The US Low-Income Energy Affordability Landscape: Alleviating High Energy Burden with Energy Efficiency in Low-Income Communities

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ABSTRACT

Energy efficiency is an underutilized strategy for addressing high energy burdens and increasing energy affordability. Energy burden is the proportion of total household income used to pay home energy bills, which includes electricity, natural gas, and other heating fuels. We examined energy burdens for select groups—low-income, low-income multifamily, African American, Latino, and renters—in 48 of the largest metropolitan areas in the country. We determined that the overwhelming majority of households in these groups experienced energy burdens higher than that of the average household in the same metro area. Low-income households experienced energy burdens three times the burdens of non-low-income households. In order to combat high energy burdens in low-income communities, policymakers can utilize strategies to ramp up energy efficiency programs. We propose four strategies for increasing investment in low-income energy efficiency programs: (1) improve and expand low-income utility programs; (2) collect, track, and report demographic data on program participation; (3) strengthen policy levers and more effectively leverage existing programs; and (4) utilize the Clean Power Plan (CPP) to prioritize investment in low-income energy efficiency. State and local governments and utility program administrators should use this research as a starting point to better understand the extent of high energy burdens in their communities and the policies and programs that can ensure more-sustainable energy costs and a better living environment.

Introduction

This paper explores energy affordability across US metro areas. *Energy affordability* is a household's ability to pay for its electricity, heating and cooling, and other energy costs. To quantify energy affordability we use *home energy burden* (referred to as *energy burden*), which is a household's total annual utility spending as a percentage of its annual gross income. In this research energy burden does not include water or transportation costs. We used a national survey to measure energy burdens in major metropolitan areas across the country to determine how certain groups experience energy burden in various locations. We conclude with an overview of strategies to encourage increased investment in energy efficiency in low-income communities.

Households that experience high energy burdens—above the metro area median—experience many negative impacts on health and economic well-being (Fisher, Sheehan, and Colton 2016; Heyman 2011). Researchers have found that living in under-heated or under-cooled homes can lead to increased cases of asthma, respiratory problems, heart disease, arthritis, and rheumatism (Heyman 2011; Hernández and Bird 2010). High energy burdens can also perpetuate the cycle of poverty by requiring families to devote a disproportionate amount of income to utilities. This research sheds light on an important aspect of economic inequality, namely, the fact that certain groups pay disproportionately more for home energy bills. This carries real implications for the ability of these households to afford basic necessities such as food, medicine,

and child care. Our study aims to provide a pathway to creating a more equitable distribution of energy costs for families across the United States.

Numerous factors act as drivers of household energy burden, including physical, economic, behavioral, and policy-related factors. Physical drivers—such as inefficient or poorly maintained heating, ventilating, and air-conditioning (HVAC) systems; inefficient large-scale appliances; and poor insulation—can increase a household's energy burden. Low-income housing often consists of older and poorer-quality dwellings with less-efficient appliances, making these homes less efficient overall (EIA 2013). Chronic or sudden economic hardships or prohibitive upfront costs for energy efficiency investments also contribute to household energy burden. Education factors include lack of access to information about bill assistance or energy efficiency programs and lack of knowledge of energy-conservation measures. Finally, a lack of investment in bill assistance, weatherization, and energy efficiency programs for low-income households can cause higher energy burdens for already-overburdened homes.

Our study found that low-income households pay more per square foot (ft^2) for energy than the average household ($\$1.41/ft^2$ and $\$1.23/ft^2$, respectively) due to a combination of the previously mentioned factors (Drehobl and Ross 2016). Household inefficiency coupled with lower incomes often leads to higher energy burdens for low-income families. Most utilities have found that their energy efficiency programs do not adequately reach low-income households. Reasons for this include lack of upfront capital for energy efficiency improvements and constraints on time or other resources. Low-income households remain a hard-to-reach group with many barriers to participation in utility-funded and other energy efficiency programs. (Rasmussen et al. 2014).

