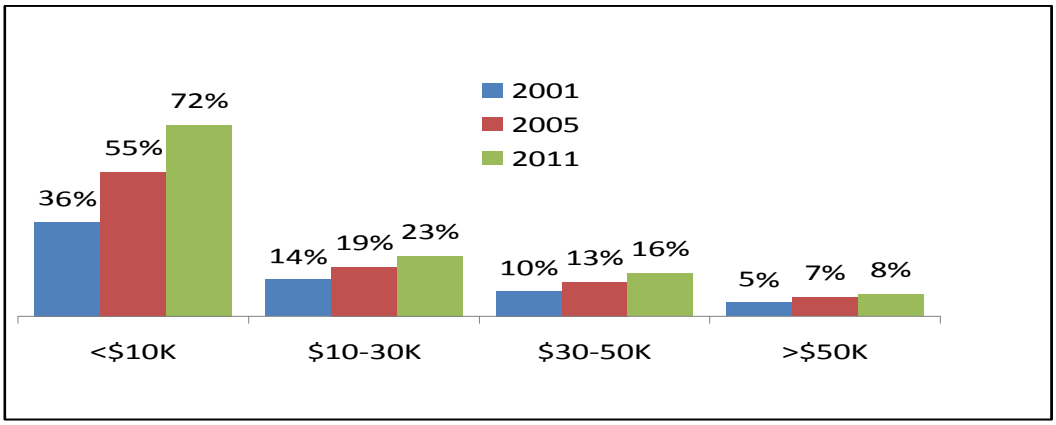
AMERICAN COALITION FOR CLEAN COAL ELECTRICITY

Energy Cost Impacts on American Families, 2001-2011



Energy Costs as Percentage of Household Income

Prepared by Eugene M. Trisko, Esq.
On behalf of the
American Coalition for Clean Coal Electricity
January 2011

Summary of Findings

This report analyzes consumer energy cost increases since 2001 for all U.S. households and examines the pattern of energy expenditures among four income levels and for elderly and minority families in 2011. It relies on historical energy consumption survey data and current energy price forecasts from the U.S. Department of Energy's Energy Information Administration (EIA).[1] Energy costs are summarized by household income category for all U.S. households in 2001, 2005, and 2011, using data from EIA and the U.S. Bureau of the Census.[2]

Energy expenditures as a percentage of after-tax income are estimated for the effects of federal and state income taxes, and federal social insurance payments. The 2011 projections in this report are based on U.S. Bureau of the Census household income data for 2009 (the most recent available) and energy prices for 2011 projected by EIA.

Key findings of this report include the following:

- One-half of U.S. households have average pre-tax annual incomes less than $50,000. In 2001, these families spent an average of 12% of their after-tax income ($21,834) on residential and transportation energy. By 2005, energy costs rose to 16% of their average after-tax income of $22,682. In 2011, these households are projected to spend 20% of their after-tax income of $22,727 on energy.

- The 27 million lower-income households earning between $10,000 and $30,000, representing 23% of U.S. households, will allocate 23% of their 2011 after-tax income to energy, more than twice the national average of 11%.

- Household gasoline costs have more than doubled, from an average of $1,680 in 2001 to a projected $3,601 in 2011. Increased gasoline costs account for 75% of the $2,562 average household energy cost increase since 2001.

- Among consumer energy products, electricity has maintained relatively low annual price increases since 2001. The average household electric bill has increased from $938 in 2001 to a projected $1,368 in 2011, representing 17% of the $2,562 average household energy cost increase since 2001. Coal-based generation provides almost one-half of America's electricity supply and has contributed to the relative stability of consumer electricity prices.

- Lower-income families are more vulnerable to energy costs than higher-income families because energy represents a larger portion of their household budgets. Energy is consuming one-fifth or more of the household incomes of lower- and middle-income families, an amount usually spent on food, housing, or health care.

- In 2009, 62% of Hispanic households and 67% of black households had average annual incomes below $50,000, compared with 46% of white households and 39% of Asian households. Energy costs represent a much larger fraction of disposable income for households earning less than $50,000 than for wealthier families. Due to these income inequalities, the burdens of energy price increases are imposed disproportionately on black and Hispanic households.

- Senior citizens living on fixed incomes are particularly vulnerable to energy price increases. Seniors have the highest per capita residential energy consumption among all age categories. The average basic Social Security income of 31.5 million senior households was $15,443 in 2009. The median income of 25.3 million households with a principal householder aged 65 or older was $31,354.

