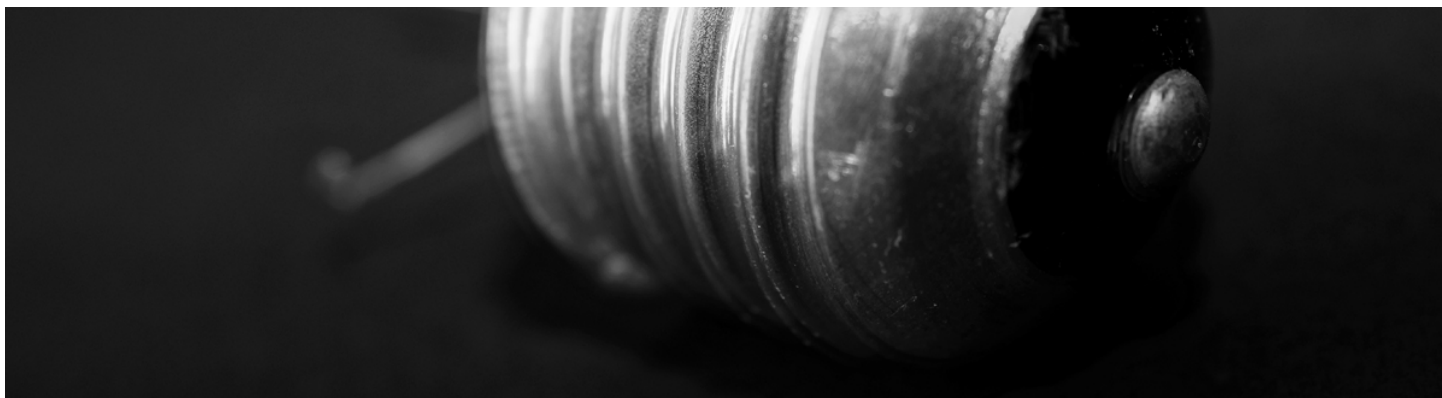




[BLOG] UNION OF CONCERNED SCIENTISTS



6 Maps That Show How Bad Energy Poverty Is and Reveal 2 Ways to Make it Better

JOSEPH DANIEL, SENIOR ENERGY ANALYST | JULY 9, 2019, 10:00 AM EDT

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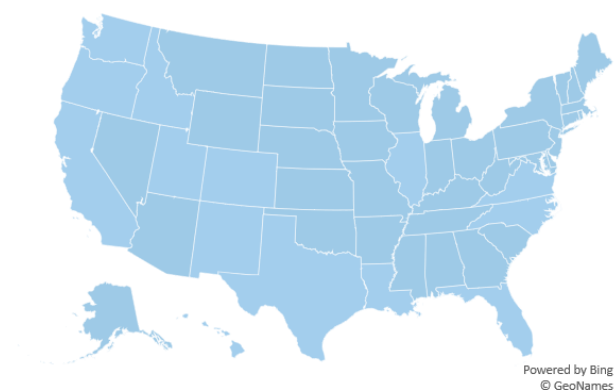
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Fresh off the presses is the [latest tool](#) from the US Department of Energy (DOE) that generates color-coded maps (known as *choropleths*) of the [deep energy burden many Americans face](#). There is a wealth of data and hundreds of different ways to display it (you can check it out for yourself [here](#)). I've chosen 3 sets of maps (6 maps in total) that show the extent of the [energy burden](#) but also illuminates a couple of ways we can address the problem of energy poverty.

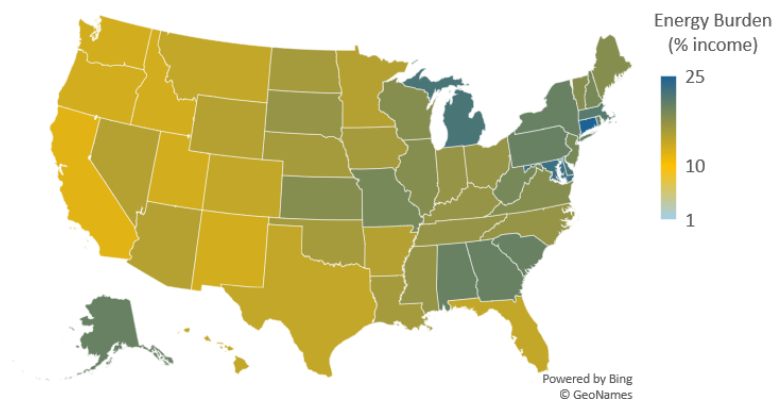
The energy burden is incredibly regressive

Economists like to talk about 'progressive' and 'regressive' policies. These aren't political descriptors, rather, they describe the distributive effects of various policies. Progressive policies place a higher burden as you move up the income ladder. Regressive policies place a higher burden on lower income folks. Generally, decisionmakers try to avoid creating regressive policies. However, we haven't succeeded on that front when it comes to energy.