Methodology

To calculate energy burden we used the US Census Bureau and US Department of Housing and Urban Development (HUD)'s *American Housing Survey* (AHS) data set from 2011 and 2013 (Census Bureau 2011, 2013). HUD conducts a statistically representative sampling of select metro areas every other year, and we used the most recent two years of collected data in this analysis. All data in the AHS data set are self-reported during the surveying process. We calculated energy burden as follows:

$$\text{Home energy burden} = \frac{\text{Total utility spending}^{1}}{\text{Total gross household income}}$$

We calculated energy burden for 5 groups of households and for households overall in the 48 largest metropolitan statistical areas (MSAs).[2] The five household groups included (1)

[1] Total utility spending includes average annual electricity spending and average annual spending on heating fuels (i.e., electricity, gas, fuel oil, wood, coal, kerosene, and other fuels) as reported. Total gross household income includes all annual income reported by all household members, including transfers.

[2] An MSA is a geographical region typically made up of several counties, with a core urban area having a population of 50,000 or more. MSAs therefore include a central city and surrounding suburbs. Raleigh and Salt Lake City, 2 of the top 50 MSAs, were not included in the AHS 2011 and 2013, and therefore we did not include them in this analysis.

low-income, (2) low-income multifamily, (3) African American, (4) Latino, and (5) renting households.[3] We chose these groups because they have a history of being disproportionately impacted by environmental hazards and face limited access to safe and decent housing. We define *low-income households* as those single- and multifamily households that report an annual gross household income at or below 80% of the area median income (AMI), which was adjusted for each household based on household size. We chose 80% of AMI because this definition includes very low-income, low-income, and moderate-income households. We also specifically looked at low-income multifamily households—those that report an annual gross household income at or below 80% of the AMI and reside in buildings with five or more units. We chose these groups as a starting point for energy burden research, and we acknowledge that this research could be expanded in the future to explore the effects of energy burden on a wider range of groups. Our sample includes only those households that reported a positive income and that pay directly for their utility bills. This means that these results do not represent households that pay for their utilities as part of their rent. Appendix A includes sample sizes for each group in each metro area.

Energy Affordability Landscape

Energy burden across the country varied, ranging from more than 6% to less than 1.5% in certain metro areas. The metro areas with the highest median energy burdens were Memphis (6.2%), Birmingham (5.3%), New Orleans (5.3%), Atlanta (5%), and Providence (4.7%). Overall the Southeast and Midwest regions experienced the highest median energy burdens (see figure 1).

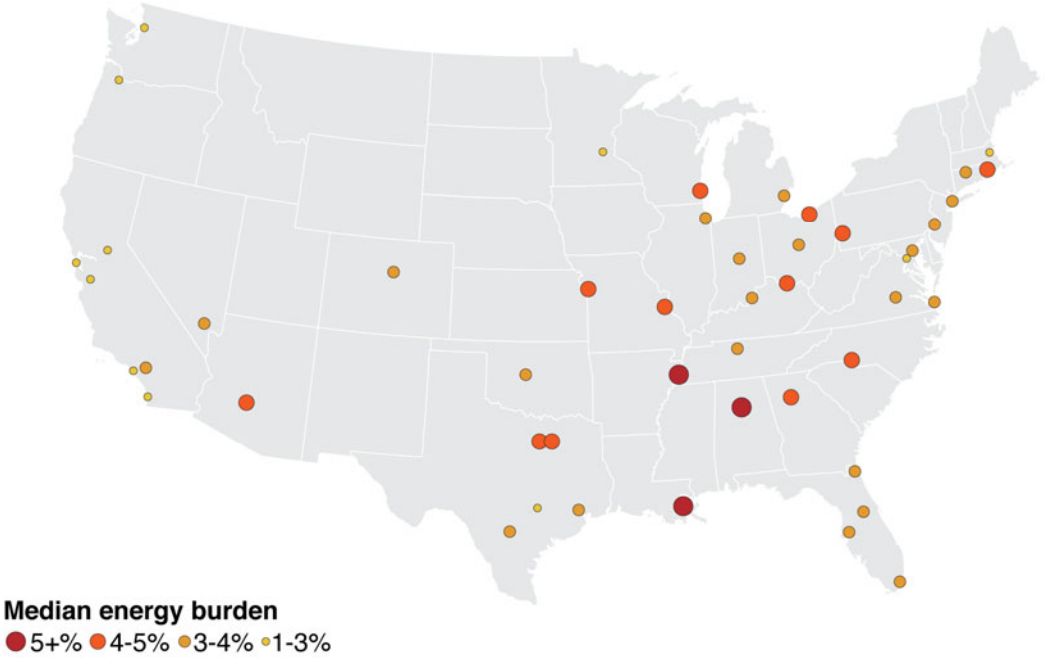

Figure 1. Median metro-area energy burden for all households. *Source*: Drehobl and Ross 2016.