- Along with high unemployment, poverty rates also have increased due to the recession, with 10.5% of all families and 14.3% of the overall population in 2009 living below the poverty level. One-fifth of all U.S. children under 18 fell below the federal poverty level in 2009. Energy cost increases since 2001 disproportionately impact the poor due to the essential nature of heating, cooling, lighting and other energy services. FY 2011 funding for the federal LIHEAP program, which provides block grants to the states to assist low-income consumers, is estimated to represent only about 2% of total U.S. residential energy costs in 2011.

Energy Costs for U.S. Families, 2001–2011

Energy costs for residential utilities and gasoline continue to strain low- and middle-income family budgets. As Table 1 illustrates, the average American family with an after-tax income of $53,564 will spend $5,780 on energy in 2011, or 11% of the family budget. The 59 million households earning less than $50,000—representing 50% of U.S. households—will devote 20% of their after-tax income to energy, nearly twice the national average. For the 27 million families with incomes between $10,000 and $30,000, energy expenditures will consume 23% of average after-tax incomes, compared with 14% in 2001.

The summary income and energy expenditure data in Table 1 (below) are based on U.S. Bureau of the Census household income information for 2009 (comparable 2010 data are not yet available) and energy prices for 2011 projected by DOE/EIA. The Congressional Budget Office has calculated effective total federal tax rates, including individual income taxes and payments for Social Security and other social welfare programs.[3] State income taxes are estimated from current state income tax rates.

Table 1. Estimated Household Energy Expenditures as a Percentage of Income, 2011

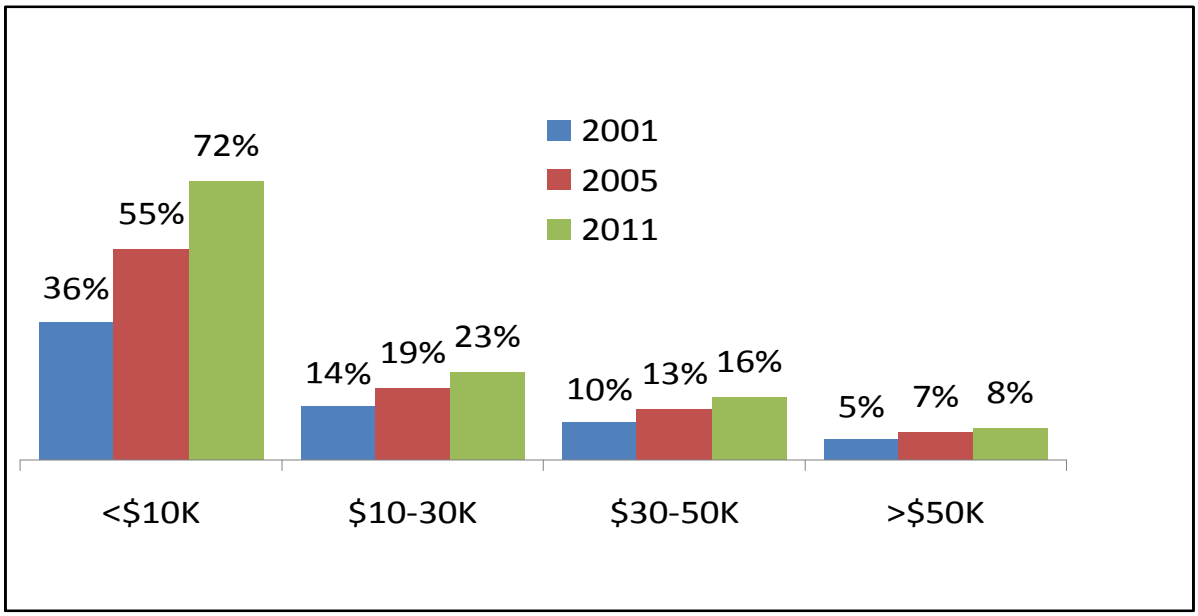
Pre-tax income	<$10K	$10-$30K	$30-$50K	<$50K	>$50K	Average
Percentage of households	7.3%	23.3%	19.6%	50.2%	49.8%	100.0%
Residential energy	$1,575	$1,750	$2,021	$1,830	$2,529	$2,178
Transportation fuel	$1,918	$2,386	$3,369	$2,701	$4,507	$3,601
Total energy	$3,493	$4,136	$5,390	$4,532	$7,036	$5,780
Est. average after-tax income	$4,850	$18,220	$33,471	$22,727	$84,315	$53,564
Energy pct. of after-tax income	72.0%	22.7%	16.1%	19.9%	8.3%	10.8%

Source: Appendix Table 1.

While many lower-income families qualify for federal or state energy assistance, these programs have been hard-pressed to keep up with the rapid increase in household energy costs in the past decade. In FY2011, funding for the federal Low Income Home Energy Assistance Program (LIHEAP) is set at $5.1 billion, based on the temporary budget resolution adopted by Congress in December 2010.[4] Total U.S. residential energy costs in 2011 will exceed $240 billion. Based on DOE/EIA's 2005 Residential Energy Consumption Survey (2009) updated with 2011 energy price projections by DOE/EIA, LIHEAP will be able to offset about 2% of total U.S. residential energy bills.