4x Federal Poverty Line



At or Below Federal Poverty Line



The energy burden is far worse for those already living in poverty. Data from the DOE Office of Energy Efficiency and Renewable Energy.

This map on the left isn't all that exciting, it shows the percent of household income spent on household energy bills (electric, heating, stuff like that) for households that have a combined income four times higher than the federal poverty line (FPL), which is \$25,750 for a family of four. It shows a mostly uniform distribution across the US, with households in that income bracket typically spending only 1-2% of their income on household energy. Even if you add in anyone above the federal poverty line the map doesn't get all that more exciting, in all 50 states, and Puerto Rico, households above the poverty level spend about 2-3% of their income on energy.

Things start to look much different once you look at those households below the poverty level (the map on the right), the burden balloons to 10% up to **26%**. 10 percent of household income is also an important threshold because it is often used as the delineation for energy poverty.

New data suggests that US families that are below the poverty line are far more likely to be suffering from energy poverty

There are a few clusters of higher burdened areas. Some of the worst burden is in states like Connecticut, Massachusetts, Maryland, New York, Pennsylvania, and the District of Columbia. Outside of the northeast two clusters stand out. The first is in the Midwest, in states like Michigan, Illinois, Missouri, and Kansas. It is worth

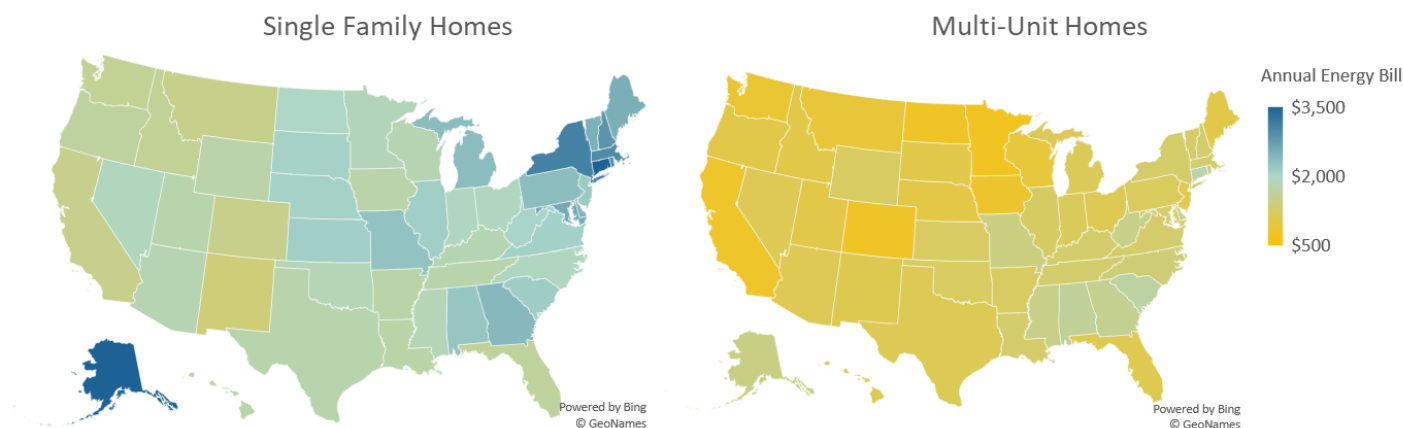
noting that Kansas and western Missouri are both served by Evergy, while eastern Missouri and parts of Illinois are served by Ameren.

Michigan has an incredibly high burden, with 22% of low-income household's income going to energy bills.

Another cluster that stands out is in the southeast. Alabama, Georgia, and Mississippi (all served by subsidiaries of Southern Company) along with South Carolina. Some Commissioners in those states claim that the high bills are a function of high AC load, which is odd because Florida, Arkansas, Louisiana, Arizona, New Mexico, and Nevada also have high AC loads and they all have lower energy bills and lower energy burden.

Multi-unit buildings are *better*

Creating affordable housing is an important part of a set of anti-poverty policies, but this new data suggests that it may also be helpful in the fight against energy poverty.