[3] These groups are not mutually exclusive as many groups also include households from other groups. For example, low-income households include African American, Latino, renting, and multifamily households.

Many of the metro areas in the Southeast—a region with relatively low electricity prices and lower average incomes—faced higher energy burdens compared with metro areas nationally, suggesting that low electricity prices do not equate to low bills. The five metro areas with the lowest median energy burden were San Francisco (1.4%), San Jose (1.8%), Seattle (2.1%), Washington, DC (2.1%), and San Diego (2.3%). Households in these metro areas spent less income on utility bills, likely due to a combination of lower energy bills, higher household income, and more-efficient buildings and energy use.

Table 1 records the median income, unit size, annual utility spending, utility spending per square foot, and median energy burden for our five household groups and their counterparts (i.e., non-low-income, non-low-income multifamily, owners, and white households). We found that low-income, low-income multifamily, African American, Latino, and renting households all paid more per square foot and had higher energy burdens than their counterparts.

Our analysis determined that energy burdens for low-income households were more than three times those of non-low-income households (7.2% and 2.3%, respectively). Low-income households also paid more for energy per square foot than non-low-income households ($1.41 and $1.17/ft^2, respectively). African American households paid the highest cost per square foot ($1.49/ft^2) and also experienced the second-highest energy burden after low-income households (5.4%). We determined that bringing the efficiency of the housing stock (indicated by the cost per square foot) up to the level of the median household would eliminate 35% of the excess energy burden for low-income households, 42% for African American households, 68% for Latino households, and 97% for renting households. This indicates that energy burdens can be reduced through energy efficiency investments.

Table 1. Median income, utility bill, energy burden, and unit size for households based on income type, building type, building ownership, and household race for groups across metro areas

	Household type	Median income	Median size of unit (square feet)	Median annual utility spending	Median annual utility costs per square foot	Median energy burden
Income type	Low-income (≤ 80% AMI)	$24,998	1,200	$1,692	$1.41	7.2%
	Non-low-income	$90,000	1,800	$2,112	$1.17	2.3%
	Low-income multifamily (≤ 80% AMI)	$21,996	800	$1,032	$1.29	5.0%
	Non-low-income multifamily	$71,982	950	$1,104	$1.16	1.5%
Building ownership	Renters	$34,972	1,000	$1,404	$1.40	4.0%
	Owners	$68,000	1,850	$2,172	$1.17	3.3%
Household race	White	$58,000	1,600	$1,956	$1.22	3.3%
	African American	$34,494	1,290	$1,920	$1.49	5.4%
	Latino	$39,994	1,200	$1,704	$1.42	4.1%
All households	N/A	$53,988	1,573	$1,932	$1.23	3.5%

Source: Drehobl and Ross 2016

When we examined energy burden regionally we found that the Southeast and Midwest regions had the highest overall average energy burdens and the highest energy burdens across all groups (see figure 2). The Southeast region had the highest overall median energy burden (4.0%), followed by the Midwest (3.8%), South Central (3.6%), Southwest (3.6%), Northeast (3.5%), Northwest (2.4%), and California (2.4%), which are indicated by the dark-orange bars in figure 2. Regionally, the Northeast had the highest median energy burden for low-income households across all metro areas, while the Midwest had the highest for African American households and the Southeast had the highest for low-income multifamily households.