The portion of household incomes devoted to energy has increased substantially since 2001 (see Chart 1). In 2001, 62 million families with gross annual incomes less than $50,000 spent 12% of their after-tax income on residential and transportation energy. In 2011, energy will account for 20% of the after-tax income of the 59 million American families in this income category. Energy cost burdens are greatest on the poorest families, those earning less than $10,000. Their energy bills increased from 36% of estimated after-tax income in 2001 to 72% in 2011. These estimates do not account for any governmental energy assistance that these families may receive, and thus do not reflect actual personal energy consumption expenditures.

Chart 1
Energy Costs as Percentage of Annual After-Tax Income, 2001, 2005, and 2011

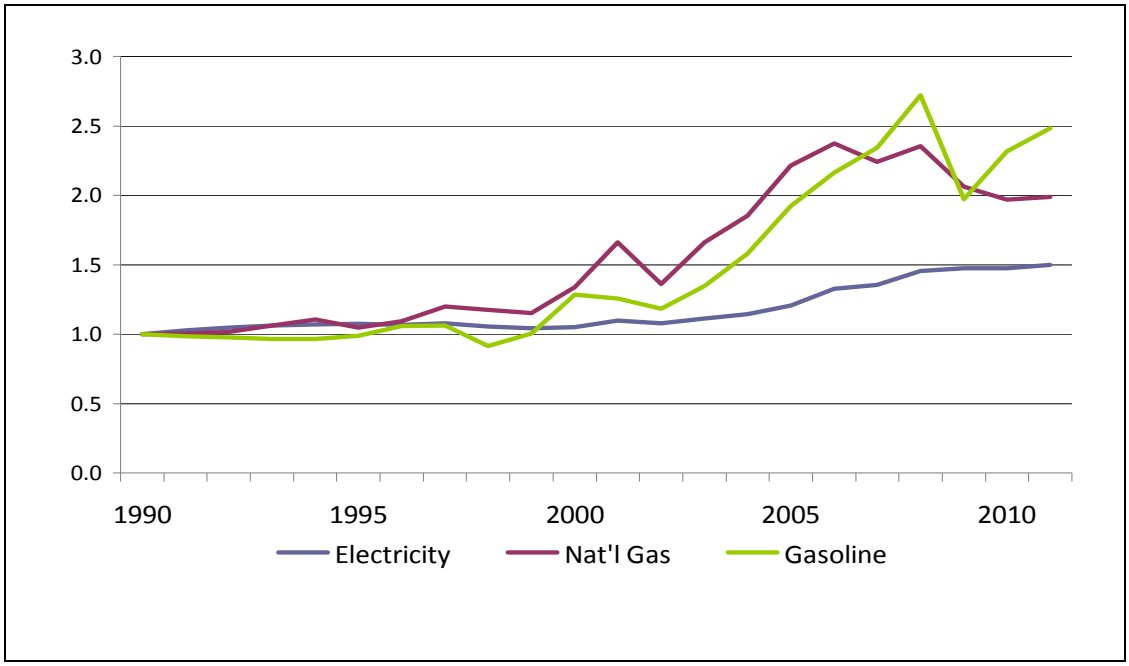


Source: Appendix Table 1.

Relative Energy Price Increases

Among consumer energy products, the price of electricity has increased the least over the past two decades. Chart 2 summarizes key consumer energy prices since 1990. Prices for gasoline and residential natural gas have roughly doubled, while residential electricity prices increased by 48%, well below the 62% inflation of the Consumer Price Index between 1990 and 2010.[5] Unlike other consumer energy products, electricity has maintained a low and stable rate of price increase below the overall rate of inflation.

Chart 2
Price Trends of Consumer Energy Products, 1990-2011
(Index 1990 = 1.0)

