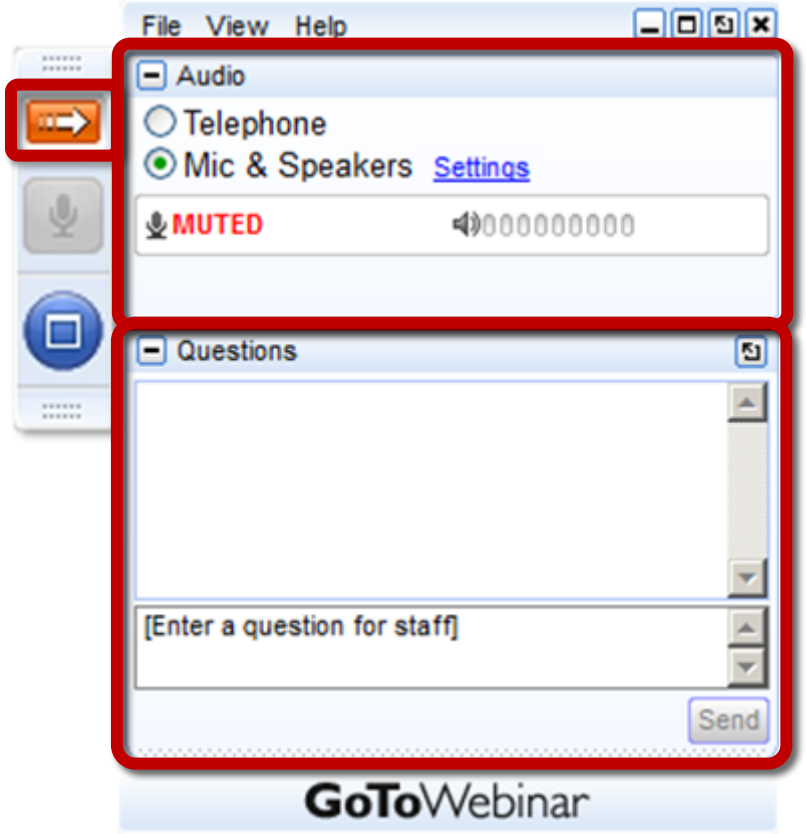
Clean Energy States Alliance Webinar

Closing the Energy and Transportation Affordability Gap for Connecticut's Low- and Moderate-Income Households

December 17, 2020

CleanEnergy States Alliance

Webinar Logistics



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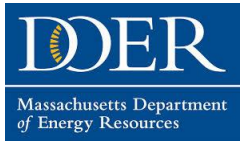

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State Energy Strategies

SOLAR ENERGY TECHNOLOGIES OFFICE
U.S. Department Of Energy

- Funded by the U.S. Department of Energy through the Solar Energy Technologies Office.
- The Clean Energy States Alliance is working with CT, DC, MN, NM, OR and RI to make solar more accessible to low- and moderate-income residents.

DEPARTMENT OF ENERGY & ENVIRONMENT
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- Research support provided by Lawrence Berkeley National Laboratory and the National Renewable Energy Laboratory.

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CleanEnergy States Alliance

Webinar Speakers

Emily Basham
Manager - Partnership Development, Connecticut Green Bank

Gannon Long
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Justine Sears
Consultant, VEIC

Jennifer Wallace-Brodeur
Director of Transportation Efficiency, VEIC

Abbe Ramanan
Clean Energy States Alliance (moderator)

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CleanEnergy States Alliance

Closing the Energy and Transportation Affordability Gap for Connecticut's Low- and Moderate-Income Households

December 17, 2020

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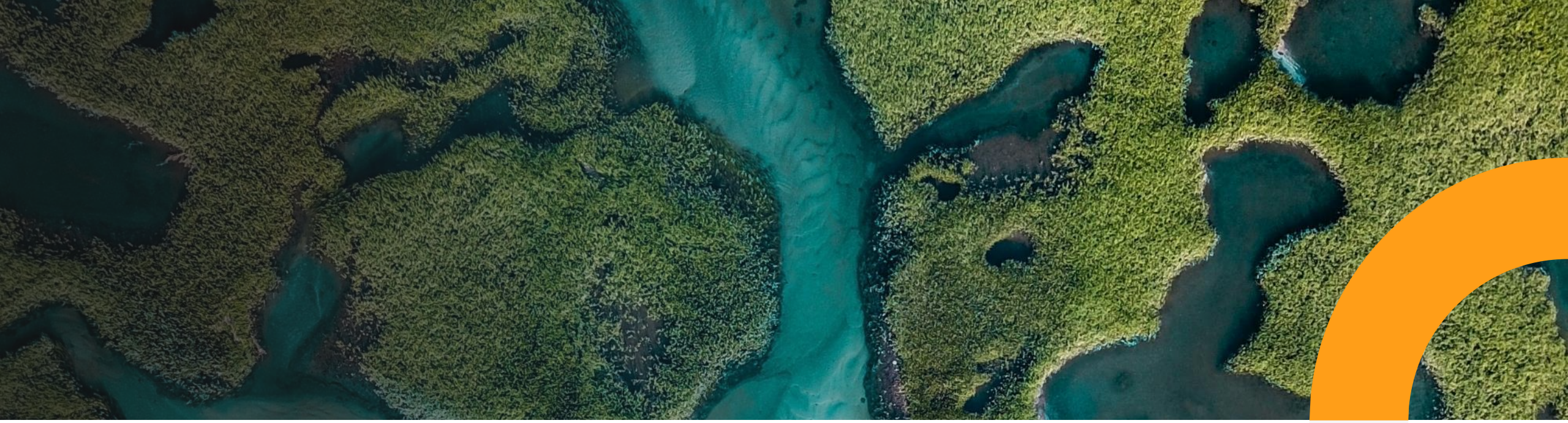
Mapping Energy and Transportation Affordability in Connecticut

October 2020



VEIC is on a mission to generate the energy solutions the world needs.

