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Residential Energy
Consumption Survey:

Housing Characteristics 1982

Energy Information Administration
Washington, D.C.

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Inside Cover

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Summary of Findings

Introduction

This report presents data collected in the 1982 Residential Energy Consumption Survey (RECS), the fifth national survey of households and their fuel suppliers conducted by the Energy Information Administration. These surveys have been designed to provide timely information on how energy is used by households living in all types of housing units, including single-family homes, apartments, and mobile homes. Data from the surveys are available to the public through published reports such as this one and through public-use data tapes.[1]

Data in this report cover fuels and their use in the home, appliances, square footage of floor space, heating equipment, thermal characteristics of the housing unit, conservation activities, wood consumption, indoor temperatures, and weather. The 1982 survey included a number of questions on the reasons households make energy conservation improvements to their homes. Results of these questions are presented in the summary that follows. The following discussion also highlights data pertaining to these topics: trends in home heating fuels, trends in conservation improvements, and characteristics of households whose energy costs are included in their rent.

Main Heating Fuel

Between 1978 and 1982, the most dramatic changes in residential use of fuels for heating have been a decline in the number of homes heated by fuel oil or kerosene and, on a smaller scale, an increase in the number of homes heated with wood. Between 1981 and 1982, no significant changes in fuel shares occurred. (See Figure 1). The proportion of homes heated mainly by wood in 1982 (6.7 ±1.1 percent)[2] may indicate a slowing down in the rate of growth in the use of wood as a main heating fuel after persistent increases from 1979 to 1981.

Natural gas was the main heating fuel for 56.7(±3.0) percent of all homes in 1982. The percentage of homes heated mainly by electricity was 17.1 (±2.0) in 1981 and 16.0 (±1.8) in 1982. The apparent decline is more likely to be a result of sampling error than a real change in the housing stock for two reasons. First, a near majority of homes built after 1975 are heated by electricity (Table 20). This influx of new homes heated by electricity would add to the total number of electrically heated homes. There is, furthermore, no evidence in recent RECS that electricity has suffered a net loss of homes from fuel switching, a phenomenon more related to fuel oil than to electricity.[3]

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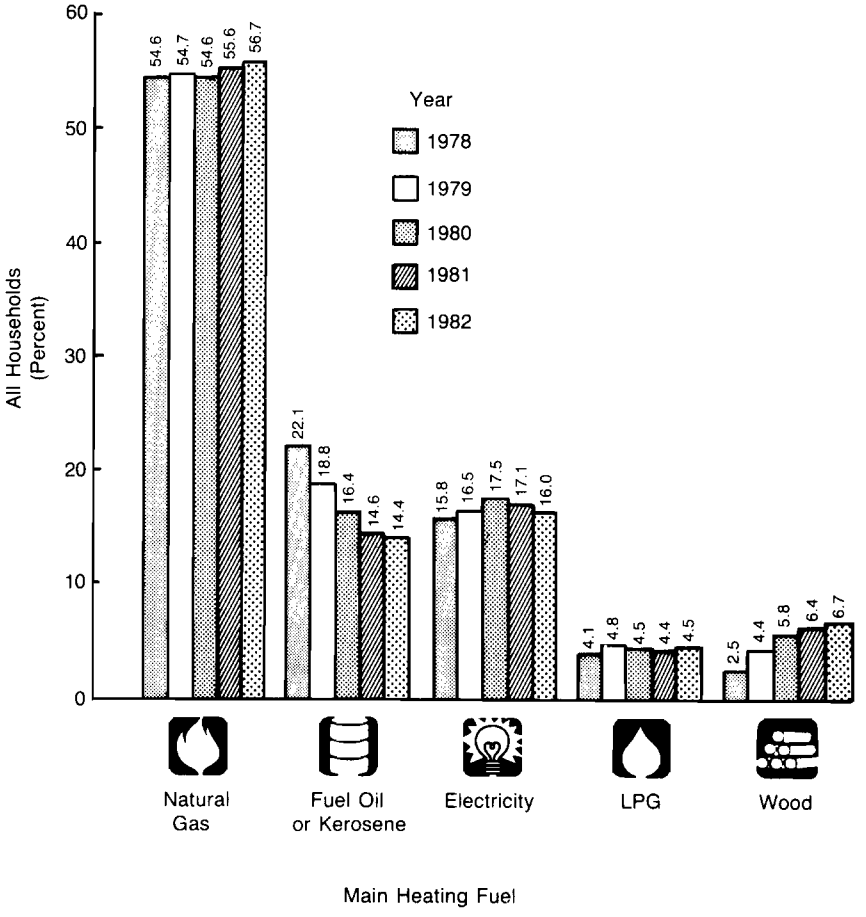
[1] Reports are available from the National Energy Information Center or U. S. Government Printing Office (see inside front cover). Public-use data tapes are available from the National Technical Information Service, Computer Products Division, 5285 Port Royal Road, Springfield, Virginia 22161 (Telephone: 703-487-4808).

[2] The ± value after a statistic quoted in the text represents two standard errors of the statistic. The standard error is a measure of the variability of an estimate that is based on a sample survey. For further explanation of standard errors, see Appendix C "Limitations of the Data."

[3] The net change of homes switching from electricity and those switching to electricity was zero from 1979 to 1981. See Figure 2, Residential Energy Consumption Survey: Housing Characteristics, 1981, DOE/EIA-0314(81).

Summary of Findings (Continued)

Figure 1. Distribution of All Households by Main Heating Fuel by Year, 1978-1982 (Percent)



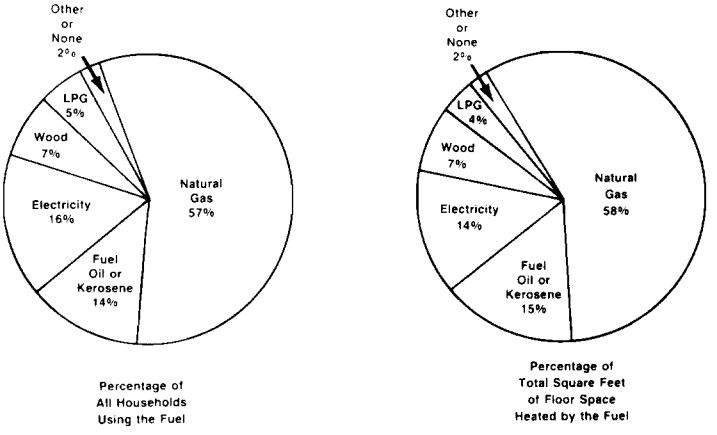
Sources: Energy Information Administration, 1978 through 1982 Residential Energy Consumption Surveys. See Table 10 for 1982 data.

Summary of Findings (Continued)

Electricity replaced fuel oil and kerosene as the second-most-used heating fuel in 1980 and still maintains its lead, but the difference was narrower in 1982 than in 1981. The use of liquefied petroleum gas (LPG) as a main heating fuel continues unchanged from 1978 to 1982. The use of LPG is keeping up with the growth in households, and LPG is neither gaining nor losing its share of the market.

Heating Fuels and Floor Area. The Residential Energy Consumption Survey includes data on the size of housing units. Data are collected by the interviewers, who measure the dimensions of the home and indicate which areas are heated and which are not heated. Using these data, one can estimate the home area that is heated by each fuel. Natural gas is the predominant heating fuel, whether judged by the percentage of homes using it (56.7 ±3.0 percent) or the percentage of floor space heated by it (58.0 ±3.7 percent) (Figure 2). Fuel oil or kerosene heated 14.4 (±1.5) percent of all homes and 15.0 (±1.9) percent of all residential heated floor area. Electricity heated 16.0 (±1.8) percent of all homes and 14.3 (±1.7) percent of residential space.

Figure 2. U.S. Residential Main Heating Fuels in 1982: Percentage of All Households Using the Fuel and Percentage of Total Square Feet of Floor Space Heated by the Fuel



Source: Table 14. Energy Information Administration, 1982 Residential Energy Consumption Survey.

The differences between heating fuels shown in Figure 2 reflect the fact that homes heated by fuel oil are larger than those heated by electricity. The average size of homes heated by fuel oil is 1,533 (±94) square feet versus 1,294 (±74) square feet for homes heated by electricity. (Table 13). (When kerosene-heated homes are added to fuel oil-heated homes, the average size of fuel oil-heated homes is reduced because homes using kerosene as the main heating fuel are about one-third smaller than are fuel oil-heated homes.) Homes heated by LPG, like electric homes, are also smaller than average, measuring 1,247 (±119) square feet. The average home that is heated mainly by natural gas is 1,483 (±51) square feet in size.

Trends from 1980 through 1982 in fuels used for home heating are generally similar whether one looks at the proportion of homes heating with a particular fuel (Figure 1) or at the proportion of the total area of all U.S. homes heated by a fuel (Table S1). The differences from 1981 to 1982 are small; sampling error could be responsible.

Summary of Findings (Continued)

Table S1. Percentage of Total Heated Square Footage of U.S. Homes Heated Mainly by Natural Gas, Electricity, Fuel Oil or Kerosene, LPG, or Wood, 1980 - 1982

Year	Natural Gas	Electricity	Fuel Oil or Kerosene	Wood	LPG
1980	55.8	16.0	17.2	6.5	3.7
1981	58.1	14.6	15.5	6.5	3.9
1982	58.0	14.3	15.0	7.4	3.9

Source: Table 12 for 1982 data. Energy Information Administration, 1980, 1981, and 1982 Residential Energy Consumption Surveys.

As indicated in Table S2, the number of households continues to increase each year; however, there is no corresponding increase in residential floor area. From 1980 through 1982, the number of households increased by 2.2 million, but the total residential floor area did not increase. The decreases shown in Table S2 are not statistically significant and may reflect, to some extent, changes in procedures for calculating the floor area.

Table S2. Square Footage of U.S. Housing Units, 1980 - 1982

Year	Number of Housing Units (millions)	Heated Area Only		Heated and Unheated Areas	
		Total Square Footage (billions)	Average Square Feet per Housing Unit	Total Square Footage (billion)	Average Square Feet per Housing Unit
1980	81.6	122.4	1,499	145.2	1,745
1981	83.1	123.2	1,482	144.2	1,734
1982	83.8	121.4	1,449	142.2	1,698

Source: Table 12 for 1982 data. Energy Information Administration, 1980, 1981, and 1982 Residential Energy Consumption Surveys.

Fuel Oil/Kerosene. These two fuels are sometimes listed together in tables that appear in this report and in other RECS reports. As its use in households continues to increase, kerosene will be given separate status. Both fuels are distillate byproducts of petroleum, but their similarity ends there. They are not usually interchangeable in equipment that uses one of the fuels. Kerosene is often purchased in small quantities on a "cash and carry" basis, is used more often in the South than in other areas, and is used as a main heating fuel in small homes (1,089 ±205 square feet of heated area, on average). Fuel oil, on the other hand, is delivered in large quantities (usually by truck), is used as a main heating fuel in large homes (1,533 ±94 square feet of heated area, on average), and is used predominantly in the Northeast. Another difference between these fuels is in their use for secondary heating. Fuel oil is used as a secondary heating fuel primarily in homes heated by wood, whereas kerosene is used as a secondary heating fuel in homes heated by natural gas or by electricity (Table 15).

Summary of Findings (Continued)

The increasing use of kerosene as a secondary heating fuel is shown in Table S3. In 1978, when the first data were available from the RECS, the number of homes using kerosene as a secondary fuel was only 170,000; by 1982, this number had increased to 2.7 (±0.6) million homes.

The 1982 figure is more than double the number in 1981. A small part of the increase in 1982 is a result of changes in the questionnaire that improved the coverage of all heating equipment used in the house. Five (±1) percent of U.S. homes have three or more types of heating equipment that were not counted in previous RECS, and some of these heating units reported in 1982 were portable kerosene heaters.

Table S3. U.S. Households Using Fuel Oil or Kerosene for Main Heating Fuel, Secondary Heating Fuel, or for Any Use, and the Price of Fuel Oil and Kerosene, 1978 - 1982 (Million Households, Unless Otherwise Noted)

	Fuel Oil			Kerosene			
Year	Main Heat	Secondary Heat	Any Use	Main Heat	Secondary Heat	Any Use	Price of Fuel Oil and Kerosene (dollars per gallon)
1978	15.47	0.25	15.63	1.45	0.17	1.57	0.55
1979	13.48	1.00	14.60	1.11	0.32	1.45	0.87
1980	12.56	1.38	14.16	0.81	0.53	1.36	1.11
1981	11.32	1.59	13.00	0.85	1.14	2.00	1.23
1982	11.30	1.52	12.94	0.75	2.74	3.35	1.17

Source: Energy Information Administration, 1978 through 1982 Residential Energy Consumption Surveys.

Table S3 also shows that the use of fuel oil as a secondary heating fuel was increasing at the same time that its use as a main fuel was decreasing. These two trends are probably related. Some households that used fuel oil as a main heating fuel and that switched to another fuel began using fuel oil as a backup or secondary system.

Summary of Findings (Continued)

Conservation Improvements

Since 1978, the Residential Energy Consumption Surveys have collected data on households' conservation improvements. Most of the improvements covered in the surveys qualify for residential tax credits. They are improvements in equipment designed to increase the efficiency of energy use in the home, assuming the equipment is properly installed and maintained. The following section describes some of the findings related to these improvements.

The most popular improvements to single-family homes have been the least expensive ones, such as caulking and weatherstripping (Table S4).

Table S4. Single-Family Homes Making Conservation Improvements, 1978 - 1982 (Percent)

Conservation Improvements	1978	1979	1980	1981	1982
Caulking	18.6	(a)	19.1	10.8	10.7
Weatherstripping	7.6	(a)	13.6	6.1	5.8
Closeable Shutters, Reflective Film, Plastic Coverings, or Insulating Drapes[b]	8.3	(a)	9.6	4.3	5.0
Roof/Ceiling Insulation	5.1	5.8	6.1	3.9	2.6
Storm Doors	4.4	6.3[c]	5.8	4.0	3.8
Storm Windows	4.3	(c)	4.3	3.1	3.0
Wall Insulation	2.6	2.9	3.5	2.3	1.7
Basement/Crawl Space Insulation	2.1	(a)	1.6	0.9	0.9
Hot Water Pipe Insulation	1.6	(a)	2.4	1.5	1.6
Water Heater Insulation	0.7	(a)	2.5	2.3	2.3
Automatic Set-back Thermostat	1.4	(a)	2.0	1.7	0.7
Heat Pump	0.1	(a)	0.3	0.2	0.3

[a] Not asked.
[b] This category did not include film or drapes in 1978 or film in 1980.
[c] Storm doors and storm windows were combined into one category in the 1979 survey.

Note: The 1979 Screener Survey collected very limited data on conservation improvements.

Source: Energy Information Administration, 1978 through 1982 Residential Energy Consumption Surveys.

Summary of Findings (Continued)

From 10 (±2) to 20 (±2) percent of all single-family homes added caulking in recent years, and from 6 (±1) to 14 (±1) percent added weatherstripping. Caulking and weatherstripping are used to reduce the amount of air (cold air in winter and warm air in summer) that enters the house through cracks and open spaces around doors and windows. Other popular items are window or door coverings, such as closeable shutters, reflective film, plastic coverings, and insulating drapes. Plastic coverings probably account for the popularity of this group (Table 31).

Shutters, plastic sheets, and drapes act as insulators by creating air spaces next to the glass. They may also reduce drafts caused by cool air. Reflective film is a different type of insulator. It reflects the sun's heat away from the glass in the summer. Some reflective film allows the winter sun to enter, thus capturing the sun's heat, but repels the summer sun.

The more expensive items that were most often installed included storm doors, roof or ceiling insulation, storm windows, and wall insulation. These items were installed at a rate of 2 (±1) to 6 (±1) percent per year during 1978 and from 1980 through 1982.

Basement or crawl space insulation and automatic set-back thermostats are among the less popular conservation improvements. Many homes achieve some of the energy savings that result from use of an automatic set-back thermostat by manually turning their thermostats down at night or by turning off their heat (59.2 ±3.6 percent) (Table 36). Other inexpensive improvements, such as insulation for hot water pipes and water heater insulation, have been installed by relatively few households--less than 3 percent per year.

Trends. The general pattern of activity points to a high level in 1980 and a low level in 1982. For most improvements, 1980 was the year when the greatest activity occurred, and from this high point in 1980, activity appears to have fallen off by 1982. For example, roof and ceiling insulation was installed in 6.1 (±1.0) percent of all single-family homes in 1980; in 1982, the figure was 2.6 (±0.9) percent.

One might expect some improvement in the thermal quality of the housing stock as a result of these conservation improvements. The quality also improves when new homes are added to the housing stock because they are usually better insulated than older homes. Table S5 shows some slight increase in the proportion of homes with roof or ceiling insulation and with storm windows during the period from 1978 to 1982; however, there is no noticeable change in the proportion of homes with wall insulation or storm doors.

Table S5. Single-Family Homes with Selected Types of Insulation 1978 and 1980 - 1982 (Percent)

Type of Insulation	1978	1980	1981	1982
Roof/Ceiling Insulation				
Yes	75.6	76.8	77.6	79.0
No	17.2	14.5	13.8	13.3
Unknown	7.2	8.7	8.6	7.7
Wall Insulation				
Yes	53.2	64.4	61.4	61.2
All Walls	NA	52.6	51.3	50.7
Some Walls	NA	11.8	10.1	10.6
No	28.7	20.5	21.6	22.2
Unknown	18.1	15.1	17.0	16.6
Storm Doors				
All Doors Covered	39.4	38.4	38.4	39.6
Some Doors Covered	30.1	29.6	29.5	29.0
No Doors Covered	30.5	32.1	32.1	31.4
Storm Windows				
All Windows Covered	41.5	41.5	43.9	45.6
Some Windows Covered	21.5	21.5	19.2	18.3
No Windows Covered	37.0	37.1	36.9	35.9

NA = not asked.
Note: For 1979, not asked.

Source: Energy Information Administration, 1978 through 1982 Residential Energy Consumption Surveys.

Activity in Fuel Oil-Heated Homes. Making conservation improvements is one way to combat rising energy prices. Homes heating with fuel oil during this period were subject to a doubling in fuel prices within the 3-year period from 1978 through 1980 (Table S3). Fuel oil homes switched to natural gas or wood and were also active in improving the thermal quality of their homes. Compared with homes using natural gas, fuel oil-heated homes were particularly more active in installing caulking, weatherstripping, and storm windows (Table S6).

Fuel oil-heated homes were more active than natural gas-heated homes despite the fact that their homes were already better insulated. Fuel oil-heated homes are usually older, however, and may, therefore, require more maintenance of their thermal quality. There is some evidence that it was the fuel oil homes in the warmer parts of the country that were more active in making improvements than the natural gas-heated homes.

Table S6. Single-Family Homes Heated Mainly by Fuel Oil or Kerosene or Natural Gas and Making Conservation Improvements, 1978 and 1980 - 1982 (Percent)

Conservation Improvement and Year Installed	Fuel Oil or Kerosene Heated Homes	Natural Gas Heated Homes	Difference
Weatherstripping			
1978	8.9	7.3	1.6
1980	17.3	13.3	4.0
1981	10.5	6.0	4.5
1982	6.3	6.2	0.1
Caulking			
1978	21.1	18.5	2.6
1980	22.8	19.2	3.6
1981	13.1	11.7	1.4
1982	9.9	11.1	-1.2
Roof or Ceiling Insulation			
1978	4.8	4.5	0.3
1980	6.4	5.5	0.9
1981	3.5	4.3	-0.8
1982	2.9	2.8	0.1
Storm Windows			
1978	4.9	4.0	0.9
1980	6.0	3.8	2.2
1981	3.5	3.1	0.4
1982	6.9	2.5	4.4

Source: Energy Information Administration, 1978, 1980, 1981, and 1982 Residential Energy Consumption Surveys.

Reasons for Making Conservation Improvements. In the 1982 RECS, households were shown a list of reasons for making conservation improvements and were asked to pick from the list those that were most important in helping them decide to make the improvements. The list of reasons is:

1. For comfort
2. To save heating and/or cooling costs
3. To take the cost as a credit on income tax return
4. To take advantage of government money or low-cost government loans for improvements
5. Did this because we were doing other home improvements at same time
6. Recommended by friend or relative
7. Recommended by professional energy advisor (energy auditor or expert)
8. Heard or read about benefits (on radio or TV, magazine or newspaper)
9. Replacement of broken or defective item
10. Other reason.

Queries were made separately for each improvement the home had made. The results are presented in Table 42.

Almost without exception, the most frequent reason for making an energy conservation improvement in the home was to save money. From 45 (±14) to 86 (±4) percent of the households said this was an important reason for making the improvement. Saving money was least often the reason given when replacing a broken or defective item such as electrical or mechanical furnace ignition, flame retention head burner, and automatic set-back thermostat.

The second most frequent reason for installing energy conservation measures was "for comfort," and the items most often installed for this reason were those mostly likely to control drafts or floor temperature, such as plastic coverings; insulating glass for sliding glass doors; closeable shutters, reflective film, and insulating drapes; insulation in basement or crawl space; and wall insulation.

Replacing a broken or defective item and the opportunity afforded while making other home repairs were the reasons next most frequently mentioned. Replacement was the reason given for installing a flame retention head burner and a pilotless ignition system. Fewer households reported replacement was the reason for installing an automatic set-back thermostat, hinged storm doors, automatic flue damper, or storm windows. Making other repairs was a reason (or occasion) for adding insulation in the roof, ceiling, walls, or floors or for adding storm windows and storm doors.

The other reasons (3,4,6,7,8 above) seem to play a minor role in promoting energy conservation improvements, judging by the reports of households in this survey. The following paragraphs discuss two reasons associated with government programs designed to encourage conservation, namely, the tax credit and the energy audit.

The residential energy tax credit is offered for many of the conservation improvements listed in Table 42. Taking a tax credit was cited as an important reason for making the improvement by 2 (±2) to 16 (±10) percent of households, depending on the particular improvement. These households represent from one-third to one-half of the total number of households claiming an energy tax credit on their income tax returns.[4] The RECS data do not allow an evaluation of whether the tax credit was a factor in decisions to make conservation improvements for those households that did not list it as an important reason.

The other reason deserving some discussion is the one about recommendations of an energy advisor. A number of energy audit programs are available from households' fuel suppliers. The programs range from mail audits to personal home inspections by trained technicians. Many of these programs were spawned by the Residential Energy Conservation Service, a program requiring certain large utility companies to provide their customers with information about what conservation improvements would have the best payback incentive. The energy audit was given by 1 (±0.3) to 15 (±10) percent of the households as an important reason for undertaking conservation measures. Only a small percentage of homes have had an energy audit,

[4] For figures on tax credits claimed on 1981 income tax returns, see Internal Revenue Service, Statistics of Income--1981, Individual Income Tax Returns (Washington, D.C., U.S. Government Printing Office, 1983).

so only a small percentage could be expected to give this as a reason. The following table shows that when those households that never had a home energy audit are eliminated, the proportion citing the audit as important increases to 21 (±12) percent for those adding insulation. As with tax credits, the RECS data do not allow an evaluation of whether the energy audit was a factor in decisions to make conservation improvements for those households that did not cite the energy audit as an important reason.

Percentage of Single-Family or Mobile Homes Making Improvements Because They Were Recommended in Energy Audit

Storm Doors or Windows	10 (±9)
Roof, Wall, Floor Insulation	21 (±12)
Other Conservation Improvements	14 (±6)
Equipment Change (Heating System, Water Heater, Air Conditioning)	16 (±11)

Reasons for Making Equipment Changes. The reasons for making changes in heating systems, the water heater, or central air conditioning were related to whether the equipment was a replacement or an addition and whether the new equipment used the same fuel. For equipment using a different fuel, the predominant reason behind the change was to save money. This was true for a replacement or additional heating system and for a replacement water heater (Table 42). In situations in which the new equipment used the same fuel as the main equipment or the same fuel as the equipment it replaced, the primary reason for the change was comfort. Households were less concerned with comfort or saving money when there were changes in equipment for heating, water heating, or central air conditioning in which a broken or defective unit was replaced that used the same fuel.

Energy Costs Included in the Rent

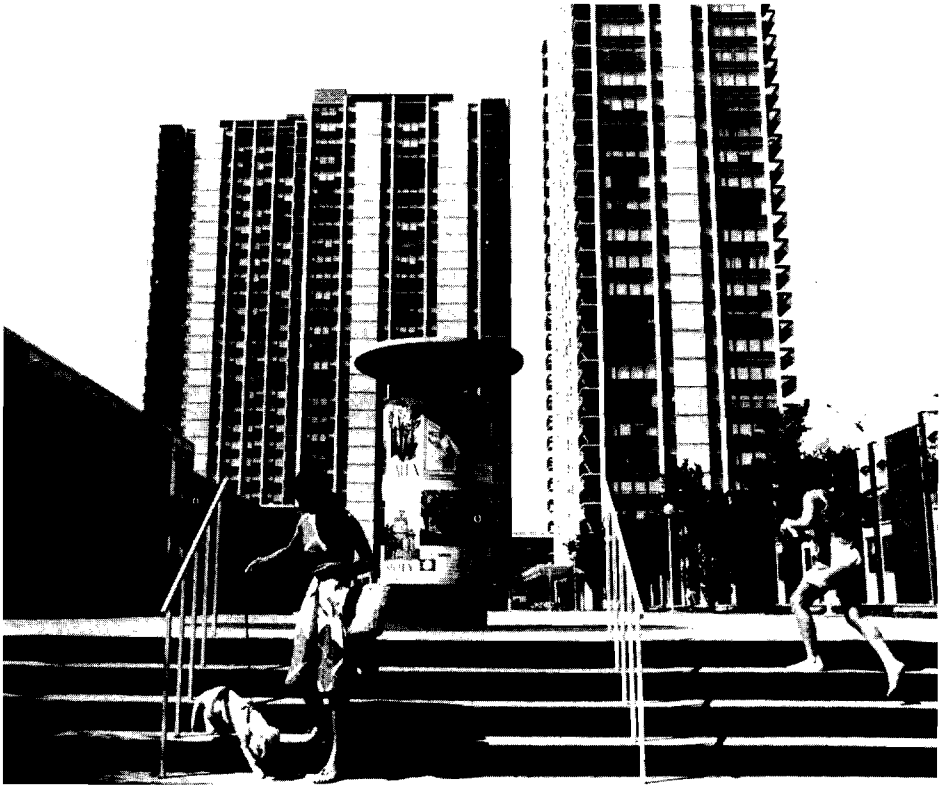
One barrier to the free operation of market forces in residential energy use is the indirect link between some households and the cost of the energy they use. This indirect link occurs for households whose energy costs are included in the rent; such households do not feel the immediate effect of energy price increases or reduced energy consumption, since their rent does not usually vary from month to month. This group, a minority of all households numbering 15.2 (±1.7) percent or 12.7 (±1.4) million households, have the cost for one or more fuels included in their rent. (A smaller number of households, 4.9 (±0.9) million, have all their fuel costs included in the rent.)

Other characteristics of this group mark even further their indirect link to the costs of energy. Although a majority have thermostats to control the temperature in their home, 43 (±5) percent do not have thermostats and must resort to less desirable methods of regulating the indoor temperature such as opening or closing doors or windows. Other methods that are not as wasteful of energy use include manually turning heaters up or down or turning radiators on or off. A second characteristic is that a majority live in buildings with a central space heating and water heating system for the building (Figure 3). With a central system for a building, special devices are required to measure how much water or heat each of the serviced households is using, further decreasing the likelihood of directly linking the household with the energy it uses.