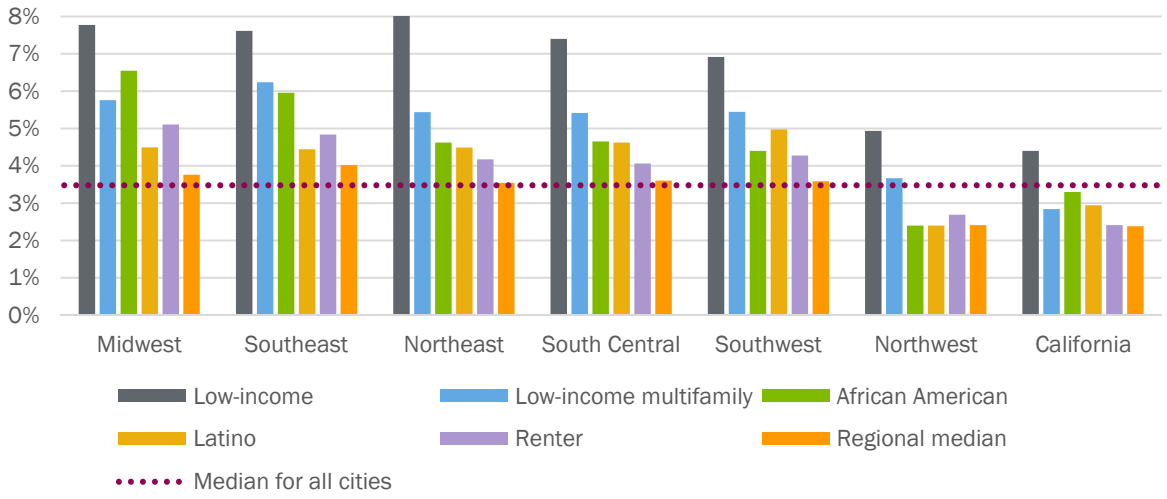

Figure 2. Energy burden of select groups by region. *Source*: Drehobl and Ross 2016.

When examining energy burden in metro areas we found that many groups experienced energy burdens significantly higher than the metro-area median. For example, low-income households in Memphis experienced an energy burden over two times the median energy burden (13.2% and 6.2%, respectively). Table 2 displays the 10 metro areas with the highest energy burdens for each group. For example, low-income households experienced the highest energy burdens in Memphis (13.2%), Birmingham (10.9%), and Atlanta (10.2%), and African American households experienced the highest energy burdens in Memphis (9.7%), Pittsburgh (8.3%), and New Orleans (8.1%). See Appendix B for the median energy-burden values for all groups in all metro areas.

We should note that we cannot identify the specific drivers of high energy burdens (i.e., physical, economic, behavioral, and policy-related) in each metro area and region. However we do know that factors such as lower-income and less-efficient housing stock contribute to higher energy burdens. For instance, the Southeast region has the highest overall energy burdens and also has the lowest incomes and least investment in utility energy efficiency programs (US Census Bureau 2015; Ribeiro et al. 2015). According to ACEEE's *2015 City Energy Efficiency Scorecard*, all southeastern cities in the study fell in the bottom 40% of the ranking of utility

spending on energy efficiency (Ribeiro 2015).[4] Future research should explore the drivers of energy burden to determine which factors have the most impact on high energy burdens in each metro area or region.

Table 2. Ten metro areas with the highest energy burdens for all households, low-income households, low-income multifamily households, African American households, Latino households, and renters

Rank	All households	Low-income households	Low-income multifamily households	African American households	Latino households	Renting households
1	Memphis (6.2%)	Memphis (13.2%)	Memphis (10.9%)	Memphis (9.7%)	Memphis (8.3%)	Memphis (8.6%)
2	Birmingham (5.3%)	Birmingham (10.9%)	Birmingham (8.7%)	Pittsburgh (8.3%)	Providence (7.3%)	Birmingham (7.3%)
3	New Orleans (5.3%)	Atlanta (10.2%)	Atlanta (8.3%)	New Orleans (8.1%)	Philadelphia (7.3%)	Atlanta (6.8%)
4	Atlanta (5.0%)	New Orleans (9.8%)	Providence (7.1%)	Kansas City (7.9%)	Kansas City (6.6%)	New Orleans (6.3%)
5	Providence (4.7%)	Providence (9.5%)	Pittsburgh (7.1%)	Birmingham (7.7%)	Atlanta (6.6%)	Providence (6.2%)
6	Pittsburgh (4.5%)	Pittsburgh (9.4%)	New Orleans (6.9%)	Milwaukee (7.4%)	Birmingham (6.6%)	Kansas City (6.1%)
7	Kansas City (4.5%)	Dallas (8.8%)	Columbus (6.5%)	Saint Louis (7.4%)	Phoenix (6.0%)	Pittsburgh (6.0%)
8	Fort Worth (4.4%)	Philadelphia (8.8%)	Dallas (6.5%)	Cleveland (7.0%)	Dallas (6.0%)	Cincinnati (6.0%)
9	Cincinnati (4.3%)	Kansas City (8.5%)	Indianapolis (6.5%)	Cincinnati (6.9%)	Fort Worth (5.7%)	Saint Louis (5.9%)
10	Dallas (4.3%)	Cleveland (8.5%)	Kansas City (6.3%)	Atlanta (6.6%)	Detroit (5.7%)	Cleveland (5.5%)

