

*Chapter 6*

# Disproportionate Impact On Low-Income Families

**W**hile the WCI plan would increase prices for nearly all consumers in all Western states, it is important to emphasize that the plan's impact would be especially painful for the poor and low-income families across the region.

## 6.A. Impact of Increased Energy Costs

Rising energy prices hurt all Americans, but none more than low-income families. That is because low-income and poor families must devote a higher percentage of every dollar of income to buy the basics of living, like energy, than more well-to-do families. The price increases in energy, consumer products, and other goods and services that the WCI plan cause will hurt low-income families across the West the most. Here we illustrate how rising energy costs disproportionately impact low-income citizens.

In recent years, global oil supply and demand curves have been narrowing. This has caused a high level of price volatility for U.S. consumers, not only for their direct energy purchases, but also for the numerous goods and services that are dependent on energy for their production and delivery. Since 2001, transportation, electricity, and home heating costs for consumers have risen dramatically because the energy sources that allow Americans to fulfill these essential needs have experienced significant price increases over this time period.

Rising energy prices have had the sharpest

Rising energy costs have a disproportionately negative impact on minority families. The WCI would unintentionally have the effect of a discriminatory tax based on race.

impact on lower-income households because energy use constitutes a larger share of those households' budgets. For the 8.7 million American households earning less than \$10,000 per year in 2008, 60 percent of their average after-tax income will be used to meet energy needs. In comparison, higher earners -- the 56 million households making more than \$50,000 per year -- will spend only 10 percent of average after-tax income to meet energy needs. Further, the increase in energy prices since 2001 consumed 30 percent more of the income of American households earning less than \$10,000 per year.

Minority families are statistically more likely to be among the lowest-income households, and therefore are disproportionately burdened by rising energy prices. Average after-tax incomes for Caucasian families in 2008 are estimated to be \$54,125, while after-tax incomes for Hispanic and African American families are estimated at \$38,252 and \$35,959, respectively. On average, Hispanic and African American families will have to dedicate almost two and three percent more of their after-tax income to energy expenditures, respectively, than non-Hispanic Caucasian families.

The WCI is advocating policy measures such as cap-and-trade schemes and renewable energy mandates that would exacerbate this economic disparity by raising energy prices even higher. Meanwhile, it ignores options that would lower energy prices and safeguard the welfare of low-income families.

## **6.B. Why Global Supply and Demand Matters To American Families**

In recent years, the global oil supply and demand curves have been narrowing. In 2008, those curves crossed -- meaning that supply just kept pace with demand. This has caused tremendous price volatility for U.S. consumers.

According to EIA, global demand for oil has grown substantially over the past 15 years, fueled primarily by economic growth in India and China.<sup>76</sup> From 1994 to 2007, global demand grew from about 68.87 million barrels per day (bbl/day) to 85.54 million bbl/day.<sup>77</sup> In 2008, global supply and demand are nearly even, at just under 86

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<sup>76</sup> *International Energy Outlook 2008*, Energy Information Administration, U.S. Department of Energy, June 2008.

<sup>77</sup> *Ibid.*

bbl/day. EIA projects that global demand will continue to increase to 87.76 million bbl/day in 2009.<sup>78</sup>

When supply and demand are closely aligned, even slight decreases in energy supply – which the WCI plan will almost certainly cause – can cause relatively large price spikes. No citizen group will be harmed more by these impacts than low-income citizens and families.

## 6.C. Energy Supports “Life Line” Services That Families Need Regardless of Price

As global supply and demand have narrowed and global prices for energy have surged, U.S. consumers’ energy costs have followed suit. Since 2001, the portion of the average American family’s budget that is spent on energy has doubled – going from 6.0 percent to 11.9 percent.<sup>79</sup> These figures represent essential family expenditures: Heating and cooling of homes, commuting to and from work, and refrigerating food and medicines. The recent rise in the cost of accomplishing these necessary tasks has occurred because of rising prices of the natural resources from which energy is derived, such as natural gas or oil.

