Energy Inequity and Burden in Vermont

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Purpose of Study

• What energy inequities exist in Vermont?

• Do low-income households suffer disproportionately from energy burden?

• Do low-income households have equal access to different heating fuel types?

• In what ways does the current system perpetuate these inequities?
What is Energy Burden?

Energy burden measures the percent of income used for energy spending. This measurement allows us to acknowledge that energy spending does not affect everyone equally.

Energy burden = \frac{\text{Spending on energy}}{\text{Income}}

\text{Spending on energy} = \text{Quantity of energy consumed} \times \text{price of energy}


Lowest-income Vermonters purchase less energy but suffer the highest energy burden.
Lowest-income Vermonters purchase less energy but suffer the highest energy burden.
### Harmful Effects of High Energy Burden

<table>
<thead>
<tr>
<th>Financial</th>
<th>Health</th>
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</thead>
<tbody>
<tr>
<td>Difficult to escape poverty</td>
<td>“Heat or eat”</td>
</tr>
<tr>
<td>Vulnerable to fuel price changes</td>
<td>Unsafe heating alternatives</td>
</tr>
<tr>
<td>Housing instability</td>
<td>Extreme home temperatures</td>
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<tr>
<td>Homelessness</td>
<td>Higher health risks</td>
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Lower-income households use fuel oil and electricity disproportionately more frequently and utility gas and wood disproportionately less frequently than higher-income households.
Tenure as a Barrier to Affordable Fuel

- Split incentives discourage energy upgrades in low-income households
- Renters use wood disproportionately less than homeowners
- Renters use electricity disproportionately more than homeowners
Tenure as a Barrier to Affordable Fuel

Tertile 1: Less than $39,560
Tertile 2: $39,560 to $85,000
Tertile 3: More than $85,000
Tenure as a Barrier to Affordable Fuel

• Low-income renters have to manage issues specific to renters and issues specific to low-income households simultaneously.

• Renters use electricity for heating more often in general, and within renters, lower-income renters use electricity for heating disproportionately more often.

• Housing tenure, and not income, is likely the main force driving low-income households to use disproportionately less wood for heating fuel.
Racial Energy Equity

Additional Barriers for Black Low-Income Households

• More likely to live in older, less efficient homes

• Pay higher prices for less reliable energy

• Historically placed in energy “sacrifice zones”

• Disinvestment in racially segregated neighborhoods

• Historic and intentional barriers to home ownership
Clean Energy Solutions as Equity Tools

Increasing clean energy consumption can...

• Lower energy prices

• Lower energy burden

• Create more jobs per unit of energy

• Reduce income inequality overall

• Increase thermal comfort, health, and safety
Low-income households purchase the least amount of energy, have the highest energy burden, and suffer the most intensely from energy burden.

Low-income households don’t have the same access to heating fuels, placing already burdened households at the mercy of some of the highest and least efficient ways to heat their homes.

A truly sustainable system is one that does not place additional burdens on the already most-burdened communities.
Thank you!

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For a complete list of cited works, see the full report.