Source: Drehobl and Ross 2016

Policies and Programs to Increase Low-Income Energy Efficiency

Several policies and programs seek to address high energy burdens. These efforts address the two factors that impact energy burden—low income and high energy bills. Bill assistance programs address low income by providing supplemental funding to qualified households to cover partial or total costs of utility bills. Weatherization and energy efficiency programs address issues of high energy bills by improving household efficiency through direct improvements and behavioral and education programs. Energy efficiency programs that go beyond weatherization are underutilized strategies for addressing high energy burdens and can complement bill assistance and weatherization. While we acknowledge the importance of bill assistance and weatherization programs, we encourage utilities and local and state actors to work to improve the reach and design of their low-income energy efficiency programs.

When developing energy efficiency policies and programs, policymakers and other stakeholders must consider which strategies will have the greatest impact and reach the most overburdened households in their communities. Families that experience high energy burdens are

[4] For more information on utility residential energy efficiency spending by metro area, see ACEEE's *City Energy Efficiency Scorecard*: aceee.org/local-policy/city-scorecard.

diverse and often vary by income, home ownership, building type, race or ethnicity, and language spoken in the home. When designing energy efficiency programs policymakers and program managers should take this diversity into account in order to create the programs that will reach the most households.

ACEEE proposes the following strategies for addressing high energy burdens through low-income energy efficiency programs:

- Improve and expand low-income utility programs
- Collect, track, and report demographic data on program participation
- Strengthen policy levers and more effectively leverage existing programs
- Use the Clean Power Plan (CPP) to prioritize investment in energy efficiency for low-income households

Improve and Expand Low-Income Utility Programs

Utilities can take advantage of best practices in low-income energy efficiency program design and delivery in order to expand their impact and reach. Examples of successful low-income energy efficiency programs include programs that offer a range of eligible measures and services, coordinate delivery with other organizations, align with and add on to existing weatherization efforts, address health and safety issues when implementing efficiency measures, and incorporate strategies for customer energy efficiency education. See Cluett, Amann, and Ou (2016) for a more comprehensive discussion of successful low-income utility programs. For the purpose of this paper we focus on recommendations primarily for the existing housing stock.

Utilities and program administrators should also develop programs with a focus on multifamily customers, as many of these households are low-income renters (AHS 2013). A 2013 ACEEE report found that utility-led multifamily energy efficiency programs were not serving 40% of the metro areas with the highest concentrations of multifamily buildings (Johnson and Mackres 2013).

To improve program design and delivery state and local governments can also partner with utilities and local organizations that already run programs to serve low-income customers. Local governments can assist with the joint delivery of low-income energy efficiency programs alongside other services in order to streamline program delivery and increase participation. For example, a multifamily energy efficiency program administered by the Bay Area Regional Energy Network (BayREN) relies on the city and county governments in its service territory to conduct its marketing and outreach. The program administrator found that potential customers are more likely to participate in a program supported by their local government.

Local governments and public utilities commissions (PUCs) can also require that program evaluations take into account the multiple benefits of low-income utility programs beyond energy savings. Currently program administrators do not often include these benefits in cost-benefit testing, even though many low-income programs are designed to have benefits beyond energy savings (i.e., addressing health and safety measures and increasing energy affordability) (Cluett, Amann, and Ou 2016). By including all the costs of these programs and not including all the benefits beyond energy savings, evaluations of low-income programs may not reflect the full value of the benefits of energy efficiency programs. For these reasons some states—such as Connecticut, California, and New Hampshire—do not apply the same cost-effectiveness standards to low-income programs (Berelson 2014; Woolf et al. 2013).

