

ECONOMIC OPPORTUNITY STUDIES

Low-Income Consumers' Energy Bills and Their Impact in 2006

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FY 2006 Energy Bills and Burdens of Low-Income Consumers

October 2005 (next update: December 2005)

Highlights

Department of Energy price projections released October 8 are the basis for predicting the impact of the coming year's combined household energy bills on low- and moderate-income consumers. The analysis assumes normal weather and no changes in household heat or a/c sources and mix of appliances and lighting used. It shows:

Energy Burden by Income Group

- Households in poverty, more than 13 million, will spend an average of 25% of their entire FY 2006 annual income on their energy bills just to maintain their modest levels of usage.
- The average burden for the LIHEAP-eligible population of about 33 million, which includes those in poverty, will be 16% of annual income.
- These statistics mean that residential energy bills alone will wipe out any income gains made in the last five years by many, if not most, low-income consumers and by many middle-income consumers.
- All 33 million LIHEAP-eligible low-income households added together will need to spend nearly \$64 billion. Approximately \$2 billion is available for PY 2006 LIHEAP.

Impacts by Fuel Used for Heating

- Eligible fuel oil users will experience the most dramatic cost burdens, 23% of income, while their low-income neighbors who use natural gas or propane will need to spend about 18%.
- The median-income households (those whose income is just over \$47,000) who heat with natural gas will need to spend more than 5% of all 2006 income.
- The situation is unprecedented within the past two decades. As recently as 2001, the median-income family using natural gas would have spent just under 4% of its income for all energy. 2001 Energy burdens averaged about 20% for those in poverty, while LIHEAP-eligible families averaged 13%.

Impacts by Region

- The average annual energy bill for 12 million LIHEAP-eligible consumers in Southern states will be slightly lower than the average energy bill for 7.4 million eligible Midwesterners; incomes in Southern states are also lower than in other regions. In both the South and Midwest, low-income consumers will need to spend between 17% and 19% of income to keep as warm or cool as five years ago, when they spent between 13% and 15%.
- The 1.6 million LIHEAP-eligible households in New England are facing an especially grave situation. They can expect to spend 21% of their income on energy bills, a 40% greater share of income than five years earlier.

Hardships Anticipated

- Of course, these energy burdens are not affordable; yet, the need for assistance far outstrips the resources of LIHEAP and other payment programs combined. As a result, low-income consumers will sacrifice necessities.
 - Census data show that, in 2001 when energy prices were much lower and the weather was abnormally warm, 9.6 million consumers failed to pay at least one month's energy bill because they could not afford it; 77% of them endured at least one additional family hardship during the year, but most of them suffered three or four kinds of deprivation.
 - The most common sacrifices reported were (in order) delayed rent or mortgage payments, skipping needed medical or dental care, and experiencing hunger.

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Low-Income Consumers' Energy Bills and Their Impact in 2006

As 2005 comes to close, all households face unexpected financial pressures from rapidly rising energy costs. Low- and moderate-income consumers face true hardship.

The Department of Energy's October 2005 Short-Term Energy Outlook estimated the coming year's residential fuel costs and included projections for winter heating fuel bills of the average residential consumer. This analysis uses those forecasts to project the year-round energy bills of the nation's low-income household consumers.¹ That group includes all those who are eligible for the federal Low-Income Home Energy Assistance and Weatherization Assistance Programs, or about 33 million households who are the lowest-income one-quarter of Americans. We provide separate statistics for those low-income households whose incomes are below the federal poverty guideline (now \$16,090 for a family of three), or about 13 million households.

