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Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear before you today to discuss the outlook for energy prices and examine their impact on the elderly population.

The Energy Information Administration (EIA) is an independent statistical and analytical agency within the Department of Energy. EIA is charged with providing objective, timely, and relevant data, analysis, and projections for the Congress, the Administration, and the public. We do not take positions on policy issues, but we do produce data, analyses, and forecasts that are meant to assist policy makers in their energy policy deliberations. Because we have an element of statutory independence with respect to our analyses, our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration. However, EIA's baseline projections on energy trends are widely used by government agencies, the private sector, and academia for their own energy analyses.

Introduction

As it is for all Americans, direct energy expenditures for the elderly–defined for this testimony as those age 65 and over–is a combination of energy costs for running the household (such as heating and cooling) and the energy costs for transportation fuel. There are also indirect expenditures embodied in the energy component of the cost for goods and services, but this testimony will focus only on the direct costs.

The major determinates of energy expenditures for households are energy prices and consumption levels. Energy prices are largely determined by world events–at least in the case of oil prices– and domestic trends in the case of natural gas and electricity prices. In the short run, household energy consumption levels are largely determined as a function of weather. In the longer run, consumption patterns are influenced by technology, structural, and behavioral trends, as homes are constructed or remodeled and equipment is purchased. Consumption levels for transportation are a function of vehicle choice, driving behavior, and other technological, structural, and behavioral issues.

Consumption patterns for this testimony are based on EIA's 2001 Residential Energy Consumption Survey (RECS), EIA's quadrennial national level survey on residential energy consumption and expenditures use. We recognize that consumption patterns are likely to change–as they have in the past– as technology continues to improve and new products enter the marketplace.

I first want to examine recent and projected energy prices and energy expenditures based on EIA's most recent *Short-Term Energy Outlook*, which was released on June 7, 2005 (**Table 1**). In addition, I'll be referring to longer-term projections from EIA's *Annual Energy Outlook 2005,* released in January 2005. In the second section I'll focus on consumption patterns and expenditures for elderly households.

Energy Prices and Expenditures: Recent Past and Future Projections

Crude Oil. In May, the West Texas Intermediate (WTI) crude oil price per barrel oscillated between the low $50s and high $40 and back again. For the third quarter of 2005, the WTI price is expected to average $53 per barrel, approximately $9 per barrel above the year-ago level. WTI prices are now expected to average $52 per barrel during 2005 and $54 per barrel in 2006. The projected 2006 increase in WTI price, from $25.95 per barrel in 2001, represents a 109 percent increase in nominal terms, or a 90-percent increase when adjusted for inflation.

Several factors are contributing to high crude oil prices. First, worldwide petroleum demand growth is projected to remain robust during 2005 and 2006. Second, projected growth in non-Organization of Petroleum Exporting Countries (OPEC) supplies is not expected to accommodate worldwide demand growth. Third, worldwide spare crude oil production capacity has recently diminished. Fourth, downstream sectors, such as refining and shipping, are expected to remain tight. And finally, geo-political risks, such as the continued insurgency in Iraq, are expected to keep the level of uncertainty in world oil markets high.

Heating Oil. Heating oil prices closely follow crude oil prices, but not always on a one-to-one basis. In 2005 heating oil prices are projected to average $1.91 per gallon, compared to $1.54 in 2004. This 37 cents per gallon represents an increase of 24 percent.

For comparison, EIA projects that, by 2006, heating oil prices will increase from $1.22 per gallon in 2001 to an average of about $1.94 (a 59-percent increase in nominal terms; a 42- percent increase when adjusted for inflation). Much of this increase is due to the rise in world oil prices, which has been the result of growing petroleum demand particularly from China and other countries, and a lack of excess oil production capacity in the Middle East. These price increases, along with some weather effects, have caused average expected heating oil expenditures per household to increase from $719 per year in 2001 to $1143 per year in 2006 in nominal terms. Prices are expected to increase only slightly by 2025 as additional oil production capacity and efficiency gains have an impact on the market.

