



Michigan low-income families on average spend **15% of their income** on energy.



More than 1.4 million Michigan households, or 37%, are considered low-income, earning less than \$30,000 annually.¹ Many low-income households face a large energy burden. Energy burden is a household's heating and electric expenses as a percentage of income.

The average annual energy bill in Michigan is \$2,716

Average Annual Energy Bill:



Electricity:
\$1,341/year



Heating fuel²:
\$1,375/year

A household is considered energy burdened when energy costs exceed 6% of household income. Michigan households would need to earn \$45,000 annually to afford this bill.

Energy Bill

Home energy efficiency upgrades, like air sealing, insulation, lighting upgrades, and others, can reduce energy burden by saving between **15% and 30%** on energy costs.³

Bill assistance programs, like federally-funded LIHEAP, are stopgaps that do not systemically address the root causes of energy burden. Moreover, LIHEAP only serves about **60% of eligible households** and is often the target of budget cuts.⁴



1. The definition of low-income used here is 200 percent of the Federal Poverty Level. For example, a household of two people would be included in our estimate if the income level was at or below \$31,020, per the U.S. Department of Health and Human Services 2013 Poverty Guidelines.
2. Eighty percent of survey respondents reported natural gas as their heating fuel.
3. Savings range based on Elevate Energy retrofit program data.
4. For example, in 2013, Low-Income Home Energy Assistance Program served approximately 624,000 households. See the Campaign for Home Energy Assistance for more information: <http://liheap.org/states/mi/>



What is “energy burden”?

Energy burden is a high ratio of household energy expenses to household income. Based on Elevate Energy’s analysis of the 2013 Panel Study of Income Dynamics (PSID) data, U.S. households spent, on average, 6 percent of their annual household income on residential energy costs.⁵ Low-income households making less than 200 percent of the Federal Poverty Line (\$31,020 for a 2-person household during the same time period)⁶ paid more than 13 percent of their income on energy costs, compared to 3 percent for all other households.

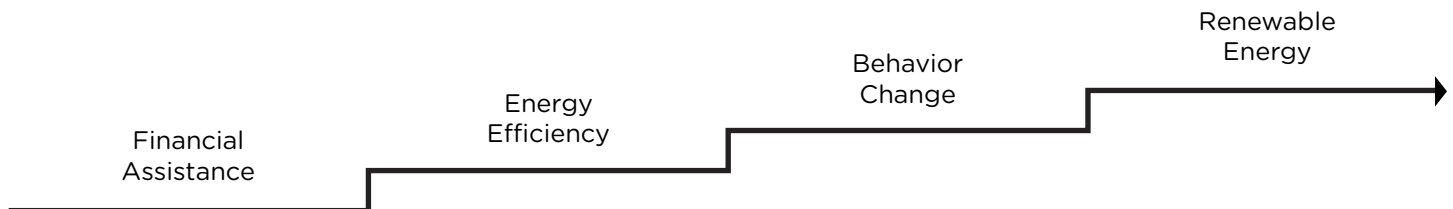
There are different definitions of energy burden or energy insecurity, which is a function of low household income, energy costs, and energy inefficient homes. Diana Hernandez, of Columbia University, uses “structural energy insecurity” to describe drafty windows, poor insulation, and faulty heating and cooling systems and “behavioral energy insecurity” to describe coping mechanisms, such as extreme energy conservation; fuel assistance programs; and the use of space heaters, ovens, and stoves to supply heat.⁷ The U.K. Centre for Sustainable energy determined that households are energy burdened when they spend 10 percent or more of their monthly income on residential energy costs.⁸ Roger Colton, the publisher of the “home energy affordability gap,” an annual index of energy costs, uses 6 percent of gross household income as the threshold for energy burden.⁹

Why should I care?

Energy burden disproportionately impacts low-income families with children, racial-ethnic minorities, and seniors. Most families with children experiencing energy burden live in poverty (less than \$23,500 for a family of four in 2013), and they are disproportionately African-American and/or renters. Furthermore, seniors often experience heating problems and are more likely to report experiencing distressing cold for up to 24 hours or more and/or utility interruption.¹⁰ Children suffering from energy insecurity are more likely to experience food insecurity, hospitalizations, and developmental delays when compared to children in energy secure homes.¹¹ Poorly heated or cooled homes contribute to asthma, respiratory problems, heart disease, arthritis, and rheumatism. Families often struggle to pay their energy bills and sacrifice nutrition, medicine and other necessities compounding the effects of inequality.¹²

What are the solutions?

A combination of **bill assistance**, **energy efficiency**, **behavior change**, and **renewable energy** programs targeted at low-income households can address energy burden. Bill assistance is a stopgap solution meant to address an emergency need, whereas energy efficiency and generation of renewable energy are longer-term solutions to the problem of energy burden. States and municipalities can set goals of lowering average energy burden below a certain threshold. For example, in 2016 Governor Andrew Cuomo of New York announced an “energy affordability policy” that limits energy costs for low-income New Yorkers to no more than 6 percent of annual income—half of what New Yorkers are currently paying. Other states have adopted “percentage of income payment programs,” known as PIPP, for low-income ratepayers. These payment programs allow low-income customers to pay a portion of their income (typically between 6 percent and 10 percent) on their energy bills. PIPP subsidizes the remainder of the bill with a combination of state and federal LIHEAP funding.



5. Figures on energy and water costs, as well as energy burden are taken from the Panel Study of Income Dynamics, the 2013 panel of responses. Only respondents that paid for their own utilities were included.
6. The average household size was around two and the low-income limit was adjusted for each individual household.
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