Jennifer Wallace-Brodeur

Leslie Badger

Justine Sears

Burden and Affordability Gap

Burden = spending expressed as a percentage of income

Affordability gap = the difference between an affordable level of spending and actual spending

Background

- $450 million building energy affordability gap (2017)
  - Low-and moderate-income households are the hardest hit
- We included transportation costs
  - 2nd highest household expense
  - #1 contributor to GHG emissions
- Existing state programs assist with energy costs; few for transportation

> Preserving energy affordability is critical to ability of low income households to not only meet basic needs but build wealth.

Study Scope

Explore patterns in energy and transportation burden and affordability

3 Spending Categories

- Building Energy
- Transportation
- Housing

2 Metrics

- Burden
- Affordability Gap

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Data & Geography

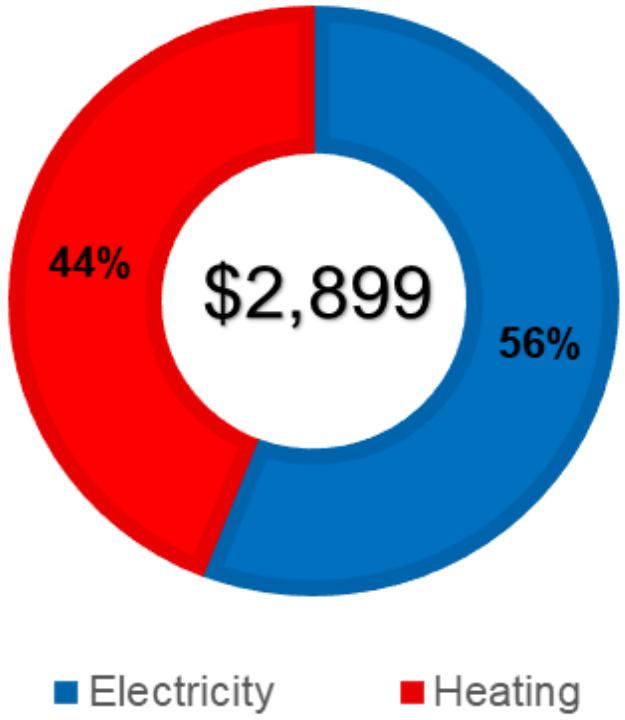
	Data Source
Spending Category	
Building Energy	LEAD Tool (DOE)
Transportation	Housing and Transportation Affordability Index (H&T)
Housing	H&T
Household income	American Community Survey (Census)

Affordability Thresholds

Spending Category	What does it include?	Affordability Threshold (% HH income)
Building Energy	Household heating fuel and electricity	6%
Transportation	Vehicle fuel, transit costs, and vehicle ownership costs (including vehicle purchase or lease, insurance, and maintenance)	15%
Housing	Total shelter costs, **inclusive of building energy**, insurance, taxes, and association fees.	30%
Energy, Transportation, & Housing	Total shelter costs (inclusive of building energy, insurance, taxes, and association fees) and transportation costs (vehicle fuel, transit, and vehicle ownership costs)	45%