The amount of energy used by households that pay for their fuels in their rent would be affected by their location in the North (61 ±5 percent), the coldest part of the country. Offsetting the location is their small size--most are apartments. The average size is 823 (±48)

Summary of Findings (Continued)

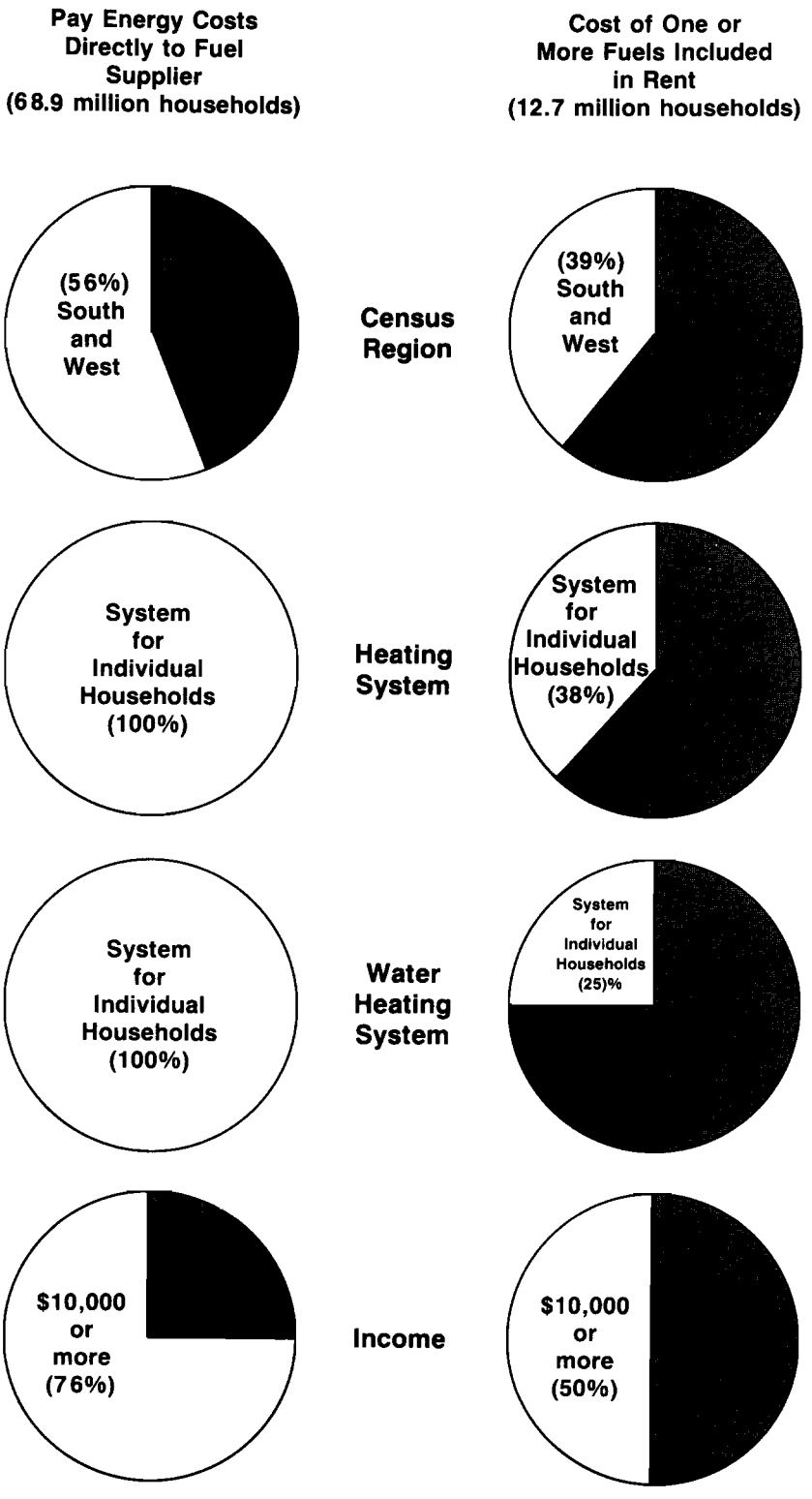
square feet, considerably smaller than the average home (1,449 ±40 square feet). This group of households is also distinguished by the greater proportion of low-income families that live under these conditions. One-half of the households who pay for one or more of their fuels through their rent earned less than $10,000 in 1981.



Most households that pay for their fuels in their rent are apartments.

Summary of Findings (Continued)

Figure 3. Characteristics of Households Having the Cost of One or More Fuels Included in the Rent, 1982



Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Housing Characteristics by Census Region and Area Type

Table 1. Housing Characteristics by Census Region and Area Type, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	METROPOLITAN			NON-METROPOLITAN
						TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	83.8	18.0	21.3	28.1	16.5	63.2	29.4	33.8	20.6
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE									
<2,000 CDD AND >7,000 HDD	8.5	1.6	5.5	-	1.4	3.8	1.9	1.9	4.7
<2,000 CDD AND 5,500 TO 7,000 HDD	21.0	8.0	11.5	-	1.5	17.4	7.3	10.1	3.7
<2,000 CDD AND 4,000 TO 5,499 HDD	22.1	8.3	4.3	6.4	3.0	17.2	7.5	9.7	4.9
<2,000 CDD AND <4,000 HDD	19.6	-	-	10.4	9.2	15.3	7.8	7.5	4.3
>2,000 CDD AND <4,000 HDD	12.6	-	-	11.3	1.3	9.6	4.9	4.7	3.0
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE									
LESS THAN 600 SQUARE FEET	7.8	2.0	1.2	2.6	1.9	5.9	4.0	1.9	1.9
600 TO 999 SQUARE FEET	22.5	4.0	5.6	7.9	5.0	16.9	9.0	7.9	5.6
1,000 TO 1,599 SQUARE FEET	25.1	4.5	5.5	9.9	5.2	18.5	8.3	10.2	6.6
1,600 TO 1,999 SQUARE FEET	10.5	2.6	2.7	3.4	1.9	8.0	3.2	4.8	2.5
2,000 TO 2,399 SQUARE FEET	7.2	1.9	2.5	1.8	1.1	5.5	1.9	3.6	1.7
2,400 TO 2,999 SQUARE FEET	6.1	1.5	2.2	1.5	.9	4.9	1.7	3.2	1.2
3,000 OR MORE SQUARE FEET	4.5	1.4	1.6	1.0	.5	3.5	1.3	2.3	1.0
HOW UTILITIES ARE PAID									
ALL PAID BY HOUSEHOLD	68.9	12.7	17.5	24.7	14.0	50.4	21.1	29.3	18.6
SOME PAID, SOME IN RENT	7.8	2.9	2.5	1.1	1.3	6.9	4.4	2.5	.9
ALL INCLUDED IN RENT	4.9	1.5	.9	1.8	.7	4.1	2.9	1.1	.8
OTHER	2.1	.9	.3	.5	.4	1.9	.9	.9	.3
OWN/RENT									
OWN	53.9	11.3	14.3	18.5	9.9	38.8	15.0	23.8	15.2
RENT	29.8	6.7	7.0	9.6	6.6	24.4	14.4	10.0	5.4
HOUSING STRUCTURE BY OWNERSHIP									
SINGLE-FAMILY DETACHED	53.8	8.7	14.4	20.5	10.2	37.8	14.2	23.5	16.0
OWN	45.1	8.0	12.8	16.5	7.8	31.8	11.3	20.4	13.3
RENT	8.7	.7	1.6	4.0	2.4	6.0	2.9	3.1	2.7
SINGLE-FAMILY ATTACHED	3.9	1.9	.6	.4	.9	3.7	2.1	1.5	.2
OWN	2.7	1.5	.3	.3	.6	2.5	1.6	.9	.2
RENT	1.1	.4	.3	.1	.3	1.1	.5	.6	Q
BUILDING WITH 2 TO 4 UNITS	10.1	3.5	2.5	2.4	1.7	8.7	5.1	3.6	1.5
OWN	2.1	1.1	.5	.3	.2	2.1	1.1	1.0	.1
RENT	8.0	2.3	2.1	2.0	1.6	6.6	4.0	2.6	1.4
BUILDING WITH 5 OR MORE UNITS	12.2	3.5	3.1	3.0	2.7	11.4	7.6	3.8	.8
OWN	1.0	.3	.2	Q	.5	1.0	.7	.3	Q
RENT	11.3	3.2	2.9	3.0	2.2	10.5	7.0	3.5	.8
MOBILE HOME	3.7	.4	.7	1.8	.9	1.7	.3	1.4	2.1
OWN	3.0	.3	.6	1.4	.7	1.5	.3	1.2	1.5
RENT	.8	Q	.1	.4	.1	.2	Q	.2	.5
YEAR HOUSE BUILT									
1939 OR EARLIER	23.6	8.0	7.5	4.8	3.4	16.8	10.2	6.7	6.8
1940 TO 1949	7.0	1.4	1.8	2.9	.9	5.3	2.5	2.8	1.7
1950 TO 1959	13.4	3.1	2.5	4.8	2.9	10.8	4.9	6.0	2.5
1960 TO 1964	8.6	1.4	1.9	3.5	1.9	7.1	3.0	4.1	1.5
1965 TO 1969	8.1	1.0	1.9	3.7	1.6	6.1	2.5	3.6	2.0
1970 TO 1974	10.2	1.7	2.8	3.7	2.0	7.6	2.6	5.0	2.6
1975 TO 1979	10.0	1.3	2.6	3.5	2.6	7.1	2.9	4.2	2.8
1980 OR LATER	2.9	.2	.3	1.2	1.2	2.3	.9	1.4	.6
1981 FAMILY INCOME									
LESS THAN $5,000	9.4	2.0	2.1	3.9	1.3	6.2	4.4	1.8	3.1
$5,000 TO $9,999	13.8	2.7	3.8	4.5	2.7	9.8	5.1	4.7	3.9
$10,000 TO $14,999	13.0	2.6	3.4	4.5	2.5	9.2	4.2	5.0	3.8
$15,000 TO $19,999	9.2	2.0	2.5	3.0	1.7	6.8	3.6	3.2	2.4
$20,000 TO $24,999	10.6	2.5	2.8	3.1	2.2	8.1	3.6	4.5	2.5
$25,000 TO $34,999	15.2	3.2	3.7	5.2	3.1	12.2	4.6	7.6	3.0
$35,000 OR MORE	12.6	2.9	3.0	3.8	2.9	10.8	3.9	6.9	1.8

SEE FOOTNOTES AT END OF TABLE

Housing Characteristics by Census Region and Area Type

Table 1. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	METROPOLITAN			NON-METROPOLITAN
						TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
BELOW 100% OF POVERTY	12.1	2.3	2.8	5.1	1.9	8.2	5.5	2.7	3.9
BELOW 125% OF POVERTY.....	17.4	3.6	4.0	6.9	3.0	11.9	7.5	4.4	5.5
AGE OF HOUSEHOLDER									
UNDER 25 YEARS.....	6.7	1.1	1.7	2.4	1.5	5.1	3.3	1.9	1.6
25 TO 34 YEARS.....	19.4	3.7	4.8	6.4	4.5	15.1	6.9	8.2	4.3
35 TO 44 YEARS.....	14.8	3.3	3.9	5.1	2.4	11.6	4.8	6.9	3.2
45 TO 59 YEARS.....	19.3	4.2	4.9	6.5	3.7	14.2	6.7	7.5	5.0
60 YEARS AND OVER.....	23.6	5.6	6.0	7.7	4.3	17.1	7.8	9.3	6.5
ORIGIN OF HOUSEHOLDER									
WHITE.....	71.2	15.6	19.1	22.5	14.1	53.2	22.3	30.9	18.1
BLACK.....	10.5	2.1	2.1	5.3	1.0	8.4	6.2	2.2	2.1
OTHER.....	2.0	.2	.1	.2	1.4	1.6	.9	.7	.4
HISPANIC DESCENT									
YES.....	4.3	1.0	.5	1.2	1.5	3.8	2.4	1.4	.5
NO.....	79.5	16.9	20.8	26.9	15.0	59.5	27.0	32.4	20.1
HOUSEHOLD SIZE									
1 PERSON.....	19.3	4.4	4.7	6.1	4.0	14.7	8.2	6.5	4.5
2 PERSONS.....	26.3	5.0	7.0	8.6	5.7	19.7	9.0	10.7	6.5
3 PERSONS.....	13.6	2.8	3.3	5.1	2.3	10.2	4.7	5.6	3.4
4 PERSONS.....	14.2	3.4	3.3	4.9	2.7	10.7	3.8	6.8	3.6
5 PERSONS.....	6.2	1.5	1.8	2.0	.9	4.6	2.0	2.6	1.6
6 OR MORE PERSONS.....	4.2	.8	1.2	1.3	.9	3.3	1.8	1.5	1.0

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Census Region and Area Type

Table 2. Housing Characteristics by Census Region and Area Type, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE									
<2,000 CDD AND >7,000 HDD	10.2	9.0	25.8	-	8.3	6.0	6.4	5.6	22.9
<2,000 CDD AND 5,500 TO 7,000 HDD	25.1	44.7	53.8	-	9.4	27.5	24.8	29.8	17.8
<2,000 CDD AND 4,000 TO 5,499 HDD	26.4	46.3	20.4	22.8	18.5	27.2	25.7	28.6	23.8
<2,000 CDD AND <4,000 HDD	23.3	-	-	37.0	55.7	24.2	26.5	22.1	20.9
>2,000 CDD AND <4,000 HDD	15.0	-	-	40.2	8.1	15.2	16.6	13.9	14.6
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE									
LESS THAN 600 SQUARE FEET	9.3	11.4	5.8	9.4	11.3	9.4	13.6	5.7	9.1
600 TO 999 SQUARE FEET	26.9	22.2	26.3	28.3	30.4	26.8	30.7	23.4	27.2
1,000 TO 1,599 SQUARE FEET	30.0	25.2	25.6	35.2	31.8	29.3	28.3	30.0	32.1
1,600 TO 1,999 SQUARE FEET	12.6	14.5	12.5	12.1	11.3	12.7	10.8	14.3	12.2
2,000 TO 2,399 SQUARE FEET	8.6	10.4	11.6	6.5	6.5	8.7	6.5	10.6	8.5
2,400 TO 2,999 SQUARE FEET	7.3	8.3	10.5	5.2	5.5	7.7	5.8	9.3	6.0
3,000 OR MORE SQUARE FEET	5.4	8.0	7.5	3.4	3.2	5.6	4.3	6.7	4.9
HOW UTILITIES ARE PAID									
ALL PAID BY HOUSEHOLD	82.3	70.7	82.3	88.1	85.0	79.7	71.8	86.6	90.2
SOME PAID, SOME IN RENT	9.3	16.1	11.6	3.9	8.2	10.9	15.1	7.3	4.5
ALL INCLUDED IN RENT	5.8	8.2	4.4	6.3	4.3	6.4	9.9	3.4	4.0
OTHER	2.6	5.0	1.6	1.7	2.6	3.0	3.2	2.7	1.3
OWN/RENT									
OWN	64.4	62.8	67.3	65.9	59.8	61.4	50.9	70.5	73.6
RENT	35.6	37.2	32.7	34.1	40.2	38.6	49.1	29.5	26.4
HOUSING STRUCTURE BY OWNERSHIP									
SINGLE-FAMILY DETACHED	64.2	48.3	67.7	73.0	62.0	59.7	48.5	69.5	77.9
OWN	53.8	44.7	60.2	58.7	47.3	50.3	38.6	60.5	64.8
RENT	10.3	3.6	7.5	14.2	14.7	9.5	9.9	9.1	13.0
SINGLE-FAMILY ATTACHED	4.6	10.7	2.8	1.5	5.7	5.8	7.3	4.5	1.0
OWN	3.2	8.3	1.5	1.0	3.8	4.0	5.6	2.7	.8
RENT	1.4	2.4	1.3	.4	1.9	1.8	1.7	1.8	.2
BUILDING WITH 2 TO 4 UNITS	12.1	19.4	12.0	8.5	10.5	13.7	17.3	10.6	7.2
OWN	2.6	6.4	2.2	1.2	1.1	3.2	3.6	3.0	.5
RENT	9.6	13.0	9.7	7.2	9.4	10.5	13.7	7.6	6.8
BUILDING WITH 5 OR MORE UNITS	14.6	19.4	14.3	10.6	16.6	18.1	26.0	11.2	3.9
OWN	1.2	1.6	.7	Q	3.3	1.5	2.3	.9	.1
RENT	13.4	17.8	13.6	10.6	13.3	16.6	23.7	10.4	3.8
MOBILE HOME	4.5	2.1	3.2	6.5	5.2	2.7	1.0	4.1	10.0
OWN	3.6	1.8	2.6	4.9	4.3	2.3	.9	3.5	7.4
RENT	.9	.3	.6	1.6	.8	.4	.1	.6	2.6
YEAR HOUSE BUILT									
1939 OR EARLIER	28.2	44.4	35.1	17.1	20.5	26.6	34.6	19.7	33.1
1940 TO 1949	8.4	7.7	8.4	10.4	5.8	8.4	8.6	8.3	8.1
1950 TO 1959	15.9	17.3	11.8	17.1	17.9	17.1	16.6	17.6	12.3
1960 TO 1964	10.3	7.6	9.1	12.3	11.3	11.2	10.1	12.2	7.3
1965 TO 1969	9.6	5.4	8.8	13.1	9.4	9.7	8.5	10.6	9.6
1970 TO 1974	12.2	9.2	13.4	13.2	12.1	12.0	8.8	14.8	12.8
1975 TO 1979	11.9	7.2	12.0	12.4	16.0	11.3	9.8	12.5	13.8
1980 OR LATER	3.5	1.2	1.4	4.4	7.1	3.6	2.9	4.2	3.0
1981 FAMILY INCOME									
LESS THAN $5,000	11.2	11.1	10.0	14.0	8.0	9.9	14.9	5.4	15.2
$5,000 TO $9,999	16.4	15.1	17.9	16.1	16.7	15.6	17.4	14.0	19.1
$10,000 TO $14,999	15.5	14.8	15.9	16.0	15.0	14.6	14.2	14.9	18.3
$15,000 TO $19,999	11.0	11.1	11.8	10.7	10.4	10.7	12.2	9.4	11.8
$20,000 TO $24,999	12.7	14.1	13.0	11.0	13.3	12.8	12.2	13.4	12.1
$25,000 TO $34,999	18.2	17.8	17.3	18.6	18.9	19.3	15.6	22.6	14.6
$35,000 OR MORE	15.1	15.9	14.1	13.7	17.8	17.1	13.4	20.3	8.9

SEE FOOTNOTES AT END OF TABLE

Housing Characteristics by Census Region and Area Type

Table 2. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
BELOW 100% OF POVERTY	14.4	12.7	13.1	18.2	11.7	12.9	18.6	8.0	19.0
BELOW 125% OF POVERTY	20.8	19.9	18.7	24.5	18.3	18.9	25.6	13.0	26.7
AGE OF HOUSEHOLDER									
UNDER 25 YEARS	8.0	6.0	8.1	8.5	9.3	8.1	11.1	5.6	7.8
25 TO 34 YEARS	23.2	20.7	22.5	23.0	27.4	23.9	23.5	24.3	21.1
35 TO 44 YEARS	17.6	18.5	18.4	18.1	14.8	18.4	16.2	20.3	15.3
45 TO 59 YEARS	23.0	23.4	23.1	23.1	22.3	22.5	22.8	22.3	24.4
60 YEARS AND OVER	28.2	31.4	28.0	27.3	26.3	27.1	26.5	27.6	31.5
ORIGIN OF HOUSEHOLDER									
WHITE	85.0	86.8	89.6	80.2	85.4	84.1	75.7	91.4	87.8
BLACK	12.6	11.8	9.8	18.9	6.1	13.3	21.2	6.5	10.1
OTHER	2.4	1.4	.6	.8	8.5	2.5	3.1	2.0	2.0
HISPANIC DESCENT									
YES	5.1	5.7	2.5	4.2	9.3	5.9	8.1	4.0	2.6
NO	94.9	94.3	97.5	95.8	90.7	94.1	91.9	96.0	97.4
HOUSEHOLD SIZE									
1 PERSON	23.0	24.7	22.1	21.8	24.2	23.3	27.8	19.4	22.1
2 PERSONS	31.4	27.9	32.7	30.7	34.5	31.2	30.7	31.7	31.8
3 PERSONS	16.2	15.9	15.7	18.3	13.7	16.2	15.8	16.4	16.5
4 PERSONS	17.0	18.8	15.4	17.4	16.3	16.9	13.0	20.3	17.3
5 PERSONS	7.4	8.2	8.7	7.1	5.5	7.3	6.7	7.8	7.7
6 OR MORE PERSONS	5.0	4.5	5.4	4.7	5.7	5.2	6.0	4.4	4.7

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Year House Built

Table 3. Housing Characteristics by Year House Built, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	83.8	2.9	10.0	10.2	8.1	8.6	13.4	7.0	23.6
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE									
<2,000 CDD AND >7,000 HDD	8.5	.3	1.1	1.2	.6	.7	1.1	.6	2.9
<2,000 CDD AND 5,500 TO 7,000 HDD	21.0	.3	2.4	2.6	1.7	1.5	2.7	1.7	8.2
<2,000 CDD AND 4,000 TO 5,499 HDD	22.1	.7	2.3	2.4	2.1	2.2	3.6	2.1	6.8
<2,000 CDD AND <4,000 HDD	19.6	.9	2.2	2.8	2.2	2.5	3.5	1.3	4.2
>2,000 CDD AND <4,000 HDD	12.6	.8	2.0	1.2	1.5	1.7	2.5	1.3	1.6
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE									
LESS THAN 600 SQUARE FEET	7.8	.1	.8	.8	.6	.7	.9	.6	3.1
600 TO 999 SQUARE FEET	22.5	1.1	2.5	3.3	2.4	2.3	3.0	2.1	5.7
1,000 TO 1,599 SQUARE FEET	25.1	.8	2.7	2.7	2.4	2.6	4.8	2.1	7.1
1,600 TO 1,999 SQUARE FEET	10.5	.4	1.3	1.1	.8	1.1	2.1	1.0	2.8
2,000 TO 2,399 SQUARE FEET	7.2	.2	1.1	.9	.8	.9	1.1	.5	1.8
2,400 TO 2,999 SQUARE FEET	6.1	.1	.9	.8	.6	.6	1.0	.5	1.6
3,000 OR MORE SQUARE FEET	4.5	.2	.7	.7	.6	.4	.5	.2	1.4
HOW UTILITIES ARE PAID									
ALL PAID BY HOUSEHOLD	68.9	2.5	8.1	8.7	6.6	6.9	11.9	6.1	18.1
SOME PAID, SOME IN RENT	7.8	.2	1.1	.9	.9	.8	.4	.4	3.2
ALL INCLUDED IN RENT	4.9	.2	.7	.5	.4	.8	.6	.3	1.4
OTHER	2.1	.1	.1	.2	.2	.1	.4	.1	1.0
OWN/RENT									
OWN	53.9	1.8	6.4	7.0	5.2	5.5	9.5	4.8	13.7
RENT	29.8	1.2	3.6	3.2	2.8	3.1	3.8	2.2	9.9
HOUSING STRUCTURE									
SINGLE-FAMILY DETACHED	53.8	1.5	5.3	5.4	4.9	5.7	10.6	5.5	14.9
SINGLE-FAMILY ATTACHED	3.9	.1	.6	.6	.3	.3	.6	.2	1.2
BUILDING WITH 2 TO 4 UNITS	10.1	.4	.6	.6	.8	.9	1.1	.7	5.1
BUILDING WITH 5 OR MORE UNITS	12.2	.8	2.5	2.1	1.5	1.5	.8	.6	2.4
MOBILE HOME	3.7	.2	1.0	1.5	.6	.2	.3	Q	Q

SEE FOOTNOTES AT END OF TABLE

Housing Characteristics by Year House Built

Table 3. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
1981 FAMILY INCOME									
LESS THAN $5,000	9.4	0.1	0.9	0.8	0.5	0.7	1.4	0.8	4.1
$5,000 TO $9,999	13.8	.5	1.2	1.3	1.2	1.1	2.0	1.5	4.9
$10,000 TO $14,999	13.0	.4	1.4	1.7	1.2	1.5	2.2	.9	3.8
$15,000 TO $19,999	9.2	.2	.9	1.3	.7	.6	1.5	1.1	3.0
$20,000 TO $24,999	10.6	.3	1.0	1.3	1.4	1.4	1.7	.8	2.7
$25,000 TO $34,999	15.2	.6	2.4	2.1	1.5	1.8	2.7	1.0	3.1
$35,000 OR MORE	12.6	.7	2.2	1.8	1.6	1.5	2.0	1.0	2.0
BELOW 100% OF POVERTY	12.1	.2	1.0	1.3	.9	1.1	1.7	1.0	5.0
BELOW 125% OF POVERTY	17.4	.4	1.3	1.8	1.3	1.5	2.7	1.6	6.8
AGE OF HOUSEHOLDER									
UNDER 25 YEARS	6.7	.5	.8	.9	.6	.6	.8	.5	2.1
25 TO 34 YEARS	19.4	1.1	3.6	3.0	1.5	1.4	2.8	1.3	4.7
35 TO 44 YEARS	14.8	.5	2.0	2.3	1.5	1.9	2.1	.9	3.6
45 TO 59 YEARS	19.3	.4	1.8	2.4	2.2	2.2	3.8	1.7	4.8
60 YEARS AND OVER	23.6	.4	1.8	1.7	2.2	2.5	3.9	2.7	8.3
ORIGIN OF HOUSEHOLDER									
WHITE	71.2	2.5	9.1	9.2	6.7	7.2	11.8	5.8	19.1
BLACK	10.5	.2	.5	.8	1.2	1.3	1.3	1.1	4.0
OTHER	2.0	.2	.3	.2	.2	.1	.2	.1	.6
HISPANIC DESCENT									
YES	4.3	.1	.4	.3	.3	.6	.8	.5	1.3
NO	79.5	2.8	9.6	9.9	7.8	8.0	12.6	6.5	22.3
HOUSEHOLD SIZE									
1 PERSON	19.3	.5	2.3	2.1	1.7	1.6	2.7	1.5	6.8
2 PERSONS	26.3	1.2	2.8	3.1	2.6	2.6	4.4	2.5	7.2
3 PERSONS	13.6	.5	1.7	1.6	1.4	1.6	2.2	1.1	3.5
4 PERSONS	14.2	.4	2.1	2.2	1.4	1.6	2.4	1.1	3.0
5 PERSONS	6.2	.2	.8	.9	.6	.7	.9	.5	1.7
6 OR MORE PERSONS	4.2	.1	.3	.4	.5	.5	.7	.3	1.4

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Year House Built

Table 4. Housing Characteristics by Year House Built, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE									
<2,000 CDD AND >7,000 HDD.....	10.2	10.5	11.3	12.2	7.9	7.6	8.0	8.3	12.2
<2,000 CDD AND 5,500 TO 7,000 HDD.....	25.1	9.5	23.7	25.0	20.8	18.0	20.6	24.2	34.5
<2,000 CDD AND 4,000 TO 5,499 HDD.....	26.4	22.6	23.5	23.4	25.7	25.6	26.7	29.6	28.7
<2,000 CDD AND <4,000 HDD.....	23.3	29.9	21.9	27.2	27.0	28.9	26.2	19.2	17.9
>2,000 CDD AND <4,000 HDD.....	15.0	27.4	19.6	12.2	18.6	20.0	18.6	18.7	6.7
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE									
LESS THAN 600 SQUARE FEET.....	9.3	3.6	8.4	8.2	7.1	8.3	7.0	9.0	13.3
600 TO 999 SQUARE FEET.....	26.9	38.5	25.2	32.5	29.6	26.6	22.6	30.5	24.2
1,000 TO 1,599 SQUARE FEET....	30.0	28.8	27.0	26.1	29.4	29.8	35.7	30.3	29.9
1,600 TO 1,999 SQUARE FEET....	12.6	13.0	13.1	10.6	9.4	12.4	15.9	14.0	12.0
2,000 TO 2,399 SQUARE FEET....	8.6	5.3	10.7	8.8	10.0	10.9	8.0	6.5	7.8
2,400 TO 2,999 SQUARE FEET....	7.3	4.8	9.1	7.4	7.4	7.4	7.3	6.8	6.7
3,000 OR MORE SQUARE FEET.....	5.4	5.9	6.6	6.4	7.1	4.7	3.4	3.0	6.0
HOW UTILITIES ARE PAID									
ALL PAID BY HOUSEHOLD.....	82.3	84.3	81.6	84.7	81.9	80.5	89.3	87.5	76.5
SOME PAID, SOME IN RENT.....	9.3	5.7	11.0	9.0	10.6	8.9	3.2	6.0	13.4
ALL INCLUDED IN RENT.....	5.8	6.7	6.6	4.6	5.5	9.1	4.5	4.8	5.9
OTHER.....	2.6	3.3	.7	1.7	2.0	1.5	3.0	1.7	4.2
OWN/RENT									
OWN.....	64.4	60.5	63.8	68.3	64.8	64.4	71.3	68.5	58.1
RENT.....	35.6	39.5	36.2	31.7	35.2	35.6	28.7	31.5	41.9
HOUSING STRUCTURE									
SINGLE-FAMILY DETACHED.....	64.2	51.4	52.9	52.8	61.2	65.8	79.2	78.9	63.0
SINGLE-FAMILY ATTACHED.....	4.6	2.8	5.6	6.1	3.1	3.7	4.5	3.4	5.1
BUILDING WITH 2 TO 4 UNITS....	12.1	13.5	6.1	5.8	9.7	10.3	8.1	9.6	21.7
BUILDING WITH 5 OR MORE UNITS.....	14.6	26.7	25.2	20.8	18.5	17.6	6.3	8.1	10.2
MOBILE HOME.....	4.5	5.5	10.2	14.5	7.5	2.7	1.9	Q	Q