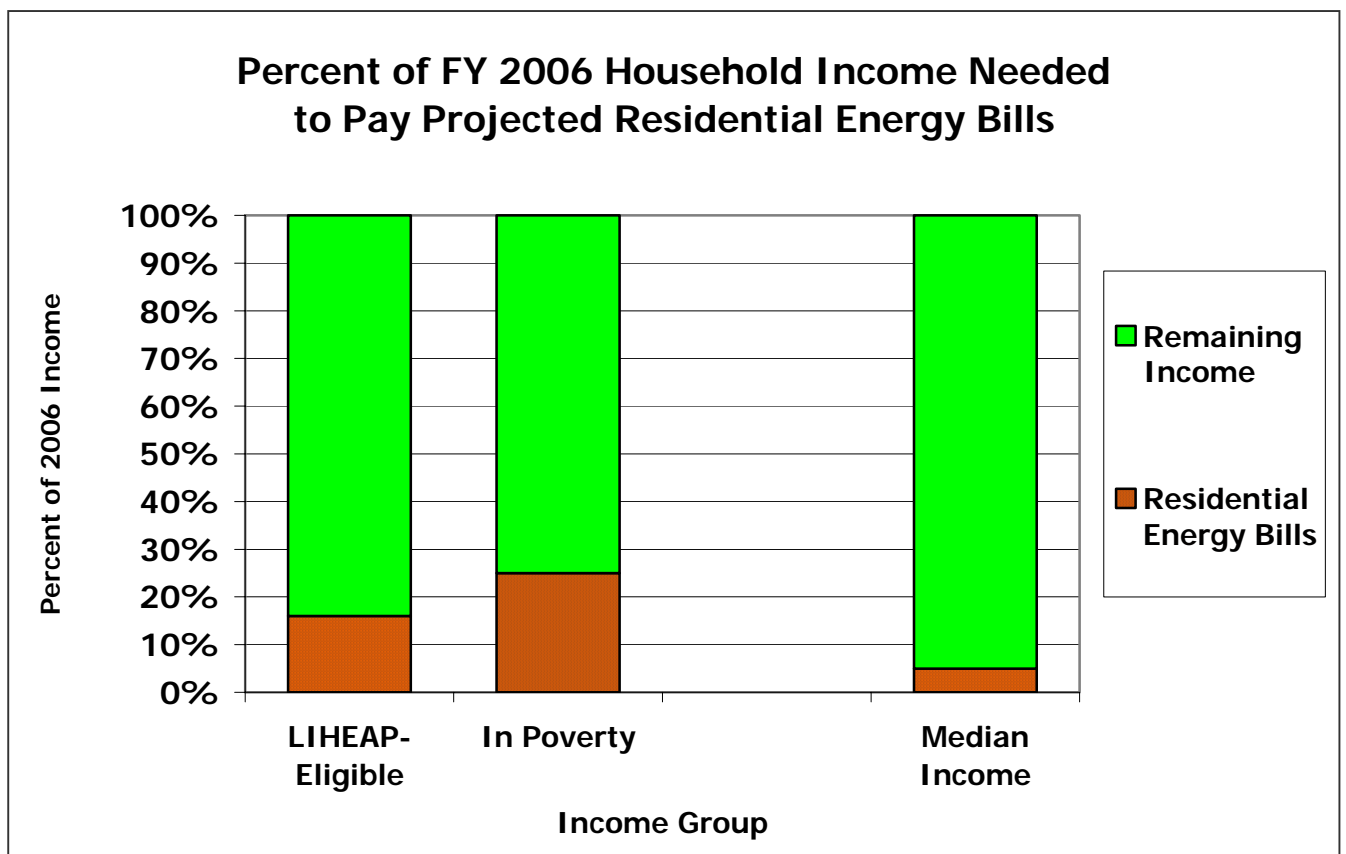
Energy Burdens

Chart 1 compares the percentages of annual income that the average consumer in each of these income groups can expect to devote to utility and other energy bills during Federal Fiscal Year 2006. This percentage is referred to as the "energy burden." The forecast assumes that weather is normal and their homes are to remain as warm or cold as in the past.

Heating, cooling, cooking, hot water, lighting, and appliance usage are all based on 2001 patterns. The forecast shows:

- Households in poverty will owe an average of 25% of their entire annual income for all their FY 2006 energy bills.
- On average, the LIHEAP-eligible group, including those in poverty, will owe 16% of their entire income.

Chart 1.