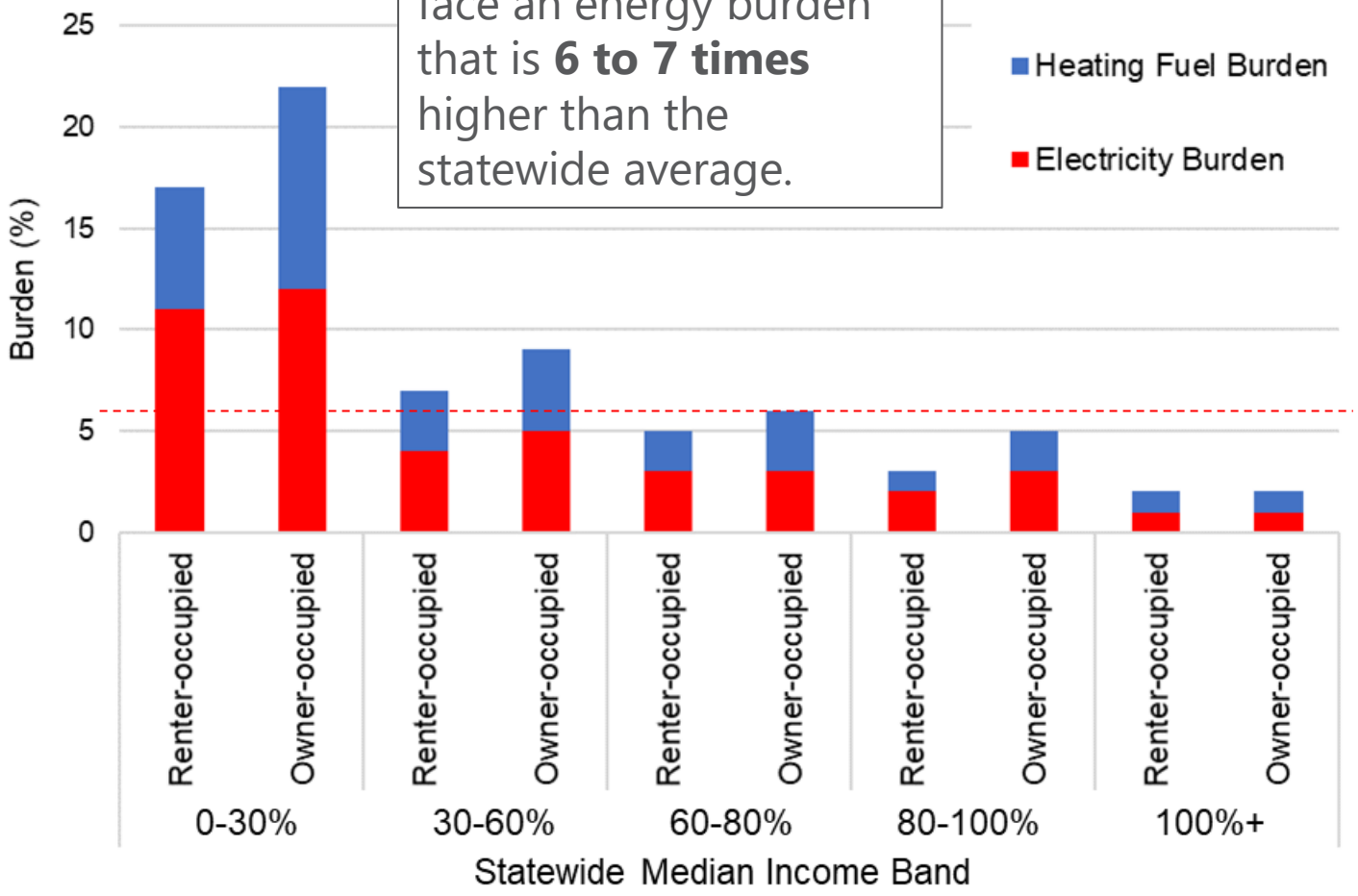
Building Energy

- Statewide: $3k per year on building energy
- Greater variability in spending on electricity than on heating
- Greater variability among low income households