SEE FOOTNOTES AT END OF TABLE

Housing Characteristics by Year House Built

Table 4. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
1981 FAMILY INCOME									
LESS THAN $5,000	11.2	4.6	8.8	8.3	6.6	8.2	10.3	11.0	17.4
$5,000 TO $9,999	16.4	18.9	12.3	12.6	15.2	12.7	15.1	21.2	20.7
$10,000 TO $14,999	15.5	13.8	13.7	16.5	14.6	17.3	16.3	12.3	16.2
$15,000 TO $19,999	11.0	7.4	8.9	12.3	8.7	7.1	11.0	15.0	12.8
$20,000 TO $24,999	12.7	11.3	10.1	12.5	17.0	16.1	12.5	12.1	11.5
$25,000 TO $34,999	18.2	21.6	23.6	20.6	18.3	21.2	20.1	14.8	13.1
$35,000 OR MORE	15.1	22.4	22.5	17.2	19.7	17.4	14.6	13.6	8.3
BELOW 100% OF POVERTY	14.4	6.9	9.8	12.3	10.7	12.5	12.4	14.8	21.2
BELOW 125% OF POVERTY	20.8	14.3	13.5	17.3	15.5	17.1	20.4	23.4	28.8
AGE OF HOUSEHOLDER									
UNDER 25 YEARS	8.0	16.4	8.1	8.6	8.0	6.8	5.7	6.7	9.0
25 TO 34 YEARS	23.2	38.0	36.3	28.9	19.0	16.4	20.9	18.4	20.0
35 TO 44 YEARS	17.6	17.4	19.6	22.3	19.2	21.5	15.9	12.2	15.4
45 TO 59 YEARS	23.0	12.9	18.0	23.3	27.1	26.0	28.3	24.2	20.3
60 YEARS AND OVER	28.2	15.2	18.0	16.9	26.8	29.3	29.3	38.5	35.3
ORIGIN OF HOUSEHOLDER									
WHITE	85.0	84.0	91.4	89.6	82.5	84.1	88.1	82.8	80.6
BLACK	12.6	8.5	5.3	8.3	14.5	14.8	10.0	15.8	16.9
OTHER	2.4	7.5	3.2	2.1	3.0	1.1	1.9	1.5	2.5
HISPANIC DESCENT									
YES	5.1	4.9	3.7	3.2	3.3	6.9	5.7	7.2	5.5
NO	94.9	95.1	96.3	96.8	96.7	93.1	94.3	92.8	94.5
HOUSEHOLD SIZE									
1 PERSON	23.0	17.7	23.3	20.4	21.4	18.6	20.4	21.8	28.6
2 PERSONS	31.4	40.9	27.8	30.0	31.7	29.9	33.2	35.3	30.5
3 PERSONS	16.2	16.7	17.3	15.4	17.0	19.0	16.4	15.6	14.9
4 PERSONS	17.0	14.3	20.9	22.0	16.7	18.5	17.8	15.7	12.9
5 PERSONS	7.4	6.0	7.9	8.7	6.9	7.9	7.0	6.8	7.2
6 OR MORE PERSONS	5.0	4.4	2.8	3.5	6.4	6.3	5.1	4.7	5.9

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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Average Square Feet

Table 5. Housing Characteristics by Average Square Feet per Housing Unit, as of November 1982

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS (MILLIONS)	AVERAGE NUMBER OF SQUARE FEET PER HOUSING UNIT				MEAN NUMBER OF HEATED SQUARE FEET PER HOUSING UNIT			MEAN NUMBER OF HEATED SQUARE FEET PER HOUSEHOLD MEMBER
		MEAN		MEDIAN					
		HEATED AND UNHEATED	HEATED	HEATED AND UNHEATED	HEATED	SINGLE-FAMILY	MULTI-FAMILY	MOBILE HOME	
TOTAL HOUSEHOLDS	83.8	1,698	1,449	1,463	1,222	1,704	893	846	529
CENSUS REGION AND DIVISION									
NORTHEAST	18.0	1,914	1,583	1,790	1,373	2,044	928	Q	573
NEW ENGLAND	4.2	2,170	1,641	2,036	1,447	2,159	1,002	Q	583
MIDDLE ATLANTIC	13.7	1,835	1,565	1,726	1,347	2,011	902	Q	570
NORTH CENTRAL	21.3	1,874	1,592	1,782	1,344	1,873	928	857	572
EAST NORTH CENTRAL	15.0	1,829	1,556	1,736	1,247	1,864	929	Q	555
WEST NORTH CENTRAL	6.3	1,980	1,677	1,891	1,537	1,892	923	878	612
SOUTH	28.1	1,557	1,345	1,305	1,170	1,531	812	787	490
SOUTH ATLANTIC	13.9	1,604	1,351	1,293	1,176	1,569	850	780	510
EAST SOUTH CENTRAL	5.7	1,603	1,406	1,344	1,196	1,616	749	Q	505
WEST SOUTH CENTRAL	8.5	1,450	1,296	1,308	1,163	1,423	780	Q	450
WEST	16.5	1,474	1,296	1,280	1,103	1,480	891	1,003	488
MOUNTAIN	4.3	1,495	1,349	1,241	1,132	1,515	741	986	511
PACIFIC	12.2	1,467	1,277	1,294	1,100	1,465	919	1,015	480
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE									
<2,000 CDD AND >7,000 HDD	8.5	1,975	1,618	1,960	1,471	1,933	846	854	619
<2,000 CDD AND 5,500 TO 7,000 HDD	21.0	1,904	1,598	1,808	1,388	1,920	964	875	559
<2,000 CDD AND 4,000 TO 5,499 HDD	22.1	1,792	1,515	1,573	1,242	1,851	883	809	548
<2,000 CDD AND <4,000 HDD	19.6	1,472	1,295	1,281	1,134	1,481	866	838	489
>2,000 CDD AND <4,000 HDD	12.6	1,352	1,210	1,200	1,106	1,337	819	870	444
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE									
LESS THAN 600 SQUARE FEET	7.8	592	440	529	480	400	454	455	241
600 TO 999 SQUARE FEET	22.5	920	799	840	794	833	776	784	340
1,000 TO 1,599 SQUARE FEET	25.1	1,553	1,263	1,440	1,243	1,276	1,209	1,256	438
1,600 TO 1,999 SQUARE FEET	10.5	2,116	1,789	1,956	1,791	1,789	1,771	Q	612
2,000 TO 2,399 SQUARE FEET	7.2	2,506	2,182	2,352	2,168	2,183	Q	Q	688
2,400 TO 2,999 SQUARE FEET	6.1	2,963	2,646	2,800	2,622	2,639	Q	Q	762
3,000 OR MORE SQUARE FEET	4.5	4,293	3,864	3,898	3,564	3,882	Q	Q	1150
HOW UTILITIES ARE PAID									
ALL PAID BY HOUSEHOLD	68.9	1,860	1,569	1,666	1,360	1,711	953	868	548
SOME PAID, SOME IN RENT	7.8	864	834	740	736	Q	817	Q	402
ALL INCLUDED IN RENT	4.9	837	806	713	710	1,353	710	Q	387
OTHER	2.1	1,487	1,309	1,263	1,088	Q	1,316	Q	491
OWN/RENT									
OWN	53.9	2,060	1,732	1,882	1,543	1,802	1,467	888	599
RENT	29.8	1,043	938	852	814	1,229	799	684	381
HOUSING STRUCTURE BY OWNERSHIP									
SINGLE-FAMILY DETACHED	53.8	2,061	1,717	1,872	1,525	1,717	-	-	576
OWN	45.1	2,167	1,807	1,998	1,634	1,807	-	-	614
RENT	8.7	1,506	1,246	1,275	1,056	1,246	-	-	394
SINGLE-FAMILY ATTACHED	3.9	1,787	1,535	1,745	1,513	1,535	-	-	526
OWN	2.7	1,994	1,721	1,900	1,656	1,721	-	-	604
RENT	1.1	1,297	1,094	1,200	1,040	1,094	-	-	354
BUILDING WITH 2 TO 4 UNITS	10.1	1,137	1,024	929	843	-	1,024	-	418
OWN	2.1	1,798	1,522	1,637	1,287	-	1,522	-	554
RENT	8.0	960	891	816	810	-	891	-	375
BUILDING WITH 5 OR MORE UNITS	12.2	795	784	736	733	-	784	-	408
OWN	1.0	1,382	1,347	1,127	1,127	-	1,347	-	675
RENT	11.3	743	735	716	715	-	735	-	384
MOBILE HOME	3.7	860	846	780	773	-	-	846	329
OWN	3.0	902	888	840	839	-	-	888	347
RENT	.8	697	684	700	700	-	-	684	262

SEE FOOTNOTES AT END OF TABLE

Housing Characteristics by Average Square Feet

Table 5. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS (MILLIONS)	AVERAGE NUMBER OF SQUARE FEET PER HOUSING UNIT				MEAN NUMBER OF HEATED SQUARE FEET PER HOUSING UNIT			MEAN NUMBER OF HEATED SQUARE FEET PER HOUSEHOLD MEMBER
		MEAN		MEDIAN		SINGLE-FAMILY	MULTI-FAMILY	MOBILE HOME	
		HEATED AND UNHEATED	HEATED	HEATED AND UNHEATED	HEATED				
YEAR HOUSE BUILT									
1939 OR EARLIER	23.6	1,742	1,426	1,498	1,210	1,663	917	Q	540
1940 TO 1949	7.0	1,665	1,379	1,488	1,166	1,495	839	Q	514
1950 TO 1959	13.4	1,663	1,460	1,519	1,302	1,574	928	Q	525
1960 TO 1964	8.6	1,680	1,455	1,450	1,250	1,729	846	Q	499
1965 TO 1969	8.1	1,741	1,493	1,404	1,183	1,829	904	823	533
1970 TO 1974	10.2	1,639	1,444	1,344	1,196	1,874	810	862	514
1975 TO 1979	10.0	1,750	1,526	1,543	1,300	1,945	923	975	562
1980 OR LATER	2.9	1,534	1,374	1,250	1,120	1,772	916	Q	514
1981 FAMILY INCOME									
LESS THAN $5,000	9.4	1,078	950	901	836	1,172	758	639	472
$5,000 TO $9,999	13.8	1,306	1,102	1,056	960	1,328	790	764	482
$10,000 TO $14,999	13.0	1,481	1,279	1,270	1,110	1,496	895	791	488
$15,000 TO $19,999	9.2	1,641	1,380	1,388	1,124	1,613	881	903	493
$20,000 TO $24,999	10.6	1,723	1,483	1,534	1,302	1,717	992	1,092	507
$25,000 TO $34,999	15.2	1,997	1,691	1,840	1,500	1,839	999	Q	553
$35,000 OR MORE	12.6	2,467	2,104	2,289	1,944	2,258	1,245	Q	635
BELOW 100% OF POVERTY	12.1	1,175	1,037	1,000	903	1,250	809	676	347
BELOW 125% OF POVERTY	17.4	1,227	1,075	1,036	936	1,287	821	718	371
AGE OF HOUSEHOLDER									
UNDER 25 YEARS	6.7	978	885	840	801	1,135	761	735	360
25 TO 34 YEARS	19.4	1,533	1,321	1,280	1,124	1,595	837	801	424
35 TO 44 YEARS	14.8	1,955	1,687	1,800	1,500	1,912	927	1,012	455
45 TO 59 YEARS	19.3	1,935	1,652	1,748	1,444	1,840	1,035	910	575
60 YEARS AND OVER	23.6	1,685	1,401	1,493	1,210	1,601	928	841	781
ORIGIN OF HOUSEHOLDER									
WHITE	71.2	1,769	1,501	1,552	1,287	1,756	897	842	563
BLACK	10.5	1,273	1,158	1,056	1,008	1,361	886	Q	379
OTHER	2.0	1,397	1,121	1,203	1,023	1,297	831	Q	305
HISPANIC DESCENT									
YES	4.3	1,290	1,156	1,080	960	1,347	769	Q	338
NO	79.5	1,720	1,465	1,495	1,240	1,723	901	847	542
HOUSEHOLD SIZE									
1 PERSON	19.3	1,208	1,027	966	840	1,326	755	743	1027
2 PERSONS	26.3	1,696	1,446	1,450	1,222	1,677	955	838	723
3 PERSONS	13.6	1,785	1,518	1,548	1,307	1,727	904	900	506
4 PERSONS	14.2	2,030	1,739	1,850	1,600	1,894	1,113	813	435
5 PERSONS	6.2	2,099	1,776	1,875	1,539	1,882	1,229	Q	355
6 OR MORE PERSONS	4.2	1,950	1,715	1,622	1,456	1,888	1,041	Q	249

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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Total Square Footage by Housing Characteristics

Table 6. Total Square Footage by Housing Characteristics, as of November 1982

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS		TOTAL SQUARE FOOTAGE			
			TOTAL HEATED AND UNHEATED		TOTAL HEATED	
	(MILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)
TOTAL HOUSEHOLDS	83.8	100.0	142.2	100.0	121.4	100.0
CENSUS REGION AND MAIN HEATING FUEL						
NORTHEAST	18.0	21.4	34.4	24.1	28.4	23.4
FUEL OIL OR KEROSENE	7.6	9.0	14.4	10.1	11.5	9.5
NATURAL GAS	7.5	9.0	14.5	10.2	12.5	10.3
ELECTRICITY	1.3	1.6	1.9	1.3	1.7	1.4
WOOD	1.0	1.2	2.4	1.7	1.9	1.6
OTHER/NONE	.5	.6	1.1	.8	.9	.7
NORTH CENTRAL	21.3	25.4	39.9	28.1	33.9	27.9
NATURAL GAS	15.5	18.5	28.7	20.2	24.6	20.3
ELECTRICITY	2.1	2.5	3.4	2.4	3.0	2.5
FUEL OIL OR KEROSENE	1.6	1.9	3.2	2.3	2.5	2.0
LPG	1.0	1.1	2.0	1.4	1.7	1.4
WOOD	1.1	1.3	2.4	1.7	2.0	1.7
OTHER/NONE	.1	.1	.2	.1	.1	.1
SOUTH	28.1	33.5	43.7	30.7	37.7	31.1
NATURAL GAS	13.3	15.9	21.6	15.2	18.5	15.3
ELECTRICITY	6.8	8.1	9.8	6.9	8.7	7.2
FUEL OIL OR KEROSENE	2.5	3.0	4.1	2.9	3.5	2.9
LPG	2.3	2.7	2.7	1.9	2.4	2.0
WOOD	2.6	3.1	4.3	3.0	3.6	3.0
OTHER/NONE	.6	.7	1.2	.8	.9	.7
WEST	16.5	19.7	24.3	17.1	21.4	17.6
NATURAL GAS	11.1	13.3	16.6	11.7	14.8	12.2
ELECTRICITY	3.1	3.8	4.2	3.0	3.9	3.2
OTHER/NONE	2.2	2.6	3.4	2.4	2.6	2.2
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE						
<2,000 CDD AND >7,000 HDD	8.5	10.2	16.8	11.8	13.8	11.3
<2,000 CDD AND 5,500 TO 7,000 HDD	21.0	25.1	40.0	28.1	33.6	27.7
<2,000 CDD AND 4,000 TO 5,499 HDD	22.1	26.4	39.6	27.8	33.5	27.6
<2,000 CDD AND <4,000 HDD	19.6	23.3	28.8	20.2	25.4	20.9
>2,000 CDD AND <4,000 HDD	12.6	15.0	17.0	12.0	15.2	12.6
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE						
LESS THAN 600 SQUARE FEET	7.8	9.3	4.6	3.2	3.4	2.8
600 TO 999 SQUARE FEET	22.5	26.9	20.7	14.6	18.0	14.8
1,000 TO 1,599 SQUARE FEET	25.1	30.0	39.0	27.4	31.7	26.1
1,600 TO 1,999 SQUARE FEET	10.5	12.6	22.3	15.7	18.8	15.5
2,000 TO 2,399 SQUARE FEET	7.2	8.6	18.1	12.7	15.8	13.0
2,400 TO 2,999 SQUARE FEET	6.1	7.3	18.1	12.7	16.1	13.3
3,000 OR MORE SQUARE FEET	4.5	5.4	19.5	13.7	17.6	14.5
HOW UTILITIES ARE PAID						
ALL PAID BY HOUSEHOLD	68.9	82.3	128.2	90.1	108.2	89.1
SOME PAID, SOME IN RENT	7.8	9.3	6.7	4.7	6.5	5.4
ALL INCLUDED IN RENT	4.9	5.8	4.1	2.9	3.9	3.2
OTHER	2.1	2.6	3.2	2.2	2.8	2.3
OWN/RENT						
OWN	53.9	64.4	111.1	78.1	93.4	76.9
RENT	29.8	35.6	31.1	21.9	28.0	23.1

SEE FOOTNOTES AT END OF TABLE

Total Square Footage by Housing Characteristics

Table 6. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS		TOTAL SQUARE FOOTAGE			
			TOTAL HEATED AND UNHEATED		TOTAL HEATED	
	(MILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)
HOUSING STRUCTURE BY OWNERSHIP						
SINGLE-FAMILY DETACHED	53.8	64.2	110.8	77.9	92.3	76.0
OWN	45.1	53.8	97.8	68.7	81.5	67.1
RENT	8.7	10.3	13.1	9.2	10.8	8.9
SINGLE-FAMILY ATTACHED	3.9	4.6	6.9	4.9	5.9	4.9
OWN	2.7	3.2	5.4	3.8	4.7	3.9
RENT	1.1	1.4	1.5	1.0	1.3	1.0
BUILDING WITH 2 TO 4 UNITS	10.1	12.1	11.5	8.1	10.4	8.6
OWN	2.1	2.6	3.9	2.7	3.3	2.7
RENT	8.0	9.6	7.7	5.4	7.1	5.9
BUILDING WITH 5 OR MORE UNITS	12.2	14.6	9.7	6.8	9.6	7.9
OWN	1.0	1.2	1.4	1.0	1.3	1.1
RENT	11.3	13.4	8.4	5.9	8.3	6.8
MOBILE HOME	3.7	4.5	3.2	2.3	3.2	2.6
OWN	3.0	3.6	2.7	1.9	2.6	2.2
RENT	.8	.9	.5	.4	.5	.4
YEAR HOUSE BUILT						
1939 OR EARLIER	23.6	28.2	41.2	28.9	33.7	27.8
1940 TO 1949	7.0	8.4	11.7	8.2	9.7	8.0
1950 TO 1959	13.4	15.9	22.2	15.6	19.5	16.1
1960 TO 1964	8.6	10.3	14.5	10.2	12.5	10.3
1965 TO 1969	8.1	9.6	14.1	9.9	12.1	9.9
1970 TO 1974	10.2	12.2	16.7	11.8	14.7	12.1
1975 TO 1979	10.0	11.9	17.5	12.3	15.2	12.5
1980 OR LATER	2.9	3.5	4.5	3.1	4.0	3.3
1981 FAMILY INCOME						
LESS THAN $5,000	9.4	11.2	10.1	7.1	8.9	7.3
$5,000 TO $9,999	13.8	16.4	18.0	12.7	15.2	12.5
$10,000 TO $14,999	13.0	15.5	19.2	13.5	16.6	13.7
$15,000 TO $19,999	9.2	11.0	15.1	10.6	12.7	10.5
$20,000 TO $24,999	10.6	12.7	18.3	12.9	15.7	13.0
$25,000 TO $34,999	15.2	18.2	30.4	21.4	25.7	21.2
$35,000 OR MORE	12.6	15.1	31.1	21.9	26.6	21.9
BELOW 100% OF POVERTY	12.1	14.4	14.2	10.0	12.5	10.3
BELOW 125% OF POVERTY	17.4	20.8	21.4	15.1	18.8	15.4
AGE OF HOUSEHOLDER						
UNDER 25 YEARS	6.7	8.0	6.6	4.6	6.0	4.9
25 TO 34 YEARS	19.4	23.2	29.8	21.0	25.7	21.2
35 TO 44 YEARS	14.8	17.6	28.9	20.3	24.9	20.5
45 TO 59 YEARS	19.3	23.0	37.2	26.2	31.8	26.2
60 YEARS AND OVER	23.6	28.2	39.7	27.9	33.1	27.2
ORIGIN OF HOUSEHOLDER						
WHITE	71.2	85.0	126.0	88.6	107.0	88.1
BLACK	10.5	12.6	13.4	9.4	12.2	10.0
OTHER	2.0	2.4	2.8	2.0	2.3	1.9
HISPANIC DESCENT						
YES	4.3	5.1	5.5	3.9	5.0	4.1
NO	79.5	94.9	136.7	96.1	116.5	95.9
HOUSEHOLD SIZE						
1 PERSON	19.3	23.0	23.3	16.4	19.8	16.3
2 PERSONS	26.3	31.4	44.6	31.3	38.0	31.3
3 PERSONS	13.6	16.2	24.3	17.1	20.6	17.0
4 PERSONS	14.2	17.0	28.9	20.3	24.7	20.4
5 PERSONS	6.2	7.4	13.0	9.2	11.0	9.1
6 OR MORE PERSONS	4.2	5.0	8.2	5.8	7.2	6.0

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Family Income

Table 7. Housing Characteristics by Family Income, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	1981 FAMILY INCOME							BELOW 100% OF POVERTY	BELOW 125% OF POVERTY
		LESS THAN $5,000	$5,000 TO $9,999	$10,000 TO $14,999	$15,000 TO $19,999	$20,000 TO $24,999	$25,000 TO $34,999	$35,000 OR MORE		
TOTAL HOUSEHOLDS	83.8	9.4	13.8	13.0	9.2	10.6	15.2	12.6	12.1	17.4
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE										
<2,000 CDD AND >7,000 HDD	8.5	.8	1.5	1.4	1.3	.9	1.4	1.1	.8	1.5
<2,000 CDD AND 5,500 TO 7,000 HDD	21.0	2.0	3.5	3.0	2.0	3.0	3.8	3.7	2.6	3.7
<2,000 CDD AND 4,000 TO 5,499 HDD	22.1	2.7	3.4	3.5	2.7	2.6	4.2	3.0	3.5	4.8
<2,000 CDD AND <4,000 HDD	19.6	2.1	3.2	3.3	2.2	2.8	3.4	2.7	3.0	4.3
>2,000 CDD AND <4,000 HDD	12.6	1.8	2.2	1.7	1.1	1.3	2.4	2.1	2.2	3.1
HOW UTILITIES ARE PAID										
ALL PAID BY HOUSEHOLD	68.9	6.0	10.2	10.3	7.7	9.0	14.1	11.8	8.1	12.3
SOME PAID, SOME IN RENT	7.8	1.8	1.9	1.4	.9	.8	.6	.4	2.1	2.6
ALL INCLUDED IN RENT	4.9	1.3	1.3	.8	.4	.5	.3	.2	1.5	2.0
OTHER	2.1	.3	.4	.5	.2	.3	.2	.2	.4	.6
OWN/RENT										
OWN	53.9	3.6	7.0	7.6	5.7	7.1	11.8	11.2	4.6	7.6
RENT	29.8	5.8	6.8	5.4	3.6	3.5	3.4	1.4	7.5	9.8
HOUSING STRUCTURE										
SINGLE-FAMILY DETACHED	53.8	4.1	7.3	7.8	5.8	6.6	11.7	10.4	5.8	8.8
SINGLE-FAMILY ATTACHED	3.9	.4	.7	.6	.5	.5	.8	.4	.6	.9
BUILDING WITH 2 TO 4 UNITS	10.1	2.0	2.1	1.8	1.1	1.3	1.0	.8	2.4	3.3
BUILDING WITH 5 OR MORE UNITS	12.2	2.3	2.7	1.9	1.4	1.8	1.4	.8	2.6	3.3
MOBILE HOME	3.7	.5	.9	.9	.4	.5	.3	.3	.7	1.1
YEAR HOUSE BUILT										
1939 OR EARLIER	23.6	4.1	4.9	3.8	3.0	2.7	3.1	2.0	5.0	6.8
1940 TO 1949	7.0	.8	1.5	.9	1.1	.8	1.0	1.0	1.0	1.6
1950 TO 1959	13.4	1.4	2.0	2.2	1.5	1.7	2.7	2.0	1.7	2.7
1960 TO 1964	8.6	.7	1.1	1.5	.6	1.4	1.8	1.5	1.1	1.5
1965 TO 1969	8.1	.5	1.2	1.2	.7	1.4	1.5	1.6	.9	1.3
1970 TO 1974	10.2	.8	1.3	1.7	1.3	1.3	2.1	1.8	1.3	1.8
1975 TO 1979	10.0	.9	1.2	1.4	.9	1.0	2.4	2.2	1.0	1.3
1980 OR LATER	2.9	.1	.5	.4	.2	.3	.6	.7	.2	.4
AGE OF HOUSEHOLDER										
UNDER 25 YEARS	6.7	1.5	1.3	1.4	1.0	0.7	0.8	0.1	1.8	2.2
25 TO 34 YEARS	19.4	1.4	1.8	3.3	2.4	3.1	4.6	2.9	2.5	3.2
35 TO 44 YEARS	14.8	.7	1.5	1.8	1.8	2.2	3.7	3.2	1.6	2.3
45 TO 59 YEARS	19.3	1.6	2.1	2.3	2.0	2.5	4.1	4.6	2.5	3.4
60 YEARS AND OVER	23.6	4.2	7.2	4.3	2.0	2.1	2.1	1.7	3.7	6.3
ORIGIN OF HOUSEHOLDER										
WHITE	71.2	6.3	10.8	11.2	8.1	9.2	14.0	11.6	7.7	11.9
BLACK	10.5	2.8	2.6	1.5	.9	1.1	.9	.7	3.8	4.8
OTHER	2.0	.3	.3	.3	.1	.3	.3	.3	.5	.7
HISPANIC DESCENT										
YES	4.3	.6	.8	.9	.5	.4	.5	.6	1.1	1.5
NO	79.5	8.8	13.0	12.0	8.7	10.3	14.7	12.0	11.0	16.0
HOUSEHOLD SIZE										
1 PERSON	19.3	4.8	5.1	3.0	2.1	1.8	1.7	.8	4.0	5.1
2 PERSONS	26.3	2.2	4.5	4.8	2.6	3.3	4.7	4.0	2.4	4.5
3 PERSONS	13.6	1.0	1.8	2.2	1.5	1.8	2.9	2.4	1.7	2.4
4 PERSONS	14.2	.4	1.1	1.6	1.7	2.0	3.9	3.4	1.2	2.1
5 PERSONS	6.2	.5	.5	.9	.6	1.1	1.4	1.2	1.3	1.8
6 OR MORE PERSONS	4.2	.4	.7	.5	.6	.6	.6	.9	1.5	1.7

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NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Housing Characteristics by Family Income

Table 8. Housing Characteristics by Family Income, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	1981 FAMILY INCOME							BELOW 100% OF POVERTY	BELOW 125% OF POVERTY
		LESS THAN $5,000	$5,000 TO $9,999	$10,000 TO $14,999	$15,000 TO $19,999	$20,000 TO $24,999	$25,000 TO $34,999	$35,000 OR MORE		
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE										
<2,000 CDD AND >7,000 HDD	10.2	8.9	10.6	11.0	14.0	8.5	9.5	9.1	6.5	8.7
<2,000 CDD AND 5,500 TO 7,000 HDD	25.1	21.0	25.7	23.4	21.5	28.1	25.3	29.1	21.3	21.5
<2,000 CDD AND 4,000 TO 5,499 HDD	26.4	29.0	24.4	27.2	29.4	24.6	27.6	23.5	28.9	27.7
<2,000 CDD AND <4,000 HDD	23.3	22.2	23.2	25.2	23.4	26.2	22.0	21.7	24.9	24.5
>2,000 CDD AND <4,000 HDD	15.0	18.9	16.1	13.2	11.7	12.6	15.6	16.7	18.4	17.6
HOW UTILITIES ARE PAID										
ALL PAID BY HOUSEHOLD	82.3	63.8	73.9	79.1	83.4	84.9	92.5	93.2	67.0	70.4
SOME PAID, SOME IN RENT	9.3	18.7	14.0	11.1	9.9	7.5	4.0	3.0	17.2	15.0
ALL INCLUDED IN RENT	5.8	14.2	9.5	6.1	4.5	4.5	2.1	1.9	12.7	11.3
OTHER	2.6	3.3	2.6	3.7	2.2	3.2	1.4	1.9	3.0	3.3
OWN/RENT										
OWN	64.4	37.9	50.9	58.5	61.5	66.6	77.8	88.9	37.7	43.8
RENT	35.6	62.1	49.1	41.5	38.5	33.4	22.2	11.1	62.3	56.2
HOUSING STRUCTURE										
SINGLE-FAMILY DETACHED	64.2	43.8	53.3	60.5	62.4	62.5	76.8	82.6	48.0	50.5
SINGLE-FAMILY ATTACHED	4.6	4.2	4.9	4.5	5.7	4.6	5.5	2.9	5.2	5.3
BUILDING WITH 2 TO 4 UNITS	12.1	21.9	15.5	13.9	12.1	11.9	6.5	6.2	20.2	19.0
BUILDING WITH 5 OR MORE UNITS	14.6	24.4	19.7	14.3	15.4	16.6	9.4	6.1	21.2	19.0
MOBILE HOME	4.5	5.7	6.6	6.8	4.4	4.4	1.8	2.2	5.4	6.2
YEAR HOUSE BUILT										
1939 OR EARLIER	28.2	44.0	35.6	29.4	32.8	25.5	20.3	15.6	41.5	39.0
1940 TO 1949	8.4	8.3	10.8	6.7	11.4	8.0	6.8	7.5	8.6	9.4
1950 TO 1959	15.9	14.7	14.6	16.8	15.9	15.8	17.6	15.5	13.7	15.7
1960 TO 1964	10.3	7.5	7.9	11.5	6.7	13.0	12.0	11.9	8.9	8.5
1965 TO 1969	9.6	5.7	8.9	9.1	7.6	12.9	9.7	12.6	7.2	7.2
1970 TO 1974	12.2	9.0	9.3	13.0	13.6	12.1	13.9	13.9	10.4	10.1
1975 TO 1979	11.9	9.4	8.9	10.5	9.7	9.5	15.5	17.8	8.1	7.7
1980 OR LATER	3.5	1.4	4.0	3.1	2.3	3.1	4.1	5.2	1.7	2.4
AGE OF HOUSEHOLDER										
UNDER 25 YEARS	8.0	16.2	9.2	10.4	10.4	6.8	5.3	1.0	15.1	12.7
25 TO 34 YEARS	23.2	14.7	12.9	25.0	26.2	29.5	30.0	23.3	20.3	18.6
35 TO 44 YEARS	17.6	7.5	10.7	13.7	19.2	20.5	24.1	25.3	13.2	13.4
45 TO 59 YEARS	23.0	17.0	15.2	17.9	22.1	23.2	27.1	36.6	20.9	19.4
60 YEARS AND OVER	28.2	44.6	52.0	33.0	22.2	20.0	13.5	13.8	30.5	35.9
ORIGIN OF HOUSEHOLDER										
WHITE	85.0	67.1	78.6	86.2	88.3	87.2	92.0	91.5	63.8	68.5
BLACK	12.6	29.5	19.0	11.6	10.1	10.3	5.8	5.8	31.7	27.7
OTHER	2.4	3.3	2.4	2.2	1.6	2.5	2.2	2.7	4.5	3.8
HISPANIC DESCENT										
YES	5.1	6.1	5.5	7.3	5.2	3.3	3.6	4.9	9.3	8.3
NO	94.9	93.9	94.5	92.7	94.8	96.7	96.4	95.1	90.7	91.7
HOUSEHOLD SIZE										
1 PERSON	23.0	51.6	37.3	22.7	22.9	17.2	10.9	5.9	32.8	29.0
2 PERSONS	31.4	23.9	32.9	37.4	28.7	31.2	30.8	31.9	20.0	25.8
3 PERSONS	16.2	11.1	13.0	16.8	16.7	16.9	19.1	18.7	13.9	13.7
4 PERSONS	17.0	4.5	7.9	12.2	18.8	19.0	26.0	27.1	10.2	11.8
5 PERSONS	7.4	5.0	3.9	6.9	6.7	10.6	9.2	9.2	10.5	10.1
6 OR MORE PERSONS	5.0	4.0	5.0	4.1	6.2	5.2	4.0	7.2	12.6	9.7