Access to upfront capital is one of the many barriers to energy efficiency for low-income single- and multifamily households and property owners. Financing programs provided by several utilities and public and community-based entities can serve as a complement to energy efficiency programs for low-income customers. With strong consumer protections in place energy efficiency loans can be beneficial for some households and allow for financing of cost-saving measures. Financing options can also benefit multifamily-building owners who lack the upfront capital to invest in energy efficiency retrofits.

Collect, Track, and Report Demographic Data on Program Participation

Even though demographic data seem necessary for utilities to examine the impact of their energy efficiency programs, most utilities do not collect or assess these data. This is likely because many utilities do not have demographic-based goals or targets, though utilizing demographic data can help improve the delivery and reach of their programs. A study of California utilities found that the majority collected demographic data—such as income, race or ethnicity, education, language, and so on—but only half of these utilities relied on the data to inform program design and recommendations, and even fewer utilities used these data in their program evaluations (Frank and Nowak 2016, forthcoming). In order to ensure that energy efficiency programs reach diverse households in an equitable fashion, utilities should collect and examine demographic data on program participation in order to fully measure program success and determine whether these programs reach the households most in need.

Strengthen Policy Levers and More Effectively Leverage Existing Programs

Numerous policy levers and programs exist to encourage investment in low-income energy efficiency programs, and these levers and programs can be expanded and improved to increase their impact. States, PUCs, and city councils with municipally owned utilities can require that utilities set low-income goals for spending, savings, cost recovery, and cost-effectiveness testing, which can promote the development and execution of these programs. State and local governments can also set policy directives to support energy efficiency, such as building energy codes, disclosure and benchmarking policies for multifamily buildings, workforce-development initiatives, energy efficiency resource standards (EERSs), and other, related efforts. These can encourage investment in energy efficiency in low-income communities, create jobs, and improve the quality of life for all residents. PUCs can also develop low-income energy-saving goals, which influence the development and scope of low-income programs. For example, Maine allocates 10% of energy efficiency funds to low-income programs. Utilities can use demographic data to determine whether their programs are reaching the targeted households. Even without a separate target for low-income households, utilities can use low-income energy efficiency programs to meet overall energy-saving goals and targets.

Use the CPP to Prioritize Investment in Energy Efficiency for Low-Income Households

The US Environmental Protection Agency (EPA) has released proposed rules known as the Clean Power Plan (CPP) to limit carbon pollution from power plants. Under the CPP states have the opportunity to develop plans to limit their power plant emissions, and they can do so by prioritizing low-income energy efficiency programs. There are numerous ways states can incentivize low-income energy efficiency, such as adopting a mass-based plan and distributing

emissions allowances in ways that promote the implementation of these programs. States can directly allocate allowances to low-income energy efficiency programs, auction allowances and use the revenue to fund these programs, or distribute allowances to utilities that will then sell the allowances and use the proceeds for low-income energy efficiency. States can also opt in to the Clean Energy Incentive Program (CEIP), which offers early credit for energy efficiency projects in low-income communities for the two years prior to the start of the CPP compliance period. Low-income energy efficiency providers should engage with state air regulators to help shape these plans and to ensure that they drive investment into low-income energy efficiency programs.

Conclusion

Our analysis found that low-income, low-income multifamily, African American, Latino, and renter households all experienced higher energy burdens compared with the average in each metro area. These households tend to live in less-efficient housing stock and may be more difficult to reach through traditional communication channels used by utilities, such as bill inserts. Utilities and local governments should work to improve their energy efficiency programs to reach more low-income customers with diverse and effective program offerings. Low-income energy efficiency programs also help to alleviate poverty and provide benefits beyond energy savings, such as health and safety, local economic development, education, and employment.