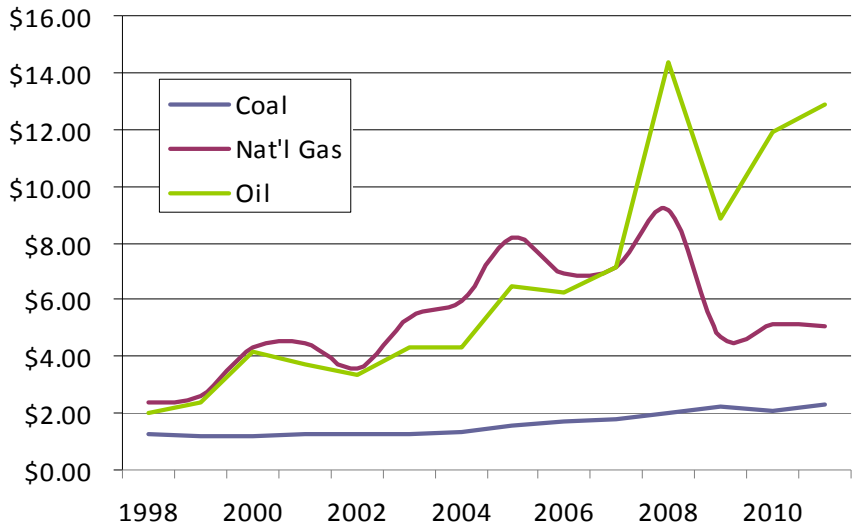


Sources: U.S. DOE/EIA, Annual Energy Review 2009 (2010) and Short-Term Energy Outlook (November 2010).

The modest rate of price increase for residential electricity reflects, in part, the electric utility industry's historic reliance on low-cost coal for one-half of its energy supplies. As shown in Chart 3, coal prices delivered to electric utilities over the past decade have remained low and stable relative to competing fuels such as natural gas and petroleum.

Domestic coal typically costs $2 per million British Thermal Units (MMBTU) delivered to power plants. In 2011, EIA projects the cost of natural gas delivered to utility plants at $5/MMBTU.[6] In its most recent long-term projections, EIA forecasts that natural gas delivered to electric utilities will cost $5.11 per MMBTU in 2020, rising to $6.94 in 2035, in constant 2009 prices.[7] EIA believes that natural gas prices will remain relatively low due to increased production of shale gas.[8] Coal delivered to electric utilities is projected to cost $2.16 per MMBTU in 2020, increasing gradually to $2.39 per MMBTU in 2035.[9]

Chart 3
Electric Utility Fuel Costs, 1998-2011
($ per Million BTU)



Sources: U.S. DOE/EIA, "Electric Power Annual" (2009) and Short-Term Energy Outlook (November 2010)

Consumer Energy Cost Estimates

The distribution of U.S. households by income categories provides the basis for estimating the effects of energy prices on consumer budgets in 2011. EIA's 2001 and 2005 Surveys of Residential Energy Consumption[10] (updated to 2011 with EIA's November 2010 forecast of 2011 residential energy prices) are the principal sources for estimating energy expenditures for residential heating, cooling, electricity, and other energy services.

EIA's 2001 Survey of Household Vehicles Energy Use[11] provides information for estimating transportation energy costs by household income category. These transportation costs are updated using EIA's November 2010 national average retail gasoline price estimate for 2011 of $3.02 per gallon. It is assumed that per household gasoline usage in both 2005 and 2011 are the same as 2001, despite increases in average numbers of vehicles per household since 2001.[12] Between 2001 and 2009, average vehicle-miles traveled per household increased from 21,200 to 22,200.[13] The use of 2001 household gasoline consumption data by income group therefore appears reasonable.

Residential and Transportation Energy Expenses

The principal residential energy expenses are for electricity and natural gas for heating, cooling, lighting and appliances. Some homes also use propane fuel and other heating sources, such as kerosene and wood.

Gasoline prices have moderated since their $4 per gallon peak in 2008, but gasoline accounts for the largest single increase in consumer energy costs over the past decade. EIA's Short-Term Energy Outlook projects 2011 average retail gasoline costs at $3.02 per gallon, more than double the $1.47 per gallon price in 2001. In 2011, the average U.S. family will spend an estimated $3,601 on gasoline, based on EIA's price forecast. Prices at the pump already are well over $3 per gallon in most areas of the country.

The increase in gasoline prices follows a decade-long trend of increased use of motor vehicles, measured in millions of vehicle miles driven annually, increased market shares of pickup trucks and sport utility vehicles (SUVs), and an increase in the average number of vehicles owned per household.[14] Despite the success of the "Cash for Clunkers" program, many families continue to own low-efficiency vehicles with low trade-in values.

The impacts of residential and transportation energy costs on low- and middle-income families are summarized in Table 2 and in Appendix Table 1. Residential energy costs have increased on average by 46% since 2001, from $1,493 to $2,178 per household. Consumer costs for gasoline grew by 105% during this period, accounting for three-fourths of the increase of household energy bills since 2001.