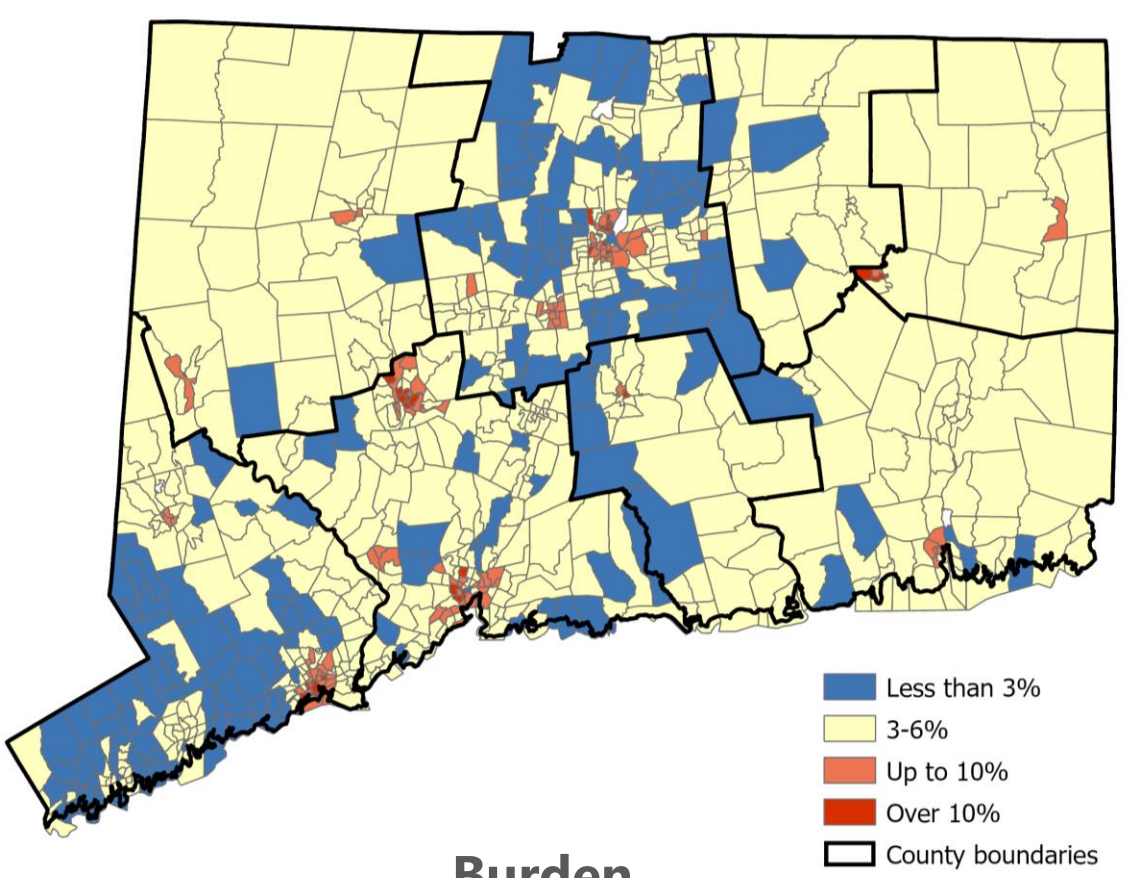


Building Energy

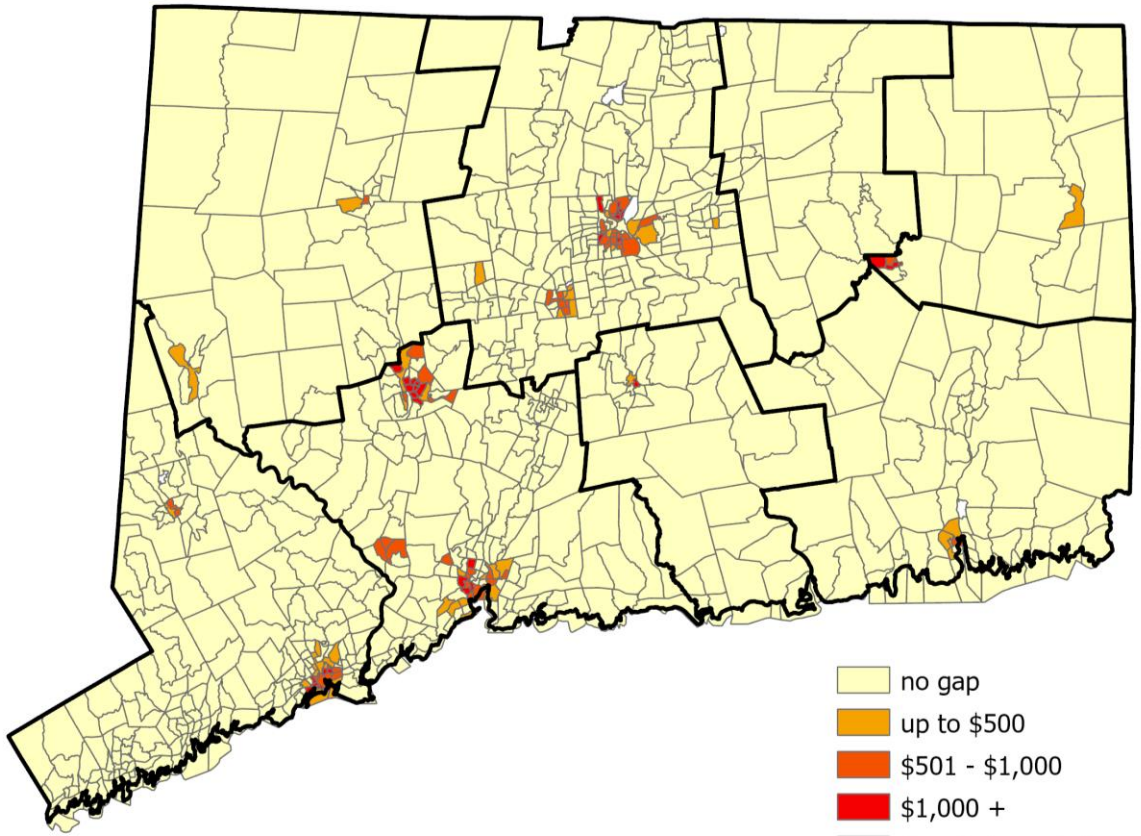
Low-income households face an energy burden that is **6 to 7 times** higher than the statewide average.