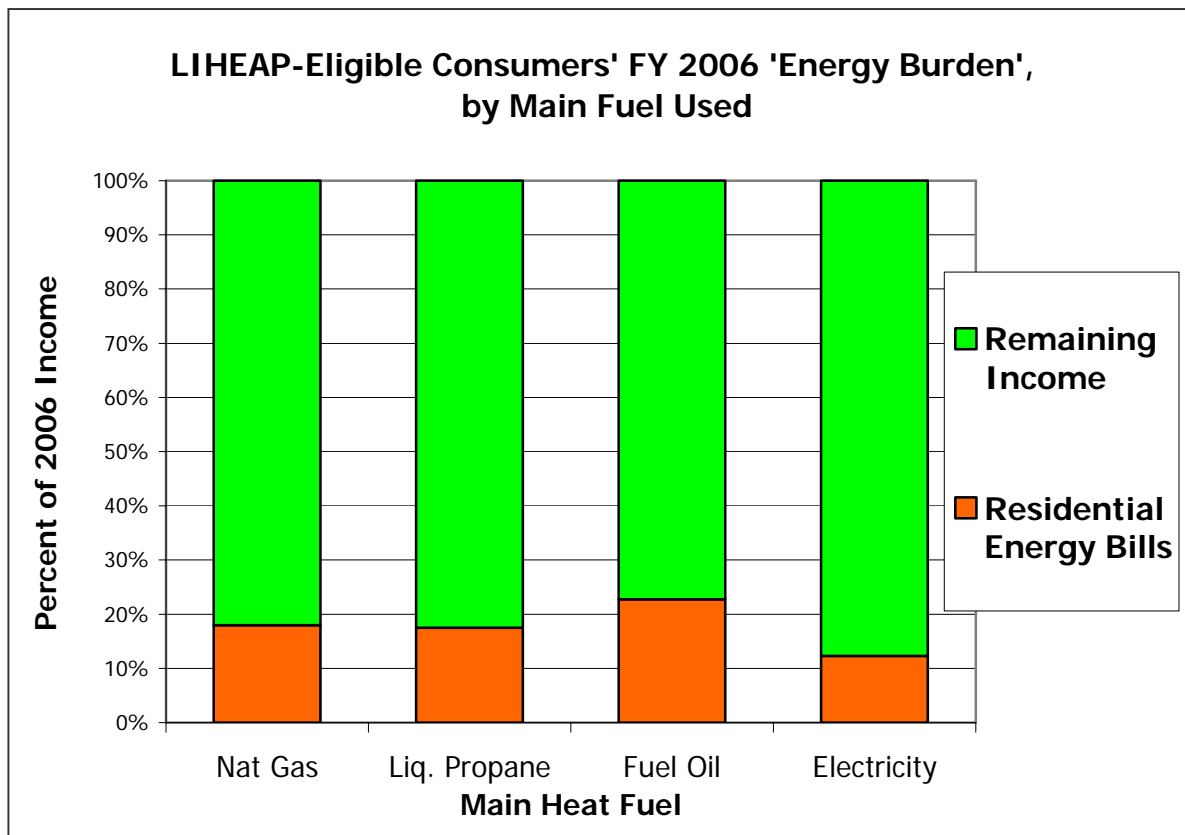
- The situation facing the median-income household in the U.S., whose income is just over \$47,000 in 2005, is also unprecedented. To use as much household energy as in the past, that household will need to spend more than 5% of all income for the year, after adjusting income for inflation.

- These statistics mean that residential energy bills alone will not only wipe out any income gains made in the last five years by these groups of consumers, the expenditures will further erode their purchasing power below what it was in 2001. In 2001, consumers who were not low-income spent an average of 4% of their 2001 incomes on energy.

Chart 2 shows that the kind of fuel the home uses for heat affects the energy burden of the occupants:

- LIHEAP-eligible fuel oil users will experience the most dramatic costs, 23% of income, while those who use natural gas and liquid propane will need to spend 18%.
- The smaller annual bills of electrically heated homes bring the national average energy burden lower, to 16%.
- Low-income consumers generally use far less energy than the rest of U.S. households, about 82% of the average for everyone else. They have less discretionary usage and less opportunity to cut bills through minor behavioral changes that do not cause real hardship.

Chart 2



- The projected level of expenditures needed to keep LIHEAP-eligible homes normally warm or cool with their essential appliances running averages about \$1936 in FY 2006.
- All 33,000,000 low- and moderate-income households taken together will have to spend nearly \$64 billion to maintain their usage, compared to the approximately \$2 billion available for LIHEAP.