Table 2. Estimated After-Tax Income and Energy Costs by Income Category, 2001, 2005, and 2011

Pre-tax annual income:	<$10K	$10-30K	$30-$50K	<$50K	>$50K	Totals
Est. avg. after-tax income						
2001	$5,532	$17,520	$32,380	$21,834	$76,054	$47,396
2005	$5,249	$18,198	$33,716	$22,682	$81,066	$49,924
2011	$4,850	$18,220	$33,471	$22,727	$84,315	$53,564
Residential energy $						
2001	$1,039	$1,260	$1,456	$1,299	$1,836	$1,493
2005	$1,351	$1498	$1,733	$1,565	$2,173	$1,850
2011	$1,575	$1,750	$2,021	$1,830	$2,529	$2,178
Transport energy $						
2001	$934	$1,160	$1,638	$1,306	$2,195	$1,680
2005	$1,513	$1,878	$2,652	$2,119	$3,554	$2,790
2011	$1,918	$2,386	$3,369	$2,701	$4,507	$3,601
Total energy $						
2001	$1,973	$2,420	$3,094	$2,605	$4,031	$3,218
2005	$2,863	$3,375	$4,385	$3,684	$5,725	$4,640
2011	$3,493	$4,136	$5,390	$4,532	$7,036	$5,780

Source: Appendix Table 1.

Household Energy Cost Impacts

Energy costs are straining low- and middle-income family budgets. Heating, cooling, and transportation are necessities of life, and the rapid increase in consumer energy costs is impacting low- and middle-income family budget choices among energy and other necessary goods and services, such as health care, housing, and nutrition.

For a majority of low- and middle-income families, energy costs are now consuming a portion of after-tax household income comparable to that traditionally spent on major categories as food, housing, or health care. A 2009 survey of consumer expenditures by the U.S. Bureau of Labor Statistics[15] reported the following expenditures as a percentage of household income for all U.S. households and for the two lowest income quintiles, covering a total of 48 million lower-income families:

Table 3. 2009 Household Expenditures as a Percentage of Income for All U.S. Households and for the Two Lowest Income Quintiles

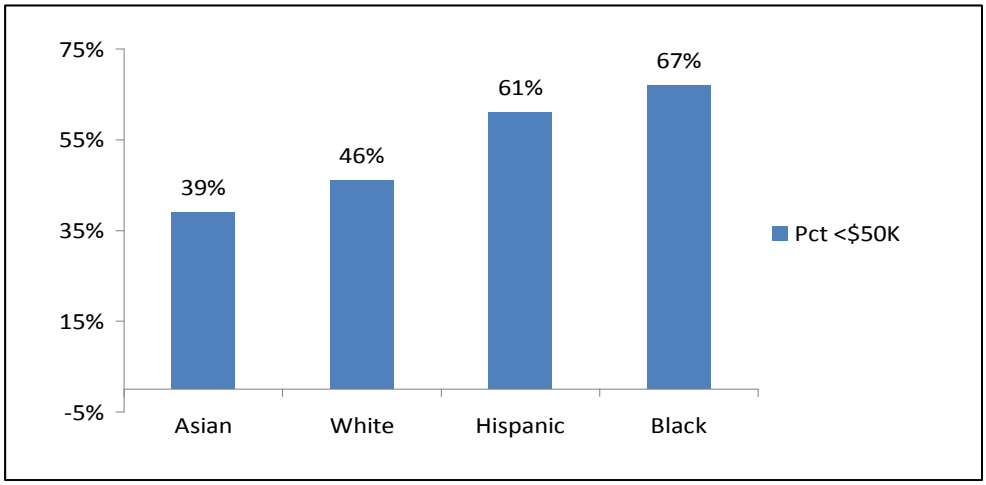
Income quintile:	Lowest 20%	Second 20%	All U.S. Households
Avg. pre-tax income	$9,846	$27,227	$62,857
Housing pct.	41.5%	37.7%	34.4%
Food pct.	16.2%	14.6%	13.0%
Transportation pct.	13.2%	16.2%	15.6%
Health care pct.	7.5%	7.9%	6.4%

Source: U.S. Bureau of Labor Statistics, Consumer Expenditure Survey (October 2010).

Energy Cost Impacts on Minorities

The DOE/EIA residential energy consumption surveys do not provide detailed breakdowns of energy consumption expenditures by income group and minority status. However, as illustrated in Chart 4, the unequal distribution of household incomes is a principal factor leading to disproportionate energy cost impacts on many minority families. More than 60% of black and Hispanic families had pre-tax household incomes below $50,000 in 2009, compared with 39% for Asian families and 46% for white households.

Chart 4
Percentage of Households with Pre-Tax Incomes below $50,000, 2009



Source: U.S. Bureau of the Census, Current Population Survey Annual Social and Economic Supplement (2010).