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Fuel Use by Census Region and Area Type

Table 9. Fuel Use by Census Region and Area Type, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	METROPOLITAN			NON-METROPOLITAN
						TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	83.8	18.0	21.3	28.1	16.5	63.2	29.4	33.8	20.6
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)									
ELECTRICITY	83.7	18.0	21.3	28.0	16.4	63.2	29.4	33.8	20.5
NATURAL GAS	54.2	11.6	16.0	14.5	12.0	45.1	23.8	21.3	9.1
WOOD	22.5	4.2	5.1	8.1	5.1	15.3	4.5	10.8	7.2
FUEL OIL	12.9	8.2	1.8	2.3	.6	10.0	4.1	5.9	2.9
LPG	7.3	1.1	1.8	3.5	.9	3.3	.5	2.8	4.1
KEROSENE	3.4	1.2	.6	1.5	.1	2.2	.7	1.5	1.1
COAL	1.5	.5	.1	.8	.1	.8	.2	.6	.7
SOLAR COLLECTORS	.5	Q	Q	.2	.2	.4	.1	.2	.1
MAIN HEATING FUEL AND HEATING EQUIPMENT									
NATURAL GAS	47.5	7.5	15.5	13.3	11.1	38.8	19.9	18.9	8.7
CENTRAL WARM-AIR FURNACE	29.0	3.6	11.3	8.2	6.0	23.9	10.9	13.0	5.2
STEAM OR HOT WATER SYSTEM	7.4	3.5	2.9	.5	.5	6.5	3.8	2.8	.8
FLOOR, WALL, OR PIPELESS FURNACE	6.5	.1	.7	1.8	3.9	5.5	3.0	2.5	1.1
ROOM HEATER/OTHER	4.5	.4	.7	2.8	.7	2.9	2.2	.7	1.6
ELECTRICITY	13.4	1.3	2.1	6.8	3.1	10.5	4.5	5.9	2.9
BUILT-IN ELECTRIC UNITS	5.0	.9	1.0	1.6	1.5	3.5	1.4	2.1	1.5
CENTRAL WARM-AIR FURNACE	3.5	.1	.6	2.3	.6	2.8	1.4	1.4	.7
HEAT PUMP	3.6	.2	.4	2.3	.8	3.1	1.2	1.9	.5
OTHER	1.2	.1	.2	.7	.2	1.1	.6	.5	.2
FUEL OIL	11.3	7.4	1.5	1.9	.4	9.2	3.9	5.3	2.1
STEAM OR HOT WATER SYSTEM	6.2	5.5	.2	.4	Q	5.8	3.1	2.8	.4
CENTRAL WARM-AIR FURNACE	4.5	1.9	1.1	1.1	.3	3.0	.7	2.3	1.5
OTHER	.6	Q	.1	.3	.1	.3	.1	.3	.3
WOOD	5.6	1.0	1.1	2.6	.9	2.1	.3	1.7	3.5
HEATING STOVE	4.8	1.0	.8	2.3	.8	1.8	.3	1.5	3.0
OTHER	.8	.1	.3	.3	.1	.3	.1	.2	.5
LPG	3.8	.2	1.0	2.3	.4	1.5	.3	1.3	2.2
CENTRAL WARM-AIR FURNACE	1.7	.1	.7	.7	.2	.7	Q	.6	1.0
ROOM HEATER	1.4	.1	Q	1.2	.1	.5	.1	.5	.9
OTHER	.7	Q	.2	.4	.1	.4	.2	.2	.3
KEROSENE	.7	.1	Q	.6	Q	.5	.3	.3	.2
OTHER	1.0	.3	.1	.5	.1	.4	.1	.4	.6
NONE	.4	Q	Q	Q	.4	.2	.1	Q	.3
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)									
YES	31.3	6.4	7.0	11.3	6.6	23.0	8.6	14.4	8.3
WOOD	16.5	3.1	3.9	5.3	4.2	13.1	4.1	8.9	3.4
ELECTRICITY	10.5	1.9	2.1	4.2	2.3	7.6	3.6	4.0	2.9
NATURAL GAS	2.7	.5	.5	1.2	.5	2.2	1.1	1.1	.5
FUEL OIL	1.2	.6	.2	.3	.1	.5	.1	.4	.7
KEROSENE	2.7	1.1	.5	1.1	.1	1.8	.5	1.3	.9
LPG	1.0	Q	.2	.5	.2	.3	.1	.3	.6
OTHER	.6	.2	.1	.2	.1	.5	.1	.4	.2
NO	52.4	11.5	14.3	16.8	9.8	40.2	20.8	19.4	12.2
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)									
YES	31.3	6.4	7.0	11.3	6.6	23.0	8.6	14.4	8.3
FIREPLACE	13.2	1.9	3.1	4.4	3.8	11.1	3.6	7.5	2.1
PORTABLE ELECTRIC HEATER	6.9	1.4	1.3	2.8	1.5	5.5	2.6	2.9	1.4
HEATING STOVE	4.1	1.2	1.1	1.2	.6	2.6	.7	2.0	1.4
BUILT-IN ELECTRIC UNITS	3.2	.5	.7	1.1	.8	1.9	.9	1.0	1.2
PORTABLE KEROSENE HEATER	2.6	1.0	.5	1.0	.1	1.7	.4	1.3	.8
CENTRAL WARM-AIR FURNACE	1.7	.4	.4	.7	.3	.7	.2	.5	1.0
OIL OR GAS ROOM HEATER	1.7	.2	.4	1.0	.1	1.2	.4	.8	.6
COOKING STOVE	1.0	.3	.2	.3	.2	.9	.6	.2	.2
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	.4	.2	.7	.2	1.0	.3	.7	.5
NO	52.4	11.5	14.3	16.8	9.8	40.2	20.8	19.4	12.2

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Census Region and Area Type

Table 9. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
FUEL COMBINATIONS									
USE NATURAL GAS FOR HEATING...	47.5	7.5	15.5	13.3	11.1	38.8	19.9	18.9	8.7
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	25.6	4.2	8.3	9.4	3.7	21.3	10.4	10.9	4.2
NATURAL GAS FOR HOT WATER AND NO A/C.....	17.8	3.0	5.8	2.1	6.9	14.9	8.1	6.7	2.9
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.4	.2	.6	1.5	.1	1.5	.8	.7	.9
ELECTRICITY FOR HOT WATER AND NO A/C.....	1.7	.1	.7	.4	.4	1.0	.5	.5	.6
OTHER.....	.1	.1	Q	Q	Q	.1	.1	Q	Q
USE ELECTRICITY FOR HEATING...	13.4	1.3	2.1	6.8	3.1	10.5	4.5	5.9	2.9
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	9.0	.8	1.6	5.4	1.2	7.3	2.8	4.4	1.7
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.9	.4	.3	.8	1.4	1.8	.9	.9	1.0
OTHER.....	1.5	.1	.3	.6	.6	1.4	.8	.6	.1
USE FUEL OIL FOR MAIN HEAT....	11.3	7.4	1.5	1.9	.4	9.2	3.9	5.3	2.1
FUEL OIL FOR HOT WATER AND HAVE A/C.....	2.6	2.3	.1	.2	Q	2.5	1.1	1.4	.1
FUEL OIL FOR HOT WATER AND NO A/C.....	2.6	2.4	Q	.2	Q	2.3	1.4	.9	.3
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.0	.6	.4	.9	.1	1.4	.3	1.1	.6
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.2	.7	.8	.4	.3	1.2	.2	1.0	1.0
OTHER.....	2.0	1.5	.3	.2	Q	1.8	.8	1.0	.2
USE WOOD FOR MAIN HEAT.....	5.6	1.0	1.1	2.6	.9	2.1	.3	1.7	3.5
USE LPG FOR MAIN HEAT.....	3.8	.2	1.0	2.3	.4	1.5	.3	1.3	2.2
USE KEROSENE FOR MAIN HEAT....	.7	.1	Q	.6	Q	.5	.3	.3	.2
USE COAL FOR MAIN HEAT.....	.9	.3	Q	.5	Q	.4	.1	.3	.5
NO HEATING FUEL.....	.4	Q	Q	Q	.4	.2	.1	Q	.3
OTHER FUEL.....	.1	Q	.1	Q	.1	Q	Q	Q	.1
HAVE THERMOSTAT									
YES.....	66.6	14.0	19.2	20.6	12.7	51.5	21.8	29.7	15.1
NO.....	17.2	3.9	2.1	7.4	3.7	11.7	7.6	4.1	5.5
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)									
TURN HEATER ON OR OFF (UP OR DOWN).....	8.6	.7	.7	5.0	2.2	5.7	3.4	2.3	3.0
OPEN OR CLOSE WINDOWS OR DOORS.....	5.8	2.0	.6	1.9	1.3	4.3	3.0	1.4	1.4
ADJUST DRAFT OR AMOUNT OF FUEL.....	2.9	.4	.5	1.5	.5	1.2	.2	1.0	1.7
TURN RADIATORS ON OR OFF..	1.1	.6	.4	.1	.1	1.1	.9	.2	Q
USE COOKING APPLIANCES....	1.6	.4	.2	.7	.3	1.2	.9	.3	.4
OTHER METHODS.....	.6	.2	.1	.3	.1	.4	.3	.1	.2
WATER HEATING FUEL									
NATURAL GAS.....	47.1	8.7	14.7	12.4	11.3	39.7	20.3	19.4	7.4
ELECTRICITY.....	26.6	3.7	5.5	13.2	4.2	16.6	6.3	10.4	10.0
FUEL OIL OR KEROSENE.....	5.7	5.0	.1	.4	.1	5.2	2.6	2.6	.5
LPG.....	3.5	.4	.9	1.5	.7	1.3	.1	1.2	2.2
WOOD.....	.4	.1	Q	.2	Q	.1	Q	.1	.3
COAL.....	.1	.1	Q	Q	Q	.1	Q	.1	.1
SOLAR.....	.3	Q	Q	.1	.1	.2	.1	.1	.1
NONE.....	.1	Q	Q	.1	Q	.1	Q	Q	.1
MAIN COOKING FUEL									
ELECTRICITY.....	45.0	7.7	12.0	16.6	8.7	32.0	12.2	19.8	13.0
NATURAL GAS.....	33.6	9.3	8.3	8.8	7.1	28.9	16.9	12.0	4.7
LPG.....	4.9	.9	.9	2.5	.6	2.2	.3	1.9	2.7
WOOD.....	.1	Q	Q	.1	Q	Q	Q	Q	.1
OTHER/NONE.....	.2	Q	.1	.1	Q	.1	Q	.1	.1
CLOTHES DRYING FUEL									
WITH CLOTHES DRYER.....	50.1	9.6	14.0	16.6	9.9	36.8	13.9	22.9	13.3
ELECTRICITY.....	37.9	6.9	9.7	14.2	7.2	26.3	9.7	16.7	11.6
NATURAL GAS.....	11.3	2.5	4.0	2.2	2.6	10.0	4.3	5.7	1.2
LPG.....	.9	.2	.3	.3	.2	.5	Q	.5	.4
WITHOUT CLOTHES DRYER.....	33.7	8.4	7.4	11.4	6.5	26.4	15.5	10.9	7.3

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Census Region and Area Type

Table 9. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	METROPOLITAN			NON-METROPOLITAN
						TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
AIR CONDITIONING (A/C)									
CENTRAL A/C ONLY	22.7	2.0	5.8	11.4	3.5	18.7	8.0	10.7	4.0
INDIVIDUAL ROOM UNITS ONLY	25.3	7.2	6.4	9.5	2.2	19.3	8.8	10.5	6.0
CENTRAL A/C AND ROOM UNITS	.6	.1	.1	.4	Q	.5	.3	.2	.1
NO AIR CONDITIONING	35.1	8.6	9.0	6.8	10.7	24.7	12.4	12.4	10.4
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED									
ALL	32.5	3.9	8.0	16.5	4.1	25.7	11.6	14.2	6.8
SOME	16.1	5.5	4.2	4.8	1.7	12.7	5.5	7.3	3.4
NONE	35.1	8.6	9.0	6.8	10.7	24.7	12.4	12.4	10.4
WOOD BURNED IN PAST 12 MONTHS									
YES	21.4	4.1	4.8	7.6	4.8	14.5	4.3	10.2	7.0
ONE-THIRD CORD OR LESS	6.3	1.1	1.3	1.9	2.0	5.2	2.1	3.2	1.0
MORE THAN ONE-THIRD CORD	15.2	3.1	3.6	5.7	2.8	9.2	2.2	7.0	5.9
NO	62.3	13.8	16.5	20.4	11.7	48.7	25.1	23.6	13.6
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE									
YES	72.1	13.7	18.5	24.9	15.1	53.8	22.4	31.4	18.3
NO	11.6	4.3	2.8	3.1	1.4	9.4	7.0	2.4	2.3
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	11.0	15.7	22.7	12.0	43.1	16.7	26.4	18.3
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)									
USES ANY NATURAL GAS	37.3	6.1	11.2	11.3	8.7	29.5	13.1	16.4	7.8
DOES NOT USE NATURAL GAS	24.1	4.9	4.5	11.4	3.3	13.6	3.6	10.0	10.5
GAS IS AVAILABLE	5.1	1.3	.9	1.9	1.0	3.7	1.7	2.0	1.5
(PERCENT)	21.3	27.0	20.8	17.0	28.6	27.0	47.1	19.8	14.0
GAS IS NOT AVAILABLE	19.0	3.5	3.6	9.5	2.4	9.9	1.9	8.0	9.0
(PERCENT)	78.7	73.0	79.2	83.0	71.4	73.0	52.9	80.2	86.0
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	7.0	5.6	5.4	4.5	20.1	12.7	7.4	2.3
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	9.1	4.7	2.8	1.2	.5	8.2	5.8	2.4	.9
NO/NO MAIN HEATING SYSTEM	13.3	2.3	2.8	4.2	4.0	11.9	6.9	5.0	1.4
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	10.9	4.7	3.3	1.3	1.6	10.0	6.7	3.2	1.0
NO/NO WATER HEATING FUEL									
NO HOT RUNNING WATER	11.5	2.3	2.3	4.0	2.9	10.1	6.0	4.2	1.3
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	0.7	0.3	0.1	0.3	0.1	0.6	0.5	0.2	0.1
NO	12.2	3.3	3.1	4.2	1.7	11.3	6.2	5.1	.9
NO AIR CONDITIONING	9.4	3.4	2.4	.9	2.7	8.2	6.1	2.1	1.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Census Region and Area Type

Table 10. Fuel Use by Census Region and Area Type, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)									
ELECTRICITY	100.0	100.0	100.0	100.0	99.8	100.0	100.0	100.0	99.8
NATURAL GAS	64.6	64.9	75.0	51.8	72.8	71.3	80.8	63.1	44.1
WOOD	26.8	23.5	23.7	28.7	31.1	24.1	15.2	31.9	35.0
FUEL OIL	15.4	45.6	8.6	8.3	3.5	15.8	13.9	17.5	14.2
LPG	8.7	6.3	8.4	12.5	5.3	5.2	1.5	8.3	19.7
KEROSENE	4.0	6.6	2.7	5.4	.5	3.5	2.4	4.5	5.5
COAL	1.8	2.8	.4	2.7	.9	1.2	.5	1.8	3.4
SOLAR COLLECTORS	.6	.2	.2	.7	1.5	.6	.5	.7	.7
MAIN HEATING FUEL AND HEATING EQUIPMENT									
NATURAL GAS	56.7	42.0	72.7	47.5	67.6	61.4	67.8	55.8	42.3
CENTRAL WARM-AIR FURNACE	34.7	19.9	52.9	29.2	36.5	37.8	37.1	38.4	25.1
STEAM OR HOT WATER SYSTEM	8.8	19.3	13.4	1.9	3.2	10.3	12.8	8.1	4.1
FLOOR, WALL, OR PIPELESS FURNACE	7.8	.7	3.3	6.4	23.7	8.7	10.2	7.3	5.1
ROOM HEATER/OTHER	5.4	2.2	3.1	10.0	4.3	4.6	7.6	2.0	8.0
ELECTRICITY	16.0	7.3	9.9	24.3	19.1	16.6	15.4	17.6	14.1
BUILT-IN ELECTRIC UNITS	6.0	5.1	4.6	5.6	9.3	5.6	4.8	6.3	7.1
CENTRAL WARM-AIR FURNACE	4.2	.5	2.7	8.0	3.7	4.4	4.7	4.2	3.6
HEAT PUMP	4.3	.9	1.8	8.0	5.0	4.9	4.0	5.7	2.6
OTHER	1.5	.8	.7	2.6	1.1	1.7	1.9	1.5	.8
FUEL OIL	13.5	41.3	7.2	6.9	2.6	14.5	13.1	15.7	10.3
STEAM OR HOT WATER SYSTEM	7.4	30.4	1.2	1.6	.2	9.2	10.4	8.2	1.7
CENTRAL WARM-AIR FURNACE	5.4	10.7	5.4	4.1	1.8	4.8	2.4	6.8	7.3
OTHER	.7	.2	.6	1.2	.6	.5	.3	.8	1.3
WOOD	6.7	5.6	5.2	9.3	5.6	3.3	1.2	5.2	17.2
HEATING STOVE	5.8	5.3	3.6	8.2	4.9	2.8	.9	4.5	14.8
OTHER	1.0	.3	1.6	1.0	.7	.5	.3	.7	2.4
LPG	4.5	1.1	4.5	8.1	2.3	2.4	1.0	3.7	10.9
CENTRAL WARM-AIR FURNACE	2.0	.7	3.3	2.4	1.0	1.0	.1	1.8	4.9
ROOM HEATER	1.7	.3	.2	4.4	.7	.9	.3	1.4	4.4
OTHER	.8	.1	1.0	1.3	.6	.6	.6	.5	1.6
KEROSENE	.9	.7	.2	2.0	Q	.9	.9	.8	1.0
OTHER	1.2	1.9	.4	1.9	.6	.7	.2	1.1	3.0
NONE	.5	Q	Q	.1	2.3	.3	.5	.1	1.2
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)									
YES	37.4	35.8	32.9	40.2	40.2	36.4	29.4	42.5	40.5
WOOD	19.7	17.4	18.4	18.8	25.5	20.7	14.0	26.5	16.8
ELECTRICITY	12.5	10.7	9.8	14.9	14.0	12.0	12.3	11.8	14.1
NATURAL GAS	3.2	2.6	2.6	4.1	2.9	3.4	3.7	3.2	2.5
FUEL OIL	1.4	3.5	.9	1.0	.7	.9	.5	1.2	3.2
KEROSENE	3.2	5.9	2.5	3.8	.5	2.8	1.6	3.8	4.6
LPG	1.2	.3	1.1	1.9	.9	.5	.2	.8	3.1
OTHER	.7	1.0	.4	.8	.7	.7	.3	1.0	.8
NO	62.6	64.2	67.1	59.8	59.8	63.6	70.6	57.5	59.5
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)									
YES	37.4	35.8	32.9	40.2	40.2	36.4	29.4	42.5	40.5
FIREPLACE	15.8	10.8	14.5	15.5	23.2	17.5	12.3	22.1	10.4
PORTABLE ELECTRIC HEATER	8.3	7.8	6.1	9.9	8.9	8.7	9.0	8.5	6.9
HEATING STOVE	4.8	6.6	5.3	4.3	3.4	4.2	2.3	5.9	6.8
BUILT-IN ELECTRIC UNITS	3.8	2.9	3.2	4.1	4.9	3.0	3.2	2.9	6.0
PORTABLE KEROSENE HEATER	3.1	5.4	2.3	3.7	.5	2.7	1.5	3.8	4.1
CENTRAL WARM-AIR FURNACE	2.0	2.2	1.7	2.4	1.6	1.1	.6	1.4	5.0
OIL OR GAS ROOM HEATER	2.1	1.3	1.7	3.6	.8	1.9	1.4	2.3	2.8
COOKING STOVE	1.2	1.8	.9	1.1	1.2	1.4	2.1	.7	.8
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.8	2.3	1.0	2.4	1.5	1.6	1.1	2.1	2.5
NO	62.6	64.2	67.1	59.8	59.8	63.6	70.6	57.5	59.5

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Census Region and Area Type

Table 10. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
FUEL COMBINATIONS									
USE NATURAL GAS FOR HEATING...	56.7	42.0	72.7	47.5	67.6	61.4	67.8	55.8	42.3
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	30.5	23.3	39.2	33.3	22.3	33.8	35.5	32.3	20.5
NATURAL GAS FOR HOT WATER AND NO A/C.....	21.2	16.6	27.4	7.4	41.6	23.5	27.7	19.8	14.1
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.8	1.2	2.6	5.2	.9	2.3	2.7	2.0	4.4
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.0	.5	3.5	1.4	2.6	1.6	1.7	1.6	3.1
OTHER.....	.1	.4	Q	.1	.1	.2	.2	.1	.1
USE ELECTRICITY FOR HEATING...	16.0	7.3	9.9	24.3	19.1	16.6	15.4	17.6	14.1
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	10.7	4.7	7.4	19.3	7.0	11.5	9.6	13.1	8.4
ELECTRICITY FOR HOT WATER AND NO A/C.....	3.4	2.3	1.2	2.8	8.5	2.9	3.2	2.6	5.0
OTHER.....	1.8	.3	1.2	2.2	3.5	2.2	2.6	1.8	.7
USE FUEL OIL FOR MAIN HEAT....	13.5	41.3	7.2	6.9	2.6	14.5	13.1	15.7	10.3
FUEL OIL FOR HOT WATER AND HAVE A/C.....	3.1	12.8	.6	.7	Q	4.0	3.9	4.1	.3
FUEL OIL FOR HOT WATER AND NO A/C.....	3.1	13.2	Q	.7	.1	3.6	4.8	2.6	1.5
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.3	3.4	1.8	3.2	.6	2.2	1.1	3.2	2.7
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.6	3.9	3.5	1.5	1.8	1.9	.8	2.8	4.8
OTHER.....	2.4	8.1	1.3	.8	Q	2.8	2.6	3.0	.9
USE WOOD FOR MAIN HEAT.....	6.7	5.6	5.2	9.3	5.6	3.3	1.2	5.2	17.2
USE LPG FOR MAIN HEAT.....	4.5	1.1	4.5	8.1	2.3	2.4	1.0	3.7	10.9
USE KEROSENE FOR MAIN HEAT....	.9	.7	.2	2.0	Q	.9	.9	.8	1.0
USE COAL FOR MAIN HEAT.....	1.1	1.9	.1	1.9	.2	.6	.2	1.0	2.6
NO HEATING FUEL.....	.5	Q	Q	.1	2.3	.3	.5	.1	1.2
OTHER FUEL.....	.1	Q	.3	Q	.4	.1	Q	.1	.4
HAVE THERMOSTAT									
YES.....	79.5	78.3	90.1	73.6	77.3	81.5	74.1	88.0	73.3
NO.....	20.5	21.7	9.9	26.4	22.7	18.5	25.9	12.0	26.7
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)									
TURN HEATER ON OR OFF (UP OR DOWN).....	10.3	3.9	3.3	17.8	13.5	9.0	11.6	6.7	14.5
OPEN OR CLOSE WINDOWS OR DOORS.....	6.9	11.1	2.6	6.9	8.1	6.9	10.1	4.1	7.0
ADJUST DRAFT OR AMOUNT OF FUEL.....	3.4	2.2	2.3	5.3	3.0	1.8	.7	2.8	8.2
TURN RADIATORS ON OR OFF..	1.4	3.2	2.0	.2	.5	1.8	2.9	.7	.1
USE COOKING APPLIANCES....	1.9	2.0	1.0	2.6	2.1	2.0	3.2	.9	1.9
OTHER METHODS.....	.8	.9	.6	.9	.5	.7	.9	.4	1.1
WATER HEATING FUEL									
NATURAL GAS.....	56.2	48.3	68.9	44.2	68.8	62.7	69.0	57.3	36.1
ELECTRICITY.....	31.8	20.5	25.8	47.1	25.6	26.3	21.3	30.7	48.4
FUEL OIL OR KEROSENE.....	6.7	28.1	.6	1.5	.4	8.2	8.8	7.6	2.4
LPG.....	4.1	2.1	4.1	5.4	4.1	2.0	.4	3.4	10.7
WOOD.....	.5	.4	.2	.9	.1	.2	Q	.3	1.4
COAL.....	.2	.4	Q	.2	.2	.1	.1	.2	.3
SOLAR.....	.3	.1	Q	.5	.8	.3	.3	.4	.3
NONE.....	.2	.1	.2	.2	Q	.1	.1	.1	.3
MAIN COOKING FUEL									
ELECTRICITY.....	53.7	42.7	56.3	59.1	53.0	50.6	41.5	58.5	63.1
NATURAL GAS.....	40.0	52.0	39.1	31.3	43.1	45.7	57.4	35.6	22.6
LPG.....	5.8	5.1	4.1	8.9	3.7	3.4	.9	5.6	13.3
WOOD.....	.2	Q	Q	.4	.2	.1	Q	.1	.5
OTHER/NONE.....	.3	.3	.5	.3	Q	.2	.2	.3	.4
CLOTHES DRYING FUEL									
WITH CLOTHES DRYER.....	59.8	53.4	65.5	59.2	60.3	58.3	47.4	67.8	64.4
ELECTRICITY.....	45.3	38.3	45.4	50.7	43.6	41.7	32.8	49.4	56.4
NATURAL GAS.....	13.4	14.1	18.8	7.7	15.6	15.9	14.6	17.0	5.9
LPG.....	1.1	1.0	1.5	.9	1.2	.8	.1	1.4	2.1
WITHOUT CLOTHES DRYER.....	40.2	46.6	34.5	40.8	39.7	41.7	52.6	32.2	35.6

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Census Region and Area Type

Table 10. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
AIR CONDITIONING (A/C)									
CENTRAL A/C ONLY	27.1	11.4	27.0	40.6	21.5	29.6	27.2	31.7	19.6
INDIVIDUAL ROOM UNITS ONLY	30.2	40.2	30.2	33.7	13.3	30.5	29.9	31.0	29.4
CENTRAL A/C AND ROOM UNITS	.7	.6	.4	1.5	.1	.8	.9	.7	.5
NO AIR CONDITIONING	41.9	47.9	42.4	24.2	65.1	39.1	42.0	36.6	50.5
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED									
ALL	38.8	21.7	37.8	58.8	24.7	40.7	39.4	41.9	32.9
SOME	19.3	30.4	19.9	17.0	10.2	20.1	18.6	21.5	16.6
NONE	41.9	47.9	42.4	24.2	65.1	39.1	42.0	36.6	50.5
WOOD BURNED IN PAST 12 MONTHS									
YES	25.6	23.0	22.8	27.3	29.3	22.9	14.5	30.1	33.9
ONE-THIRD CORD OR LESS	7.5	5.9	6.1	6.8	12.3	8.3	7.1	9.4	5.1
MORE THAN ONE-THIRD CORD	18.1	17.0	16.7	20.5	17.0	14.6	7.5	20.8	28.8
NO	74.4	77.0	77.2	72.7	70.7	77.1	85.5	69.9	66.1
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE									
YES	86.1	76.1	86.8	88.8	91.5	85.1	76.2	92.9	89.0
NO	13.9	23.9	13.2	11.2	8.5	14.9	23.8	7.1	11.0
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)									
USES ANY NATURAL GAS	60.7	55.8	71.3	49.7	72.3	68.4	78.5	62.1	42.6
DOES NOT USE NATURAL GAS	39.3	44.2	28.7	50.3	27.7	31.6	21.5	37.9	57.4
GAS IS AVAILABLE	8.4	12.0	6.0	8.6	7.9	8.5	10.1	7.5	8.0
GAS IS NOT AVAILABLE	30.9	32.3	22.8	41.7	19.8	23.0	11.4	30.4	49.4
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	40.6	66.8	50.1	21.7	10.6	41.0	45.8	32.7	37.5
NO/NO MAIN HEATING SYSTEM	59.4	33.2	49.9	78.3	89.4	59.0	54.2	67.3	62.5
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	48.7	67.4	58.6	24.6	36.1	49.5	52.9	43.6	41.9
NO/NO WATER HEATING FUEL NO HOT RUNNING WATER	51.3	32.6	41.4	75.4	63.9	50.5	47.1	56.4	58.1
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	3.3	4.2	2.2	5.0	1.5	3.0	3.5	2.1	6.1
NO	54.6	47.5	55.3	77.9	37.0	56.3	48.9	69.1	39.8
NO AIR CONDITIONING	42.0	48.3	42.5	17.1	61.5	40.7	47.5	28.7	54.1

