

# ECONOMIC OPPORTUNITY STUDIES

## Energy Bills of Low-Income Consumers in FY 2005, The Resources Available to Help Them Pay, and the Impact on Their Household Budgets

Nov. 23, 2004

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*A Product of The E.O.S. Weatherization Leveraging Partnership Project*

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## **Highlights: The Energy Bills Low-Income Consumers Face in FY 2005, The Resources Available to Help Them Pay, & The Impact on Their Household Budgets**

Energy Information Administration (EIA) short-term price predictions provide a basis for estimating all the residential energy bills low-income consumers will incur from October 2004 through September 2005. Assuming that the weather is normal and that the low-income households retain their energy services or deliveries for all four quarters of the year:

- ❖ Households below 150% of the Federal Poverty Level \$23,505 for a family of 3 will spend an average of \$1470 for all their energy bills and will have to use nearly 19% of their income to do so;
- ❖ For the rest of US households, the average 'energy burden', which means the percent of all income devoted to paying energy bills, will average more than 4%.

### Economic Impact of the Fuels Used in a Home

- ❖ The year's bills for all energy used in natural gas-heated low-income homes can be expected to average more than \$1650. Most Americans, including 54% of the poor, use natural gas for heat.
- ❖ By contrast, low-income fuel oil users will average more than \$2200 in total energy bills; they live primarily in the coldest climates. Annual bills of those who use propane (LPG) heat will be similar.
- ❖ Those who heat with electricity will have year-round bills averaging slightly more than \$1100.

### Regional Impacts of Energy Costs

- ❖ Low-income households in the cold areas that use natural gas heat and some fuel oil, an area that stretches from New York through the entire Midwest and the Plains states, can expect the highest bills. Their energy burdens will average more than 25% of their annual income.
- ❖ New Englanders and residents of the eastern South will be facing energy burdens of nearly 22% and record high bills, as well; however,
- ❖ No region will be exempt from rising bills.

### Federal LIHEAP and Weatherization Assistance

- ❖ Since FY 2000, alone, utility gas and propane heating bills in the Midwest have grown 84% and 69% respectively; New Englanders will pay 72% more for their fuel oil than 5 years ago. By contrast, LIHEAP at the \$1.84 billion provided in the FY 2005 Appropriation is the same as the appropriation for FY 2000. Adding another \$300 million from contingency funds (\$2.18 Billion) would make it 16% higher.
- ❖ Since the program typically serves less than one fifth of the eligible households, most low-income consumers face reduced energy purchasing power and greater hardships than in the recent past.
- ❖ Bills of fuel oil users weatherized by the Department of Energy Weatherization Assistance Program, will average \$440 less than for those not weatherized;
- ❖ For natural gas-heated weatherized homes the savings, or avoided costs, will be about \$330; and
- ❖ For electrically-heated homes the weatherization savings will average \$235;
- ❖ Collectively, former D.O.E. Weatherization participants will avoid \$1.55 billion in FY 2005 bills.

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## ECONOMIC OPPORTUNITY STUDIES

### The Energy Bills of Low-Income Consumers in FY 2005, the Resources Available to Help Them Pay, and the Impact on Their Household Budgets

Nov. 23, 2004

The Energy Information Administration (EIA) Short Term Energy Outlook's<sup>i</sup> quarterly price forecasts through 2006 provide a basis for estimating all the residential energy bills low-income consumers will incur in all twelve months of FY 2005. (The EIA only estimates household bills for 6 months usage of the main heating fuel.) Even though low-income households typically use about 13% less energy than others, their combined annual bills for heat, hot water, and electricity for all other uses will rise sharply during the twelve months beginning October 1, 2004. If the weather is normal and LIHEAP-eligible households retain their energy services or deliveries for all four quarters of the fiscal year<sup>ii</sup>:

- ❖ Households below 150% of the Federal Poverty Level (FPL) <sup>iii</sup>will spend an average of \$1470 for all their energy bills and will have to use nearly 19% of their income to do so;
- ❖ The bills of those in Poverty will be about the same, \$1430, but they will average nearly 26% of those households' income;
- ❖ Consumers whose incomes do not qualify them for LIHEAP range from the near-poor to the extremely wealthy. For the rest of US households, the average energy burden, e.g., the percent of all income devoted to paying energy bills, will be more than 4%;
- ❖ All these figures are dramatically higher than five years earlier and represent substantial increases above 2004 expenditures and burdens as well.