Real per capita incomes have declined due to the recession, with larger impacts on black and Hispanic families than on Asian or white households. According to the U.S. Census Bureau:

> In comparison to the respective income peaks before the 2001 recession, 2009 (median) household income was 5.0 percent lower for all races combined (from $52,388 in 1999), 4.2 percent lower for non-Hispanic Whites (from $56,843 in 1999), 11.8 percent lower for Blacks (from $36,952 in 2000), 5.7 percent lower for Asians (from $69,448 in 2000), and 7.9 percent lower for Hispanics (from $41,312 in 2000).[16]

Table 3 summarizes 2009 household incomes for Asian, black, Hispanic, and white families in different gross annual income brackets.

In 2009, the average incomes of Hispanic and black families were 29% and 37% lower, respectively, than the average income of white households. Asian households, on the other hand, enjoyed average annual incomes of $90,110 in 2009 compared to the U.S. average income of $67,976. Based on these income inequality data, disproportionate numbers of black and Hispanic families are more vulnerable to energy price increases than Asian or white families.

Table 3. Distribution of U.S. Households by Pre-tax Income, 2009

Pre-tax annual income **Percentage of households**	<$10K	$10-$30K	$30-$50K	<$50K	>$50K	Totals
Asian	7%	16%	15%	39%	61%	100%
Black	14%	31%	21%	67%	33%	100%
Hispanic	9%	30%	22%	61%	39%	100%
White	6%	21%	19%	46%	54%	100%
U.S. average	7%	23%	20%	50%	50%	100%
Avg. pre-tax income						Average
Asian	$3,453	$19,642	$39,102	$24,091	$133,407	$90,110
Black	$4,888	$19,165	$38,566	$22,190	$94,365	$46,046
Hispanic	$5,265	$19,715	$38,602	$24,428	$96,736	$52,229
White	$5,017	$19,939	$39,300	$26,169	$113,203	$73,240
U.S. average	$4,965	$19,761	$39,102	$25,148	$111,087	$67,976

Source: U.S. Bureau of the Census, Current Population Reports – 2009 Annual Social and Economic Supplement (2010).

Impacts on the Elderly

The average basic Social Security income of 31.5 million senior households was $15,443 in 2009.[17] Nearly two-thirds of senior households also received other retirement benefits averaging $21,383.[18] The U.S. Census Bureau reports that the median income of 25.3 million households with a principal householder aged 65 or older was $31,354.[19]

Lower-income elderly households that depend mainly on fixed incomes are among those most vulnerable to energy price increases. Housing, food, health care, and other necessities compete with energy costs for a share of the household budget. The $31,354 median income of elderly U.S. households means that half of elderly households depend on incomes below this level.

DOE/EIA's 2005 Residential Energy Consumption Survey finds that elderly households aged 65 or older spend approximately the same amount on residential energy as households in the 25-34 age bracket, and have the highest per capita residential energy expenditures among all age groups.[20] EIA's Household Vehicles Energy Use survey indicates that households with one or two adults over the age of 60 consumed an average of 744 gallons of gasoline in 2001, at an average cost of $988.[21] At this level of consumption, these households will spend an estimated $2,029 on gasoline in 2011.[22]

Conclusion

Energy costs are consuming a substantially larger share of typical family budgets than in 2001. The unequal distribution of incomes in the United States imposes disproportionate energy cost burdens on minority and elderly households. The average after-tax income of low- and middle-income U.S. families has remained virtually unchanged since 2001. Meanwhile, inflation has eroded 23% of the value of American families' incomes.[23]

The prices of all petroleum-based fuels have increased significantly in the past decade. The rapid escalation of consumer energy prices, along with stagnant income growth, underscores the need to reduce energy cost impacts on all American families.

Eugene M. Trisko is an environmental attorney and energy economist who represents labor and industry clients. He previously served as at an attorney in the Bureau of Consumer Protection of the U.S. Federal Trade Commission. Mr. Trisko concentrates on issues surrounding the Clean Air Act and the continued use of coal as part of America's fuel mix.

Notes

[1] Data on residential energy consumption patterns by income and race category are estimated from U.S. Department of Energy, Energy Information Administration, "Survey of Residential Energy Consumption," (2001 and 2005 surveys)," available at http://www.eia.doe.gov/emeu/recs/contents.html. Data for 2005 energy consumption by household income are updated to estimated 2011 values based on consumer residential energy cost projections for 2011 in EIA's "Short-Term Energy Outlook" (November 2010).

[2] Household income categories are from the 2009 distribution of household income in U.S. Bureau of the Census, Current Population Survey, "Annual Social and Economic Supplement" (2010).

[3] Congressional Budget Office (CBO), "Effective Federal Tax Rates Under Current Law, 2001 to 2014" (August 2004), and "Effective Federal Tax Rates 1979-2006" (April 2009). Effective federal tax rates for the income categories in this paper were interpolated from CBO's tax rates by income quintile based on the distribution of 2001, 2005 and 2009 household incomes. State income tax rates were estimated from tax rates summarized in Federation of Tax Administrators, http://www.taxadmin.org/fta/rate/ind_inc.html.