Energy efficiency is an underutilized strategy for addressing energy affordability, and local governments and utilities should ramp up energy efficiency investments in low-income communities in order to help alleviate high energy burdens. Local governments, utility program administrators, and local stakeholders can use the strategies in this report to advance the development and implementation of effective low-income energy efficiency programs. Policymakers and local stakeholders should also use these data to advance dialog on high energy burdens, and these data should serve as a starting point for future research.

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Appendix A. Sample size for energy burden calculations

City	Data year	All households	Low-income households	Low-income multifamily households	African American households	Latino households	Renting households
Atlanta	2011	2,564	1,170	291	878	202	835
Austin	2013	2,794	1,178	326	206	692	1,145
Baltimore	2013	2,786	1,084	213	742	126	756
Birmingham	2011	2,876	1,397	212	809	91	717
Boston	2013	2,373	829	183	199	172	732
Charlotte	2011	2,816	1,326	263	716	214	888
Chicago	2013	766	388	128	176	128	288
Cincinnati	2011	2,401	1,141	246	271	66	683
Cleveland	2011	2,708	1,204	168	485	132	679
Columbus, OH	2011	3,009	1,317	243	431	105	1,030
Dallas	2011	2,887	1,280	353	491	669	1,064
Denver	2011	2,714	1,171	354	144	482	884
Detroit	2013	2,530	1,063	186	445	77	628
Fort Worth	2011	3,095	1,435	309	426	671	1,052
Hartford	2013	2,817	1,105	210	252	303	659
Houston	2013	2,527	1,096	319	471	705	910
Indianapolis	2011	3,013	1,314	246	429	176	900
Jacksonville	2013	2,996	1,358	208	606	175	972
Kansas City, MO	2011	2,974	1,430	216	356	164	876
Las Vegas	2013	2,496	1,186	294	284	564	1,112
Los Angeles	2011	3,001	1,773	635	290	1,161	1,591
Louisville	2013	2,916	1,218	204	370	98	822
Memphis	2011	2,870	1,348	220	1,280	119	900
Miami	2013	2,351	1,154	444	445	971	865
Milwaukee	2011	1,911	1,005	309	284	137	785
Minneapolis	2013	2,624	914	170	118	100	517
Nashville	2013	2,919	1,233	238	416	155	921
New Orleans	2011	2,800	1,407	191	901	210	911
New York City	2013	677	353	155	147	131	333
Oklahoma City	2013	3,304	1,310	214	354	319	1,034
Orlando	2013	3,031	1,284	276	444	719	1,101
Philadelphia	2013	2,893	1,322	163	602	215	730
Phoenix	2011	2,569	1,137	264	147	555	873
Pittsburgh	2011	2,758	1,203	128	210	50	642
Portland, OR	2011	2,916	1,256	347	60	209	1,022
Providence	2011	2,666	1,143	110	105	195	672
Richmond	2013	2,916	1,193	189	791	134	868
Riverside	2011	2,816	1,400	216	232	1,105	1,063
Sacramento	2011	2,954	1,422	334	219	472	1,154
Saint Louis	2011	2,663	1,224	201	541	71	748
San Antonio	2013	3,357	1,499	273	212	1,659	1,142
San Diego	2011	3,123	1,497	498	169	732	1,404
San Francisco	2011	2,878	1,220	469	115	410	1,343
San Jose	2011	3,292	1,374	392	113	658	1,337
Seattle	2013	2,765	1,017	361	142	179	976
Tampa	2013	2,225	883	211	234	293	680
Virginia Beach	2011	3,018	1,335	278	873	136	1,002
Washington, DC	2013	2,307	670	207	556	226	611

