utility & philanthropic funding for greater impact

Holistic approach: How can energy promote ***self-sufficiency***.



Community Needs Assessments

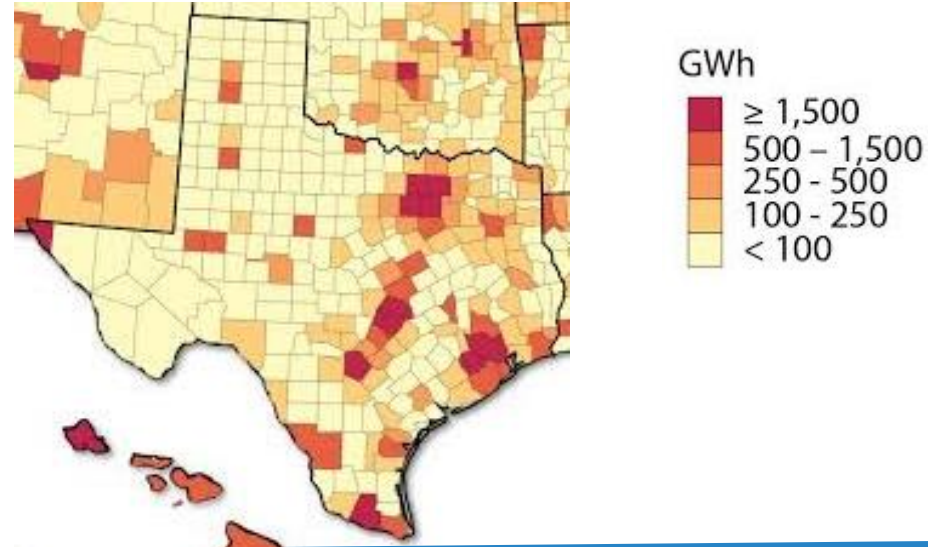
Example output
and interface of
Energy Poverty
Risk Mapping Tool



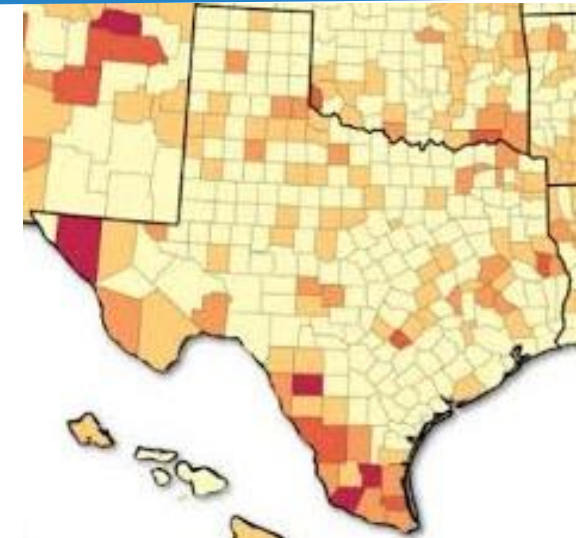
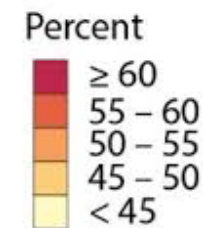
Energy Burden Indicators	Description	Specific Metrics
Housing structure and appliances	Quality of home's physical structure; energy efficiency and insulation	<ul style="list-style-type: none"> •Age structure built •Type of structure •Urban/ rural •Quality of insulation/ appliances
Material hardship	Financial hardships; energy burdens will mostly vary based on household incomes	<ul style="list-style-type: none"> •Household Income •Federal poverty level •SNAP, public assistance, or SSI
Sociodemographic profile	Key characteristics that describe the household and surrounding community	<ul style="list-style-type: none"> •Age of householder •Ethnicity of householder •Primary language •Employment
Household makeup	Presence of vulnerable populations; household size	<ul style="list-style-type: none"> •Number household members •Number of children •Presence of children, elderly, or member with disability
Health-related needs	Intersection of energy and health costs;	<ul style="list-style-type: none"> •Asthma •Indoor air quality •Temperature-related illnesses •Overall well-being and productivity

Rooftop Solar Potential of LMI Housing

Absolute residential solar potential by county



County LMI rooftop technical potential as percent of total residential potential



Rooftop Solar Technical Potential for Low-to-Moderate Income Households in the United States

Benjamin Sigrin and Meghan Mooney
National Renewable Energy Laboratory

NREL is a national laboratory of the U.S. Department of Energy
Office of Energy Efficiency & Renewable Energy
Operated by the Alliance for Sustainable Energy, LLC
This report is available at no cost from the National Renewable Energy
Laboratory (NREL) at www.nrel.gov/publications.

Technical Report
NREL/TP-6A20-70901
April 2018

Contract No. DE-AC36-08GO28308

**Do your little bit of
good where you are;
its those little bits
of good put together
that overwhelm
the world.**

—Desmond Tutu

THANK YOU!



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