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Housing Structure and Ownership

Table 11. Fuel Use by Housing Structure and Ownership, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
TOTAL HOUSEHOLDS	83.8	53.8	45.1	8.7	3.9	2.7	1.1	10.1	2.1	8.0	12.2	1.0	11.3	3.7	3.0	0.8
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)																
ELECTRICITY	83.7	53.7	45.1	8.7	3.9	2.7	1.1	10.1	2.1	8.0	12.2	1.0	11.3	3.7	3.0	.8
NATURAL GAS	54.2	33.1	27.6	5.5	3.1	2.4	.7	8.3	1.7	6.7	8.6	.7	7.9	1.1	.9	.2
WOOD	22.5	20.4	18.2	2.1	.6	.5	.1	.7	.3	.3	.3	.2	.2	.5	.5	.1
FUEL OIL	12.9	8.1	7.3	.9	.4	.4	Q	1.8	.7	1.1	2.2	.2	2.1	.5	.4	.1
LPG	7.3	5.4	4.2	1.2	.1	.1	Q	.2	.1	.1	Q	Q	Q	1.5	1.1	.4
KEROSENE	3.4	2.5	2.2	.3	.2	.2	Q	.2	Q	.1	Q	Q	Q	.4	.3	Q
COAL	1.5	1.3	1.2	.1	Q	Q	Q	.1	Q	.1	.1	Q	.1	Q	Q	Q
SOLAR COLLECTORS	.5	.5	.4	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MAIN HEATING FUEL																
NATURAL GAS	47.5	30.5	25.4	5.1	2.7	2.0	.7	7.0	1.2	5.7	6.2	.3	5.9	1.1	.9	.2
ELECTRICITY	13.4	6.9	6.1	.9	.6	.2	.4	1.1	.2	.9	3.9	.5	3.3	.9	.8	.1
FUEL OIL	11.3	6.8	6.0	.7	.4	.4	Q	1.7	.6	1.1	2.1	.2	1.9	.4	.3	.1
WOOD	5.6	5.2	4.3	.9	.1	.1	Q	.1	Q	.1	Q	Q	Q	.3	.2	Q
LPG	3.8	2.7	2.0	.7	.1	.1	Q	.1	Q	.1	Q	Q	Q	.9	.6	.3
KEROSENE	.7	.5	.4	.1	Q	Q	Q	.1	Q	Q	Q	Q	Q	.2	.1	Q
OTHER	1.0	.9	.8	.1	Q	Q	Q	.1	Q	.1	.1	Q	.1	Q	Q	Q
NONE	.4	.3	.1	.2	Q	Q	Q	.1	Q	.1	Q	Q	Q	Q	Q	Q
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)																
YES	31.3	25.6	22.8	2.8	1.2	.9	.3	2.0	.6	1.4	1.5	.3	1.2	1.0	.9	.2
WOOD	16.5	14.9	13.7	1.1	.5	.4	.1	.6	.3	.3	.3	.2	.2	.2	.2	Q
ELECTRICITY	10.5	7.6	6.6	1.0	.5	.4	.1	1.0	.2	.8	1.0	.2	.8	.4	.3	.1
NATURAL GAS	2.7	1.9	1.6	.3	.1	.1	Q	.4	.1	.3	.3	.1	.2	Q	Q	Q
FUEL OIL	1.2	1.2	1.1	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
KEROSENE	2.7	2.1	1.9	.2	.2	.1	Q	.1	Q	.1	Q	Q	Q	.3	.3	Q
LPG	1.0	.8	.6	.2	Q	Q	Q	Q	Q	Q	Q	Q	Q	.1	.1	Q
OTHER	.6	.6	.6	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NO	52.4	28.2	22.3	5.9	2.7	1.8	.9	8.2	1.6	6.6	10.7	.7	10.0	2.7	2.1	.6
FUEL COMBINATIONS																
USE NATURAL GAS FOR HEATING	47.5	30.5	25.4	5.1	2.7	2.0	0.7	7.0	1.2	5.7	6.2	0.3	5.9	1.1	0.9	0.2
NATURAL GAS FOR HOT WATER AND HAVE A/C	25.6	16.9	14.8	2.1	1.4	1.3	.1	3.2	.8	2.4	3.7	.3	3.5	.4	.3	.1
NATURAL GAS FOR HOT WATER AND NO A/C	17.8	10.5	8.0	2.5	1.2	.6	.5	3.3	.4	3.0	2.3	Q	2.2	.5	.4	.1
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.4	1.8	1.6	.2	.1	.1	Q	.2	Q	.2	.1	Q	.1	.1	.1	Q
ELECTRICITY FOR HOT WATER AND NO A/C	1.7	1.3	.9	.3	Q	Q	Q	.2	Q	.2	Q	Q	Q	.1	.1	Q
OTHER	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	.1	Q	.1	Q	Q	Q
USE ELECTRICITY FOR HEATING	13.4	6.9	6.1	.9	.6	.2	.4	1.1	.2	.9	3.9	.5	3.3	.9	.8	.1
ELECTRICITY FOR HOT WATER AND HAVE A/C	9.0	5.0	4.7	.3	.4	.2	.2	.5	.1	.4	2.6	.2	2.4	.5	.5	Q
ELECTRICITY FOR HOT WATER AND NO A/C	2.9	1.3	.9	.4	.2	Q	.1	.4	Q	.3	.7	.1	.6	.3	.2	.1
OTHER	1.5	.6	.5	.1	.1	Q	Q	.2	Q	.2	.6	.2	.4	Q	Q	Q
USE FUEL OIL FOR MAIN HEAT	11.3	6.8	6.0	.7	.4	.4	Q	1.7	.6	1.1	2.1	.2	1.9	.4	.3	.1
FUEL OIL FOR HOT WATER AND HAVE A/C	2.6	1.2	1.1	.1	Q	Q	Q	.5	.2	.3	1.0	.1	.8	Q	Q	Q
FUEL OIL FOR HOT WATER AND NO A/C	2.6	1.0	.9	.1	Q	Q	Q	.5	.2	.4	1.0	Q	1.0	Q	Q	Q
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.0	1.7	1.4	.3	Q	Q	Q	.1	Q	Q	Q	Q	Q	.2	.1	Q
ELECTRICITY FOR HOT WATER AND NO A/C	2.2	1.8	1.7	.2	Q	Q	Q	.1	Q	.1	Q	Q	Q	.2	.2	Q
OTHER	2.0	1.1	1.0	.1	.2	.2	Q	.5	.2	.3	.1	Q	.1	Q	Q	Q
USE WOOD FOR MAIN HEAT	5.6	5.2	4.3	.9	.1	.1	Q	.1	Q	.1	Q	Q	Q	.3	.2	Q
USE LPG FOR MAIN HEAT	3.8	2.7	2.0	.7	.1	.1	Q	.1	Q	.1	Q	Q	Q	.9	.6	.3
USE KEROSENE FOR MAIN HEAT	.7	.5	.4	.1	Q	Q	Q	.1	Q	Q	Q	Q	Q	.2	.1	Q
USE COAL FOR MAIN HEAT	.9	.8	.7	.1	Q	Q	Q	.1	Q	.1	.1	Q	.1	Q	Q	Q
NO HEATING FUEL	.4	.3	.1	.2	Q	Q	Q	.1	Q	.1	Q	Q	Q	Q	Q	Q
OTHER FUEL	.1	.1	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Housing Structure and Ownership

Table 11. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
HAVE THERMOSTAT																
YES	66.6	44.4	39.4	5.0	3.4	2.6	0.8	7.3	2.0	5.3	8.3	0.8	7.5	3.2	2.6	0.7
NO	17.2	9.4	5.8	3.6	.5	.1	.3	2.8	.1	2.7	4.0	.2	3.7	.5	.4	.1
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)																
TURN HEATER ON OR OFF (UP OR DOWN)	8.6	5.7	3.3	2.3	.3	.1	.2	1.2	Q	1.2	1.1	Q	1.1	.4	.3	.1
OPEN OR CLOSE WINDOWS OR DOORS	5.8	2.4	1.5	.9	.1	Q	.1	1.0	.1	.9	2.2	.1	2.1	.2	.1	.1
ADJUST DRAFT OR AMOUNT OF FUEL	2.9	2.6	1.9	.6	Q	Q	Q	.1	Q	.1	Q	Q	Q	.1	.1	Q
TURN RADIATORS ON OR OFF	1.1	.1	Q	Q	Q	Q	Q	.3	Q	.3	.7	.1	.7	Q	Q	Q
USE COOKING APPLIANCES	1.6	.7	.4	.3	Q	Q	Q	.4	Q	.4	.3	Q	.3	.2	.1	Q
OTHER METHODS	.6	.3	.3	Q	Q	Q	Q	.2	Q	.2	.1	Q	.1	Q	Q	Q
WATER HEATING FUEL																
NATURAL GAS	47.1	29.4	24.5	4.8	2.9	2.2	.7	7.3	1.3	5.9	6.7	.5	6.2	.9	.7	.2
ELECTRICITY	26.6	18.4	15.6	2.8	.8	.4	.4	1.6	.3	1.3	3.5	.3	3.2	2.2	1.8	.4
FUEL OIL OR KEROSENE	5.7	2.5	2.3	.2	.1	.1	Q	1.1	.4	.6	2.0	.2	1.8	Q	Q	Q
LPG	3.5	2.7	2.1	.6	.1	Q	Q	.1	Q	.1	Q	Q	Q	.6	.4	.2
OTHER/NONE	.9	.8	.6	.2	Q	Q	Q	.1	Q	Q	Q	Q	Q	Q	Q	Q
MAIN COOKING FUEL																
ELECTRICITY	45.0	32.0	28.1	3.9	1.4	.7	.6	3.6	.8	2.8	6.7	.5	6.2	1.4	1.2	.2
NATURAL GAS	33.6	18.2	14.4	3.9	2.5	1.9	.5	6.4	1.3	5.1	5.5	.5	5.0	1.0	.8	.2
OTHER/NONE	5.3	3.5	2.7	.9	.1	.1	Q	.2	.1	.2	.1	Q	.1	1.4	1.1	.3
CLOTHES DRYING FUEL																
WITH CLOTHES DRYER	50.1	41.3	36.7	4.5	2.4	1.8	0.6	3.0	1.1	1.8	1.2	0.4	0.7	2.3	2.0	0.3
ELECTRICITY	37.9	31.3	27.9	3.5	1.5	1.0	.5	2.0	.7	1.4	1.0	.3	.7	2.1	1.8	.3
NATURAL GAS	11.3	9.2	8.3	.9	.9	.8	.1	.9	.4	.4	.2	.1	.1	.1	.1	Q
LPG	.9	.8	.7	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	.1	.1	Q
WITHOUT CLOTHES DRYER	33.7	12.5	8.4	4.1	1.5	.9	.5	7.2	1.0	6.2	11.1	.5	10.5	1.5	1.0	.5
AIR CONDITIONING (A/C)																
CENTRAL A/C ONLY	22.7	15.3	14.4	1.0	1.0	.7	.3	1.5	.4	1.1	4.1	.5	3.6	.9	.8	Q
INDIVIDUAL ROOM UNITS ONLY	25.3	15.8	13.1	2.7	1.1	1.0	.1	3.5	1.0	2.4	4.0	.3	3.7	1.0	.8	.2
CENTRAL A/C AND ROOM UNITS	.6	.5	.5	.1	.1	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
NO AIR CONDITIONING	35.1	22.1	17.2	4.9	1.7	1.0	.8	5.2	.7	4.5	4.2	.2	4.0	1.9	1.4	.5
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED																
ALL	32.5	20.8	18.7	2.2	1.2	.8	.4	2.8	.7	2.1	6.3	.6	5.7	1.4	1.2	.2
SOME	16.1	10.8	9.3	1.6	1.0	.9	Q	2.1	.7	1.4	1.7	.2	1.5	.5	.4	.1
NONE	35.1	22.1	17.2	4.9	1.7	1.0	.8	5.2	.7	4.5	4.2	.2	4.0	1.9	1.4	.5
WOOD BURNED IN PAST 12 MONTHS																
YES	21.4	19.5	17.6	1.8	.5	.4	.1	.7	.3	.3	.3	.2	.2	.5	.5	.1
ONE-THIRD CORD OR LESS	6.3	5.5	4.8	.7	.1	.1	.1	.3	.2	.1	.3	.1	.1	.1	.1	Q
MORE THAN ONE-THIRD CORD	15.2	14.0	12.8	1.2	.3	.3	Q	.4	.1	.2	.1	Q	Q	.4	.4	Q
NO	62.3	34.3	27.5	6.8	3.4	2.3	1.1	9.5	1.8	7.7	11.9	.8	11.1	3.2	2.5	.7
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE																
YES	72.1	50.1	42.6	7.5	3.2	2.3	.8	7.2	1.8	5.4	8.4	.9	7.5	3.3	2.7	.6
NO	11.6	3.7	2.5	1.2	.7	.4	.3	2.9	.4	2.6	3.9	.1	3.8	.5	.3	.2

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Housing Structure and Ownership

Table 11. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD																
USES ANY NATURAL GAS.....	54.2	33.1	27.6	5.5	3.1	2.4	0.7	8.3	1.7	6.7	8.6	0.7	7.9	1.1	0.9	0.2
DOES NOT USE NATURAL GAS.....	29.6	20.7	17.5	3.2	.8	.4	.4	1.8	.5	1.3	3.7	.3	3.4	2.6	2.1	.5
GAS IS AVAILABLE.....	8.1	4.6	4.0	.6	.3	.1	.2	.9	.2	.6	2.1	.3	1.8	.3	.3	Q
(PERCENT).....	27.3	22.0	22.5	19.0	36.3	30.4	41.3	46.7	42.4	48.2	56.8	100.0	52.9	11.6	13.5	4.1
GAS IS NOT AVAILABLE.....	21.5	16.1	13.6	2.6	.5	.3	.3	1.0	.3	.7	1.6	Q	1.6	2.3	1.8	.5
(PERCENT).....	72.7	78.0	77.5	81.0	63.7	69.6	58.7	53.3	57.6	51.8	43.2	Q	47.1	88.4	86.5	95.9
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS.....	22.4	-	-	-	-	-	-	10.1	2.1	8.0	12.2	1.0	11.3	-	-	-
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES.....	9.1	-	-	-	-	-	-	3.4	.8	2.6	5.7	.3	5.4	-	-	-
NO/NO MAIN HEATING SYSTEM.....	13.3	-	-	-	-	-	-	6.7	1.4	5.4	6.5	.7	5.8	-	-	-
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES.....	10.9	-	-	-	-	-	-	3.8	.9	2.9	7.1	.4	6.7	-	-	-
NO/NO WATER HEATING FUEL																
NO HOT RUNNING WATER.....	11.5	-	-	-	-	-	-	6.3	1.2	5.1	5.2	.6	4.5	-	-	-
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES.....	.7	-	-	-	-	-	-	.2	.1	.1	.6	.1	.5	-	-	-
NO.....	12.2	-	-	-	-	-	-	4.8	1.3	3.4	7.5	.7	6.8	-	-	-
NO AIR CONDITIONING.....	9.4	-	-	-	-	-	-	5.2	.7	4.5	4.2	.2	4.0	-	-	-

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Housing Structure and Ownership

Table 12. Fuel Use by Housing Structure and Ownership, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)																
ELECTRICITY	100.0	99.9	99.9	99.9	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NATURAL GAS	64.6	61.5	61.1	63.4	79.6	86.7	62.8	81.9	77.4	83.2	69.9	68.6	70.0	29.9	29.2	32.4
WOOD	26.8	37.9	40.4	24.8	14.3	16.8	8.4	6.6	15.4	4.2	2.8	15.8	1.7	13.8	15.3	7.7
FUEL OIL	15.4	15.1	16.1	9.9	9.5	13.5	Q	17.3	31.4	13.5	18.3	15.9	18.5	12.2	12.2	12.2
LPG	8.7	10.1	9.4	14.1	3.6	3.4	4.1	2.2	4.1	1.7	Q	Q	.1	40.4	38.3	48.4
KEROSENE	4.0	4.7	4.9	3.8	5.3	5.9	3.9	1.9	2.3	1.7	.3	Q	.3	10.4	11.6	5.5
COAL	1.8	2.5	2.7	1.6	Q	Q	Q	.8	.9	.8	.5	Q	.6	.1	.2	Q
SOLAR COLLECTORS	.6	.9	1.0	.4	.4	.5	Q	.2	Q	.2	.1	Q	.1	Q	Q	Q
MAIN HEATING FUEL																
NATURAL GAS	56.7	56.8	56.4	59.0	69.1	73.4	58.9	68.6	56.9	71.8	50.7	29.8	52.5	29.3	29.2	29.8
ELECTRICITY	16.0	12.9	13.4	9.9	16.0	7.9	35.3	10.8	8.5	11.4	31.5	51.8	29.7	23.7	26.3	13.5
FUEL OIL	13.5	12.6	13.4	8.1	9.5	13.5	Q	16.5	28.8	13.2	16.9	15.9	17.0	11.6	11.4	12.2
WOOD	6.7	9.7	9.5	10.7	1.6	2.3	Q	.9	1.7	.7	Q	Q	Q	7.5	8.3	4.6
LPG	4.5	5.0	4.5	7.8	2.7	2.1	4.1	.7	.5	.8	Q	Q	.1	23.8	21.1	34.4
KEROSENE	.9	.9	.8	1.3	.7	.9	Q	.9	2.3	.5	Q	Q	Q	4.0	3.7	5.5
OTHER	1.2	1.6	1.7	1.2	Q	Q	Q	.9	.9	.9	.5	Q	.6	Q	Q	Q
NONE	.5	.5	.2	2.0	.5	Q	1.7	.7	.4	.7	.4	2.5	.2	Q	Q	Q
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)																
YES	37.4	47.6	50.6	32.2	30.3	33.3	23.2	19.6	26.2	17.9	12.6	31.8	10.9	27.8	29.7	20.5
WOOD	19.7	27.6	30.4	13.2	12.7	14.5	8.4	5.7	13.7	3.5	2.8	15.8	1.7	6.3	7.1	3.1
ELECTRICITY	12.5	14.1	14.6	11.6	12.8	14.5	8.9	9.8	10.5	9.6	8.4	18.5	7.5	10.9	9.6	16.0
NATURAL GAS	3.2	3.5	3.5	3.7	2.2	2.3	2.0	3.8	3.1	3.9	2.4	11.6	1.6	Q	Q	Q
FUEL OIL	1.4	2.2	2.4	1.2	Q	Q	Q	.2	.5	.1	Q	Q	Q	.6	.8	Q
KEROSENE	3.2	4.0	4.3	2.5	4.6	4.9	3.9	.9	Q	1.2	.3	Q	.3	6.9	8.7	Q
LPG	1.2	1.5	1.4	2.3	.5	.7	Q	Q	Q	Q	Q	Q	Q	3.6	4.2	1.3
OTHER	.7	1.1	1.2	.6	Q	Q	Q	Q	Q	Q	Q	Q	Q	.1	.2	Q
NO	62.6	52.4	49.4	67.8	69.7	66.7	76.8	80.4	73.8	82.1	87.4	68.2	89.1	72.2	70.3	79.5
FUEL COMBINATIONS																
USE NATURAL GAS FOR HEATING	56.7	56.8	56.4	59.0	69.1	73.4	58.9	68.6	56.9	71.8	50.7	29.8	52.5	29.3	29.2	29.8
NATURAL GAS FOR HOT WATER AND HAVE A/C	30.5	31.4	32.8	24.1	35.5	46.9	8.6	31.4	37.8	29.7	30.4	27.1	30.7	10.3	10.5	9.7
NATURAL GAS FOR HOT WATER AND NO A/C	21.2	19.5	17.8	28.4	30.8	23.7	47.8	32.9	16.5	37.3	18.4	2.2	19.8	12.7	12.9	12.1
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.8	3.4	3.6	2.6	2.4	2.6	2.0	1.8	1.4	1.9	1.2	Q	1.3	3.5	3.6	2.8
ELECTRICITY FOR HOT WATER AND NO A/C	2.0	2.4	2.1	4.0	.3	.2	.5	2.4	1.3	2.7	.3	.6	.2	2.8	2.2	5.2
OTHER	.1	.1	.1	Q	Q	Q	Q	.2	Q	.2	.5	Q	.5	Q	Q	Q
USE ELECTRICITY FOR HEATING	16.0	12.9	13.4	9.9	16.0	7.9	35.3	10.8	8.5	11.4	31.5	51.8	29.7	23.7	26.3	13.5
ELECTRICITY FOR HOT WATER AND HAVE A/C	10.7	9.3	10.4	3.6	10.3	5.6	21.3	5.1	6.9	4.6	20.9	19.9	21.0	14.2	17.8	Q
ELECTRICITY FOR HOT WATER AND NO A/C	3.4	2.5	2.1	4.9	3.9	.6	11.8	3.5	.4	4.3	5.6	9.0	5.3	8.5	7.9	10.9
OTHER	1.8	1.1	1.0	1.4	1.8	1.6	2.2	2.2	1.2	2.5	5.0	22.8	3.4	1.1	.7	2.6
USE FUEL OIL FOR MAIN HEAT	13.5	12.6	13.4	8.1	9.5	13.5	Q	16.5	28.8	13.2	16.9	15.9	17.0	11.6	11.4	12.2
FUEL OIL FOR HOT WATER AND HAVE A/C	3.1	2.1	2.3	1.1	1.2	1.8	Q	4.5	9.4	3.2	7.8	13.8	7.2	Q	Q	Q
FUEL OIL FOR HOT WATER AND NO A/C	3.1	1.8	2.1	.8	1.0	1.4	Q	5.4	8.6	4.5	8.0	2.2	8.5	.7	.3	2.3
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.3	3.1	3.1	3.1	.5	.8	Q	.8	1.9	.5	Q	Q	Q	4.8	4.6	5.5
ELECTRICITY FOR HOT WATER AND NO A/C	2.6	3.4	3.7	1.7	.9	1.3	Q	1.1	1.8	.9	.1	Q	.1	5.6	5.9	4.4
OTHER	2.4	2.1	2.2	1.4	5.8	8.3	Q	4.7	7.1	4.1	1.0	Q	1.1	.5	.6	Q
USE WOOD FOR MAIN HEAT	6.7	9.7	9.5	10.7	1.6	2.3	Q	.9	1.7	.7	Q	Q	Q	7.5	8.3	4.6
USE LPG FOR MAIN HEAT	4.5	5.0	4.5	7.8	2.7	2.1	4.1	.7	.5	.8	Q	Q	.1	23.8	21.1	34.4
USE KEROSENE FOR MAIN HEAT	.9	.9	.8	1.3	.7	.9	Q	.9	2.3	.5	Q	Q	Q	4.0	3.7	5.5
USE COAL FOR MAIN HEAT	1.1	1.4	1.5	1.2	Q	Q	Q	.8	.9	.8	.5	Q	.6	Q	Q	Q
NO HEATING FUEL	.5	.5	.2	2.0	.5	Q	1.7	.7	.4	.7	.4	2.5	.2	Q	Q	Q
OTHER FUEL	.1	.2	.3	Q	Q	Q	Q	.1	Q	.1	Q	Q	Q	Q	Q	Q

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Housing Structure and Ownership

Table 12. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
HAVE THERMOSTAT																
YES	79.5	82.6	87.3	58.3	87.9	95.5	69.7	72.0	94.2	66.1	67.5	76.8	66.7	86.2	86.4	85.3
NO	20.5	17.4	12.7	41.7	12.1	4.5	30.3	28.0	5.8	33.9	32.5	23.2	33.3	13.8	13.6	14.7
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)																
TURN HEATER ON OR OFF (UP OR DOWN)	10.3	10.5	7.4	26.7	8.0	2.6	20.7	11.6	1.1	14.4	9.2	4.7	9.6	9.9	9.7	10.9
OPEN OR CLOSE WINDOWS OR DOORS	6.9	4.4	3.3	10.1	2.4	1.0	5.6	9.4	2.6	11.2	17.9	8.4	18.7	5.0	4.2	8.1
ADJUST DRAFT OR AMOUNT OF FUEL	3.4	4.8	4.3	7.4	1.1	1.6	Q	1.2	1.2	1.2	Q	Q	Q	2.9	3.7	Q
TURN RADIATORS ON OR OFF	1.4	.1	.1	.1	1.2	Q	4.2	3.0	Q	3.8	6.0	6.4	6.0	Q	Q	Q
USE COOKING APPLIANCES	1.9	1.3	.9	3.7	Q	Q	Q	4.1	1.7	4.8	2.8	Q	3.0	4.1	4.2	3.8
OTHER METHODS	.8	.5	.7	Q	Q	Q	Q	2.3	1.4	2.5	.9	Q	1.0	.3	.3	Q
WATER HEATING FUEL																
NATURAL GAS	56.2	54.6	54.4	55.9	74.8	80.8	60.3	71.5	62.0	74.0	54.6	52.1	54.8	23.6	23.4	24.4
ELECTRICITY	31.8	34.2	34.6	32.6	21.4	14.7	37.3	16.2	15.5	16.3	28.8	32.0	28.5	59.0	61.9	47.9
FUEL OIL OR KEROSENE	6.7	4.6	5.1	2.2	2.2	3.1	Q	10.5	20.0	7.9	16.4	15.9	16.4	.7	.3	2.3
LPG	4.1	4.9	4.6	6.8	1.3	.8	2.4	1.2	1.3	1.2	Q	Q	.1	16.7	14.5	25.4
OTHER/NONE	1.1	1.5	1.3	2.6	.4	.5	Q	.7	1.1	.6	.2	Q	.3	Q	Q	Q
MAIN COOKING FUEL																
ELECTRICITY	53.7	59.5	62.3	45.3	35.1	27.4	53.5	35.2	38.2	34.4	54.5	46.2	55.3	36.1	38.8	25.5
NATURAL GAS	40.0	33.9	31.9	44.5	63.6	70.8	46.5	62.6	58.6	63.7	45.0	53.8	44.3	26.5	25.8	29.1
OTHER/NONE	6.3	6.6	5.9	10.2	1.3	1.9	Q	2.2	3.2	1.9	.4	Q	.5	37.4	35.4	45.3
CLOTHES DRYING FUEL																
WITH CLOTHES DRYER	59.8	76.7	81.4	52.3	62.3	65.3	55.0	29.1	53.5	22.6	9.7	45.3	6.6	60.6	66.1	39.2
ELECTRICITY	45.3	58.2	61.8	40.0	39.9	35.8	49.6	20.0	31.0	17.0	7.9	31.5	5.8	55.7	60.6	36.6
NATURAL GAS	13.4	17.1	18.3	10.6	22.9	30.3	5.4	8.7	20.3	5.6	1.9	13.8	.8	2.5	2.5	2.6
LPG	1.1	1.5	1.5	1.7	Q	Q	Q	.5	2.2	Q	Q	Q	Q	2.3	2.9	Q
WITHOUT CLOTHES DRYER	40.2	23.3	18.6	47.7	37.7	34.7	45.0	70.9	46.5	77.4	90.3	54.7	93.4	39.4	33.9	60.8
AIR CONDITIONING (A/C)																
CENTRAL A/C ONLY	27.1	28.5	31.8	11.3	25.4	26.3	23.4	14.4	18.1	13.4	33.4	51.7	31.8	23.1	27.6	5.8
INDIVIDUAL ROOM UNITS ONLY	30.2	29.4	29.0	31.4	28.8	36.4	10.7	34.1	47.4	30.5	32.5	31.9	32.5	26.0	25.7	27.0
CENTRAL A/C AND ROOM UNITS	.7	1.0	1.1	.7	1.4	2.0	Q	Q	Q	Q	Q	Q	Q	.5	Q	2.4
NO AIR CONDITIONING	41.9	41.1	38.1	56.6	44.4	35.4	65.8	51.5	34.5	56.1	34.2	16.4	35.7	50.4	46.7	64.7
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED																
ALL	38.8	38.7	41.4	25.1	30.3	30.2	30.6	27.5	32.4	26.2	51.6	58.8	51.0	37.1	41.2	21.3
SOME	19.3	20.1	20.5	18.3	25.2	34.4	3.5	20.9	33.2	17.7	14.2	24.8	13.3	12.5	12.1	14.0
NONE	41.9	41.1	38.1	56.6	44.4	35.4	65.8	51.5	34.5	56.1	34.2	16.4	35.7	50.4	46.7	64.7
WOOD BURNED IN PAST 12 MONTHS																
YES	25.6	36.2	39.0	21.3	12.3	14.8	6.3	6.4	15.4	4.0	2.8	15.8	1.7	13.6	15.1	7.7
ONE-THIRD CORD OR LESS	7.5	10.2	10.6	7.9	3.2	2.2	5.8	3.0	8.8	1.4	2.4	14.7	1.3	2.8	2.9	2.3
MORE THAN ONE-THIRD CORD	18.1	26.0	28.4	13.4	9.0	12.6	.5	3.5	6.6	2.6	.4	1.1	.4	10.8	12.2	5.4
NO	74.4	63.8	61.0	78.7	87.7	85.2	93.7	93.6	84.6	96.0	97.2	84.2	98.3	86.4	84.9	92.3
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE																
YES	86.1	93.2	94.5	86.1	81.4	85.2	72.4	71.4	83.6	68.1	68.5	90.9	66.5	86.9	89.6	76.6
NO	13.9	6.8	5.5	13.9	18.6	14.8	27.6	28.6	16.4	31.9	31.5	9.1	33.5	13.1	10.4	23.4