Predictable Hardships

The poor will not, in fact, spend nearly \$2000 on their 2006 bills. The sum is not affordable. Low-income consumers will make do with less energy than they need and will sacrifice other necessities. Census data² show that, in 2001 when energy prices were lower and the weather was abnormally warm, 9.6 million consumers failed to pay at least one month's energy bill because they could not afford it. Of these consumers:

- Seventy-seven percent endured at least one more hardship during the year, and most suffered three or four kinds of deprivation;
- The most common sacrifices were, in order:
 - Delayed rent payments;
 - Skipping needed medical or dental care; and
 - Experiencing hunger.

Chart 3 compares the rate of change of fuel prices over the past 5 years to the changes in LIHEAP appropriations and shows a widening gap.

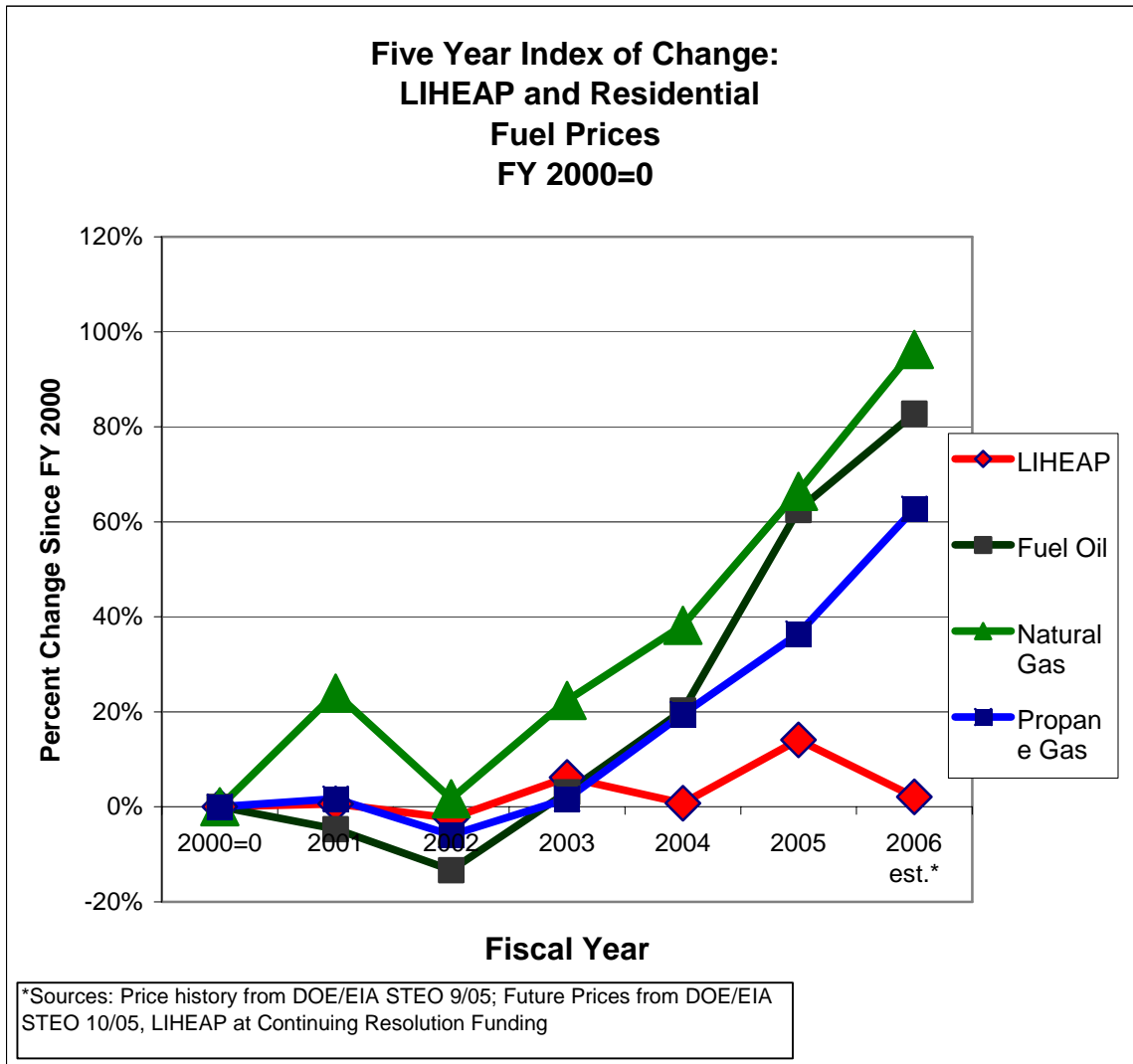
- The projected prices of fuel oil and natural gas are more than double the level five years earlier.
- Propane is expected to be 73% higher.
- LIHEAP at \$1.88 billion will be 5% higher.