Gasoline. Gasoline prices also closely follow crude oil prices. In May, retail gasoline prices declined steadily from about $2.24 per gallon at the beginning of the month to $2.10 on May 30. On June 6, average retail prices were $2.12 per gallon. Pump gasoline prices (April-September) are now projected to average $2.17 per gallon, similar to last month's projection but still about 26 cents per gallon above the year-ago level. Crude oil prices are expected to remain high enough to keep monthly average gasoline prices above $2.00 per gallon through 2006. The projected summer average price for retail diesel is $2.22 per gallon, up about 45 cents per gallon from last summer. Nationally, monthly average diesel fuel prices are expected to remain above regular gasoline prices through 2006. Currently, this pattern is most evident in areas east of the Rocky Mountains.

For comparison, in 2001, gasoline prices averaged $1.43 per gallon; in 2006, gasoline prices are expected to average $2.18 per gallon (a 52-percent in nominal terms and 36-percent increase when adjusted by inflation). Between 2001 and 2006, expenditures for gasoline are expected to increase from $1,370 per household per year to $2,088 in 2006. Like heating oil, gasoline prices are projected to rise between 2006 and 2025 only slightly as increased production from OPEC and non-OPEC sources help to bring the market more in balance relative to current market fundamentals.

Residential Natural Gas . Natural gas prices have also been affected by changes in the world oil market but to a lesser extent than gasoline and heating oil prices. Other factors, such as limited exports from Canada to the United States and somewhat limited additions to domestic reserves have also had a large impact on prices. The Henry Hub natural gas spot price, which had averaged over $7.30 per thousand cubic feet (mcf) in April 2005, fell to $6.66 per mcf in May as weather in the Midwest and East moderated and crude oil prices eased. The natural gas market is likely to tighten over the next few months as summer cooling demand picks up. Prices are projected to continue to increase as the winter heating season boosts natural gas demand. Monthly average spot prices are likely to reach to $7.50 per mcf by the end of the year. Although natural gas storage remains above the 5-year average, high world oil prices, continued strength in the economy, the expectation that Pacific Northwest hydroelectric resources will be well below normal through mid-summer, and limited prospects for growth in domestic natural gas production all support the natural gas price projections. Henry Hub prices are expected to post averages of about $6.90 per mcf in 2005 and just over $7.10 per mcf in 2006

Prices between 2001 and 2006 are projected to increase from $9.63 to $11.99 per thousand cubic feet (a 24-percent increase in nominal terms; an 11-percent increase when adjusted for inflation). Over this period expenditures are projected to increase from $674 per household to $839 per household.

Electricity. In 2005, residential electricity prices are expected to average 9.33 cents per kilowatthour, compared to 8.92 cents in 2004. This is an increase of 4.6 percent. The projected 2005 third quarter (the height of the cooling season) price of 9.72 cents per kilowatthour represents an increase of nearly 4 percent above the previous year's third quarter price (9.39 cents per kilowatthour).

Electricity prices and expenditures are projected to change less over time than oil or natural gas prices due to the nature of this market which is dominated by longer-term contracts for its input fuels and which relies heavily on domestic coal and nuclear generation plants. Residential prices are only projected to increase to 9.68 cents per kilowatthour in 2006. Compared with 2001, when residential prices were 8.62 cents per kilowatthour in 2001, 2006 prices represent a 12 percent increase in nominal terms (no increase when adjusted for inflation). Prices are expected to increase between 2006 and 2025 in nominal terms, but decrease when adjusted for inflation. Expenditures per household for electricity are expected to increase from $919 in 2001 to $1031 in 2006, which in percentage terms is much less than in the oil or natural gas markets, again due to the long term nature of the supply contracts in this industry.

