Energy Affordability in Rural Communities: Rural energy burdens, efficiency challenges and paths forward

NEUAC Conference
Tuesday, June 26, 3:15-4:30pm

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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.
Energy Efficiency for All (EEFA)

Ensure housing and energy policies provide sufficient resources to advance investments in energy efficiency in affordable multi-family housing, which will combat climate change, improve public health, increase energy affordability and support environmental justice.
Common characteristics:

- Household income
- Population & density
- Housing age and type
- Heating fuel
- Electricity/utilities provider

* Nonmetro counties include urban areas with populations <50,000 and small towns
## Snapshot of rural communities

<table>
<thead>
<tr>
<th>Rural household characteristics</th>
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<tbody>
<tr>
<td>Total rural homes</td>
<td>18,918,000</td>
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<tr>
<td>% of rural in the US</td>
<td>16%</td>
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<tr>
<td>% of single family</td>
<td>74%</td>
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<tr>
<td>% manufactured housing</td>
<td>13%</td>
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<tr>
<td>% multifamily</td>
<td>12%</td>
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<tr>
<td>% low-income</td>
<td>41%</td>
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<tr>
<td>Natural gas fuel</td>
<td>31%</td>
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<td>Propane fuel</td>
<td>11%</td>
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<tr>
<td>Median unit age</td>
<td>45 years</td>
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**Source:** 2015. U.S. Census Bureau, American Housing Survey. Households outside metro areas (including micropolitan and micropolitan)
Residential Rural Energy Burdens Analysis: Study and Results
Regional Study
Methods

• Definition of energy burden
  • Annual household energy spending/annual household income
  • Excludes transportation and water

• Definition of rural household
  • Rural Census tracts (RUCA Codes 4 through 10): micropolitan areas, small towns, and rural areas

• Subgroups for analysis
  • Housing type, tenure status, ethnicity, age, income

• Data source for analysis
  • American Housing Survey, 2015
  • Self-reported data
Preliminary findings: Regional burdens
Preliminary Findings: Rural median demographic group comparisons

- Low-income **three times greater** than non-low-income households (9% vs. 3.1%)
- Quarter of low-income **greater than 15%**
- Manufactured housing **42% higher** than single-family and 32% higher than rural median
- Multifamily 2-4 unit residents **20% higher** than single family
- Elderly **44% higher** than non-elderly
- Renters **29% higher** than owners
- Nonwhite **19% higher** than white households
Preliminary Finding: Low-income energy burden quartiles
Key data takeaways

- Rural experience higher energy burdens than non-rural households
- Rural low-income households disproportionately impacted (One quarter > 15%)
- Rural manufactured housing are especially inefficient
- Nonwhite, elderly, and multifamily (2-4 units) also experienced higher burdens than counterparts
How does EE fit in?

• **Long-term solution**: Compliment bill assistance programs and achieve affordability by permanently reducing high energy burdens

• **Bill savings**: DOE estimates WAP saves an average single family home $283/year

• **Additional benefits**: Health and environment, jobs and economic development, reduced utility costs, etc.
Programs for Improving Energy Affordability in Rural Communities
Rural Affordability Program Types

- Bill assistance
  - e.g. LIHEAP, modified rate design

- Energy efficiency and weatherization
  - e.g. DOE-WAP, other federal programs, utility-led ratepayer funded EE, on-bill tariffs

- On-bill financing
  - e.g. on-bill loans
Rural Program Challenges and Ways Forward

- Serving rural low-income customers, renters, and manufactured homes
- Broadband access
- Propane and fuel oil
- Managing program resources
- Rural EE workforce development
- Program marketing
- Program evaluations and data
Rural energy burden report to be released in mid-July!
Upcoming ACEEE 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 info, visit aceee.org/conferences/2018/rural
**Thank you for your attention!**

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<tr>
<th>Conference</th>
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<th>Location</th>
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<tbody>
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<td>International Symposium on Energy Efficiency</td>
<td>June 26</td>
<td>Washington, DC</td>
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<tr>
<td>Summer Study on Energy Efficiency in Buildings</td>
<td>Aug 12-17</td>
<td>Pacific Grove, CA</td>
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<tr>
<td>Behavior, Energy, and Climate Change Conference</td>
<td>Oct 7-10</td>
<td>Washington, DC</td>
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<tr>
<td>Rural Energy Conference</td>
<td>Oct 22</td>
<td>Atlanta, GA</td>
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<tr>
<td>Conference on Health, Environment and Energy</td>
<td>Dec 3-5</td>
<td>New Orleans, LA</td>
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*The top convener in energy efficiency.*

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