Bills rise more slowly than commodity prices; fuels are the major component of energy bills, but fixed charges and taxes are also significant elements.

LIHEAP funds at the level enacted by the FY 2006 Continuing Resolution represent a 15% cut below the program's FY 2005 funds made available

from regular and emergency federal funds. They are just 5% above the level of the 2002 program and considerably lower than the program levels of 2000 and 2001, which are not shown. The 2005 LIHEAP average benefit of \$318 would cover less than 15% of the average projected bill.

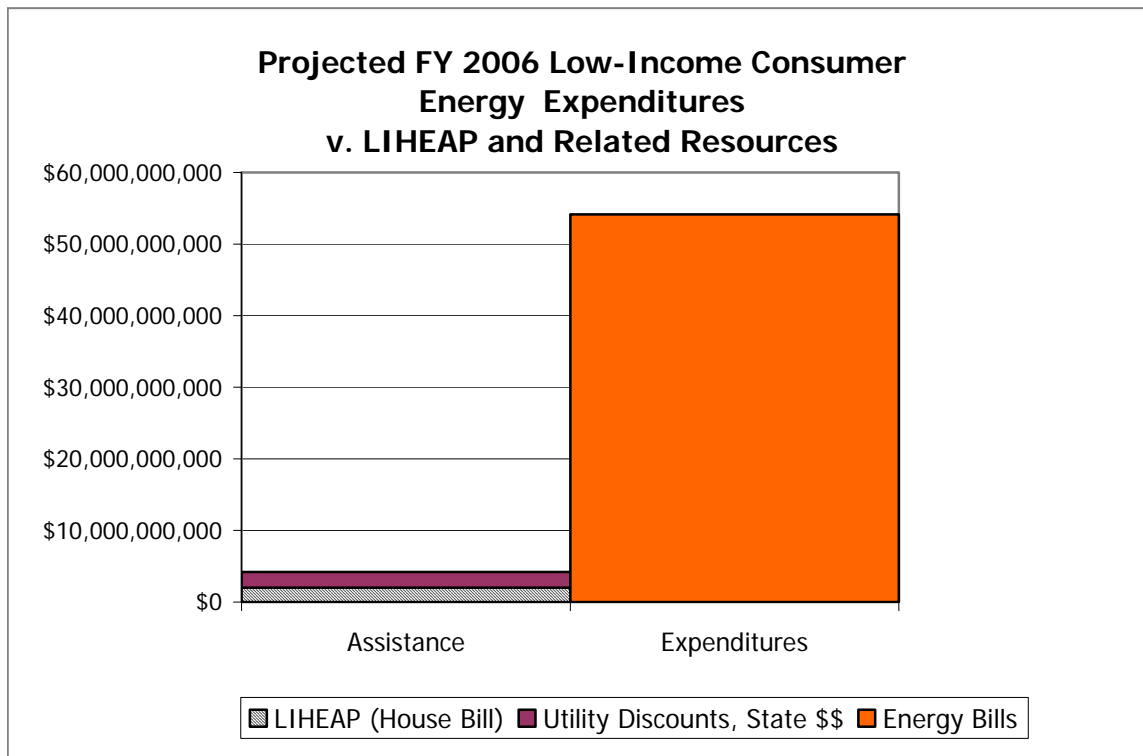
Chart 3.



Some other resources are available to LIHEAP participants and other low-income consumers, including utility discounts and weatherization

investments that permanently lower usage and bills. They are not evenly distributed across all states. Chart 4 compares all of them combined to the projected consumer expenditures.

Chart 4.



Weatherization has produced savings in the form of avoided energy bills. The bar on the right would be even higher if low-income customers now enjoying past Weatherization Assistance Program investments were using as much as before. Usage reductions for a gas consumer who was weatherized in the past few years means that his or her energy bills will be about \$470 lower this year than if the investments had not been made.³ However, only about 7.5 million homes, approximately a fifth of those eligible, have been assisted to date. Even for consumers whose homes were weatherized since 2001, the efficiency gains will mitigate only about half the subsequent bill increase.