The tasks that energy use allows individuals and families to accomplish are essential to modern life. That energy use does not appreciably decline -- even as costs increase significantly – is clear. A recent study by the Congressional Budget Office shows that American consumers respond to each 10 percent increase in the price of gasoline by driving only 0.2 to 0.3 percent fewer miles in the short-term and only 1.1 to 1.5 percent fewer miles in the long-term – Table 6-1.<sup>80</sup>

In addition, data from EIA show that for each 10 percent increase in the price of electricity, Americans reduce electricity use by as little as 2.0 percent in the short-term and 4.9 percent in the long-term.<sup>81</sup> For each 10 percent increase in the price of natural gas, Americans reduce consumption by as little as 1.4 percent in the short-term and 4.1 percent in the long-term.<sup>82</sup> These small reductions in

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<sup>78</sup> Ibid.

<sup>79</sup> Estimated from *2001 Survey of Residential Energy Consumption (RECS)*, Energy Information Administration, U.S. Department of Energy.

<sup>80</sup> *Effects of Gasoline Prices on Driving Behavior and Vehicle Markets*, Congressional Budget Office, Congress of the United States, Jan. 2008.

<sup>81</sup> *Price Responsiveness in the AEO 2003 NEMS Residential and Commercial Buildings Sector Models*, U.S. Energy Information Administration, U.S. Department of Energy.

<sup>82</sup> Energy consumption by fuel type are updated to estimated 2008 values based on consumer

consumption relative to price are indicative of the importance that American families place on the tasks that energy use allows them to accomplish.

**Table 6-1** Responsiveness to a 10 Percent Increase in Energy Prices

Energy Type	Short-Run	Long-Run
Electricity	2.0% reduction in use	4.9% reduction in use
Natural Gas	1.4% reduction in use	4.1% reduction in use
Gasoline	0.2% to 0.3% reduction in vehicle miles traveled	1.1% to 1.5% reduction in vehicle miles traveled

Source: *Effects of Gasoline Prices on Driving Behavior and Vehicle Markets*, Congressional Budget Office, January 2008.

## 6.D. Rising Energy Costs Hurt the Lowest-Income Earners

When families with income constraints are faced with rising costs of essential energy, they are increasingly forced to choose between paying for that energy use and other necessities (also often energy-sensitive) such as food, housing, or health care. Because all of these expenditures are necessities, families who must make such choices face sharply diminished standards of living.

In fact, cost increases for any basic necessity are regressive in nature. Expenditures for essentials such as energy consume larger shares of the budgets of low-income families than they do for those of higher-income families. Whereas higher-income families may be able to trade off luxury goods in order to afford the higher cost of consuming a necessity such as energy, low-income families will always be forced to trade off other necessities to afford the higher-cost good.

Table 6-2 shows that households in the lowest-income classes spend the largest shares of their disposable income to fill their energy needs. This year, of the 8.7 million American households earning less \$10,000 per year in 2008, 60 percent of the average after-tax income will be used to meet those households' energy needs. Among the highest earners, the 56 million households making more

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residential energy cost projections for 2008 in EIA's *Short Term Energy Outlook* (June 2008).

than \$50,000 per year, only 10 percent of the average after-tax income will be spent on those households' energy needs. The national average for energy costs as a percentage of household income will be 11.9 percent.<sup>83</sup>

Table 6-3 shows that energy costs as a percentage of after-tax income have doubled over the last seven years, from a national average of 6.0 percent to 11.9 percent. For households earning less than \$10,000, this has meant an increase of \$1,525 in energy costs. Thus, in 2008 just the *increase* in energy prices since 2001 will consume 29.5 percent of the after-tax income for households in this category. This impact is much less pronounced in other income classes, as can be seen from Table 6-4. However, while the share of disposable income that is consumed by the *increase* in energy prices declines to 6.5 percent for the average household, this is still a significant cost in absolute terms – it amounts to an extra \$3,403 in energy expenditures per household.

The data in Table 6-4 confirm the extremely regressive nature of rising energy prices, and increased energy costs have further encroached upon the already-strained resources of the lowest-income households. As a result, these families have experienced a rapidly diminishing quality of life as they become increasingly unable to provide for their most basic needs.

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<sup>83</sup> Sources for these statistics are shown in the table in the following page.