Table 1, below, shows these estimates, along with the same figures for earlier years.

<b>Table 1</b>		<b>Avg. Residential Energy Bills</b>			
<b>CONSUMER GROUP</b>	<b>Est. FY 05</b>	<b>Est. 2004</b>	<b>FY 2001</b>	<b>FY 2000</b>	
<b>Households at or below 150% FPL</b>	\$1,472	\$1,379	\$1,196	\$1,099	
<b>All others</b>	\$1,880	\$1,747	NA	\$1,391	
<b>All US Households</b>	\$1,773	\$1,650	\$1488	\$1,293	
		<b>Avg. Residential Energy Burden</b>			
<b>CONSUMER GROUP</b>	<b>Est. FY 05</b>	<b>Est. 2004</b>	<b>FY 2001</b>	<b>FY 2000</b>	
<b>Households at or below 150% FPL</b>	18.6%	17.2%	16.8%	13.3%	
<b>All others</b>	4.4%	4.1%	NA	3.0%	
<b>All US Households</b>	8.1%	7.6%	NA	6.1%	

## Economic Impact of the Fuels Used in a Home

Although prices for all heating fuels have risen, natural gas and bulk fuel increases have far outpaced changes in the price of electricity.

- ❖ The year's bills for all energy used in natural gas-heated, low-income homes can be expected to average more than \$1650. Most Americans, including 54% of the poor, use natural gas for heat.
- ❖ By contrast, low-income fuel oil users will average more than \$2200 in total energy bills; most live in the coldest winter climates. Annual bills of those who use propane (LPG) heat will be similar.
- ❖ Many of those who heat with electricity live in warmer regions; as a group, their year-round bills will average slightly more than \$1100.

## Regional Impacts of Energy Costs

- ❖ Low-income households in the cold areas that use natural gas heat and some fuel oil, an area that stretches from New York through the entire Midwest and the Plains states, can expect the highest bills. Their energy burdens will average more than 25% of their annual income.
- ❖ However, New Englanders and residents of the eastern South will be facing energy burdens of nearly 22% and record high bills, as well.
- ❖ No region will be exempt from rising bills.

Figure A identifies the states in each Census region, and Figure 1 compares the expected low-income energy burden by region. Table A, showing the region-by-region estimates for both bills and burdens, is attached at the end of the document.