Energy Bills and Burdens Will Vary by Region

Low-income consumers in every region face extreme suffering.

Substantially greater LIHEAP resources are needed in every state. As shown in the table below:

- LIHEAP-eligible consumers in the three Southern Census divisions and in the Midwest will need to spend between 17% and 19% of their income on energy bills to keep as warm or as cool as five years ago, when they spent between 13% and 15%.

Incomes in Southern states are lower than in other regions, yet in the coming year, the table shows that the average annual energy bill for LIHEAP-eligible southerners' heating, cooling, cooking, and appliances will be only slightly lower than the average energy bills in the Midwest. These similarities have been the case for more than a decade.

In the South, 12 million eligible households face these appalling cost burdens, as do 7.4 million eligible Midwesterners.

- The 1.6 million LIHEAP-eligible households in New England are facing an especially grave situation. They will spend, on average, 21% of their income on energy bills, a 40% greater share of income than five years earlier.

LIHEAP-Eligible Consumers' Energy Burden and Energy Bills Forecast in FY 2006 vs. Five Years Earlier, by Region

	Energy Burden FY 06	Energy Burden FY 01		Energy Bills FY 06	Energy Bills FY 01
Region	AVG	AVG		AVG	AVG
New England	21%	15%		\$ 2,116	\$ 1,673
Middle Atlantic	19%	17%		\$ 1,797	\$ 1,458
East North Central	18%	13%		\$ 2,173	\$ 1,495
West North Central	18%	14%		\$ 2,012	\$ 1,487
South Atlantic	17%	14%		\$ 1,922	\$ 1,255
East South Central	19%	15%		\$ 1,920	\$ 1,170
West South Central	18%	14%		\$ 1,928	\$ 1,390
Mountain	14%	12%		\$ 2,001	\$ 1,187
Pacific	8%	7%		\$ 1,739	\$ 847

Note: Temperatures, heating, and cooling usage have been adjusted to normal for both years.

The household sample surveyed by DOE is sufficiently large so that we can also calculate expenditures and energy burdens in the four largest states; these are shown in an Appendix Table.

Endnotes

¹This analysis is based on updates of the 2001 U.S. Department of Energy Residential Energy Consumption Survey (RECS) data (see <http://www.eia.doe.gov/emeu/recs/contents.html>) performed by Oak Ridge National Laboratory (ORNL) and further modified by this Economic Opportunity Studies (EOS) analysis. See the ORNL paper: Joel F. Eisenberg, "The Impact of Forecasted Energy Price Increases on Low-Income Consumers," Oak Ridge National Laboratory, TN, November 2005. ORNL/Con 495 at <http://weatherization/ornl.gov>. Household records were adjusted to incorporate current price and weather projections from the Energy Information Administration. The methodology is fully described in the paper, which focuses on the population with incomes at or below 150% of the federal poverty guideline and does not estimate energy burden.

The projections are a model that assumes that the weather-adjusted usage remains constant regardless of price; this is obviously not realistic, especially for households with very limited disposable income. The results indicate what it would take for the consumer to stay as comfortable as at the time the RECS survey was administered and to use the same appliances and lighting in the same way.

We changed the ORNL database by updating incomes for the sample households based on the U.S. Bureau of the Census Current Population Survey data for census divisions. Incomes for each quintile of the population in each of nine Census Divisions were updated by the national average increase for that quintile in 2004 as compared to 2001. The paper assumes no change since 2004. Related analyses are available at www.opportunitystudies.org.

²These statistics are measures of household well-being from the 1998 and 2001 cohorts of Survey of Income and Program Participation (SIPP) respondents. <http://www.sipp.census.gov/sipp/>. The data are from the U.S. Census Bureau's Survey of Income and Program Participation (SIPP) 1996 Panel Wave 8 Topical Module; the details of information provided by those who said they were unable to afford their full energy costs were analyzed by EOS and are found at <http://www.opportunitystudies.org/weatherization/national.php>.

See also the SIPP working paper: Kurt Bauman "Direct Measures of Poverty as Indicators of Economic Need: Evidence from the Survey of Income and Program Participation," U.S. Bureau of the Census Population Division Technical Working Paper No. 30, November 1998.