Appendix B. Median energy burden values

City	Data year	All households	Low-income households	Low-income multifamily households	African American households	Latino households	Renting households
Atlanta	2011	4.97%	10.19%	8.31%	6.60%	6.60%	6.75%
Austin	2013	2.65%	5.47%	4.09%	3.47%	3.72%	3.14%
Baltimore	2013	3.12%	7.14%	4.80%	4.41%	3.29%	3.64%
Birmingham	2011	5.34%	10.92%	8.71%	7.68%	6.55%	7.30%
Boston	2013	2.76%	6.72%	4.40%	3.89%	3.28%	2.86%
Charlotte	2011	4.00%	7.89%	5.50%	5.14%	4.91%	4.78%
Chicago	2013	3.05%	6.73%	5.57%	6.56%	3.64%	4.12%
Cincinnati	2011	4.34%	8.45%	6.19%	6.86%	3.87%	5.96%
Cleveland	2011	4.22%	8.47%	5.36%	7.00%	4.64%	5.47%
Columbus, OH	2011	3.95%	8.13%	6.52%	6.19%	5.00%	5.17%
Dallas	2011	4.25%	8.84%	6.51%	5.45%	5.97%	4.73%
Denver	2011	3.20%	6.59%	5.43%	4.81%	4.54%	4.18%
Detroit	2013	3.52%	7.98%	5.26%	5.78%	5.72%	4.56%
Fort Worth	2011	4.36%	8.02%	6.12%	5.24%	5.72%	5.04%
Hartford	2013	3.74%	8.16%	5.90%	6.03%	5.20%	4.92%
Houston	2013	3.24%	6.94%	5.22%	3.96%	3.81%	3.49%
Indianapolis	2011	3.70%	7.66%	6.51%	5.40%	4.13%	5.00%
Jacksonville	2013	3.87%	7.64%	5.56%	5.30%	4.33%	4.41%
Kansas City, MO	2011	4.48%	8.49%	6.36%	7.91%	6.64%	6.11%
Las Vegas	2013	3.49%	6.11%	4.51%	4.08%	4.42%	3.71%
Los Angeles	2011	2.75%	4.60%	3.48%	3.72%	3.27%	2.73%
Louisville	2013	3.57%	7.60%	6.10%	4.66%	4.16%	4.77%
Memphis	2011	6.15%	13.22%	10.88%	9.65%	8.26%	8.64%
Miami	2013	3.32%	6.23%	4.80%	4.10%	3.73%	3.80%
Milwaukee	2011	4.08%	7.02%	5.54%	7.40%	4.46%	4.93%
Minneapolis	2013	2.32%	5.11%	3.05%	4.14%	3.14%	2.57%
Nashville	2013	3.11%	6.40%	5.18%	4.21%	4.45%	3.76%
New Orleans	2011	5.25%	9.79%	6.93%	8.06%	5.07%	6.31%
New York City	2013	3.67%	6.78%	5.68%	4.37%	4.87%	3.75%
Oklahoma City	2013	3.51%	7.36%	5.21%	4.98%	4.26%	4.27%
Orlando	2013	3.93%	7.55%	6.24%	5.27%	4.85%	4.14%
Philadelphia	2013	3.82%	8.82%	5.12%	6.46%	7.30%	4.70%
Phoenix	2011	4.18%	7.92%	6.09%	4.93%	6.00%	5.30%
Pittsburgh	2011	4.52%	9.42%	7.08%	8.31%	4.95%	6.00%
Portland, OR	2011	2.81%	5.22%	4.16%	3.99%	3.53%	3.34%
Providence	2011	4.66%	9.46%	7.10%	6.03%	7.33%	6.18%
Richmond	2013	3.10%	6.54%	5.17%	4.24%	3.49%	3.97%
Riverside	2011	3.54%	5.74%	4.22%	3.81%	3.77%	4.14%
Sacramento	2011	2.93%	5.29%	3.60%	4.49%	3.45%	3.41%
Saint Louis	2011	4.07%	8.37%	6.25%	7.40%	4.21%	5.90%
San Antonio	2013	3.77%	7.80%	5.00%	3.99%	4.50%	3.95%
San Diego	2011	2.30%	3.90%	2.66%	2.24%	2.54%	2.27%
San Francisco	2011	1.41%	2.82%	1.89%	2.27%	1.83%	1.27%
San Jose	2011	1.78%	3.82%	2.28%	1.86%	2.35%	1.73%
Seattle	2013	2.05%	4.59%	3.08%	2.84%	2.22%	2.18%
Tampa	2013	3.32%	7.28%	5.95%	3.97%	3.91%	3.64%
Virginia Beach	2011	3.85%	7.46%	5.39%	4.98%	3.75%	4.54%
Washington, DC	2013	2.12%	6.11%	4.28%	2.88%	2.67%	2.44%