[4] See http://www.acf.hhs.gov/programs/ocs/liheap/.

[5] U.S. Bureau of Labor Statistics, CPI Inflation Calculator, available at http://data.bls.gov/cgi-bin/cpicalc.pl

[6] U.S. DOE/EIA, "Short-Term Energy Outlook" (November 2010), Table 2.

[7] U.S. DOE/EIA, Annual Energy Outlook 2011 Early Release (December 2010), Table A3.

[8] *Id.,* at 4.

[9] *Id*., Table A3.

[10] U.S. DOE/EIA, "Residential Energy Consumption Survey, 2005," (2009), viewable at http://www.eia.doe.gov/emeu/recs/contents.html.

[11] U.S. DOE/EIA, "Household Vehicles Energy Use: Latest Data & Trends" (November 2005), available at http://www.eia.doe/gov/emeu/rtecs/nhts_survey/2001/.

[12] See, DOE, Transportation Energy Data Book at http://cta.ornl.gov/data/chapter8.shtml

[13] *Id*., Table 8.7.

[14] U.S. Department of Transportation, 2001 National Household Travel Survey, "Summary of Travel Trends" (December 2004).

[15] See, http://www.bls.gov/cex/2009/share/quintile.pdf, Table 45 (2009).

[16] U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2009" (2010), at 8.

[17] U.S. Census Bureau, "American Community Survey – 2009 American Community Survey 1-Year Estimates," (2010).

[18] *Id.*

[19] U.S. Census Bureau, "Income, Poverty, and Health Insurance Coverage in the United States: 2009" (2010), Table 1.

[20] U.S. DOE/EIA, "Residential Energy Consumption Survey, 2005," Table US1, Part 2.

[21] U.S. DOE/EIA, "Household Vehicles Energy Use: Latest Data & Trends" (November 2005), available at http://www.eia.doe/gov/emeu/rtecs/nhts_survey/2001/. Data calculated from Table A2.

[22] Calculation based on EIA's $3.02/gallon gasoline price projection for 2011 relative to the 2001 average gasoline cost of $1.47 per gallon.

[23] U.S. Bureau of Labor Statistics, CPI Inflation Calculator, available at http://data.bls.gov/cgi-bin/cpicalc.pl

APPENDIX TABLE 1 - 2001, 2005 AND PROJECTED 2011 HOUSEHOLD INCOME AND ENERGY EXPENSES

2001 HOUSEHOLD ENERGY EXPENSES BY INCOME CATEGORY - ALL U.S. HOUSEHOLDS

						SUBTOTALS		
	<$10K	$10-30K	$30-$50K	>$50K	TOTALS	$10K-$50K	<$50K	>$50K
Households (Mil.)	9.8	28.9	23.6	47.0	109.3	52.5	62.3	47.0
Pct of total households	9.0%	26.4%	21.6%	43.0%	100.0%	48.0%	57.0%	43.0%
Avg pre-tax income	$5,733	$19,707	$39,201	$107,649	$60,488	$28,470	$24,893	$107,649
Effec. fed tax rate %	2.0%	8.5%	13.4%	23.1%	17.3%	10.7%	9.3%	23.1%
Est. state tax rate%	1.5%	2.6%	4.0%	6.3%	4.4%	3.2%	3.0%	6.3%
Est. after-tax income	$5,532	$17,520	$32,380	$76,054	$47,396	$24,504	$21,834	$76,054
Residential energy $	$1,039	$1,260	$1,456	$1,836	$1,493	$1,348	$1,299	$1,836
Residential electric $	$628	$772	$922	$1,172	$938	$839	$806	$1,172
Other resid. energy $	$411	$488	$534	$664	$555	$509	$493	$664
Transport energy $	$934	$1,160	$1,638	$2,195	$1,680	$1,375	$1,306	$2,195
Total energy $	$1,973	$2,420	$3,094	$4,031	$3,218	$2,723	$2,605	$4,031
Energy % of after-tax inc.	35.7%	13.8%	9.6%	5.3%	6.8%	11.1%	11.9%	5.3%
Resid. % of after-tax inc.	18.8%	7.2%	4.5%	2.4%	3.2%	5.5%	6.0%	2.4%
Trans. % of after-tax inc.	16.9%	6.6%	5.1%	2.9%	3.5%	5.6%	6.0%	2.9%