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Housing Structure and Ownership

Table 12. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD																
USES ANY NATURAL GAS	64.6	61.5	61.1	63.4	79.6	86.7	62.8	81.9	77.4	83.2	69.9	68.6	70.0	29.9	29.2	32.4
DOES NOT USE NATURAL GAS	35.4	38.5	38.9	36.6	20.4	13.3	37.2	18.1	22.6	16.8	30.1	31.4	30.0	70.1	70.8	67.6
GAS IS AVAILABLE	9.7	8.5	8.8	6.9	7.4	4.1	15.4	8.4	9.6	8.1	17.1	31.4	15.8	8.1	9.5	2.8
GAS IS NOT AVAILABLE	25.7	30.0	30.1	29.6	13.0	9.3	21.8	9.6	13.0	8.7	13.0	Q	14.1	62.0	61.2	64.9
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	100.0	-	-	-	-	-	-	100.0	100.0	100.0	100.0	100.0	100.0	-	-	-
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES	40.6	-	-	-	-	-	-	33.5	37.1	32.6	46.5	26.7	48.3	-	-	-
NO/NO MAIN HEATING SYSTEM	59.4	-	-	-	-	-	-	66.5	62.9	67.4	53.5	73.3	51.7	-	-	-
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES	48.7	-	-	-	-	-	-	37.8	42.5	36.5	57.8	37.3	59.6	-	-	-
NO/NO WATER HEATING FUEL NO HOT RUNNING WATER	51.3	-	-	-	-	-	-	62.2	57.5	63.5	42.2	62.7	40.4	-	-	-
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)																
YES	3.3	-	-	-	-	-	-	1.6	2.7	1.3	4.8	12.1	4.2	-	-	-
NO	54.6	-	-	-	-	-	-	46.9	62.8	42.6	61.0	71.5	60.1	-	-	-
NO AIR CONDITIONING	42.0	-	-	-	-	-	-	51.5	34.5	56.1	34.2	16.4	35.7	-	-	-

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Average Square Feet

Table 13. Fuel Use by Average Square Feet per Housing Unit, as of November 1982

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS (MILLIONS)	AVERAGE NUMBER OF SQUARE FEET PER HOUSING UNIT				MEAN NUMBER OF HEATED SQUARE FEET PER HOUSING UNIT			MEAN NUMBER OF HEATED SQUARE FEET PER HOUSEHOLD MEMBER
		MEAN		MEDIAN		SINGLE-FAMILY	MULTI-FAMILY	MOBILE HOME	
		HEATED AND UNHEATED	HEATED	HEATED AND UNHEATED	HEATED				
TOTAL HOUSEHOLDS	83.8	1,698	1,449	1,463	1,222	1,704	893	846	529
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)									
ELECTRICITY	83.7	1,698	1,450	1,466	1,224	1,705	893	846	529
NATURAL GAS	54.2	1,696	1,461	1,489	1,224	1,746	890	889	538
WOOD	22.5	2,322	1,960	2,124	1,789	2,002	1,553	1,059	620
FUEL OIL	12.9	1,955	1,562	1,828	1,344	1,895	948	738	573
LPG	7.3	1,603	1,334	1,253	1,088	1,498	Q	788	469
KEROSENE	3.4	1,949	1,636	1,807	1,500	1,804	Q	Q	495
COAL	1.5	2,272	1,751	1,792	1,456	1,833	Q	Q	499
SOLAR COLLECTORS	.5	2,511	1,891	2,217	1,821	1,949	Q	Q	600
MAIN HEATING FUEL AND HEATING EQUIPMENT									
NATURAL GAS	47.5	1,715	1,483	1,505	1,246	1,743	878	898	544
CENTRAL WARM-AIR FURNACE	29.0	1,985	1,707	1,822	1,519	1,910	996	913	589
STEAM OR HOT WATER SYSTEM	7.4	1,559	1,370	1,117	1,008	2,103	870	Q	552
FLOOR, WALL, OR PIPELESS FURNACE	6.5	1,097	970	1,024	900	1,108	693	Q	403
ROOM HEATER/OTHER	4.5	1,130	971	992	885	1,079	726	Q	390
ELECTRICITY	13.4	1,448	1,294	1,200	1,110	1,609	891	863	507
BUILT-IN ELECTRIC UNITS	5.0	1,310	1,149	1,092	960	1,457	793	Q	462
CENTRAL WARM-AIR FURNACE	3.5	1,498	1,337	1,208	1,130	1,766	907	880	483
HEAT PUMP	3.6	1,751	1,586	1,543	1,392	1,799	1,199	Q	653
OTHER	1.2	968	898	624	624	1,135	Q	Q	348
FUEL OIL	11.3	1,913	1,533	1,800	1,290	1,889	949	728	578
STEAM OR HOT WATER SYSTEM	6.2	1,752	1,405	1,400	1,145	1,974	922	Q	541
CENTRAL WARM-AIR FURNACE	4.5	2,231	1,782	2,064	1,704	1,952	Q	749	637
OTHER	.6	1,183	970	1,032	1,008	1,014	Q	Q	455
WOOD	5.6	1,889	1,583	1,736	1,434	1,618	Q	Q	478
HEATING STOVE	4.8	1,830	1,520	1,665	1,350	1,555	Q	Q	464
OTHER	.8	2,244	1,964	1,996	1,736	1,964	Q	Q	553
LPG	3.8	1,437	1,247	1,224	1,056	1,387	Q	846	461
CENTRAL WARM-AIR FURNACE	1.7	1,638	1,391	1,400	1,163	1,769	Q	869	441
ROOM HEATER	1.4	1,201	1,095	1,064	960	1,144	Q	Q	454
OTHER	.7	1,446	1,215	1,211	1,056	1,288	Q	Q	542
KEROSENE	.7	1,205	1,089	1,050	900	1,224	Q	Q	376
OTHER	1.0	2,322	1,835	1,702	1,478	1,974	Q	Q	540
NONE	.4	1,052	-	1,024	-	-	-	-	-
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)									
YES	31.3	2,136	1,798	1,980	1,634	1,929	1,074	913	591
WOOD	16.5	2,473	2,091	2,279	1,920	2,137	1,559	Q	673
ELECTRICITY	10.5	1,855	1,564	1,632	1,368	1,768	880	908	529
NATURAL GAS	2.7	1,784	1,549	1,635	1,316	1,656	1,240	Q	565
FUEL OIL	1.2	2,554	1,948	2,363	1,761	1,974	Q	Q	603
KEROSENE	2.7	2,121	1,766	2,008	1,657	1,907	Q	Q	518
LPG	1.0	1,627	1,364	1,350	1,092	1,458	Q	Q	534
OTHER	.6	2,754	2,000	2,600	1,900	2,008	Q	Q	565
NO	52.4	1,436	1,240	1,178	1,040	1,510	859	820	485
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)									
YES	31.3	2,136	1,798	1,980	1,634	1,929	1,074	913	591
FIREPLACE	13.2	2,488	2,123	2,296	1,944	2,179	1,543	Q	687
PORTABLE ELECTRIC HEATER	6.9	1,751	1,449	1,536	1,316	1,647	864	Q	496
HEATING STOVE	4.1	2,405	1,999	2,240	1,900	2,034	Q	Q	621
BUILT-IN ELECTRIC UNITS	3.2	1,955	1,691	1,734	1,500	1,869	966	Q	589
PORTABLE KEROSENE HEATER	2.6	2,130	1,768	2,008	1,657	1,890	Q	Q	515
CENTRAL WARM-AIR FURNACE	1.7	2,143	1,690	1,892	1,557	1,762	Q	Q	534
OIL OR GAS ROOM HEATER	1.7	1,739	1,526	1,526	1,341	1,583	Q	Q	538
COOKING STOVE	1.0	1,190	1,002	825	794	1,255	784	Q	371
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	2,612	2,116	2,498	1,932	2,210	Q	Q	677
NO	52.4	1,436	1,240	1,178	1,040	1,510	859	820	485

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Average Square Feet

Table 13. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS (MILLIONS)	AVERAGE NUMBER OF SQUARE FEET PER HOUSING UNIT				MEAN NUMBER OF HEATED SQUARE FEET PER HOUSING UNIT			MEAN NUMBER OF HEATED SQUARE FEET PER HOUSEHOLD MEMBER
		MEAN		MEDIAN		SINGLE-FAMILY	MULTI-FAMILY	MOBILE HOME	
		HEATED AND UNHEATED	HEATED	HEATED AND UNHEATED	HEATED				
FUEL COMBINATIONS									
USE NATURAL GAS FOR HEATING...	47.5	1,715	1,483	1,505	1,246	1,743	878	898	544
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	25.6	1,813	1,583	1,575	1,352	1,851	905	Q	586
NATURAL GAS FOR HOT WATER AND NO A/C.....	17.8	1,567	1,341	1,324	1,104	1,597	841	916	483
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.4	1,742	1,523	1,557	1,337	1,672	Q	Q	554
ELECTRICITY FOR HOT WATER AND NO A/C.....	1.7	1,770	1,437	1,539	1,173	1,609	Q	Q	571
OTHER.....	.1	1,275	1,185	874	874	Q	Q	Q	464
USE ELECTRICITY FOR HEATING...	13.4	1,448	1,294	1,200	1,110	1,609	891	863	507
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	9.0	1,537	1,366	1,300	1,200	1,695	863	923	544
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.9	1,232	1,090	912	853	1,357	792	Q	416
OTHER.....	1.5	1,327	1,256	1,200	1,008	1,478	1,118	Q	467
USE FUEL OIL FOR MAIN HEAT....	11.3	1,913	1,533	1,800	1,290	1,889	949	728	578
FUEL OIL FOR HOT WATER AND HAVE A/C.....	2.6	1,784	1,406	1,244	1,036	2,038	867	Q	559
FUEL OIL FOR HOT WATER AND NO A/C.....	2.6	1,579	1,272	1,201	1,062	1,797	922	Q	479
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.0	1,947	1,673	1,800	1,583	1,794	Q	Q	639
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.2	2,016	1,606	2,008	1,502	1,710	Q	Q	587
OTHER.....	2.0	2,374	1,821	2,112	1,581	2,191	1,028	Q	657
USE WOOD FOR MAIN HEAT.....	5.6	1,889	1,583	1,736	1,434	1,618	Q	Q	478
USE LPG FOR MAIN HEAT.....	3.8	1,437	1,247	1,224	1,056	1,387	Q	846	461
USE KEROSENE FOR MAIN HEAT....	.7	1,205	1,089	1,050	900	1,224	Q	Q	376
USE COAL FOR MAIN HEAT.....	.9	2,304	1,813	1,456	1,456	1,962	Q	Q	500
NO HEATING FUEL.....	.4	1,052	Q	1,024	Q	Q	Q	Q	Q
OTHER FUEL.....	.1	2,458	-	2,498	-	-	-	-	-
HAVE THERMOSTAT									
YES.....	66.6	1,850	1,573	1,680	1,360	1,814	976	891	568
NO.....	17.2	1,105	967	926	832	1,171	703	Q	368
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)									
TURN HEATER ON OR OFF (UP OR DOWN).....	8.6	1,062	937	949	847	1,065	680	Q	369
OPEN OR CLOSE WINDOWS OR DOORS.....	5.8	1,008	941	860	800	1,267	712	Q	372
ADJUST DRAFT OR AMOUNT OF FUEL.....	2.9	1,703	1,472	1,370	1,217	1,507	Q	Q	451
TURN RADIATORS ON OR OFF..	1.1	847	819	756	756	Q	750	Q	349
USE COOKING APPLIANCES....	1.6	975	889	765	732	1,149	729	Q	287
OTHER METHODS.....	.6	1,670	1,359	1,040	1,040	Q	Q	Q	546
WATER HEATING FUEL									
NATURAL GAS.....	47.1	1,721	1,484	1,512	1,252	1,755	892	934	543
ELECTRICITY.....	26.6	1,655	1,416	1,400	1,216	1,627	885	823	518
FUEL OIL OR KEROSENE.....	5.7	1,703	1,354	1,338	1,065	1,904	898	Q	515
LPG.....	3.5	1,578	1,326	1,296	1,092	1,465	Q	796	451
WOOD.....	.4	2,249	1,759	1,848	1,466	Q	Q	Q	532
COAL.....	.1	1,816	1,317	1,153	979	Q	Q	Q	492
SOLAR.....	.3	2,090	1,602	2,072	1,821	Q	Q	Q	463
NONE.....	.1	1,778	1,371	1,370	1,317	Q	Q	Q	424
MAIN COOKING FUEL									
ELECTRICITY.....	45.0	1,858	1,573	1,680	1,371	1,809	891	908	576
NATURAL GAS.....	33.6	1,528	1,331	1,278	1,104	1,600	901	859	486
LPG.....	4.9	1,424	1,163	1,061	980	1,336	Q	786	404
WOOD.....	.1	1,474	1,150	1,736	1,064	Q	Q	Q	305
OTHER/NONE.....	.2	1,068	797	569	525	Q	Q	Q	733

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Average Square Feet

Table 13. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS (MILLIONS)	AVERAGE NUMBER OF SQUARE FEET PER HOUSING UNIT				MEAN NUMBER OF HEATED SQUARE FEET PER HOUSING UNIT			MEAN NUMBER OF HEATED SQUARE FEET PER HOUSEHOLD MEMBER
		MEAN		MEDIAN		SINGLE-FAMILY	MULTI-FAMILY	MOBILE HOME	
		HEATED AND UNHEATED	HEATED	HEATED AND UNHEATED	HEATED				
CLOTHES DRYING FUEL									
WITH CLOTHES DRYER	50.1	2,077	1,756	1,896	1,564	1,843	1,264	967	576
ELECTRICITY	37.9	2,050	1,728	1,864	1,536	1,821	1,243	945	569
NATURAL GAS	11.3	2,160	1,855	1,960	1,676	1,925	1,305	Q	611
LPG	.9	2,092	1,680	2,008	1,573	1,695	Q	Q	481
WITHOUT CLOTHES DRYER	33.7	1,134	993	889	832	1,270	808	660	435
AIR CONDITIONING (A/C)									
CENTRAL A/C ONLY	22.7	1,914	1,679	1,704	1,484	1,952	972	1,067	613
INDIVIDUAL ROOM UNITS ONLY	25.3	1,592	1,371	1,334	1,170	1,621	884	759	522
CENTRAL A/C AND ROOM UNITS	.6	2,391	2,146	2,308	1,840	2,190	Q	Q	622
NO AIR CONDITIONING	35.1	1,622	1,344	1,328	1,103	1,582	853	791	479
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED									
ALL	32.5	1,708	1,507	1,500	1,281	1,799	892	928	577
SOME	16.1	1,843	1,560	1,642	1,344	1,776	990	825	547
NONE	35.1	1,622	1,344	1,328	1,103	1,582	853	791	479
WOOD BURNED IN PAST 12 MONTHS									
YES	21.4	2,334	1,972	2,132	1,792	2,016	1,559	1,046	620
ONE-THIRD CORD OR LESS	6.3	2,417	2,093	2,214	1,998	2,163	1,665	Q	697
MORE THAN ONE-THIRD CORD	15.2	2,300	1,921	2,091	1,728	1,959	1,402	1,111	590
NO	62.3	1,479	1,269	1,222	1,062	1,540	862	815	490
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE									
YES	72.1	1,796	1,530	1,568	1,308	1,747	931	872	535
NO	11.6	1,088	945	888	800	1,193	804	Q	471
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	1,970	1,652	1,792	1,466	1,704	-	846	560
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)									
USES ANY NATURAL GAS	37.3	2,034	1,720	1,860	1,520	1,746	-	889	584
DOES NOT USE ANY NATURAL GAS	24.1	1,873	1,547	1,665	1,350	1,635	-	828	523
GAS IS AVAILABLE	5.1	1,888	1,561	1,792	1,416	1,608	-	Q	536
GAS IS NOT AVAILABLE	19.0	1,869	1,543	1,620	1,344	1,643	-	830	519
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	950	893	805	788	-	893	-	413
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	9.1	879	842	740	736	-	842	-	408
NO/NO MAIN HEATING SYSTEM	13.3	998	927	832	814	-	927	-	416
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	10.9	857	816	735	730	-	816	-	394
NO/NO WATER HEATING FUEL									
NO HOT RUNNING WATER	11.5	1,038	966	859	840	-	966	-	429
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	.7	886	877	751	751	-	877	-	573
NO	12.2	977	924	814	814	-	924	-	462
NO AIR CONDITIONING	9.4	920	853	767	747	-	853	-	352

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Total Square Footage by Fuel Use

Table 14. Total Square Footage by Fuel Use, as of November 1982

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS		TOTAL SQUARE FOOTAGE			
			TOTAL HEATED AND UNHEATED		TOTAL HEATED	
	(MILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)
TOTAL HOUSEHOLDS	83.8	100.0	142.2	100.0	121.4	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)						
ELECTRICITY	83.7	100.0	142.2	100.0	121.4	100.0
NATURAL GAS	54.2	64.6	91.8	64.6	79.2	65.2
WOOD	22.5	26.8	52.2	36.7	44.0	36.3
FUEL OIL	12.9	15.4	25.3	17.8	20.2	16.6
LPG	7.3	8.7	11.7	8.2	9.8	8.0
KEROSENE	3.4	4.0	6.5	4.6	5.5	4.5
COAL	1.5	1.8	3.4	2.4	2.6	2.1
SOLAR COLLECTORS	.5	.6	1.3	.9	1.0	.8
MAIN HEATING FUEL AND HEATING EQUIPMENT						
NATURAL GAS	47.5	56.7	81.4	57.2	70.4	58.0
CENTRAL WARM-AIR FURNACE	29.0	34.7	57.6	40.5	49.6	40.8
STEAM OR HOT WATER SYSTEM	7.4	8.8	11.5	8.1	10.1	8.3
FLOOR, WALL, OR PIPELESS FURNACE	6.5	7.8	7.2	5.0	6.3	5.2
ROOM HEATER/OTHER	4.5	5.4	5.1	3.6	4.4	3.6
ELECTRICITY	13.4	16.0	19.4	13.6	17.3	14.3
BUILT-IN ELECTRIC UNITS	5.0	6.0	6.6	4.6	5.8	4.7
CENTRAL WARM-AIR FURNACE	3.5	4.2	5.3	3.7	4.7	3.9
HEAT PUMP	3.6	4.3	6.4	4.5	5.8	4.7
OTHER	1.2	1.5	1.2	.8	1.1	.9
FUEL OIL	11.3	13.5	21.6	15.2	17.3	14.3
STEAM OR HOT WATER SYSTEM	6.2	7.4	10.8	7.6	8.7	7.2
CENTRAL WARM-AIR FURNACE	4.5	5.4	10.1	7.1	8.0	6.6
OTHER	.6	.7	.7	.5	.6	.5
WOOD	5.6	6.7	10.7	7.5	8.9	7.4
HEATING STOVE	4.8	5.8	8.8	6.2	7.3	6.0
OTHER	.8	1.0	1.8	1.3	1.6	1.3
LPG	3.8	4.5	5.4	3.8	4.7	3.9
CENTRAL WARM-AIR FURNACE	1.7	2.0	2.7	1.9	2.3	1.9
ROOM HEATER	1.4	1.7	1.7	1.2	1.6	1.3
OTHER	.7	.8	1.0	.7	.8	.7
KEROSENE	.7	.9	.9	.6	.8	.7
OTHER	1.0	1.2	2.4	1.7	1.9	1.6
NONE	.4	.5	.4	.3	-	-
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)						
YES	31.3	37.4	67.0	47.1	56.4	46.4
WOOD	16.5	19.7	40.9	28.7	34.5	28.4
ELECTRICITY	10.5	12.5	19.5	13.7	16.4	13.5
NATURAL GAS	2.7	3.2	4.7	3.3	4.1	3.4
FUEL OIL	1.2	1.4	3.1	2.2	2.4	1.9
KEROSENE	2.7	3.2	5.8	4.0	4.8	3.9
LPG	1.0	1.2	1.6	1.1	1.3	1.1
OTHER	.6	.7	1.7	1.2	1.2	1.0
NO	52.4	62.6	75.3	52.9	65.1	53.6
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)						
YES	31.3	37.4	67.0	47.1	56.4	46.4
FIREPLACE	13.2	15.8	32.9	23.1	28.1	23.1
PORTABLE ELECTRIC HEATER	6.9	8.3	12.2	8.5	10.1	8.3
HEATING STOVE	4.1	4.8	9.8	6.9	8.1	6.7
BUILT-IN ELECTRIC UNITS	3.2	3.8	6.2	4.3	5.3	4.4
PORTABLE KEROSENE HEATER	2.6	3.1	5.5	3.8	4.5	3.7
CENTRAL WARM-AIR FURNACE	1.7	2.0	3.6	2.6	2.9	2.4
OIL OR GAS ROOM HEATER	1.7	2.1	3.0	2.1	2.7	2.2
COOKING STOVE	1.0	1.2	1.2	.8	1.0	.8
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	1.8	4.0	2.8	3.2	2.7
NO	52.4	62.6	75.3	52.9	65.1	53.6

SEE FOOTNOTES AT END OF TABLE

Total Square Footage by Fuel Use

Table 14. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS		TOTAL SQUARE FOOTAGE			
			TOTAL HEATED AND UNHEATED		TOTAL HEATED	
	(MILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)
FUEL COMBINATIONS						
USE NATURAL GAS FOR HEATING...	47.5	56.7	81.4	57.2	70.4	58.0
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	25.6	30.5	46.4	32.6	40.5	33.3
NATURAL GAS FOR HOT WATER AND NO A/C.....	17.8	21.2	27.8	19.6	23.8	19.6
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.4	2.8	4.1	2.9	3.6	3.0
ELECTRICITY FOR HOT WATER AND NO A/C.....	1.7	2.0	2.9	2.1	2.4	2.0
OTHER.....	.1	.1	.2	.1	.1	.1
USE ELECTRICITY FOR HEATING...	13.4	16.0	19.4	13.6	17.3	14.3
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	9.0	10.7	13.8	9.7	12.3	10.1
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.9	3.4	3.5	2.5	3.1	2.6
OTHER.....	1.5	1.8	2.0	1.4	1.9	1.6
USE FUEL OIL FOR MAIN HEAT....	11.3	13.5	21.6	15.2	17.3	14.3
FUEL OIL FOR HOT WATER AND HAVE A/C.....	2.6	3.1	4.7	3.3	3.7	3.0
FUEL OIL FOR HOT WATER AND NO A/C.....	2.6	3.1	4.1	2.9	3.3	2.7
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.0	2.3	3.8	2.7	3.3	2.7
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.2	2.6	4.4	3.1	3.5	2.9
OTHER.....	2.0	2.4	4.7	3.3	3.6	3.0
USE WOOD FOR MAIN HEAT.....	5.6	6.7	10.7	7.5	8.9	7.4
USE LPG FOR MAIN HEAT.....	3.8	4.5	5.4	3.8	4.7	3.9
USE KEROSENE FOR MAIN HEAT....	.7	.9	.9	.6	.8	.7
USE COAL FOR MAIN HEAT.....	.9	1.1	2.1	1.5	1.7	1.4
NO HEATING FUEL.....	.4	.5	.4	.3	-	-
OTHER FUEL.....	.1	.1	.3	.2	.2	.2
HAVE THERMOSTAT						
YES.....	66.6	79.5	123.3	86.7	104.8	86.3
NO.....	17.2	20.5	19.0	13.3	16.6	13.7
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)						
TURN HEATER ON OR OFF (UP OR DOWN).....	8.6	10.3	9.2	6.5	8.1	6.7
OPEN OR CLOSE WINDOWS OR DOORS.....	5.8	6.9	5.8	4.1	5.5	4.5
ADJUST DRAFT OR AMOUNT OF FUEL.....	2.9	3.4	4.9	3.4	4.2	3.5
TURN RADIATORS ON OR OFF..	1.1	1.4	1.0	.7	.9	.8
USE COOKING APPLIANCES....	1.6	1.9	1.6	1.1	1.4	1.2
OTHER METHODS.....	.6	.8	1.1	.8	.9	.7
WATER HEATING FUEL						
NATURAL GAS.....	47.1	56.2	81.0	57.0	69.9	57.6
ELECTRICITY.....	26.6	31.8	44.0	31.0	37.7	31.0
FUEL OIL OR KEROSENE.....	5.7	6.7	9.6	6.8	7.7	6.3
LPG.....	3.5	4.1	5.5	3.8	4.6	3.8
WOOD.....	.4	.5	.9	.6	.7	.6
COAL.....	.1	.2	.3	.2	.2	.2
SOLAR.....	.3	.3	.6	.4	.4	.4
NONE.....	.1	.2	.2	.2	.2	.1
MAIN COOKING FUEL						
ELECTRICITY.....	45.0	53.7	83.6	58.7	70.7	58.3
NATURAL GAS.....	33.6	40.0	51.3	36.0	44.7	36.8
LPG.....	4.9	5.8	7.0	4.9	5.7	4.7
WOOD.....	.1	.2	.2	.1	.2	.1
OTHER/NONE.....	.2	.3	.2	.2	.2	.1
CLOTHES DRYING FUEL						
WITH CLOTHES DRYER.....	50.1	59.8	104.0	73.1	87.9	72.4
ELECTRICITY.....	37.9	45.3	77.8	54.7	65.6	54.0
NATURAL GAS.....	11.3	13.4	24.3	17.1	20.9	17.2
LPG.....	.9	1.1	2.0	1.4	1.6	1.3
WITHOUT CLOTHES DRYER.....	33.7	40.2	38.2	26.9	33.5	27.6

SEE FOOTNOTES AT END OF TABLE

Total Square Footage by Fuel Use

Table 14. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL HOUSEHOLDS		TOTAL SQUARE FOOTAGE			
			TOTAL HEATED AND UNHEATED		TOTAL HEATED	
	(MILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)	(BILLIONS)	(PERCENT)
AIR CONDITIONING (A/C)						
CENTRAL A/C ONLY	22.7	27.1	43.5	30.6	38.2	31.4
INDIVIDUAL ROOM UNITS ONLY	25.3	30.2	40.3	28.3	34.7	28.6
CENTRAL A/C AND ROOM UNITS	.6	.7	1.5	1.0	1.3	1.1
NO AIR CONDITIONING	35.1	41.9	57.0	40.0	47.2	38.9
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED						
ALL	32.5	38.8	55.5	39.0	49.0	40.4
SOME	16.1	19.3	29.8	20.9	25.2	20.7
NONE	35.1	41.9	57.0	40.0	47.2	38.9
WOOD BURNED IN PAST 12 MONTHS						
YES	21.4	25.6	50.1	35.2	42.3	34.8
ONE-THIRD CORD OR LESS	6.3	7.5	15.2	10.7	13.2	10.8
MORE THAN ONE-THIRD CORD	15.2	18.1	34.9	24.5	29.1	24.0
NO	62.3	74.4	92.2	64.8	79.2	65.2
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE						
YES	72.1	86.1	129.6	91.1	110.4	90.9
NO	11.6	13.9	12.7	8.9	11.0	9.1
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	100.0	121.0	100.0	101.4	100.0
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)						
USES ANY NATURAL GAS	37.3	60.7	75.8	62.7	64.1	63.2
DOES NOT USE ANY NATURAL GAS	24.1	39.3	45.2	37.3	37.3	36.8
GAS IS AVAILABLE	5.1	8.4	9.7	8.0	8.0	7.9
GAS IS NOT AVAILABLE	19.0	30.9	35.4	29.3	29.3	28.9
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	100.0	21.3	100.0	20.0	100.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)						
YES	9.1	40.6	8.0	37.6	7.7	38.3
NO/NO MAIN HEATING SYSTEM	13.3	59.4	13.3	62.4	12.3	61.7
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)						
YES	10.9	48.7	9.4	44.0	8.9	44.5
NO/NO WATER HEATING FUEL						
NO HOT RUNNING WATER	11.5	51.3	11.9	56.0	11.1	55.5
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)						
YES	0.7	3.3	0.7	3.1	0.7	3.3
NO	12.2	54.6	12.0	56.2	11.3	56.5
NO AIR CONDITIONING	9.4	42.0	8.7	40.7	8.0	40.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Main Heating Fuel