**Figure A**

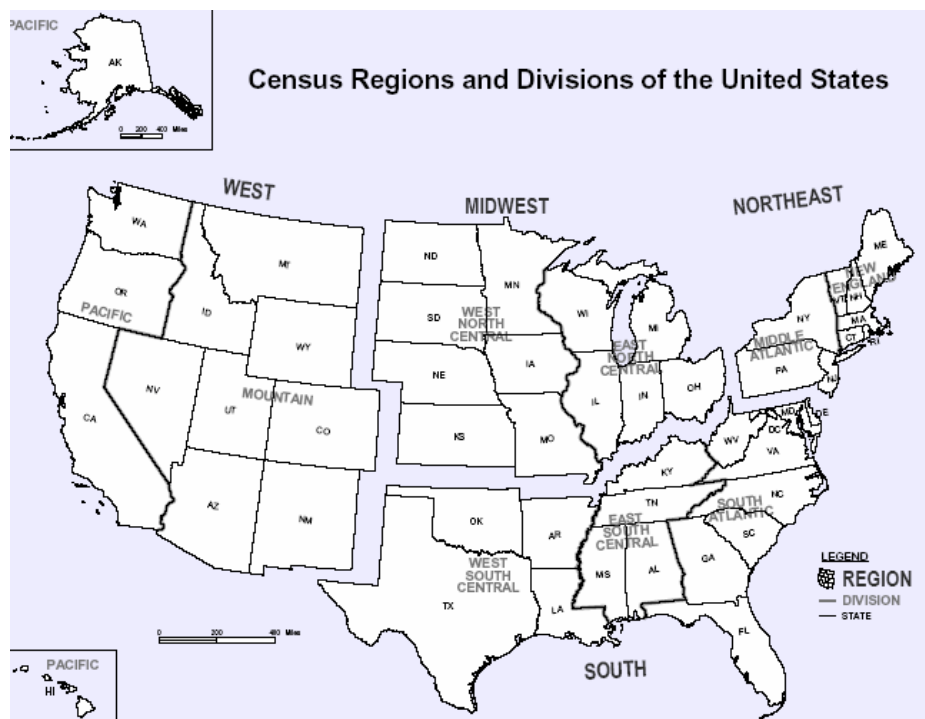
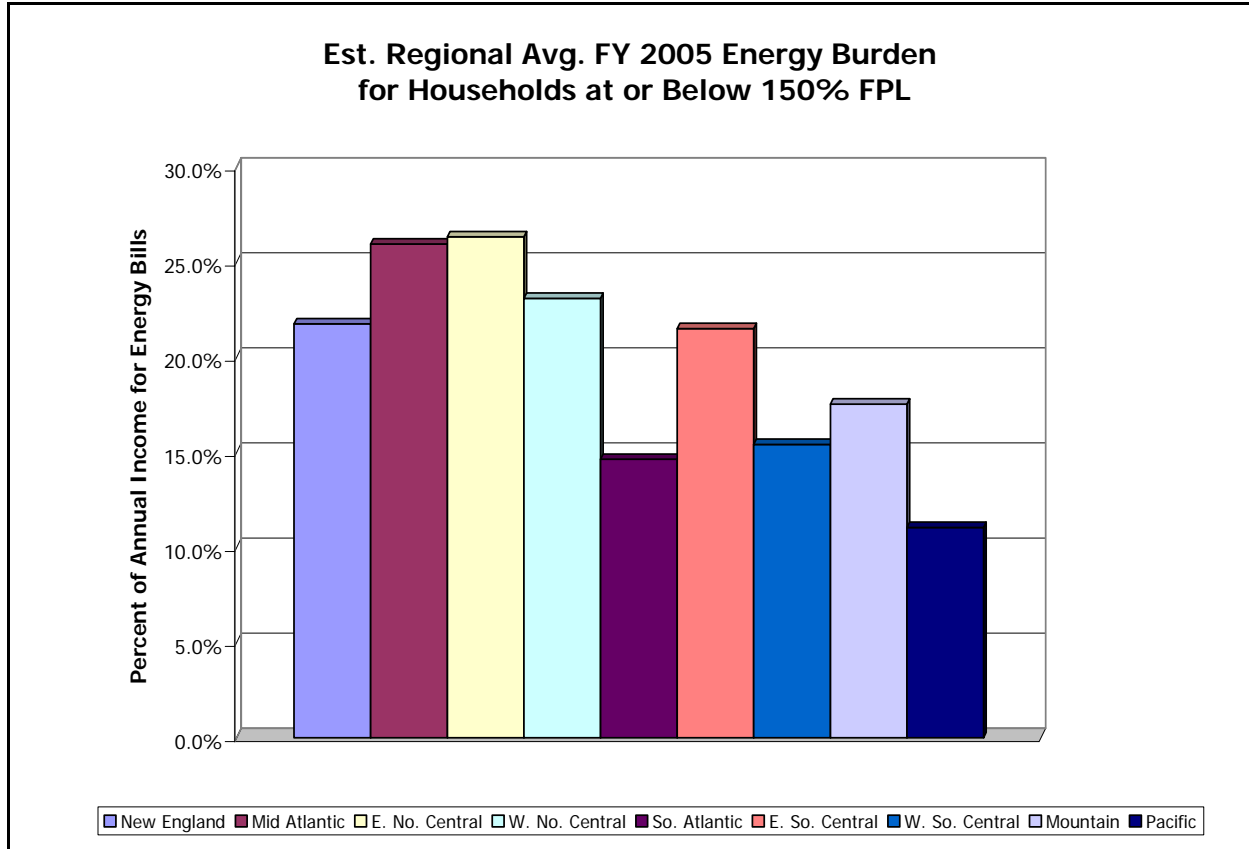