Price Volatility. While energy prices and expenditures have generally increased since 2001, they have also exhibited considerable volatility over this period. These price movements have caused changes in expenditure estimates as changes in prices generally outweigh changes in other factors such as weather variations and efficiency improvements, which change very slowly over time.

Energy Use and Expenditures by the Elderly

Household Energy Use and Expenditures. Effects on the elderly can be difficult to isolate, because the elderly live in a variety of housing arrangements. Many live alone, or with elderly or non-elderly partners. Some live in extended family households, either with primary responsibility for energy costs or in situations where they are in the care of younger household members, and may have only partial or no responsibility for energy costs. Still others live in institutional or retirement facility settings where they may pay directly for energy or it may be included in their housing payment to the facility.

Table 2 shows the average energy use and expenditures for households with various configurations of elderly and non-elderly members (data are from EIA's 2001 Residential Energy Consumption Survey). The table shows that households consisting totally of elderly members use about as much energy as other households after accounting for the number of household members. The elderly use less energy per household because more of them live alone and live in smaller homes. There seems to be

a floor of about $1,000 of energy expenditures as of 2001 and $1,200 using 2005 energy prices, for even the least energy-consuming households.

Transportation Energy Use and Expenditures. Regardless of the living arrangements of the elderly, they still have transportation requirements of some type. **Table 3** shows that, in contrast to household expenditures, the relative gap between transportation use by the elderly and by other types of households is quite large even after considering differences in household composition. The elderly drive quite a bit less than younger households; although when there are two or more elderly persons in a totally elderly household they tend to have two cars and drive almost twice as many miles a one-person elderly household.

Energy Expenditures. The amount of energy expenditures is meaningful in itself, but it is also useful to examine those expenditures relative to household income. **Tables 4 and 5** show average household and vehicle energy expenditures for the categories of household age distribution and broad income categories. Once again there appears to be a floor of $1,000 per household for household energy expenditures regardless of income, even as of 2001. Applying the generally higher 2005 energy prices to 2001 consumption levels, since 2005 consumption date are not available, results in somewhat higher expenditures. But the burden falls most heavily on the lowest-income households, which are relatively more prevalent for the elderly than for the rest of the population. For households with $15,000 or lower household income, an annual energy bill exceeding $1,100 is relatively

greater than a $2,000 annual energy bill for households with income greater than $50,000.

Table 5 shows comparable information for transportation expenditures. The number of households is slightly different and the income breakdowns are much more detailed because the survey on which the data are based, the Department of Transportation's National Household Travel Survey, covers a slightly different time period (extending into 2002) and has a much larger sample size with which to work. However, the results are somewhat parallel to those for household expenditures. Elderly households use their vehicles less than other households, and for any type of household composition, lower-income households drive less. Even so, low-income elderly households spend several hundred dollars per year on vehicle fuel, and, because gasoline prices have increased recently much more than household energy prices, the difference between 2001 consumption at that year's prices and the same consumption at today's prices is relatively much larger than the increase in household energy costs.

To the extent that energy consumption for both household and transportation use is different now from what it was in 2001, the annual energy bill will also be different. But, adding household and transportation energy costs together, many low-income households, including low income elderly, are now spending 10 to 20 percent of their income on energy.

This concludes my testimony Mr. Chairman. I would be glad to respond to any questions you may have.

Table 2. Household Energy Characteristics by Household Composition

Household Characteristics	Single-Person Households		Multiple-Person Households		
	65+	Under 65	All members 65+	Some Members 65+	No Members 65+
Number of households (millions)	11.7	16.4	7.8	8.2	62.9
Percentage of households that are single family dwelling	48	41	72	73	62
Average floorspace per household	1550	1449	2258	2417	2255
Average consumption per household	67	65	96	111	101
Average dollars per household (2001 prices)	1039	1064	1473	1802	1652
Average dollars per household (2005 prices)	1218	1236	1730	2104	1908