Table 15. Fuel Use by Main Heating Fuel, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
TOTAL HOUSEHOLDS	83.8	47.5	13.4	12.0	5.6	3.8	1.5
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)							
ELECTRICITY	83.7	47.5	13.4	12.0	5.6	3.8	1.5
NATURAL GAS	54.2	47.5	1.5	4.3	.7	Q	.1
WOOD	22.5	9.2	3.1	3.0	5.6	.8	.7
FUEL OIL	12.9	.2	.2	11.4	1.0	Q	.2
LPG	7.3	Q	.3	1.5	1.5	3.8	.3
KEROSENE	3.4	.8	.7	1.5	.3	.2	.1
COAL	1.5	.2	Q	.2	.1	Q	.9
SOLAR COLLECTORS	.5	.1	.1	Q	.1	Q	.1
MAIN HEATING EQUIPMENT							
CENTRAL WARM-AIR FURNACE	39.5	29.0	3.5	4.6	.3	1.7	.3
FORCED AIR	38.1	28.0	3.5	4.4	.3	1.7	.3
GRAVITY	1.4	1.1	Q	.2	.1	Q	.1
STEAM OR HOT WATER SYSTEM	14.2	7.4	.3	6.2	.1	.1	.2
HEAT PUMP	3.6	Q	3.6	-	-	Q	Q
BUILT-IN ELECTRIC UNITS, FLOOR, WALL, OR PIPELESS FURNACE	5.0	-	5.0	-	-	-	-
OIL OR GAS ROOM HEATER	7.5	6.5	.1	.3	Q	.5	Q
WOOD OR COAL HEATING STOVE	6.4	4.2	-	.8	-	1.4	Q
FIREPLACE	5.3	-	-	-	4.8	-	.4
PORTABLE ELECTRIC HEATER	.4	Q	Q	Q	.4	Q	Q
PORTABLE KEROSENE HEATER	.8	-	.8	-	-	-	-
COOKING STOVE	.2	-	-	.2	-	-	-
OTHER	.4	.3	Q	Q	Q	.1	Q
NONE	.1	Q	Q	Q	Q	Q	.1
	.4	-	-	-	-	-	.4
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)							
YES	31.3	16.1	4.6	4.8	3.9	1.5	0.4
WOOD	16.5	9.2	3.1	3.0	.1	.8	.3
ELECTRICITY	10.5	5.8	.7	1.4	1.8	.7	.1
NATURAL GAS	2.7	1.7	.3	.2	.5	Q	Q
FUEL OIL	1.2	Q	.2	.1	.8	Q	.1
KEROSENE	2.7	.8	.7	.8	.3	.2	.1
LPG	1.0	Q	.1	.1	.6	.1	Q
OTHER	.6	.2	Q	.2	.1	Q	Q
NO	52.4	31.4	8.8	7.2	1.7	2.3	1.0
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)							
YES	31.3	16.1	4.6	4.8	3.9	1.5	.4
FIREPLACE	13.2	8.4	2.5	1.8	.1	.3	.1
PORTABLE ELECTRIC HEATER	6.9	4.3	.5	1.1	.5	.5	Q
HEATING STOVE	4.1	1.3	.8	1.3	.1	.5	Q
BUILT-IN ELECTRIC UNITS	3.2	1.6	.3	.3	.8	.1	.1
PORTABLE KEROSENE HEATER	2.6	.8	.7	.8	.2	.1	.1
CENTRAL WARM-AIR FURNACE	1.7	Q	.2	Q	1.3	Q	.1
OIL OR GAS ROOM HEATER	1.7	1.0	.1	.1	.4	.1	Q
COOKING STOVE	1.0	.6	.1	.2	.1	Q	Q
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	.4	.2	.1	.7	.1	Q
NO	52.4	31.4	8.8	7.2	1.7	2.3	1.0

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Main Heating Fuel

Table 15. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
HAVE THERMOSTAT							
YES	66.6	39.5	11.9	9.3	2.8	2.6	0.6
NO	17.2	8.0	1.5	2.8	2.8	1.2	.9
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)							
TURN HEATER ON OR OFF (UP OR DOWN)	8.6	5.3	1.2	.7	.5	1.0	Q
OPEN OR CLOSE WINDOWS OR DOORS	5.8	2.5	.4	1.6	.9	.2	.2
ADJUST DRAFT OR AMOUNT OF FUEL	2.9	Q	.1	.2	2.1	Q	.4
TURN RADIATORS ON OR OFF	1.1	.6	.1	.4	Q	Q	Q
USE COOKING APPLIANCES	1.6	1.0	.1	.2	.2	.1	Q
OTHER METHODS	.6	.3	Q	.1	.2	Q	Q
WATER HEATING FUEL							
NATURAL GAS	47.1	43.3	1.3	1.7	.6	Q	.1
ELECTRICITY	26.6	4.0	11.9	4.6	3.6	1.7	.8
FUEL OIL OR KEROSENE	5.7	.1	Q	5.2	.2	Q	.1
LPG	3.5	Q	.1	.5	.8	2.0	.1
WOOD	.4	Q	Q	Q	.4	Q	Q
COAL	.1	Q	Q	Q	Q	Q	.1
SOLAR	.3	Q	.1	Q	Q	Q	.1
NONE	.1	Q	Q	Q	Q	Q	Q
MAIN COOKING FUEL							
ELECTRICITY	45.0	18.9	12.4	7.0	4.2	1.4	1.1
NATURAL GAS	33.6	28.4	.7	3.9	.4	Q	.1
LPG	4.9	Q	.2	1.1	1.0	2.4	.2
WOOD	.1	Q	Q	Q	.1	Q	Q
OTHER/NONE	.2	.1	Q	Q	Q	Q	Q
CLOTHES DRYING FUEL							
WITH CLOTHES DRYER	50.1	29.1	7.8	6.3	4.0	2.1	0.7
ELECTRICITY	37.9	19.0	7.6	5.4	3.7	1.7	.6
NATURAL GAS	11.3	10.2	.2	.7	.2	Q	Q
LPG	.9	Q	Q	.2	.2	.5	.1
WITHOUT CLOTHES DRYER	33.7	18.4	5.5	5.8	1.6	1.6	.7
AIR CONDITIONING (A/C)							
CENTRAL A/C ONLY	22.7	13.2	7.2	1.0	.7	.6	.1
INDIVIDUAL ROOM UNITS ONLY	25.3	14.4	2.9	4.9	1.4	1.3	.3
CENTRAL A/C AND ROOM UNITS	.6	.5	.1	Q	Q	Q	Q
NO AIR CONDITIONING	35.1	19.5	3.1	6.1	3.5	1.8	1.1
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED							
ALL	32.5	18.7	8.7	2.5	1.3	1.3	.1
SOME	16.1	9.3	1.5	3.5	.9	.7	.2
NONE	35.1	19.5	3.1	6.1	3.5	1.8	1.1
WOOD BURNED IN PAST 12 MONTHS							
YES	21.4	8.8	3.0	2.8	5.6	.7	.7
ONE-THIRD CORD OR LESS	6.3	3.7	1.1	.8	.4	.1	.2
MORE THAN ONE-THIRD CORD	15.2	5.0	1.8	1.9	5.2	.6	.5
NO	62.3	38.7	10.4	9.3	.1	3.1	.8

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Main Heating Fuel

Table 15. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE							
YES	72.1	40.8	12.1	9.2	5.2	3.5	1.3
NO	11.6	6.7	1.3	2.8	.4	.3	.2
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	34.3	8.4	8.2	5.5	3.7	1.2
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)							
USES ANY NATURAL GAS	37.3	34.3	.5	1.6	.7	Q	.1
DOES NOT USE NATURAL GAS	24.1	-	7.9	6.6	4.8	3.7	1.1
GAS IS AVAILABLE	5.1	-	2.0	2.0	.6	.4	.1
(PERCENT)	21.3	-	25.8	30.1	12.3	10.9	12.9
GAS IS NOT AVAILABLE	19.0	-	5.9	4.6	4.2	3.3	1.0
(PERCENT)	78.7	-	74.2	69.9	87.7	89.1	87.1
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	13.2	4.9	3.8	.1	.1	.3
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	9.1	5.5	.4	3.1	Q	Q	.1
NO/NO MAIN HEATING SYSTEM	13.3	7.7	4.5	.8	.1	.1	.2
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	10.9	6.7	1.1	2.9	.1	Q	.1
NO/NO WATER HEATING FUEL							
NO HOT RUNNING WATER	11.5	6.5	3.9	.9	Q	.1	.2
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	0.7	0.6	Q	0.1	0.1	Q	Q
NO	12.2	6.7	3.7	1.7	Q	Q	0.1
NO AIR CONDITIONING	9.4	5.9	1.2	2.1	Q	0.1	.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Table 16. Fuel Use by Main Heating Fuel, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)							
ELECTRICITY	100.0	100.0	100.0	100.0	99.3	100.0	100.0
NATURAL GAS	64.6	100.0	11.0	36.0	12.7	Q	10.1
WOOD	26.8	19.4	23.2	25.0	100.0	19.8	49.0
FUEL OIL	15.4	.4	1.5	94.3	17.0	Q	15.9
LPG	8.7	Q	2.5	12.2	25.7	100.0	18.3
KEROSENE	4.0	1.6	4.9	12.1	4.5	4.2	3.5
COAL	1.8	.4	.1	1.9	2.0	.7	63.0
SOLAR COLLECTORS	.6	.3	1.1	.4	1.3	1.0	5.9
MAIN HEATING EQUIPMENT							
CENTRAL WARM-AIR FURNACE	47.1	61.2	26.3	38.0	6.0	44.1	22.4
FORCED AIR	45.4	58.9	26.3	36.2	5.0	44.1	17.4
GRAVITY	1.7	2.2	Q	1.7	.9	Q	5.0
STEAM OR HOT WATER SYSTEM	16.9	15.5	1.9	51.7	1.0	3.1	12.2
HEAT PUMP	4.3	Q	27.1	-	-	Q	Q
BUILT-IN ELECTRIC UNITS	6.0	-	37.5	-	-	-	-
FLOOR, WALL, OR PIPELESS FURNACE	8.9	13.8	1.1	2.2	Q	13.2	1.6
OIL OR GAS ROOM HEATER	7.7	8.9	-	6.3	-	38.2	Q
WOOD OR COAL HEATING STOVE	6.3	-	-	-	85.7	-	30.8
FIREPLACE	.4	Q	Q	Q	6.6	Q	Q
PORTABLE ELECTRIC HEATER	.9	-	5.7	-	-	-	-
PORTABLE KEROSENE HEATER	.3	-	-	1.8	-	-	-
COOKING STOVE	.5	.7	.2	Q	.3	1.5	Q
OTHER	.1	Q	.2	Q	.5	Q	4.3
NONE	.5	-	-	-	-	-	28.7
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)							
YES	37.4	34.0	34.3	40.0	69.7	38.6	28.5
WOOD	19.7	19.4	23.2	25.0	1.2	19.8	23.7
ELECTRICITY	12.5	12.3	4.9	11.7	31.2	18.4	10.0
NATURAL GAS	3.2	3.5	2.2	1.4	9.3	Q	Q
FUEL OIL	1.4	Q	1.3	.5	14.6	Q	10.3
KEROSENE	3.2	1.6	4.9	6.7	4.5	4.2	3.5
LPG	1.2	Q	1.1	1.1	11.1	1.5	1.6
OTHER	.7	.5	.2	1.7	2.1	.7	Q
NO	62.6	66.0	65.7	60.0	30.3	61.4	71.5
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)							
YES	37.4	34.0	34.3	40.0	69.7	38.6	28.5
FIREPLACE	15.8	17.7	18.6	15.2	2.5	7.3	6.3
PORTABLE ELECTRIC HEATER	8.3	9.1	3.5	9.2	8.9	13.7	.7
HEATING STOVE	4.8	2.8	5.8	10.8	1.2	13.9	2.3
BUILT-IN ELECTRIC UNITS	3.8	3.3	2.0	2.1	14.9	3.3	8.4
PORTABLE KEROSENE HEATER	3.1	1.6	4.9	6.3	3.7	3.1	3.5
CENTRAL WARM-AIR FURNACE	2.0	.1	1.2	.3	23.9	Q	8.2
OIL OR GAS ROOM HEATER	2.1	2.1	.8	.9	7.9	2.3	Q
COOKING STOVE	1.2	1.3	.7	1.7	1.7	.1	Q
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.8	.8	1.6	1.1	12.3	1.3	2.9
NO	62.6	66.0	65.7	60.0	30.3	61.4	71.5

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Main Heating Fuel

Table 16. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
HAVE THERMOSTAT							
YES	79.5	83.2	88.6	76.9	50.2	68.5	37.9
NO	20.5	16.8	11.4	23.1	49.8	31.5	62.1
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)							
TURN HEATER ON OR OFF (UP OR DOWN)	10.3	11.1	8.8	6.1	8.0	25.5	1.3
OPEN OR CLOSE WINDOWS OR DOORS	6.9	5.4	3.1	13.0	15.2	6.2	12.2
ADJUST DRAFT OR AMOUNT OF FUEL	3.4	.1	.9	1.4	37.6	.7	25.5
TURN RADIATORS ON OR OFF	1.4	1.3	.8	3.2	Q	Q	3.1
USE COOKING APPLIANCES	1.9	2.2	.8	1.3	3.8	3.0	Q
OTHER METHODS	.8	.6	.1	.6	3.8	1.3	Q
WATER HEATING FUEL							
NATURAL GAS	56.2	91.2	9.7	14.1	10.7	Q	10.1
ELECTRICITY	31.8	8.5	88.6	37.9	64.4	45.6	54.6
FUEL OIL OR KEROSENE	6.7	.2	.1	43.5	4.0	Q	5.7
LPG	4.1	Q	.9	3.8	13.5	52.9	8.5
WOOD	.5	Q	Q	Q	6.6	Q	.6
COAL	.2	Q	Q	Q	Q	Q	9.9
SOLAR	.3	.1	.6	.4	Q	1.0	5.1
NONE	.2	Q	Q	.3	.9	.6	1.3
MAIN COOKING FUEL							
ELECTRICITY	53.7	39.9	92.8	57.8	73.6	36.6	76.2
NATURAL GAS	40.0	59.8	5.5	32.6	6.3	Q	7.4
LPG	5.8	Q	1.4	9.2	17.5	63.4	13.4
WOOD	.2	Q	Q	Q	2.5	Q	Q
OTHER/NONE	.3	.2	.3	.3	Q	Q	2.9
CLOTHES DRYING FUEL							
WITH CLOTHES DRYER	59.8	61.3	58.6	52.1	71.0	56.4	50.0
ELECTRICITY	45.3	40.0	56.9	44.7	65.0	43.6	44.7
NATURAL GAS	13.4	21.5	1.5	5.8	3.1	Q	.7
LPG	1.1	Q	.3	1.6	2.9	12.8	4.7
WITHOUT CLOTHES DRYER	40.2	38.7	41.4	47.9	29.0	43.6	50.0
AIR CONDITIONING (A/C)							
CENTRAL A/C ONLY	27.1	27.7	53.9	8.1	12.4	17.0	3.9
INDIVIDUAL ROOM UNITS ONLY	30.2	30.4	21.7	41.0	25.5	35.1	19.1
CENTRAL A/C AND ROOM UNITS	.7	1.0	.9	.2	.2	.2	Q
NO AIR CONDITIONING	41.9	41.0	23.5	50.8	61.9	47.6	77.0
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED							
ALL	38.8	39.4	65.0	20.6	22.2	33.3	8.7
SOME	19.3	19.6	11.5	28.7	15.8	19.1	14.3
NONE	41.9	41.0	23.5	50.8	61.9	47.6	77.0
WOOD BURNED IN PAST 12 MONTHS							
YES	25.6	18.5	22.2	23.0	99.1	17.2	48.3
ONE-THIRD CORD OR LESS	7.5	7.9	8.4	6.8	6.3	2.3	11.4
MORE THAN ONE-THIRD CORD	18.1	10.6	13.8	16.2	92.7	14.9	36.9
NO	74.4	81.5	77.8	77.0	.9	82.8	51.7

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Main Heating Fuel

Table 16. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	ELECTRICITY	FUEL OIL OR KEROSENE	WOOD	LIQUEFIED PETROLEUM GAS	OTHER/NONE
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE							
YES	86.1	85.9	90.3	76.7	92.9	92.0	89.0
NO	13.9	14.1	9.7	23.3	7.1	8.0	11.0
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)							
USES ANY NATURAL GAS	60.7	100.0	6.5	19.9	12.9	Q	5.7
DOES NOT USE NATURAL GAS	39.3	-	93.5	80.1	87.1	100.0	94.3
GAS IS AVAILABLE	8.4	-	24.1	24.1	10.7	10.9	12.1
GAS IS NOT AVAILABLE	30.9	-	69.4	56.0	76.4	89.1	82.1
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	40.6	41.7	8.2	80.2	10.7	34.1	30.9
NO/NO MAIN HEATING SYSTEM	59.4	58.3	91.8	19.8	89.3	65.9	69.1
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	48.7	51.0	21.5	76.4	61.8	34.1	43.6
NO/NO WATER HEATING FUEL							
NO HOT RUNNING WATER	51.3	49.0	78.5	23.6	38.2	65.9	56.4
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)							
YES	3.3	4.5	0.9	1.5	55.2	Q	Q
NO	54.6	50.7	75.6	43.8	23.4	Q	37.7
NO AIR CONDITIONING	42.0	44.7	23.5	54.7	21.4	100.0	62.3

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 17. Fuel Use by Heating and Cooling Degree-Days, and Census Regions as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL HOUSEHOLDS	83.8	8.5	21.0	22.1	19.6	12.6	9.6	8.3	21.3	16.8	11.3	6.0	10.5
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)													
ELECTRICITY	83.7	8.5	21.0	22.1	19.6	12.6	9.6	8.3	21.3	16.8	11.3	5.9	10.5
NATURAL GAS	54.2	4.7	15.2	14.0	13.4	6.9	5.2	6.5	16.0	8.1	6.4	3.2	8.8
WOOD	22.5	2.8	5.3	6.5	5.6	2.2	3.0	1.2	5.1	5.9	2.1	2.6	2.5
FUEL OIL	12.9	2.2	3.6	6.1	.8	.2	4.0	4.2	1.8	2.2	.2	.5	.1
LPG	7.3	1.4	1.3	1.3	1.6	1.7	1.0	.1	1.8	2.0	1.5	.5	.4
KEROSENE	3.4	.2	.7	1.3	.9	.3	.4	.8	.6	1.3	.3	.1	Q
COAL	1.5	.1	.4	.7	.2	Q	.3	.2	.1	.7	Q	.1	Q
SOLAR COLLECTORS	.5	Q	.1	.1	.1	.2	Q	Q	Q	.1	.1	.1	.2
MAIN HEATING FUEL AND HEATING EQUIPMENT													
NATURAL GAS	47.5	4.5	13.5	10.7	12.5	6.3	3.8	3.7	15.5	7.5	5.8	3.0	8.1
CENTRAL WARM-AIR FURNACE	29.0	3.1	9.3	6.5	6.9	3.2	2.0	1.5	11.3	5.2	3.0	2.2	3.8
STEAM OR HOT WATER SYSTEM	7.4	1.0	3.2	2.9	.2	.1	1.3	2.1	2.9	.5	Q	.4	.2
FLOOR, WALL, OR PIPELESS FURNACE	6.5	.3	.4	.7	4.4	.8	.1	Q	.7	1.1	.7	.3	3.6
ROOM HEATER/OTHER	4.5	.2	.6	.5	1.1	2.2	.4	Q	.7	.8	2.0	.1	.6
ELECTRICITY	13.4	.6	2.4	3.1	3.2	4.1	.9	.4	2.1	3.3	3.5	1.6	1.6
BUILT-IN ELECTRIC UNITS	5.0	.4	1.3	1.8	1.1	.5	.6	.3	1.0	1.1	.4	1.1	.5
CENTRAL WARM-AIR FURNACE	3.5	.1	.5	.7	1.0	1.3	.1	Q	.6	1.0	1.3	.3	.3
HEAT PUMP	3.6	.1	.4	.5	.8	1.8	.1	Q	.4	.9	1.3	.1	.7
OTHER	1.2	Q	.3	.1	.3	.5	.1	Q	.2	.3	.5	.1	.1
FUEL OIL	11.3	1.7	3.3	5.5	.8	.1	3.4	4.0	1.5	1.8	.1	.4	Q
STEAM OR HOT WATER SYSTEM	6.2	.6	1.9	3.7	.1	Q	2.2	3.2	.2	.4	Q	Q	Q
CENTRAL WARM-AIR FURNACE	4.5	1.0	1.3	1.7	.5	.1	1.2	.7	1.1	1.1	.1	.3	Q
OTHER	.6	.1	.1	.2	.2	.1	Q	Q	.1	.3	.1	.1	Q
WOOD	5.6	1.2	.9	1.6	1.6	.4	.9	.1	1.1	2.2	.4	.7	.2
HEATING STOVE	4.8	.9	.9	1.5	1.4	.3	.9	.1	.8	2.0	.3	.6	.2
OTHER	.8	.3	Q	.2	.2	.1	.1	Q	.3	.2	.1	.1	.1
LPG	3.8	.5	.5	.5	1.0	1.3	.2	Q	1.0	1.0	1.2	.2	.1
CENTRAL WARM-AIR FURNACE	1.7	.4	.3	.3	.3	.3	.1	Q	.7	.3	.3	.1	Q
ROOM HEATER	1.4	.1	.1	.1	.5	.7	.1	Q	Q	.5	.7	.1	Q
OTHER	.7	.1	.1	.1	.1	.2	Q	Q	.2	.2	.2	Q	.1
KEROSENE	.7	Q	.1	.2	.3	.1	.1	.1	Q	.4	.1	Q	Q
OTHER	1.0	.1	.3	.5	.1	Q	.2	.1	.1	.5	Q	.1	Q
NONE	.4	Q	Q	Q	.1	.3	Q	Q	Q	Q	Q	Q	.4

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 17. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE						CENSUS REGIONS						
								NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD		5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)														
YES	31.3	3.2	7.8	8.3	7.8	4.2	4.2	2.2	7.0	7.2	4.1	2.9	3.8
WOOD	16.5	1.7	4.3	4.7	4.1	1.8	2.0	1.1	3.9	3.5	1.7	1.9	2.3
ELECTRICITY	10.5	1.1	2.1	2.6	3.1	1.6	1.3	.6	2.1	2.5	1.6	.8	1.5
NATURAL GAS	2.7	.1	.8	.4	.7	.7	.3	.2	.5	.4	.7	.1	.3
FUEL OIL	1.2	.4	.3	.4	.1	Q	.6	.1	.2	.2	Q	.1	Q
KEROSENE	2.7	.2	.6	1.2	.6	.1	.4	.7	.5	.9	.1	.1	Q
LPG	1.0	.2	.1	.3	.2	.2	Q	Q	.2	.4	.2	.1	Q
OTHER	.6	.1	.2	.2	.1	Q	.1	.1	.1	.2	Q	.1	Q
NO	52.4	5.3	13.2	13.8	11.7	8.4	5.4	6.1	14.3	9.6	7.1	3.1	6.7
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)														
YES	31.3	3.2	7.8	8.3	7.8	4.2	4.2	2.2	7.0	7.2	4.1	2.9	3.8
FIREPLACE	13.2	1.0	3.3	3.6	3.6	1.7	1.2	.8	3.1	2.7	1.7	1.6	2.2
PORTABLE ELECTRIC HEATER	6.9	.6	1.5	1.7	1.9	1.3	.9	.5	1.3	1.5	1.3	.4	1.0
HEATING STOVE	4.1	.8	1.2	1.2	.7	.2	.9	.3	1.1	1.0	.2	.4	.1
BUILT-IN ELECTRIC UNITS	3.2	.4	.6	.8	.9	.4	.4	.1	.7	.7	.4	.3	.5
PORTABLE KEROSENE HEATER	2.6	.1	.5	1.2	.6	.1	.3	.7	.5	.9	.1	.1	Q
CENTRAL WARM-AIR FURNACE	1.7	.4	.3	.6	.2	.2	.4	Q	.4	.5	.2	.2	Q
OIL OR GAS ROOM HEATER	1.7	.1	.4	.3	.4	.5	.2	Q	.4	.5	.5	.1	Q
COOKING STOVE	1.0	.1	.3	.2	.2	.2	.2	.1	.2	.1	.2	.1	.1
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	.1	.4	.3	.5	.1	.4	.1	.2	.5	.1	.1	.1
NO	52.4	5.3	13.2	13.8	11.7	8.4	5.4	6.1	14.3	9.6	7.1	3.1	6.7
FUEL COMBINATIONS														
USE NATURAL GAS FOR HEATING	47.5	4.5	13.5	10.7	12.5	6.3	3.8	3.7	15.5	7.5	5.8	3.0	8.1
NATURAL GAS FOR HOT WATER AND HAVE A/C	25.6	1.6	6.8	6.9	5.6	4.7	1.9	2.3	8.3	4.9	4.4	.9	2.8
NATURAL GAS FOR HOT WATER AND NO A/C	17.8	2.3	5.9	2.8	5.8	1.0	1.8	1.2	5.8	1.3	.7	1.7	5.2
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.4	.2	.4	.4	.8	.5	.1	.1	.6	1.0	.5	.1	.1
ELECTRICITY FOR HOT WATER AND NO A/C	1.7	.4	.4	.4	.2	.1	.1	Q	.7	.3	.1	.3	.1
OTHER	.1	Q	Q	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q
USE ELECTRICITY FOR HEATING	13.4	.6	2.4	3.1	3.2	4.1	.9	.4	2.1	3.3	3.5	1.6	1.6
ELECTRICITY FOR HOT WATER AND HAVE A/C	9.0	.2	1.7	1.6	2.1	3.4	.5	.3	1.6	2.5	2.9	.3	.9
ELECTRICITY FOR HOT WATER AND NO A/C	2.9	.3	.5	1.4	.6	.1	.4	Q	.3	.7	.1	1.2	.2
OTHER	1.5	.1	.2	.1	.5	.6	.1	Q	.3	.1	.5	.1	.5
USE FUEL OIL FOR MAIN HEAT	11.3	1.7	3.3	5.5	.8	.1	3.4	4.0	1.5	1.8	.1	.4	Q
FUEL OIL FOR HOT WATER AND HAVE A/C	2.6	.2	.8	1.6	.1	Q	.8	1.5	.1	.2	Q	Q	Q
FUEL OIL FOR HOT WATER AND NO A/C	2.6	.3	.7	1.6	Q	Q	1.0	1.4	Q	.2	Q	Q	Q
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.0	.2	.4	.7	.5	.1	.3	.3	.4	.8	.1	.1	Q
ELECTRICITY FOR HOT WATER AND NO A/C	2.2	.7	.6	.7	.1	Q	.5	.2	.8	.4	Q	.3	Q
OTHER	2.0	.2	.8	.9	Q	Q	.8	.7	.3	.2	Q	Q	Q
USE WOOD FOR MAIN HEAT	5.6	1.2	.9	1.6	1.6	.4	.9	.1	1.1	2.2	.4	.7	.2
USE LPG FOR MAIN HEAT	3.8	.5	.5	.5	1.0	1.3	.2	Q	1.0	1.0	1.2	.2	.1
USE KEROSENE FOR MAIN HEAT	.7	Q	.1	.2	.3	.1	.1	.1	Q	.4	.1	Q	Q
USE COAL FOR MAIN HEAT	.9	Q	.2	.5	.1	Q	.2	.1	Q	.5	Q	Q	Q
NO HEATING FUEL	.4	Q	Q	Q	.1	.3	Q	Q	Q	Q	Q	Q	.4
OTHER FUEL	.1	Q	Q	Q	Q	Q	Q	Q	.1	Q	Q	Q	Q

