

Rural Energy Burdens and Energy Efficiency Opportunities

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American Council for an Energy-Efficient Economy



The American Council for an Energy-Efficient Economy is a nonprofit 501(c)(3) founded in 1980. We act as a catalyst to advance energy efficiency policies, programs, technologies, investments, & behaviors.

Our research explores economic impacts, financing options, behavior changes, program design, and utility planning, as well as US national, state, & local policy.

Our work is made possible by foundation funding, contracts, government grants, and conference revenue.

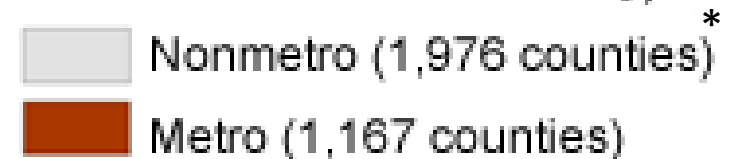
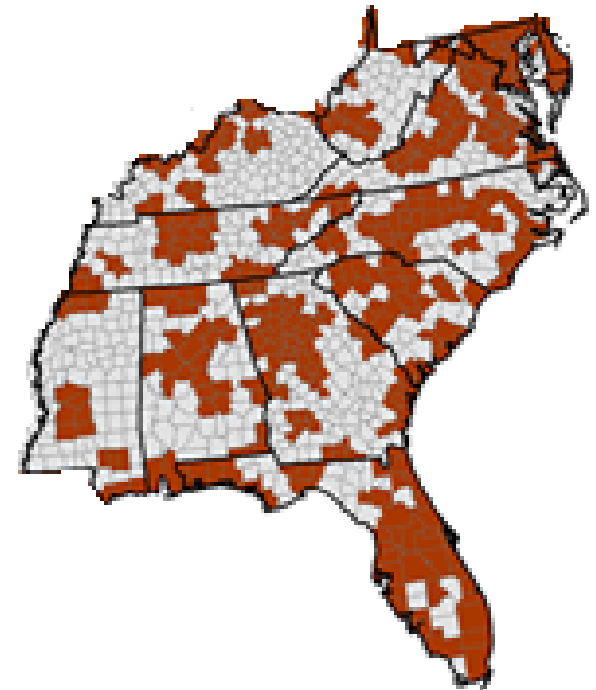
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What is **RURAL**?

Potential determinants:

- Population & density
- Proximity to urban areas
- Housing stock
- Electricity/utilities provider



*Nonmetro counties include urban areas with populations < 50,000 and small towns

Residential Rural Energy Burdens Analysis: Preliminary Results for the Southeast

Regional Study



Snapshot of housing characteristics and energy use for rural households

Characteristics	South Atlantic Census Division (2,611,000 households)	East South Central Census Division (2,476,000 households)
Single Family*	73%	66%
Manufactured Housing*	18%	25%
Rental-occupied units	26%	29%
Low-income households (200% FPL)	46%	51%
Using natural gas	15%	38%
Using Propane	22%	19%
Using fuel oil	5%	1%

*Majority of single-family homes in both regions built before 1980.

Current Study

- What is household energy burden?
 - The proportion of total household income that goes towards home energy bills, which includes electricity, natural gas, and other heating fuels—excludes transportation energy expenses
- What is a rural household?
 - Households residing in rural Census tracts, based off of Rural-Urban Commuting Area (RUCA) Codes 4 through 10. This includes micropolitan areas, small towns, and rural areas.
- Source
 - American Housing Survey, 2015.
 - All data is self-reported



Key Findings



Median Rural Energy Burden	East South Central	South Atlantic
Total non-rural	4%	3%
Total rural	5%	5%
Bottom 25th quartile	7%	6%
Rural Non-low-income	3.2%	3.3%
Rural Low-income	9.6%	9.8%
Bottom 25th quartile	14%	17%
Rural Single Family	4.7%	4.3%
Rural Manufactured	6.1%	6.1%
Bottom 25th quartile	10%	11%

What does energy efficiency have to do with it?