2005 HOUSEHOLD ENERGY EXPENSES BY INCOME CATEGORY - ALL U.S. HOUSEHOLDS

						SUBTOTALS		
	<$10K	$10-30K	$30-$50K	>$50K	TOTALS	$10K-$50K	<$50K	>$50K
Households (Mil.)	9.4	28.1	23.4	53.5	114.4	51.5	60.9	53.5
Pct of total households	8.2%	24.6%	20.5%	46.8%	100.0%	45.0%	53.2%	46.8%
Avg pre-tax income	$5,400	$19,695	$39,388	$106,947	$63,344	$28,643	$25,055	$106,947
Effec. fed tax rate %	1.8%	5.0%	10.4%	17.9%	16.7%	7.5%	6.6%	17.9%
Est. state tax rate%	1.0%	2.6%	4.0%	6.3%	4.5%	3.2%	2.9%	6.3%
Est. after-tax income	$5,249	$18,198	$33,716	$81,066	$49,924	$25,581	$22,682	$81,066
Residential energy $	$1,351	$1,498	$1,733	$2,173	$1,850	$1,604	$1,565	$2,173
Residential electric $	$785	$914	$1,098	$1,361	$1,150	$998	$965	$1,361
Other resid. energy $	$566	$583	$635	$812	$699	$607	$600	$812
Transport energy $	$1,513	$1,878	$2,652	$3,554	$2,790	$2,230	$2,119	$3,554
Total energy $	$2,863	$3,375	$4,385	$5,728	$4,640	$3,834	$3,684	$5,728
Energy % of after-tax inc.	54.5%	18.5%	13.0%	7.1%	9.3%	15.0%	16.2%	7.1%
Resid. % of after-tax inc.	25.7%	8.2%	5.1%	2.7%	3.7%	6.3%	6.9%	2.7%
Trans. % of after-tax inc.	28.8%	10.3%	7.9%	4.4%	5.6%	8.7%	9.3%	4.4%

PROJECTED 2011 HOUSEHOLD ENERGY EXPENSES BY INCOME CATEGORY - ALL U.S. HOUSEHOLDS
BASED ON U.S. BUREAU OF THE CENSUS 2009 INCOME AND POPULATION DATA

	<$10K	$10-30K	$30-$50K	>$50K	TOTALS	$10K-$50K	<$50K	>$50K
Households (Mil.)	8.6	27.4	23.0	58.6	117.6	50.4	59.0	58.6
Pct of total households	7.3%	23.3%	19.6%	49.8%	100.0%	42.9%	50.2%	49.8%
Avg pre-tax income	$4,995	$19,761	$39,102	$111,087	$67,976	$28,585	$25,158	$111,087
Effec. fed tax rate %	1.9%	5.2%	10.4%	17.8%	16.6%	7.6%	6.7%	17.8%
Est. state tax rate%	1.0%	2.6%	4.0%	6.3%	4.6%	3.2%	2.9%	6.3%
Est. after-tax income	$4,850	$18,220	$33,471	$84,315	$53,564	$25,495	$22,727	$84,315
Residential energy $	$1,575	$1,750	$2,021	$2,529	$2,178	$1,874	$1,830	$2,529
Residential electric $	$923	$1,075	$1,292	$1,601	$1,368	$1,174	$1,138	$1,601
Other resid. energy $	$652	$675	$729	$928	$810	$700	$693	$928
Transport energy $	$1,918	$2,386	$3,369	$4,507	$3,601	$2,835	$2,701	$4,507
Total energy $	$3,493	$4,136	$5,390	$7,036	$5,780	$4,708	$4,532	$7,036
Energy % of after-tax inc.	72.0%	22.7%	16.1%	8.3%	10.8%	18.5%	19.9%	8.3%
Resid. % of after-tax inc.	32.5%	9.6%	6.0%	3.0%	4.1%	7.3%	8.1%	3.0%
Trans. % of after-tax inc.	39.5%	13.1%	10.1%	5.3%	6.7%	11.1%	11.9%	5.3%

Sources: Population and income data from U.S. Bureau of the Census, Current Population Survey (2001, 2005, 2009 eds.) Residential energy costs are based on U.S. DOE Residential Energy Consumption Survey (2001, 2005 eds.) 2011 projections based on changes in 2005-2011 residential energy prices from U.S. DOE/EIA Annual Energy Review 2009 and Short-Term Energy Outlook (Nov.. 2010). Transportation energy expenditures are estimated from U.S. DOE/EIA, Household Vehicle Energy Use: Latest and Trends (Nov 2005) and DOE/EIA Short-Term Energy Outlook (Nov. 2010). Average effective federal tax rates are estimated from Congressional Budget Office, Effective Federal Tax Rates Under Current Law, 2001-2014 (August 2004), and Effective Federal Tax Rates, 1979-2006 (April 2009). State tax rates estimated from www.taxadmin.org/fta/rate/ind_inc.html.