Figure 1



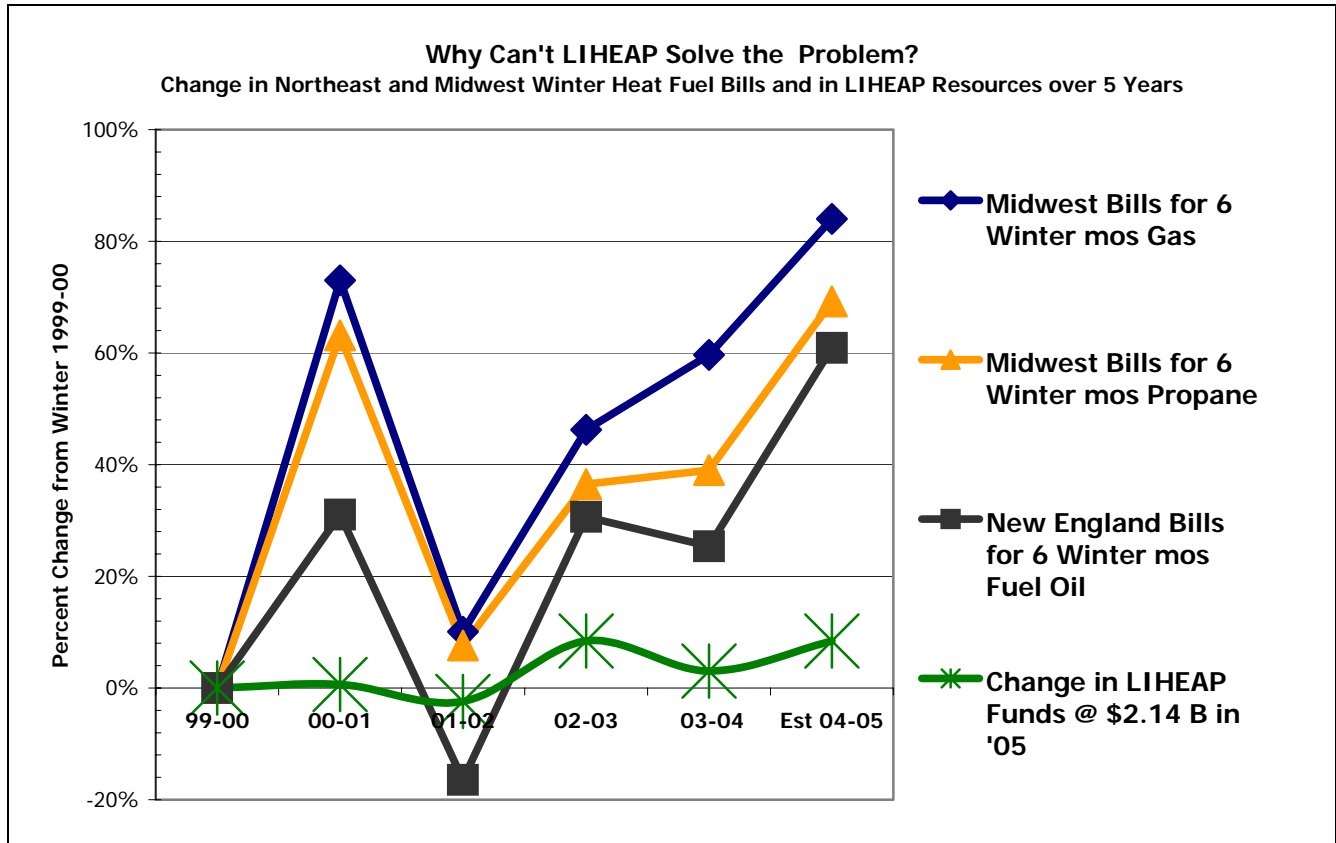
## Reducing the Bills 1: LIHEAP Lags Energy Markets