**Table 6-2** Household Energy Expenditures as a Percentage of Income, 2008

<b>Income Category</b>	<b>Less than \$10K</b>	<b>\$10K-\$30K</b>	<b>\$30K-\$50K</b>	<b>More than \$50K</b>	<b>Totals</b>
<b>Households (thousands)<sup>84</sup></b>	8,689	27,247	23,649	56,417	116,000
<b>Avg. Pre-Tax Income</b>	\$5,359	\$19,809	\$39,229	\$109,699	\$66,570
<b>Est. After-Tax Income<sup>85</sup></b>	\$5,171	\$17,491	\$32,129	\$77,338	\$52,586
<b>Residential Energy Cost<sup>86</sup></b>	\$1,545	\$1,883	\$2,181	\$2,729	\$2,227
<b>Transportation Energy Cost<sup>87</sup></b>	\$1,543	\$2,618	\$4,932	\$4,991	\$4,042
<b>Total Energy Cost</b>	\$3,088	\$4,501	\$7,113	\$7,720	\$6,268
<b>Energy Cost as % of Income</b>	59.7%	25.7%	22.1%	10.0%	11.9%

Source: Various sources as shown in the footnotes below.

<sup>84</sup> *Current Population Survey, Annual Social and Economic Supplement*, U.S. Bureau of the Census, 2008.

<sup>85</sup> Effective federal tax rates for these income categories have been interpolated from the tax rates by income quintile as reported in Congressional Budget Office, "Effective Federal Tax Rates Under Current Law, 2001 to 2014," (August 2004). Estimates of state income tax rates were taken from Federation of Tax Administrators, [http://www.taxadmin.org/fta/rate/ind\\_inc.html](http://www.taxadmin.org/fta/rate/ind_inc.html).

<sup>86</sup> Household energy consumption levels are estimated by income and race from U.S. Department of Energy, Energy Information Administration, "Residential Energy Consumption Survey (2001)," <http://www.eia.doe.gov/emeu/recs/contents.html>. This consumption data has been updated for 2008 with residential energy price projections contained in U.S. Department of Energy, Energy Information Administration, "Short-Term Energy Outlook," (June 2008), <http://www.eia.doe.gov/emeu/steo/pub/contents.html?featureclicked=1&>.

<sup>87</sup> Energy use estimates for transportation per household by income category and race are taken from U.S. Department of Energy, Energy Information Administration, "Household Vehicles Energy Use: Latest Data and Trends" (November 2005), [http://www.eia.doe.gov/emeu/rtecs/nhts\\_survey/2001/](http://www.eia.doe.gov/emeu/rtecs/nhts_survey/2001/). This data has been updated for 2008 with residential energy price projections contained in U.S. Department of Energy, Energy Information Administration, "Short-Term Energy Outlook," (June 2008), <http://www.eia.doe.gov/emeu/steo/pub/contents.html?featureclicked=1&>.

**Table 6-3** Household Energy Expenditures as a Percentage of Income, 2001

Income Category	Less than \$10K	\$10K-\$30K	\$30K-\$50K	More than \$50K	Totals
Households (thousands) <sup>88</sup>	9,800	28,900	23,600	47,000	109,300
Avg. Pre-Tax Income	\$5,733	\$19,707	\$39,201	\$107,649	\$60,488
Est. After-Tax Income <sup>89</sup>	\$5,532	\$17,520	\$32,380	\$76,054	\$47,396
Residential Energy Cost <sup>90</sup>	\$1,039	\$1,260	\$1,456	\$1,836	\$1,493
Transportation Energy Cost <sup>91</sup>	\$524	\$888	\$1,674	\$1,694	\$1,372
Total Energy Cost	\$1,563	\$2,148	\$3,130	\$3,530	\$2,865
Energy Cost as % of Income	28.3%	12.3%	9.7%	4.6%	6.0%

Source: Various sources, as outlined in the footnotes.

**Table 6-4** Share of Income Consumed by Increase in Energy Prices Since 2001

Income Category	Less than \$10K	\$10K-\$30K	\$30K-\$50K	More than \$50K	Totals
Increase in Energy Costs Since 2001	\$1,525	\$2,353	\$3,983	\$4,190	\$3,403
Increase as % of 2008 After-tax Income	29.5%	13.5%	12.4%	5.4%	6.5%

Source: Various sources, as outlined in the footnotes.

<sup>88</sup> 2001 Survey of Residential Energy Consumption (RECS), op cit.

<sup>89</sup> Effects of Gasoline Prices on Driving Behavior and Vehicle Markets, op cit.

<sup>90</sup> Price Responsiveness in the AEO2003 NEMS Residential and Commercial Buildings Sector Models, Energy Information Administration, U.S. Department of Energy, op cit.

<sup>91</sup> "Short-Term Energy Outlook," op cit.