Building Energy



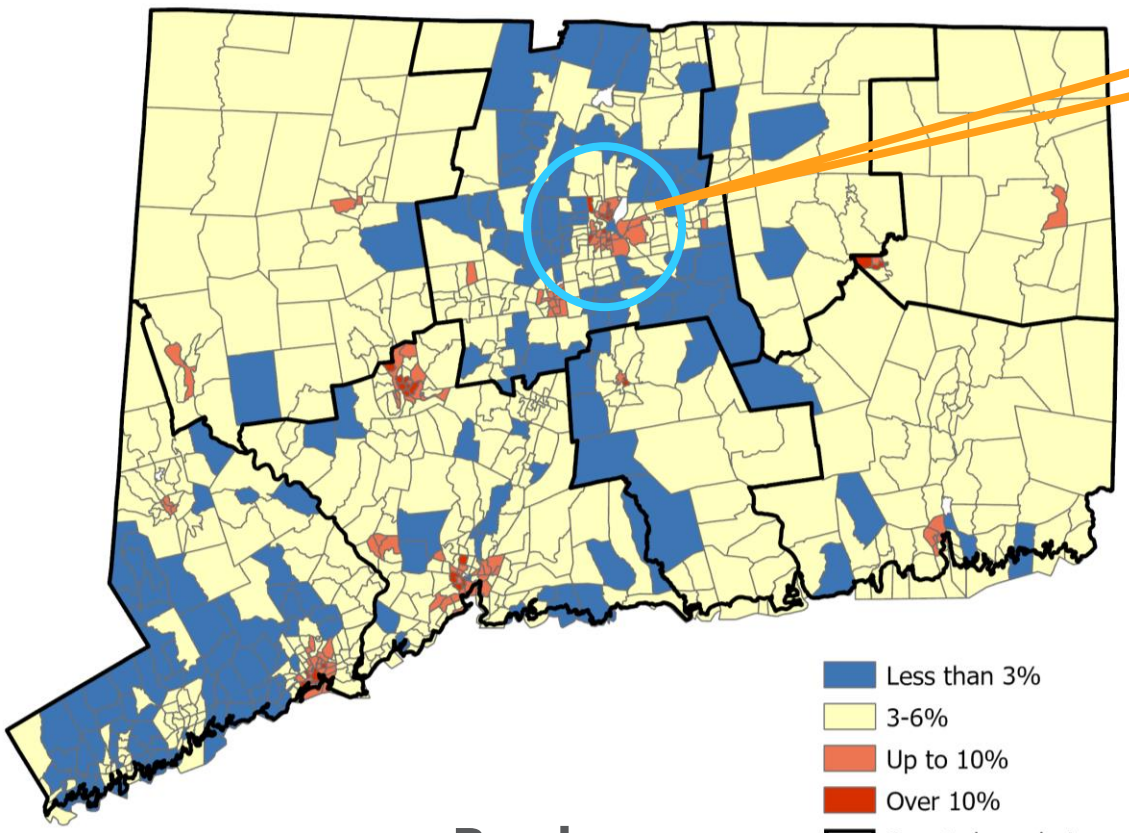
Burden



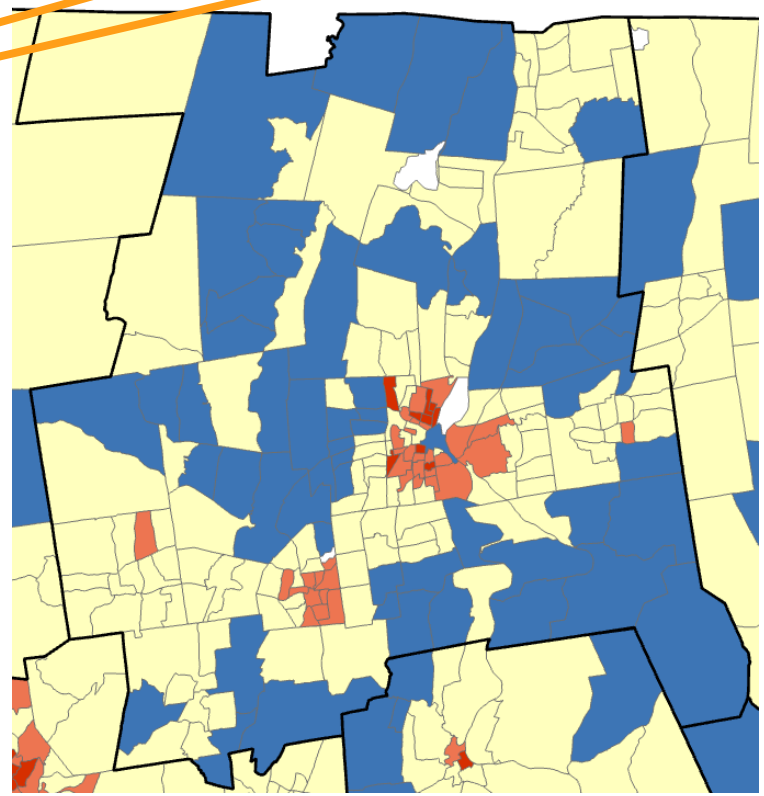
Affordability Gap

Building Energy

33,000 highly burdened households in Hartford County



Burden



Affordability Gap

Building Energy Affordability Gap

Income Band (% State Median Income)	# Households	Energy Spending	Bur		
0 - 30	201,146	$2,119	19%		$1,450
>30 - 60	238,018	$2,550	8%		
>60 - 80	93,792	$2,753			
>80 - 100	149,272	$2,933	4%		No gap