LIHEAP funding has not kept pace with the growth of energy bills.

- ❖ Twenty years ago, LIHEAP was appropriated \$2.15 billion for FY 1985. That year, average annual bills for all sources were 33% lower than those projected for FY 2005 and about two-thirds as many families were eligible.
- ❖ Since FY 2000, alone, utility gas and propane winter bills in the Midwest have grown 84% and 69% respectively; New Englanders will pay 72% more for their fuel oil than 5 years ago. As noted, the nationwide average for low-income customers' annual total energy bills is \$373 higher.
- ❖ By contrast, LIHEAP at the \$1.844 billion provided in the just-passed FY 2005 Omnibus Appropriation Bill is the same as the appropriation for FY 2000. Distribution of all the \$300 million in the President's emergency contingency fund) would make it \$2.144 billion, or 16% higher than five years earlier. As shown in Table 1 above, this year's bills will be 40% higher than FY 2000 expenditures.
- ❖ LIHEAP client benefits are generally even smaller than the 5-year increases in energy bills, or \$373. Therefore, participants in LIHEAP programs in FY 2005 may be worse off than were non-participants five years earlier.
- ❖ Since the program typically serves less than one fifth of the eligible households, most low-income consumers face reduced energy purchasing power and greater hardships than in the recent past.

Figure 2 shows the trends in winter bills and in LIHEAP funding. Table B at the end of the report shows the estimated energy bills, burdens, and weatherization savings for the average user of each heating fuel.

**Figure 2**



## Reducing the Bills 2: Weatherization's Impact

The analysis above does not take into account the reduced usage resulting from the Department of Energy's Weatherization Assistance Program nor other related low-income efficiency programs. At least 5.2 million of the 31 million LIHEAP-eligible families will avoid paying costs that they would have incurred had they not been weatherized; those savings will be worth more than \$297, on average.

- ❖ For Weatherized fuel oil users, bills will average \$440 less than for those not weatherized;
- ❖ For natural gas-heated weatherized homes the savings will be about \$330; and
- ❖ For electrically heated homes, the weatherization savings will average \$235.
- ❖ These figures mean residents of Weatherized homes will have bills about equal to those paid in 2001 by un-weatherized consumers.

- ❖ Collectively, former Department of Energy Weatherization participants will avoid \$1.55 Billion in FY 2005 bills.

Weatherization investments with measured results have been made in more housing units than the 5.2 million Department of Energy-funded homes alone; a recent survey<sup>iv</sup> indicated that LIHEAP funds have been used for similar efficiency investments in about half again as many homes in recent years. Table B at the end of the report shows the estimated energy bills, burdens, and weatherization savings for the average user of each heating fuel.