Notes: Consumption values in million British thermal units (Btu).
Source: 2001 Residential Energy Consumption Survey, Energy Information Administration

Table 3. Transportation Characteristics by Household Composition

Transportation Characteristics	Single-Person Households		Multiple-Person Households		
	65+	Under 65	All members 65+	Some Members 65+	No Members 65+
Vehicles per household	1.1	1.2	1.8	2.2	2.2
Vehicle Miles per household	7606	13516	14486	23368	28633
Gallons per household	377	650	753	1188	1410
Average dollars per household (2001 prices)	501	863	996	1588	1874
Average dollars per household (2005 prices)	792	1365	1581	2495	2961

Sources: 2001 National Household Travel Survey, EIA gasoline price series, and the EPA Fuel Economy Ratings to derive vehicle energy consumption and expenditures.

Table 4. Household Energy Expenditures for 2001 Energy Use by Household Composition and Income

Household Composition and Income	Number of Households (million)	Average floorspace (square feet)	Household Energy Dollars per Household	
			Using 2001 Prices	Using 2005 Prices
All Members 65+				
Less than $15,000	6.9	1303	948	1117
$15,000 - $29,999	6.0	1805	1281	1507
$30,000 - $49,999	4.0	2232	1337	1571
$50,000 +	2.6	2686	1558	1810
Some Members 65+				
Less than $15,000	1.1	1542	1477	1717
$15,000 - $29,999	2.1	1822	1536	1804
$30,000 - $49,999	2.2	2524	1879	2212
$50,000 +	2.7	3176	2089	2417
No Members 65+				
Less than $15,000	10.6	1208	1113	1280
$15,000 - $29,999	14.8	1471	1282	1488
$30,000 - $49,999	20.9	1865	1434	1659
$50,000 +	33.0	2788	1837	2122

Source: 2001 Residential Energy Consumption Survey, Energy Information Administration.

Table 5. Transportation Energy Expenditures by Household Composition and Income

Household Composition and Income	Average Vehicle Miles (thousand)	Transportation Energy Dollars/HH	
		Using 2001 Prices	Using 2005 Prices
All Members 65+			
Less than $5,000	8.6	$589	$865
$5,000 -$9,999	6.7	$448	$658
$10,000 - $14,999	7.9	$513	$754
$15,000 - $19,999	8.7	$593	$870
$20,000 - $24,999	9.5	$637	$936
$25,000 - $34,999	11.6	$788	$1,158
$35,000 - $49,999	13.5	$920	$1,351
$50,000 - $74,999	14.8	$1,024	$1,504
$75,000 or more	16.5	$1,094	$1,607
Some Members 65+			
Less than $5,000	11.6	$798	$1,171
$5,000 -$9,999	17.2	$1,152	$1,692
$10,000 - $14,999	17.6	$1,371	$2,013
$15,000 - $19,999	20.3	$1,458	$2,141
$20,000 - $24,999	19.9	$1,307	$1,920
$25,000 - $34,999	20.8	$1,413	$2,076
$35,000 - $49,999	25.1	$1,654	$2,429
$50,000 - $74,999	26.8	$1,906	$2,800
$75,000 or more	32.0	$2,057	$3,021
No Members 65+			
Less than $5,000	14.9	$886	$1,300
$5,000 -$9,999	16.7	$1,038	$1,524
$10,000 - $14,999	15.3	$949	$1,393
$15,000 - $19,999	19.6	$1,208	$1,774
$20,000 - $24,999	18.4	$1,163	$1,708
$25,000 - $34,999	21.3	$1,353	$1,986
$35,000 - $49,999	25.6	$1,674	$2,458
$50,000 - $74,999	29.4	$1,925	$2,827
$75,000 or more	31.7	$2,116	$3,108

Sources: 2001 National Household Travel Survey, EIA energy price series, and the EPA Fuel Economy Ratings to derive vehicle energy consumption and expenditures.