- Bringing their housing stock up to the efficiency level of the median non-rural household would eliminate....
 - **20% of rural low-income households' excess energy burden.**
 - **47% of rural manufactured households' excess energy burden.**

Key Takeaways

- Average **low-income household** pays ***\$1,140 more annually*** than the average non-low-income rural household
- Average **manufactured household** pays ***\$510 more annually*** than the average rural single family household

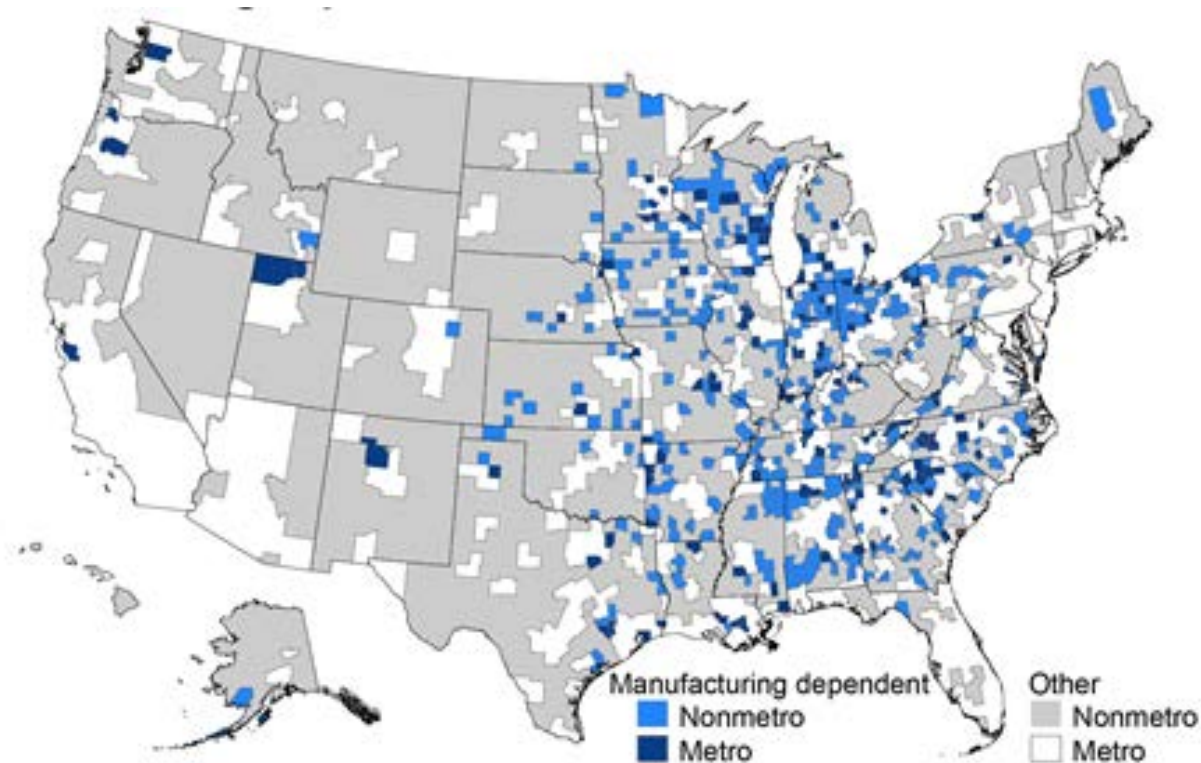
Current & Emerging Opportunities for Residential Energy Efficiency in Rural Areas

- Co-op-delivered
 - On-bill
- IOU-delivered
- Weatherization of low-income households
 - Are rural households getting their fair share?
- EE and broadband



Energy Efficiency in the Rural Economy

Rural Economy is Manufacturing Dependent



80% of counties that derive greater than 20% of economic share from manufacturing are rural.

Observations

- Rural & small-town communities & their energy use are different from metro areas
- Energy resources & uses are different
- Energy burdens tend to be higher & EE programs are less robust
- Rural infrastructure different from metro areas—access to broadband remains a challenge
- Rural businesses tend to be more energy intensive, with ag, forestry, mining & manufacturing dominating
- Tailored programs needed to respond to unique rural needs

Upcoming Conference on Energy Efficiency in Rural America

October 29, 2018

Atlanta, Georgia

This one-day, multi-track conference will precede the two-day annual meeting of the Southeast Energy Efficiency Alliance (SEEA). It will explore the role of energy efficiency in rural communities, the energy burden of low-income customers, and the delivery of effective programs to rural communities.



For more information, visit the Conference page: <http://aceee.org/conferences/2018/rural>

Thank You!

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Upcoming ACEEE Conferences

ACEEE HOT WATER FORUM	MARCH 20-22, 2018	PORTLAND, OR
ENERGY EFFICIENCY FINANCE FORUM	MAY 20-22, 2018	TARRYTOWN, NY
ACEEE SUMMER STUDY ON ENERGY EFFICIENCY IN BUILDINGS	AUGUST 12-17, 2018	PACIFIC GROVE, CA

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