## 6.E. Disparate Impact on Minorities

Across racial categories, minority families are statistically more likely to be found among the lowest-income households. Table 6-5 shows that Hispanic, and especially African American, families are disproportionately found in the lower income categories.

**Table 6-5** Breakdown of Income Categories by Race (2008)<sup>92</sup>

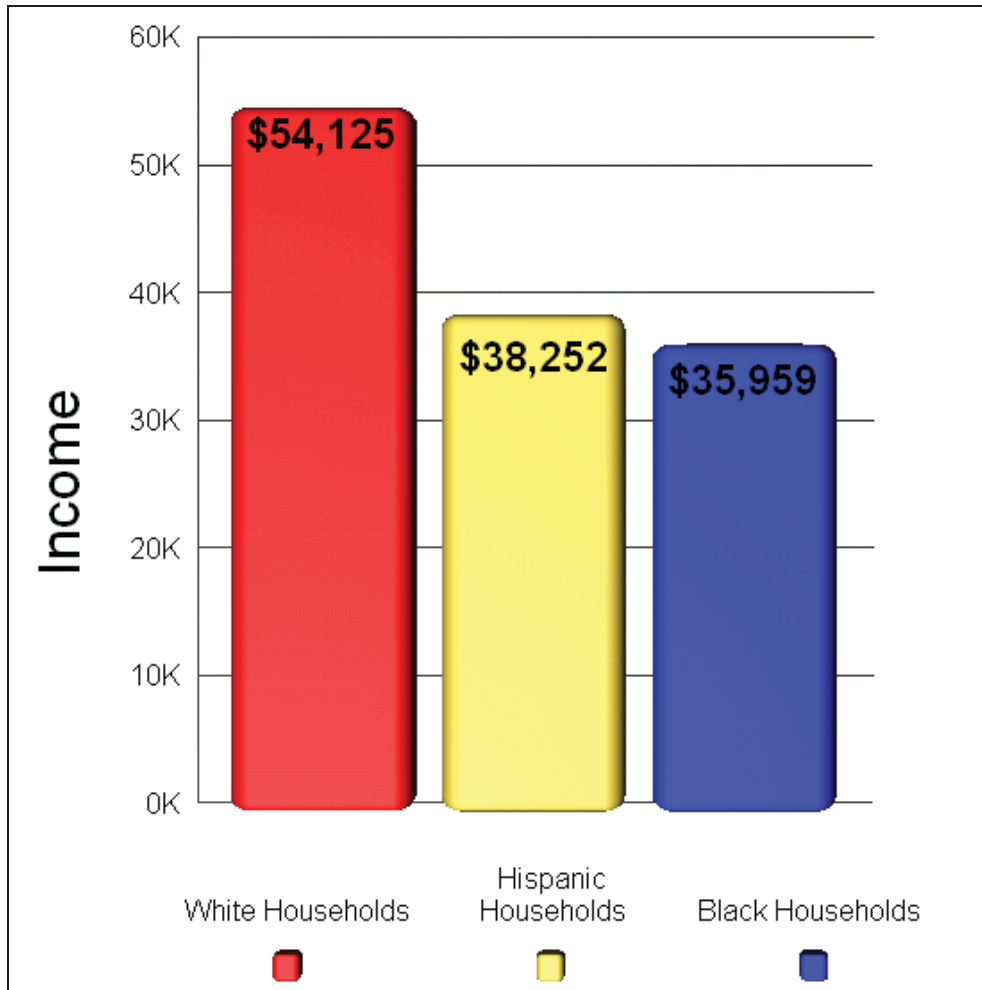
Income Category	Less than \$10K	\$10K-\$30K	\$30K-\$50K	More than \$50K	Totals
<b>White Households</b>	5.8%	21.7%	19.6%	52.9%	100%
<b>Hispanic Households</b>	9.2%	29.1%	25.0%	36.7%	100%
<b>Black Households</b>	15.8%	30.3%	21.7%	32.3%	100%

Source: Various sources, as outlined in the footnotes.

As is demonstrated in Figure 6-1, there is an average income disparity of \$15,873 between non-Hispanic Caucasian families and Hispanic families and an average income disparity of \$18,166 between non-Hispanic Caucasian families and African American families.

<sup>92</sup> 2001 *Survey of Residential Energy Consumption (RECS)*, op. cit.