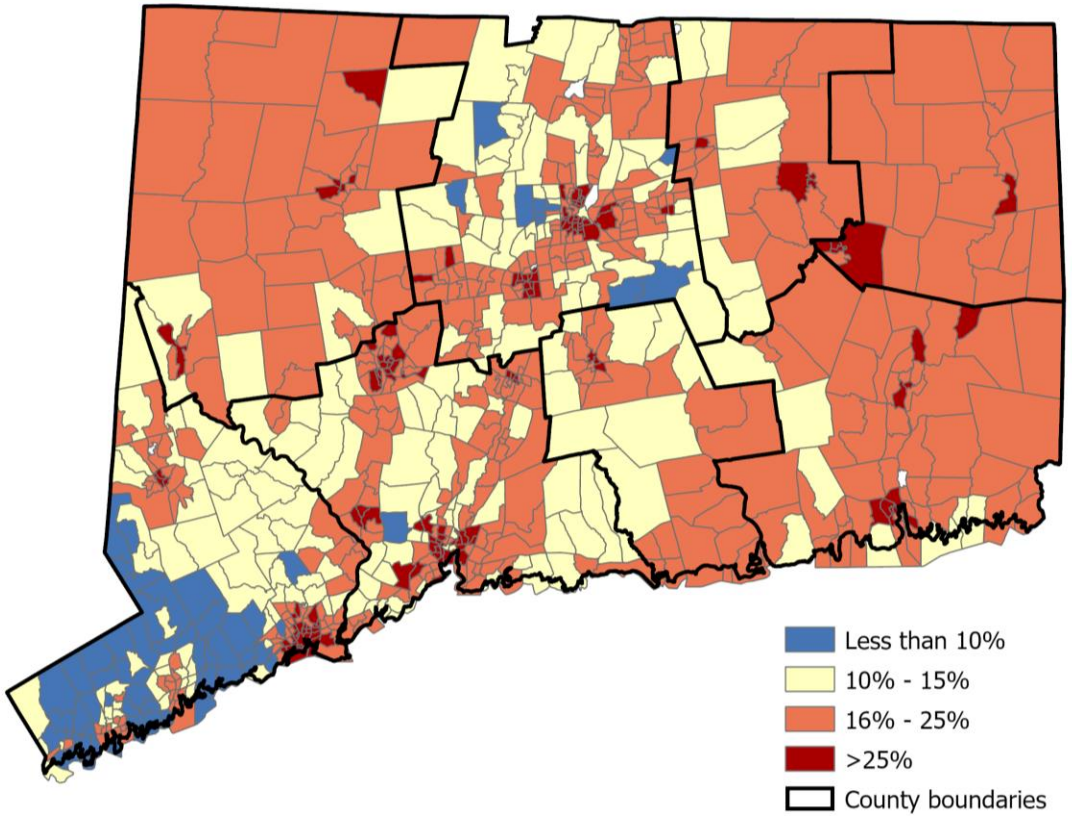
$444 million

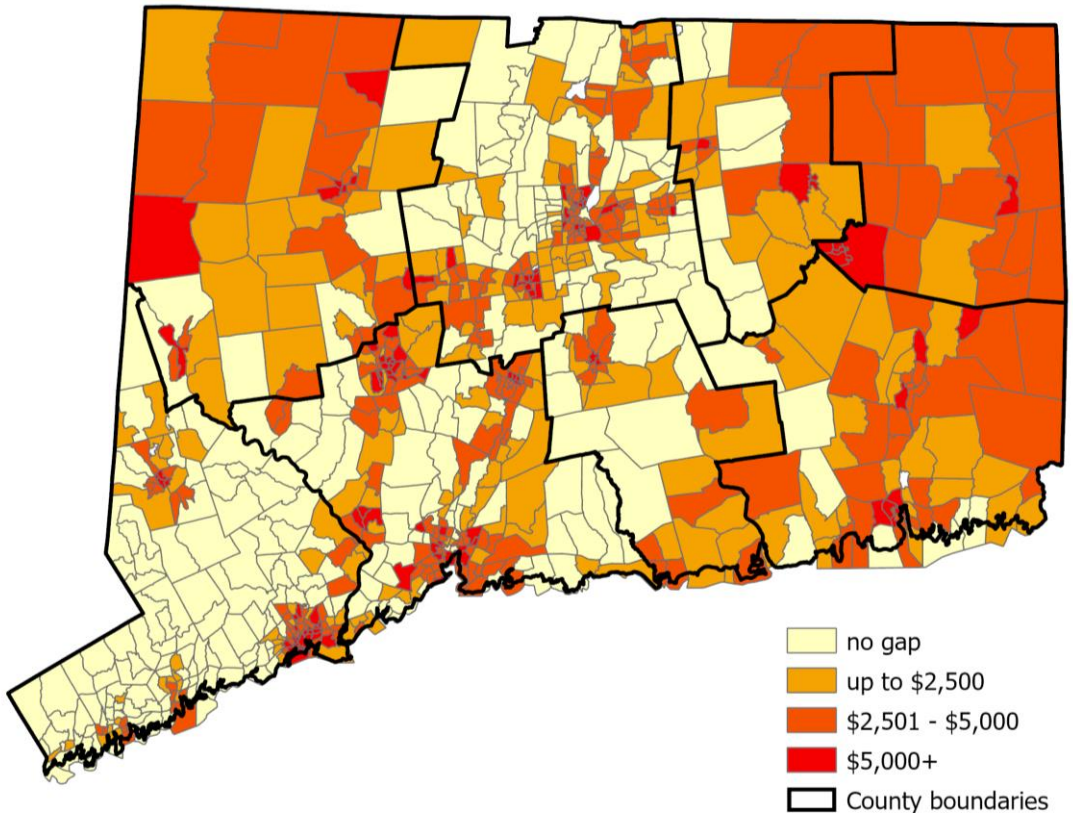
$1,010 per HH

Transportation

Spending Category	Mean Annual Spending	Mean Burden
Vehicle Ownership	$10,343	15%
Vehicle Fuel	$2,524	4%
Public Transit	$111	<1%
Total	$12,978	20%