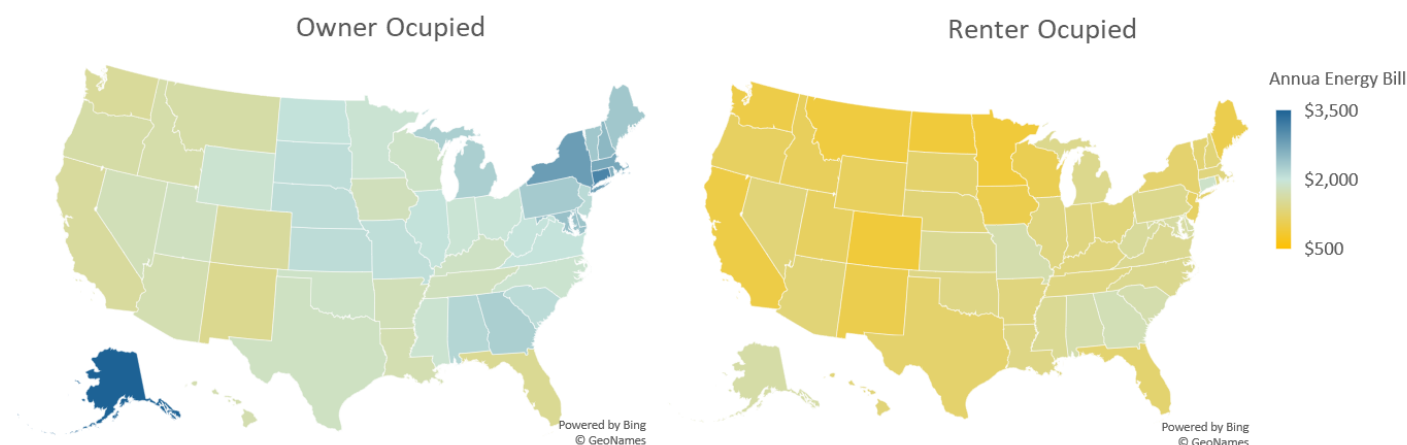
Multi-family households below the poverty line tend to be more efficient and have lower energy bills so the burden is lower on families living in those houses. Data from the DOE Office of Energy Efficiency and Renewable Energy.

In every state, the annual energy bill in multi-unit households is lower, and for low-income households it is a considerable saving, by at least \$300 and as high as \$1,850 a year. That is considerable savings for a family that is below the federal poverty line. Single-family households spend as much as 13% more of their income on energy expenditures.

The split incentive

The [split incentive](#) is another wonky piece of economic jargon. It boils down to this:

Owners tend to have the capital and long-term interest to make investments that will lower energy bills but if the renters pay the energy bill the incentive is *split* with renters.



Owners below the poverty line tend to have an incentive to invest in efficiency (appliances or home retrofits) but have higher energy bills. Data from the DOE Office of Energy Efficiency and Renewable Energy.

Surprisingly, owners tend to have higher energy bills, maybe because they have larger homes. But it is surprising because they are also more likely to live in their home for long enough periods where investment in more efficient appliances or home insulation will pay off. Maybe this is because fewer renters pay their energy bills than we often assume and the owners do have an incentive to take on efficiency projects. Maybe homeowners below the poverty line lack access to the capital needed to make those investments? All important questions.

It is worth noting, that there have been great strides in solving the [split incentive](#) which includes:

- Incorporation of green language into a rental agreement (“[green lease](#)”)
- [Cost-sharing framework](#) for efficiency improvements
- Stricter energy standards and more frequent updates to [standards for residential dwellings](#).

Maybe folks have acted on these options and those actions are reflected in the data?

Action worth taking

Policies that promote multi-family dwellings not only help deal with energy poverty but can be a centerpiece to addressing the housing crisis. States (like [Oregon](#)) and cities (like [Minneapolis](#)) are already taking on this issue.

The split incentive is also an issue worth tackling. A 2014 study found that fixing the split incentive problem would save consumers [\\$4-11 billion per year](#).

\$4-11 BILLION per YEAR.

That is a lot of money and considering that a lot of those savings would be enjoyed by low-income households it means that it would go a long way at easing the energy burden.

Making households more energy efficient will go a long way to reduce energy costs. That increased efficiency will [reduce energy bills](#), reduce energy burden, and reduce pollution. That last point, reduced pollution, is critically important because low-income households are also disproportionately [burdened by healthcare costs](#).

It turns out, housing policy is energy policy and energy policy is climate policy.

Editor's note 7/9/2019: This blog was updated 11:45 AM Eastern to reflect errors in the original text that described homeowners as having lower energy bills than renters.

Editor's note 7/10/2019: An earlier version of this blog suggested that Dynergy serves customers in Illinois and Missouri, the blog was updated 8:40 AM Eastern.

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