### Reducing the Bills 3: Utility Rate-Based Assistance

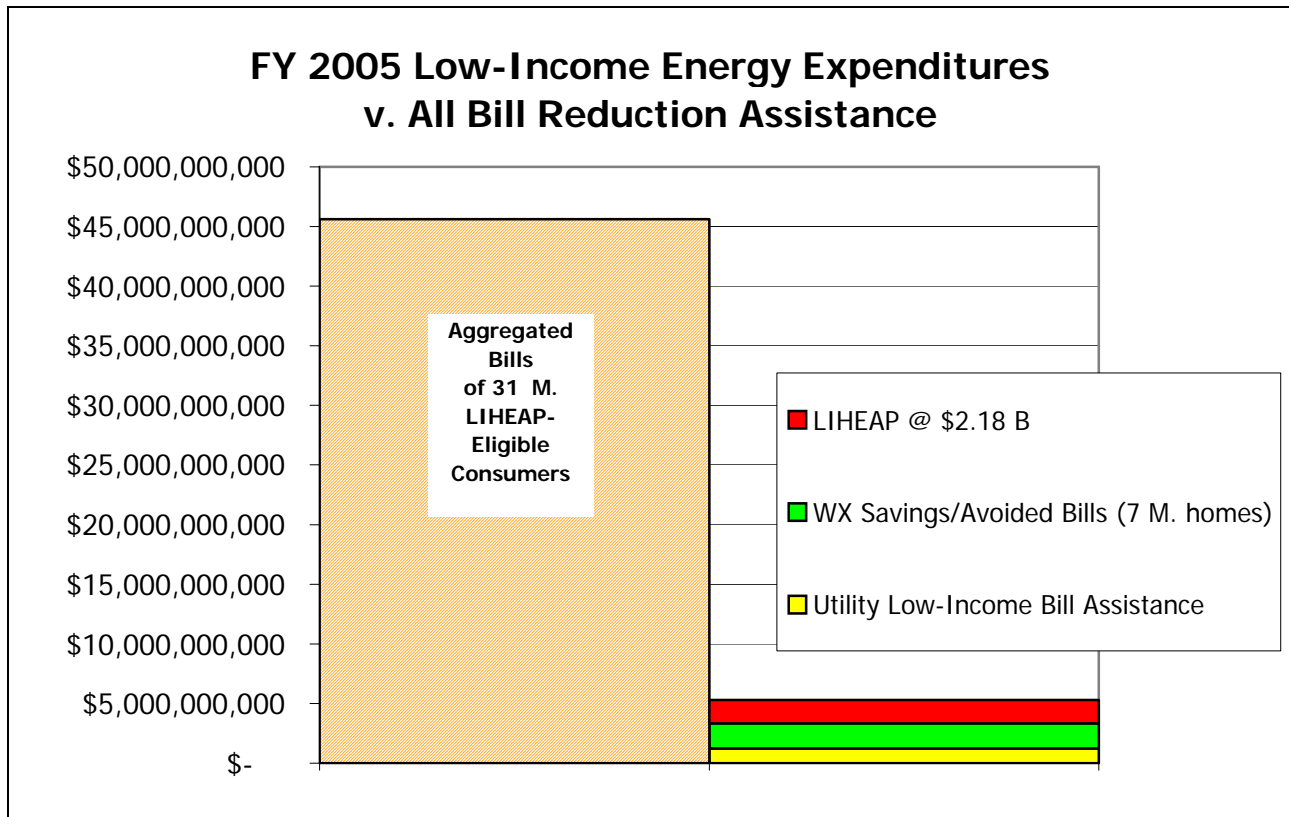
By 2003, 34 states offered some low-income consumer bill assistance supported by utility ratepayers. The total reported to the federal LIHEAP program<sup>v</sup> was almost \$1.3 billion. However, two-thirds of the funding, \$874 million, was in California, Ohio, Pennsylvania and Texas.

In FY 2005, Californians who are low-income will have 20% their bill increases subsidized, while Texans will have 10% offset by a discount. In Ohio, most of the increases in gas bills will be offset by added charges in all rates; the same is true in some Pennsylvania utility territories, but in others, only part of the expected increases may be covered. Neither Ohio nor Pennsylvania assists all LIHEAP-eligible customers. The other 30 states distribute about \$430 million among groups of low-income customers. A few of the programs are discounts that increase when bills rise.