Transportation

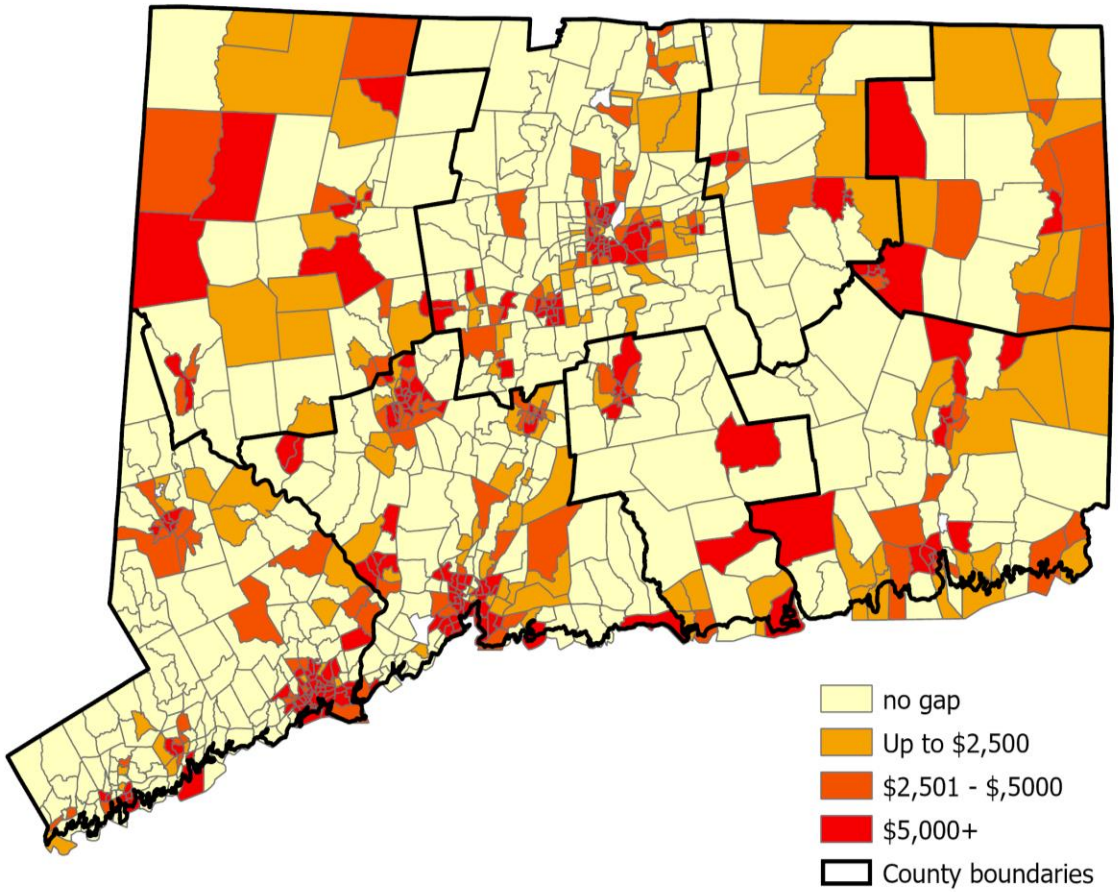




Transportation

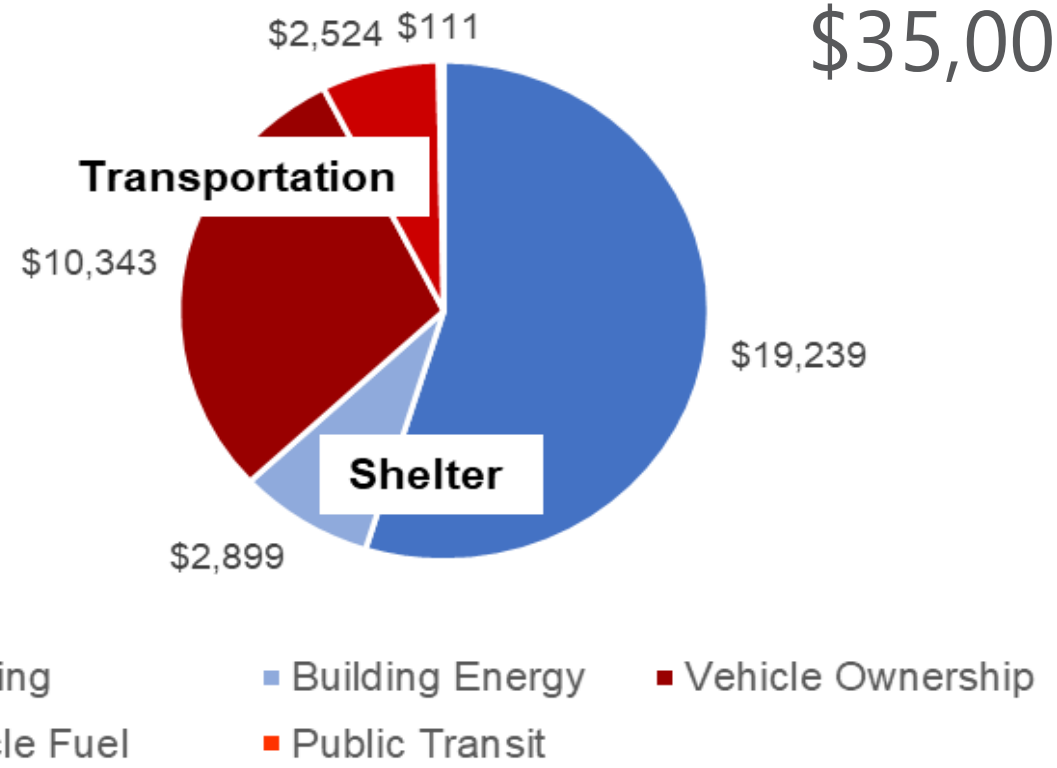
Census Tract AMI Band	Mean Household Transportation Affordability Gap
<60% AMI	$5,097
60-80% AMI	$3,464
80-100% AMI	$2,050
100-120% AMI	$1,067
>120% AMI	No gap

Energy, Transportation, Housing



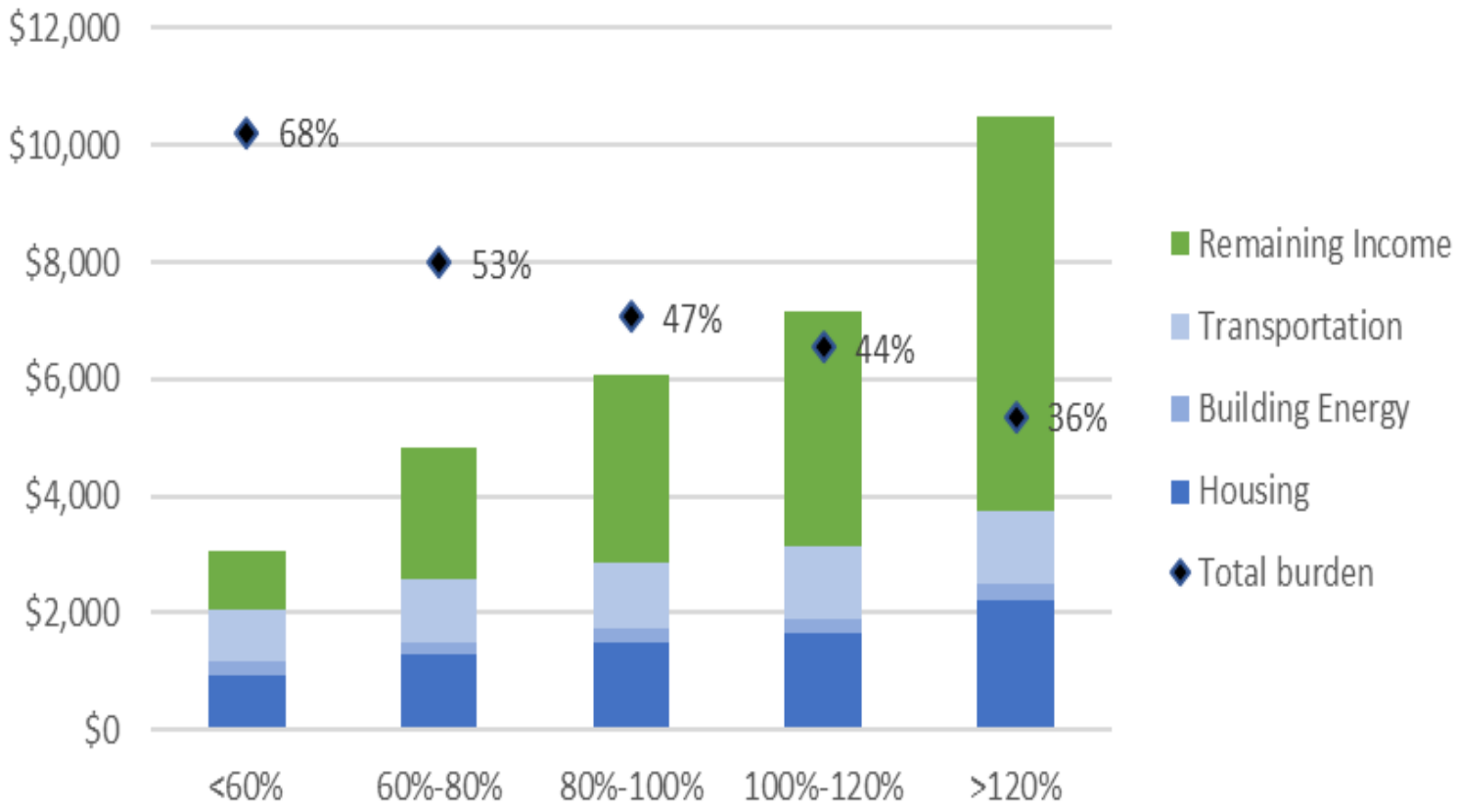
"Even households above traditional low income thresholds struggle with the combined affordability of building energy, transportation, and housing."