³<http://www.weatherization.ornl.gov/metaevaluation.htm.eia.doe.gov/emeu/recs/contents.html>

⁴ This figure is an estimate of all units completed with Department of Energy funding, nearly 5.5 million, added to the units weatherized exclusively with other funding, such as LIHEAP or utility efficiency programs, in which the measures installed and techniques used were comparable to the full service package provided by the federal program. For the basis of these estimates, see Meg Power, "Weatherization PLUS Other Efficiency and Housing Investments Delivered by Local Weatherizers in PY

2000", June 2003, Economic Opportunity Studies, Washington, DC.
<http://www.opportunitystudies.org/weatherization/pdf/utility-wap-combined-programs.pdf>

Appendix

Energy Burdens and Expenditures In NY, CA, TX and FL in FY 2006

The tables below show the average amounts that LIHEAP-eligible energy consumers in the four largest states will need to spend on energy bills during FY 2006. They also provide the estimates for the smaller sub-population of consumers in poverty, all of whom are part of the LIHEAP-eligible group.

Five-Year Comparison

The comparable figures for heating and cooling five years earlier, in 2001, are shown. Heating and cooling consumption was low in 2001 because of mild weather, so these figures are adjusted to show normal weather and the consumption adjustment it would have required. This makes the projections based on Department of Energy October data comparable, as they, too, assume normal weather. The model adjusts household incomes over the period.

In every large state, consumers will be paying dramatically more than in FY 2001 in order to remain as cool or warm and to use the same appliances. The poor use less than does the average consumer, but their bills will demand a far higher share of their limited income. New Yorkers and Texans will have the highest energy burdens—26% and 24% respectively. That energy burden has grown most dramatically over five years in Texas. Only California bills, which experienced dramatic price escalation in 2000, are expected to claim the same share of income as five years earlier.

These data do not mean that LIHEAP-eligible families or consumers in poverty will actually spend the nearly \$2000 needed to maintain safe levels of energy use in their homes. As discussed in the general national analysis, reliable data indicates that they will make major sacrifices in energy use and expenditures for other necessities and still will not be able to sustain a safe level of energy usage.

Table 1 Energy Burdens and Expenditures in the Four Largest States in FY 2006 by Income Group

		At or Below Federal Poverty Guidelines		LIHEAP-Eligible (Federal Standard)		All Households	
		Average	Median	Average	Median	Average	Median
NEW YORK	Energy Burden FY 06	26%	18%	16%	11%	8%	5%
	All Energy Exp. FY 06	\$1,872	\$1,726	\$1,805	\$1,679	\$1,935	\$1,746
	Energy Burden Normal* FY 01	24%	16%	14%	10%	7%	4%
	All Energy Exp. Normal FY 01	\$1,330	\$1,194	\$1,520	\$1,392	\$1,829	\$1,648
CALIFORNIA	Energy Burden FY 06	11%	7%	8%	6%	4%	3%
	All Energy Exp. FY 06	\$1,762	\$1,600	\$1,799	\$1,600	\$1,857	\$1,684
	Energy Burden Normal FY 01	10%	7%	8%	5%	4%	3%
	All Energy Exp. Normal FY 01	\$822	\$652	\$912	\$732	\$1,220	\$1,052
TEXAS	Energy Burden FY 06	24%	16%	16%	11%	8%	5%
	All Energy Exp. FY 06	\$1,974	\$1,776	\$1,947	\$1,679	\$1,921	\$1,657
	Energy Burden Normal FY 01	19%	13%	12%	9%	6%	4%
	All Energy Exp. Normal FY 01	\$1,074	\$941	\$1,265	\$1,111	\$1,687	\$1,537
FLORIDA	Energy Burden FY 06	16%	16%	12%	9%	5%	4%
	All Energy Exp. FY 06	\$1,911	\$1,520	\$2,001	\$1,613	\$2,005	\$1,773
	Energy Burden Normal FY 01	13%	13%	10%	8%	5%	3%
	All Energy Exp. Normal FY 01	\$836	\$674	\$1,137	\$1,132	\$1,423	\$1,253

* "Normal FY 01" means that heating and cooling usage was adjusted for the household sample to what would have been used if the year's temperatures had been the same as the 30-year average temperatures; in reality, 2000-2001 was unusually mild. FY 2006 usage is calculated in the same way.