Figure 3 shows these three sources of bill reductions, LIHEAP, avoided bills as a result of Weatherization, and utility-funded bill assistance, and by comparison to the forecast aggregated residential bills of the LIHEAP-eligible population. The estimated Weatherization (Wx.) "avoided bills" are shown for 7 million homes. Measured savings have not been evaluated for most of the utility-funded programs now operating in thirty states, so they are not shown in this chart. LIHEAP is assumed to distribute \$1.98 billion, the Appropriations under consideration on Nov. 15 plus a potential \$300 million in emergency contingency funding, minus operating expenses.

Even under these optimistic assumptions, the assistance available will cover no more than 11% of the energy bills of this consumer group.

Figure 3



Updated estimates will be undertaken in mid-January using new D.O.E. price figures, weather data from the fall and early winter, and the database of household energy surveys released November 8 by the Department of Energy.<sup>vi</sup>

<sup>i</sup> Short Term Energy Outlook, Nov 2004 ([www.eia.doe.gov/emeu/steo/pub/steo.html](http://www.eia.doe.gov/emeu/steo/pub/steo.html))

<sup>ii</sup> FY 2000 and FY 2001 numbers are taken from the HHS LIHEAP Notebook, for FY 2000 and FY 2002 respectively. All other estimates are labeled "Est." and are modeled using updates of the Department of Energy's Residential Energy Consumption Survey database of 1997 surveys updated to reflect current household income, normal weather, and the forecast prices.

<sup>iii</sup> Data on the lowest income quintile, or lowest-income 1/5th of households is used as a proxy for 150% FPL because income data are available from Census and BLS for income quintiles, and these were used to update the DOE household survey data to reflect 2004 income estimates.

<sup>iv</sup> Power, Meg. Low-Income Consumers' Energy Bills and Energy Savings In 2003 and FY 2004, Economic Opportunity Studies, Washington, DC, March 2004i. ([www.opportunitystudies.org](http://www.opportunitystudies.org)).

<sup>v</sup> These utility data are from FY 2003 state submissions to the LIHEAP program that matches these "leveraged" dollars ([www.ncat.org/liheap](http://www.ncat.org/liheap))

<sup>vi</sup> <http://www.eia.doe.gov/emeu/recs/contents.html>

## Appendix Tables

**Table A.**

<b>ESTIMATED FY 2005 TOTAL RESIDENTIAL ENERGY BILLS, WEATHERIZATION (W.A.P.) SAVINGS, AND ENERGY BURDENS BY MAIN HEAT FUEL AND INCOME GROUP</b>				
<b>Main Heat Is:</b>	<b>% of Low- Income Homes</b>	<b>Low-income Users' Est. Avg Bill</b>	<b>W.A.P. Savings Est.</b>	<b>All Users' Est. Avg Bill</b>
<b>Natural Gas</b>	53.4%	\$1,655	\$331	\$1,902
<b>Electric</b>	30.7%	\$1,075	\$235	\$1,350
<b>Fuel Oil or LPG</b>	12.0%	\$2,150	\$431	\$2,534

**Table B.**

<b>Est. FY 2005 Total Residential Energy Bills and Energy Burden by Region and Income Group</b>		
<b>Region</b>	<b>Avg FY 2005 Bills</b>	<b>Avg FY 2005 Energy Burden</b>
<b>Lowest Income Quintile</b>		
New England	\$1,655	21.8%
Mid Atlantic	\$1,900	26.0%
E. No. Central	\$1,824	26.3%
W. No. Central	\$1,737	23.1%
So. Atlantic	\$1,375	14.6%
E. So. Central	\$1,430	21.5%
W. So. Central	\$1,293	15.4%
Mountain	\$1,311	17.5%
Pacific	\$1,075	11.0%
<b>Average of Top 4 Income Quintiles</b>		
New England	\$2,407	5.6%
Mid Atlantic	\$2,390	5.3%
E. No. Central	\$2,177	5.0%
W. No. Central	\$1,964	4.8%
So. Atlantic	\$1,663	3.9%
E. So. Central	\$1,564	3.9%
W. So. Central	\$1,688	4.1%
Mountain	\$1,559	3.9%
Pacific	\$1,409	3.2%