Energy, Transportation, Housing

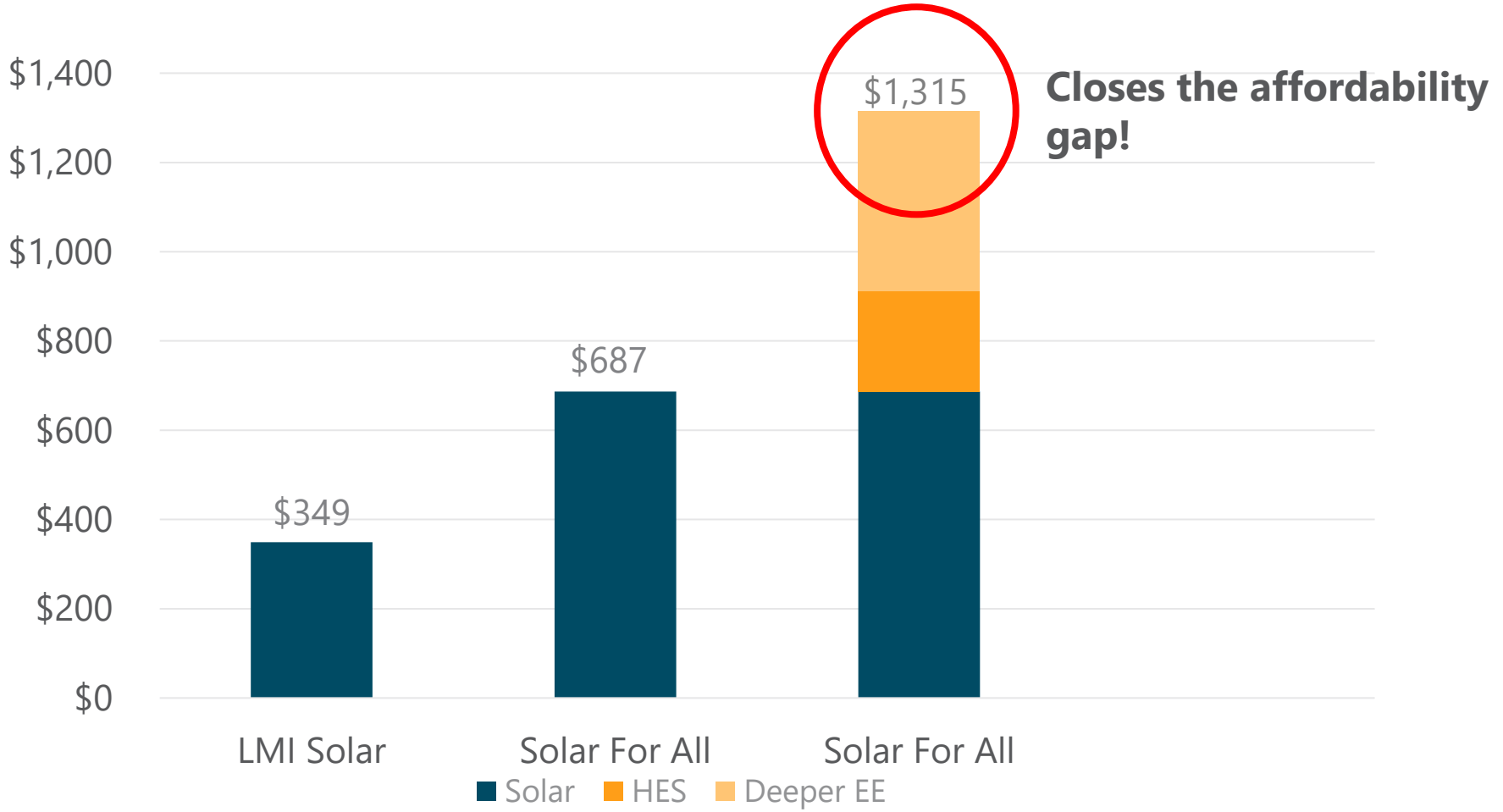


$35,000 total

Energy, Transportation, Housing



Green Bank Low- and Moderate-Income Solar Program Review: Solution for Homeowners



Conclusions

- Energy burden is highest among low-income households: **6-7 times higher**
  - High energy burdens are clustered in urban areas
  - Combined efficiency and solar can close the building energy affordability gap for many low- and moderate-income households
- Transportation costs are high across the state
  - Reducing transportation costs is crucial to preserving affordability
  - A personal vehicle is needed almost everywhere for an acceptable level of mobility

Policy & Program Recommendations

How can we close building energy affordability gaps?

Expansion of Existing Programs

- LIHEAP, WAP, Home Energy Solutions,
- Solar for All has the potential to close the gap for many households: can more household be served?
- Expand to renters via Shared Clean Energy Facilities (community solar)

Target highly burdened tracts

- ‘Hotspots’ are primarily in urban areas

Policy & Program Recommendations

How can we close the transportation affordability gap?

- This gap is broad: spans rural and urban areas, many income bands

Programmatic Considerations

- Income-eligible EV programs (there are other states to watch)
- Income-eligible electric bike
- Expansion of transit services (microtransit and transportation network companies)

Transportation burden in CT

- Impact on Low & Moderate-Income Families
- Key takeaways
- The big picture

OUR MISSION

Operation Fuel ensures equitable access to energy for all by providing year-round energy and utility assistance, promoting energy independence, and advocating for affordable energy.

Gannon Long
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Thank you to our partners:

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Thank you

Reports can be found: https://www.ctgreenbank.com/lmi-market-data-research/

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Thank you for attending our webinar

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