**Figure 6-1** Racial Income Disparities

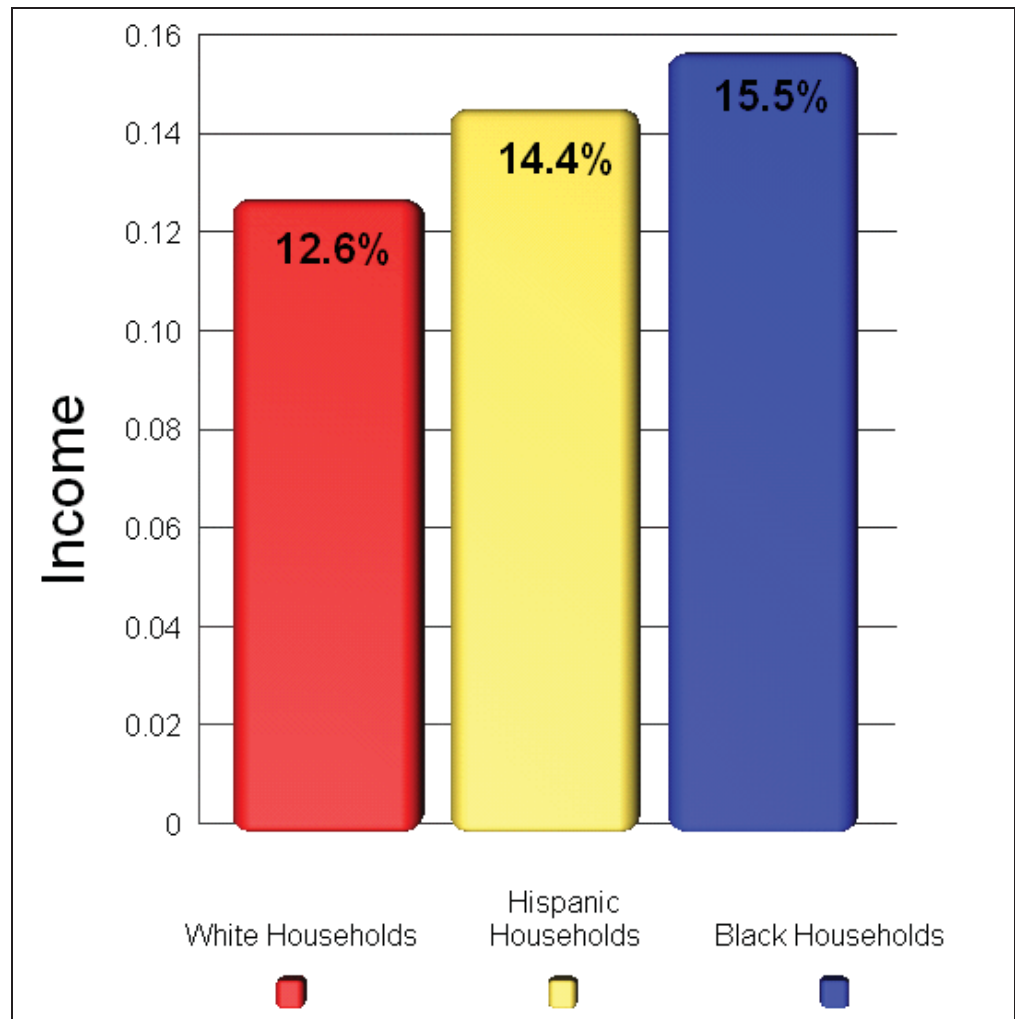


Source: U.S. Energy Information Administration, “Residential Energy Consumption Survey (2001)”

The clear implication of this data is that rising energy costs inflict greater harm on minority families. Lower-income families are forced to allocate larger shares of the family budget for energy expenditures and minority families are significantly more likely to be found among the lower-income brackets. Figure 6-2 shows that, in the aggregate, Hispanic families must dedicate almost two percent more of their after-tax income to energy expenditures than Caucasian families. Black families must dedicate almost three percent more than Caucasian families.<sup>93</sup>

<sup>93</sup> Price Responsiveness in the AEO2003 NEMS Residential and Commercial Buildings Sector Models, op. cit.

**Figure 6-2** Energy Expenditures As a Percentage of After Tax Income



Source: U.S. Energy Information Administration, “Residential Energy Consumption Survey (2001)”

This disparity between racial groups means that rising energy costs have a disproportionately negative effect on the ability of minority families to acquire other necessities such as food, childcare, or healthcare. Essentially, rising energy costs have the effect of a discriminatory tax based on race.