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 17. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
HAVE THERMOSTAT													
YES	66.6	7.8	18.3	17.5	14.6	8.4	8.0	6.0	19.2	13.1	7.6	5.0	7.7
NO	17.2	.7	2.8	4.6	4.9	4.2	1.6	2.3	2.1	3.7	3.7	.9	2.8
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)													
TURN HEATER ON OR OFF (UP OR DOWN)	8.6	.2	1.0	1.0	3.4	3.1	.6	.1	.7	2.1	2.9	.4	1.8
OPEN OR CLOSE WINDOWS OR DOORS	5.8	.2	1.0	2.3	1.4	1.0	.5	1.5	.6	1.1	.9	.4	.9
ADJUST DRAFT OR AMOUNT OF FUEL	2.9	.4	.5	.9	.9	.2	.3	.1	.5	1.3	.2	.4	.1
TURN RADIATORS ON OR OFF	1.1	.1	.6	.5	Q	Q	.3	.3	.4	Q	Q	.1	Q
USE COOKING APPLIANCES	1.6	.1	.4	.3	.3	.6	.2	.2	.2	.2	.6	.1	.2
OTHER METHODS	.6	.1	.1	.2	.2	Q	.1	.1	.1	.3	Q	Q	.1
WATER HEATING FUEL													
NATURAL GAS	47.1	4.0	13.8	10.8	12.2	6.2	4.4	4.2	14.7	6.7	5.7	2.7	8.6
ELECTRICITY	26.6	3.1	4.8	7.1	6.3	5.3	2.6	1.1	5.5	8.5	4.7	2.8	1.4
FUEL OIL OR KEROSENE	5.7	.6	1.6	3.4	.1	Q	2.1	3.0	.1	.4	Q	Q	Q
LPG	3.5	.7	.6	.5	.8	.8	.4	Q	.9	.9	.7	.4	.3
WOOD	.4	.1	.1	.1	.1	.1	.1	Q	Q	.2	.1	Q	Q
COAL	.1	Q	.1	Q	Q	Q	.1	Q	Q	Q	Q	Q	Q
SOLAR	.3	Q	Q	Q	Q	.1	Q	Q	Q	Q	.1	Q	.1
NONE	.1	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q
MAIN COOKING FUEL													
ELECTRICITY	45.0	6.1	11.1	11.2	9.8	6.9	5.2	2.4	12.0	10.6	6.0	4.9	3.8
NATURAL GAS	33.6	1.5	9.2	9.8	8.7	4.4	3.6	5.7	8.3	4.7	4.1	.8	6.3
LPG	4.9	.9	.7	1.0	1.0	1.3	.8	.1	.9	1.4	1.1	.3	.3
WOOD	.1	Q	Q	Q	Q	Q	Q	Q	Q	.1	Q	Q	Q
OTHER/NONE	.2	Q	Q	.1	Q	Q	Q	Q	.1	Q	Q	Q	Q
CLOTHES DRYING FUEL													
WITH CLOTHES DRYER	50.1	5.7	13.4	12.9	10.9	7.2	6.0	3.6	14.0	10.2	6.4	4.2	5.7
ELECTRICITY	37.9	4.5	9.1	10.4	8.2	5.8	4.5	2.3	9.7	9.0	5.2	3.8	3.4
NATURAL GAS	11.3	1.0	4.1	2.4	2.7	1.1	1.3	1.3	4.0	1.1	1.0	.3	2.2
LPG	.9	.2	.3	.1	Q	.3	.1	Q	.3	.1	.2	.1	.1
WITHOUT CLOTHES DRYER	33.7	2.8	7.6	9.2	8.7	5.4	3.7	4.7	7.4	6.6	4.9	1.8	4.8
AIR CONDITIONING (A/C)													
CENTRAL A/C ONLY	22.7	1.1	4.3	5.3	5.7	6.4	1.0	1.0	5.8	5.8	5.6	.8	2.7
INDIVIDUAL ROOM UNITS ONLY	25.3	1.6	6.9	7.6	5.3	3.8	3.2	4.0	6.4	5.8	3.7	.6	1.6
CENTRAL A/C AND ROOM UNITS	.6	Q	.1	.2	.2	.2	Q	.1	.1	.2	.2	Q	Q
NO AIR CONDITIONING	35.1	5.8	9.7	9.0	8.4	2.2	5.4	3.2	9.0	5.1	1.7	4.5	6.2
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED													
ALL	32.5	1.6	6.2	7.8	8.3	8.6	1.7	2.2	8.0	8.7	7.8	1.0	3.1
SOME	16.1	1.2	5.1	5.3	2.9	1.7	2.6	2.8	4.2	3.1	1.7	.5	1.2
NONE	35.1	5.8	9.7	9.0	8.4	2.2	5.4	3.2	9.0	5.1	1.7	4.5	6.2

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 17. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
WOOD BURNED IN PAST 12 MONTHS													
YES	21.4	2.8	5.2	6.1	5.3	2.0	3.0	1.1	4.8	5.7	2.0	2.5	2.3
ONE-THIRD CORD OR LESS	6.3	.4	1.8	1.6	1.8	.7	.7	.4	1.3	1.2	.7	.8	1.2
MORE THAN ONE-THIRD CORD	15.2	2.4	3.5	4.5	3.5	1.3	2.3	.8	3.6	4.5	1.3	1.7	1.1
NO	62.3	5.8	15.8	16.0	14.2	10.6	6.7	7.2	16.5	11.1	9.3	3.5	8.2
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE													
YES	72.1	7.7	17.6	18.0	17.7	11.2	7.9	5.8	18.5	14.9	10.0	5.5	9.6
NO	11.6	.8	3.4	4.1	1.9	1.4	1.8	2.5	2.8	1.9	1.3	.5	.9
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	6.5	14.6	15.3	14.7	10.3	6.5	4.5	15.7	13.7	9.0	4.5	7.5
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)													
USES ANY NATURAL GAS	37.3	3.4	9.9	8.5	9.6	5.8	3.1	3.0	11.2	5.9	5.4	2.4	6.3
DOES NOT USE NATURAL GAS	24.1	3.1	4.7	6.8	5.1	4.4	3.4	1.4	4.5	7.8	3.6	2.1	1.2
GAS IS AVAILABLE	5.1	.4	1.1	1.7	1.0	.9	.6	.7	.9	1.1	.9	.8	.1
(PERCENT)	21.3	13.3	24.3	25.4	18.8	20.5	17.2	50.6	20.8	13.9	23.8	39.0	9.9
GAS IS NOT AVAILABLE	19.0	2.7	3.6	5.1	4.1	3.5	2.8	.7	3.6	6.7	2.8	1.3	1.1
(PERCENT)	78.7	86.7	75.7	74.6	81.2	79.5	82.8	49.4	79.2	86.1	76.2	61.0	90.1
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	2.0	6.4	6.8	4.9	2.3	3.1	3.9	5.6	3.1	2.3	1.4	3.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	9.1	1.1	3.1	4.2	.5	.2	1.4	3.3	2.8	1.0	.2	.3	.2
NO/NO MAIN HEATING SYSTEM	13.3	.9	3.4	2.6	4.3	2.1	1.8	.6	2.8	2.1	2.1	1.1	2.9
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	10.9	1.2	3.6	4.2	1.5	.4	1.5	3.2	3.3	.9	.4	.5	1.1
NO/NO WATER HEATING FUEL NO HOT RUNNING WATER	11.5	.8	2.8	2.6	3.4	1.9	1.6	.7	2.3	2.2	1.9	.9	1.9
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	.7	.1	.3	.3	Q	.1	.2	.1	.1	.2	.1	.1	Q
NO	12.2	.5	3.4	3.6	2.6	2.1	1.2	2.1	3.1	2.1	2.0	.4	1.3
NO AIR CONDITIONING	9.4	1.4	2.7	2.8	2.3	.2	1.7	1.7	2.4	.7	.2	1.0	1.8

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 18. Fuel Use by Heating and Cooling Degree-Days, and Census Regions as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)													
ELECTRICITY	100.0	100.0	99.9	100.0	100.0	99.9	100.0	100.0	100.0	100.0	99.9	99.5	100.0
NATURAL GAS	64.6	55.0	72.4	63.3	68.4	54.8	53.9	77.6	75.0	48.5	56.8	53.7	83.6
WOOD	26.8	33.2	25.2	29.4	28.8	17.5	31.4	14.5	23.7	35.3	18.9	44.0	23.8
FUEL OIL	15.4	26.0	17.2	27.6	4.1	1.6	41.8	50.1	8.6	13.0	1.4	8.6	.6
LPG	8.7	16.3	6.1	6.1	8.1	13.7	10.4	1.5	8.4	11.9	13.6	7.6	4.0
KEROSENE	4.0	2.3	3.4	5.9	4.5	2.1	4.5	9.0	2.7	7.5	2.3	1.0	.2
COAL	1.8	.7	2.1	3.2	1.1	.3	3.2	2.3	.4	4.3	.4	2.3	Q
SOLAR COLLECTORS	.6	.4	.3	.6	.6	1.2	.4	Q	.2	.7	.7	1.0	1.8
MAIN HEATING FUEL AND HEATING EQUIPMENT													
NATURAL GAS	56.7	52.8	64.3	48.3	64.1	49.8	39.9	44.5	72.7	45.0	51.3	50.2	77.5
CENTRAL WARM-AIR FURNACE	34.7	36.4	44.2	29.6	35.1	25.7	21.1	18.4	52.9	30.9	26.7	37.1	36.1
STEAM OR HOT WATER SYSTEM	8.8	11.2	15.2	13.3	1.1	.5	13.9	25.5	13.4	2.8	.4	5.9	1.6
FLOOR, WALL, OR PIPELESS FURNACE	7.8	3.0	1.9	3.3	22.5	6.0	.8	.6	3.3	6.7	6.0	5.6	33.9
ROOM HEATER/OTHER	5.4	2.1	3.0	2.1	5.5	17.5	4.0	Q	3.1	4.5	18.1	1.7	5.8
ELECTRICITY	16.0	6.7	11.6	14.2	16.1	32.4	9.6	4.6	9.9	19.6	31.4	26.1	15.1
BUILT-IN ELECTRIC UNITS	6.0	4.4	6.2	8.0	5.7	3.6	6.1	3.9	4.6	6.8	3.9	17.7	4.5
CENTRAL WARM-AIR FURNACE	4.2	1.1	2.2	3.1	4.9	10.4	.9	Q	2.7	5.9	11.3	5.3	2.8
HEAT PUMP	4.3	1.0	2.0	2.4	3.8	14.6	1.2	.5	1.8	5.5	11.9	2.1	6.7
OTHER	1.5	.1	1.2	.6	1.6	3.8	1.4	.2	.7	1.5	4.3	1.0	1.1
FUEL OIL	13.5	19.4	15.5	24.9	3.9	1.0	35.6	48.0	7.2	10.7	1.1	6.7	.2
STEAM OR HOT WATER SYSTEM	7.4	7.0	8.9	16.6	.3	Q	23.0	39.0	1.2	2.7	Q	.5	Q
CENTRAL WARM-AIR FURNACE	5.4	11.6	6.1	7.6	2.5	.6	12.4	8.7	5.4	6.4	.6	5.0	Q
OTHER	.7	.8	.5	.7	1.1	.4	.2	.2	.6	1.6	.5	1.2	.2
WOOD	6.7	13.7	4.3	7.3	7.9	3.2	9.8	.7	5.2	13.2	3.5	11.5	2.2
HEATING STOVE	5.8	10.2	4.1	6.6	7.1	2.1	9.3	.7	3.6	12.1	2.4	10.6	1.6
OTHER	1.0	3.5	.2	.7	.9	1.0	.6	Q	1.6	1.0	1.1	.9	.5
LPG	4.5	6.3	2.4	2.1	5.2	10.0	1.8	.3	4.5	6.2	10.9	4.0	1.3
CENTRAL WARM-AIR FURNACE	2.0	4.4	1.6	1.3	1.7	2.7	1.1	.3	3.3	2.0	3.0	2.3	.2
ROOM HEATER	1.7	.6	.4	.3	2.8	5.6	.5	Q	.2	3.2	6.2	1.2	.4
OTHER	.8	1.3	.4	.6	.7	1.7	.1	Q	1.0	1.0	1.7	.5	.7
KEROSENE	.9	.1	.5	.7	1.7	1.1	.9	.6	.2	2.5	1.3	.1	Q
OTHER	1.2	1.0	1.3	2.4	.4	.3	2.4	1.4	.4	2.9	.4	1.2	.2
NONE	.5	Q	Q	Q	.6	2.3	Q	Q	Q	Q	.3	.2	3.5

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 18. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE											
							CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)													
YES	37.4	38.1	37.0	37.7	40.0	33.1	44.0	26.2	32.9	42.6	36.6	48.0	35.8
WOOD	19.7	19.6	20.6	21.1	20.8	14.2	21.0	13.1	18.4	21.0	15.5	32.4	21.5
ELECTRICITY	12.5	12.7	10.0	11.8	15.7	13.0	13.6	7.2	9.8	15.2	14.5	13.1	14.6
NATURAL GAS	3.2	.7	3.6	1.9	3.6	5.8	3.1	2.1	2.6	2.6	6.5	2.5	3.1
FUEL OIL	1.4	5.0	1.7	1.6	.3	.3	5.8	.7	.9	1.5	.3	1.9	Q
KEROSENE	3.2	2.2	2.9	5.5	3.0	1.0	3.7	8.4	2.5	5.6	1.1	.9	.2
LPG	1.2	1.8	.7	1.4	1.1	1.2	.5	Q	1.1	2.3	1.4	1.8	.4
OTHER	.7	.6	1.1	1.0	.7	Q	1.1	1.0	.4	1.3	Q	1.9	Q
NO	62.6	61.9	63.0	62.3	60.0	66.9	56.0	73.8	67.1	57.4	63.4	52.0	64.2
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)													
YES	37.4	38.1	37.0	37.7	40.0	33.1	44.0	26.2	32.9	42.6	36.6	48.0	35.8
FIREPLACE	15.8	11.8	15.6	16.2	18.3	13.9	12.3	9.1	14.5	15.8	15.1	27.0	21.1
PORTABLE ELECTRIC HEATER	8.3	6.9	7.0	7.6	9.7	10.5	9.1	6.2	6.1	8.9	11.5	7.0	10.0
HEATING STOVE	4.8	9.0	5.9	5.2	3.8	1.2	9.1	3.7	5.3	6.2	1.4	7.0	1.3
BUILT-IN ELECTRIC UNITS	3.8	5.3	2.7	3.7	4.7	3.2	4.6	1.0	3.2	4.4	3.6	5.4	4.7
PORTABLE KEROSENE HEATER	3.1	1.7	2.5	5.4	2.9	1.1	2.7	8.4	2.3	5.3	1.3	.9	.2
CENTRAL WARM-AIR FURNACE	2.0	4.8	1.5	2.6	1.0	1.6	3.7	.5	1.7	2.9	1.8	4.0	.2
OIL OR GAS ROOM HEATER	2.1	1.0	2.1	1.5	2.0	4.0	2.0	.5	1.7	3.1	4.4	1.3	.4
COOKING STOVE	1.2	1.1	1.5	.9	.8	1.9	2.1	1.5	.9	.4	2.1	1.2	1.1
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.8	1.5	2.1	1.3	2.6	1.2	3.7	.7	1.0	3.0	1.3	1.7	1.3
NO	62.6	61.9	63.0	62.3	60.0	66.9	56.0	73.8	67.1	57.4	63.4	52.0	64.2
FUEL COMBINATIONS													
USE NATURAL GAS FOR HEATING	56.7	52.8	64.3	48.3	64.1	49.8	39.9	44.5	72.7	45.0	51.3	50.2	77.5
NATURAL GAS FOR HOT WATER AND HAVE A/C	30.5	18.5	32.2	31.3	28.8	37.0	19.4	28.0	39.2	29.3	39.3	14.5	26.8
NATURAL GAS FOR HOT WATER AND NO A/C	21.2	26.6	28.1	12.6	29.7	7.8	18.6	14.2	27.4	8.0	6.6	28.4	49.1
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.8	2.6	1.8	2.0	4.3	4.0	.8	1.7	2.6	5.9	4.2	1.3	.6
ELECTRICITY FOR HOT WATER AND NO A/C	2.0	4.8	2.1	2.0	1.2	1.0	1.0	Q	3.5	1.6	1.1	5.8	.8
OTHER	.1	.2	Q	.4	.1	Q	.2	.6	Q	.2	Q	.1	.2
USE ELECTRICITY FOR HEATING	16.0	6.7	11.6	14.2	16.1	32.4	9.6	4.6	9.9	19.6	31.4	26.1	15.1
ELECTRICITY FOR HOT WATER AND HAVE A/C	10.7	2.5	8.0	7.4	10.6	27.0	5.3	4.1	7.4	15.0	25.7	4.6	8.3
ELECTRICITY FOR HOT WATER AND NO A/C	3.4	3.2	2.5	6.2	2.9	.9	3.9	.5	1.2	3.9	1.0	20.3	1.9
OTHER	1.8	1.0	1.1	.6	2.6	4.5	.5	Q	1.2	.7	4.6	1.2	4.9
USE FUEL OIL FOR MAIN HEAT	13.5	19.4	15.5	24.9	3.9	1.0	35.6	48.0	7.2	10.7	1.1	6.7	.2
FUEL OIL FOR HOT WATER AND HAVE A/C	3.1	2.1	3.6	7.3	.3	Q	8.4	17.9	.6	1.1	Q	.1	Q
FUEL OIL FOR HOT WATER AND NO A/C	3.1	3.6	3.4	7.1	Q	Q	10.5	16.4	Q	1.1	Q	.3	Q
ELECTRICITY FOR HOT WATER AND HAVE A/C	2.3	2.4	1.9	3.2	2.7	1.0	2.9	3.8	1.8	4.6	1.1	1.6	Q
ELECTRICITY FOR HOT WATER AND NO A/C	2.6	8.5	2.8	3.3	.7	Q	5.6	1.8	3.5	2.5	Q	4.7	.2
OTHER	2.4	2.8	3.8	4.1	.2	Q	8.1	8.1	1.3	1.4	Q	.1	Q
USE WOOD FOR MAIN HEAT	6.7	13.7	4.3	7.3	7.9	3.2	9.8	.7	5.2	13.2	3.5	11.5	2.2
USE LPG FOR MAIN HEAT	4.5	6.3	2.4	2.1	5.2	10.0	1.8	.3	4.5	6.2	10.9	4.0	1.3
USE KEROSENE FOR MAIN HEAT	.9	.1	.5	.7	1.7	1.1	.9	.6	.2	2.5	1.3	.1	Q
USE COAL FOR MAIN HEAT	1.1	.5	1.1	2.4	.3	.3	2.4	1.4	.1	2.9	.4	.5	Q
NO HEATING FUEL	.5	Q	Q	Q	.6	2.3	Q	Q	Q	Q	.3	.2	3.5
OTHER FUEL	.1	.6	.2	Q	.1	Q	Q	Q	.3	Q	Q	.7	.2

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree-Days and Census Regions

Table 18. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE											
							CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
HAVE THERMOSTAT													
YES	79.5	91.2	86.9	79.3	74.8	66.8	83.1	72.6	90.1	77.8	67.3	84.3	73.3
NO	20.5	8.8	13.1	20.7	25.2	33.2	16.9	27.4	9.9	22.2	32.7	15.7	26.7
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)													
TURN HEATER ON OR OFF (UP OR DOWN)	10.3	1.9	4.6	4.5	17.3	24.9	6.5	.9	3.3	12.3	26.0	6.7	17.4
OPEN OR CLOSE WINDOWS OR DOORS	6.9	1.9	4.7	10.2	7.3	7.7	4.7	18.4	2.6	6.3	7.6	7.5	8.4
ADJUST DRAFT OR AMOUNT OF FUEL	3.4	4.6	2.4	4.3	4.3	1.3	3.4	.9	2.3	7.9	1.4	6.3	1.1
TURN RADIATORS ON OR OFF	1.4	.9	2.7	2.1	.1	.1	2.7	3.8	2.0	.3	.1	1.4	Q
USE COOKING APPLIANCES	1.9	.7	1.7	1.5	1.4	4.7	1.8	2.2	1.0	.9	5.0	2.2	1.9
OTHER METHODS	.8	1.1	.6	1.0	1.0	Q	.8	1.1	.6	1.5	Q	.6	.5
WATER HEATING FUEL													
NATURAL GAS	56.2	47.0	65.6	49.1	62.5	49.3	46.0	51.0	68.9	39.8	50.8	45.6	82.0
ELECTRICITY	31.8	36.3	22.7	32.4	32.3	42.1	27.2	12.8	25.8	50.6	41.8	46.8	13.6
FUEL OIL OR KEROSENE	6.7	6.6	7.7	15.3	.3	.3	21.3	35.9	.6	2.5	Q	.4	.4
LPG	4.1	8.3	2.9	2.5	3.9	6.5	3.7	.3	4.1	5.1	5.9	6.0	3.0
WOOD	.5	.7	.3	.4	.5	.6	.8	Q	.2	1.1	.6	.2	.1
COAL	.2	.5	.3	.2	Q	Q	.8	Q	Q	.3	Q	.4	Q
SOLAR	.3	Q	.2	.2	.2	1.1	.1	Q	Q	.3	.7	.6	.9
NONE	.2	Q	.2	.1	.2	.2	.2	Q	.2	.3	.2	Q	Q
MAIN COOKING FUEL													
ELECTRICITY	53.7	71.4	52.6	50.7	49.9	54.6	54.2	29.4	56.3	63.1	53.2	81.7	36.6
NATURAL GAS	40.0	17.5	43.7	44.3	44.6	34.5	37.4	68.8	39.1	28.3	36.0	13.1	60.2
LPG	5.8	10.6	3.4	4.3	5.2	10.3	8.4	1.2	4.1	8.1	10.2	4.5	3.2
WOOD	.2	Q	.1	.2	.2	.3	Q	Q	Q	.4	.3	.7	Q
OTHER/NONE	.3	.5	.2	.5	.1	.3	Q	.6	.5	.2	.3	Q	Q
CLOTHES DRYING FUEL													
WITH CLOTHES DRYER	59.8	66.5	63.7	58.5	55.7	57.3	61.7	43.8	65.5	60.8	56.9	70.2	54.7
ELECTRICITY	45.3	52.3	43.2	47.1	41.8	46.2	47.2	28.1	45.4	53.7	46.2	63.8	32.1
NATURAL GAS	13.4	11.8	19.3	10.8	13.8	8.9	13.2	15.2	18.8	6.7	9.2	5.4	21.4
LPG	1.1	2.9	1.2	.6	.2	2.2	1.4	.5	1.5	.6	1.5	1.0	1.2
WITHOUT CLOTHES DRYER	40.2	33.5	36.3	41.5	44.3	42.7	38.3	56.2	34.5	39.2	43.1	29.8	45.3
AIR CONDITIONING (A/C)													
CENTRAL A/C ONLY	27.1	12.6	20.6	23.9	29.1	50.5	10.5	12.5	27.0	34.4	49.9	13.8	25.8
INDIVIDUAL ROOM UNITS ONLY	30.2	19.3	32.7	34.6	27.3	30.1	33.6	47.8	30.2	34.3	32.9	10.7	14.8
CENTRAL A/C AND ROOM UNITS	.7	Q	.3	.8	.8	1.6	.2	1.0	.4	1.2	1.8	.1	.1
NO AIR CONDITIONING	41.9	68.1	46.3	40.7	42.8	17.7	55.7	38.8	42.4	30.1	15.3	75.4	59.3
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED													
ALL	38.8	18.2	29.4	35.5	42.5	68.4	17.2	27.0	37.8	51.6	69.6	16.6	29.3
SOME	19.3	13.7	24.3	23.8	14.7	13.8	27.2	34.3	19.9	18.3	15.0	8.0	11.5
NONE	41.9	68.1	46.3	40.7	42.8	17.7	55.7	38.8	42.4	30.1	15.3	75.4	59.3

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Heating and Cooling Degree Days and Census Regions

Table 18. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
WOOD BURNED IN PAST 12 MONTHS													
YES	25.6	32.4	24.8	27.8	27.2	16.1	30.9	13.8	22.8	33.8	17.5	42.0	22.0
ONE-THIRD CORD OR LESS	7.5	4.6	8.4	7.4	9.1	5.7	7.3	4.4	6.1	7.2	6.1	14.2	11.2
MORE THAN ONE-THIRD CORD	18.1	27.7	16.4	20.4	18.0	10.4	23.6	9.4	16.7	26.5	11.4	27.9	10.8
NO	74.4	67.6	75.2	72.2	72.8	83.9	69.1	86.2	77.2	66.2	82.5	58.0	78.0
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE													
YES	86.1	90.2	83.7	81.5	90.4	88.8	81.5	69.7	86.8	89.0	88.6	92.3	91.1
NO	13.9	9.8	16.3	18.5	9.6	11.2	18.5	30.3	13.2	11.0	11.4	7.7	8.9
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)													
USES ANY NATURAL GAS	60.7	52.8	67.8	55.7	65.3	56.7	47.5	67.8	71.3	43.2	59.6	53.0	84.1
DOES NOT USE NATURAL GAS	39.3	47.2	32.2	44.3	34.7	43.3	52.5	32.2	28.7	56.8	40.4	47.0	15.9
GAS IS AVAILABLE	8.4	6.3	7.8	11.3	6.5	8.9	9.0	16.3	6.0	7.9	9.6	18.3	1.6
GAS IS NOT AVAILABLE	30.9	41.0	24.4	33.1	28.2	34.4	43.5	15.9	22.8	48.9	30.8	28.7	14.3
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	40.6	54.8	47.6	62.1	11.1	8.3	43.6	85.6	50.1	31.5	8.5	21.4	5.5
NO/NO MAIN HEATING SYSTEM	59.4	45.2	52.4	37.9	88.9	91.7	56.4	14.4	49.9	68.5	91.5	78.6	94.5
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	48.7	61.3	56.4	61.8	30.3	17.2	49.5	81.9	58.6	29.7	17.6	34.1	37.1
NO/NO WATER HEATING FUEL													
NO HOT RUNNING WATER	51.3	38.7	43.6	38.2	69.7	82.8	50.5	18.1	41.4	70.3	82.4	65.9	62.9
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)													
YES	3.3	4.8	4.1	4.5	.2	3.3	7.7	1.3	2.2	6.2	3.3	4.6	Q
NO	54.6	26.6	53.3	53.8	53.0	88.5	38.7	54.6	55.3	69.6	89.2	27.5	41.4
NO AIR CONDITIONING	42.0	68.5	42.6	41.8	46.8	8.2	53.6	44.1	42.5	24.2	7.5	67.9	58.6

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Year House Built

Table 19. Fuel Use by Year House Built, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	83.8	2.9	10.0	10.2	8.1	8.6	13.4	7.0	23.6
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)									
ELECTRICITY	83.7	2.9	10.0	10.2	8.1	8.6	13.4	7.0	23.6
NATURAL GAS	54.2	1.2	4.1	5.4	5.1	6.3	9.9	5.0	17.1
WOOD	22.5	.9	3.7	3.4	2.3	2.4	3.3	1.7	4.8
FUEL OIL	12.9	Q	.8	.7	.6	1.4	2.2	1.5	5.7
LPG	7.3	.2	.7	.9	.7	.7	1.0	.5	2.5
KEROSENE	3.4	.1	.4	.4	.5	.2	.6	.1	1.0
COAL	1.5	Q	Q	.2	.1	.1	.2	.2	.6
SOLAR COLLECTORS	.5	Q	.1	Q	.1	.1	.1	Q	.1
MAIN HEATING FUEL AND HEATING EQUIPMENT									
NATURAL GAS	47.5	1.0	3.7	5.0	4.4	5.5	9.1	4.4	14.0
CENTRAL WARM-AIR FURNACE	29.0	.8	2.9	4.1	3.5	3.8	5.4	2.5	6.0
STEAM OR HOT WATER SYSTEM	7.4	Q	.5	.4	.7	.8	1.1	.5	3.4
FLOOR, WALL, OR PIPELESS FURNACE	6.5	.1	.3	.4	.6	.6	1.9	.7	2.0
ROOM HEATER/OTHER	4.5	.1	Q	.1	.1	.3	.7	.6	2.6
ELECTRICITY	13.4	1.5	4.2	3.0	1.8	1.0	.9	.3	.7
BUILT-IN ELECTRIC UNITS	5.0	.2	1.3	1.4	.9	.4	.3	.1	.4
CENTRAL WARM-AIR FURNACE	3.5	.5	1.6	.7	.4	.1	.2	Q	.1
HEAT PUMP	3.6	.7	1.3	.6	.4	.4	.2	Q	Q
OTHER	1.2	.1	.1	.3	.1	.1	.2	.1	.3
FUEL OIL	11.3	Q	.8	.6	.3	1.2	1.9	1.4	5.0
STEAM OR HOT WATER SYSTEM	6.2	Q	.4	.2	.1	.6	1.0	.7	3.1
CENTRAL WARM-AIR FURNACE	4.5	Q	.4	.4	.3	.5	.8	.5	1.7
OTHER	.6	Q	Q	Q	Q	.1	.1	.1	.2
WOOD	5.6	.2	.7	.8	.6	.5	.7	.5	1.8
HEATING STOVE	4.8	.2	.5	.8	.5	.4	.5	.4	1.6
OTHER	.8	Q	.1	Q	Q	.1	.2	.1	.2
LPG	3.8	.2	.5	.6	.3	.3	.5	.2	1.2
CENTRAL WARM-AIR FURNACE	1.7	.1	.3	.5	.2	.1	.1	Q	.4
ROOM HEATER	1.4	Q	.1	Q	.1	.1	.2	.2	.6
OTHER	.7	Q	.1	.1	Q	.1	.2	Q	.2
KEROSENE	.7	Q	Q	.1	.1	Q	.2	Q	.4
OTHER	1.0	.1	Q	.2	.1	.1	.1	.2	.4
NONE	.4	Q	.1	Q	Q	Q	.1	Q	.1
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)									
YES	31.3	1.0	4.4	4.1	3.4	3.2	4.9	2.5	7.8
WOOD	16.5	.6	3.1	2.6	1.8	1.8	2.6	1.1	2.9
ELECTRICITY	10.5	.4	1.0	1.4	1.1	1.1	1.6	.9	3.1
NATURAL GAS	2.7	Q	.3	.1	.2	.2	.4	.4	1.0
FUEL OIL	1.2	Q	Q	.1	.1	.1	.2	.1	.5
KEROSENE	2.7	.1	.4	.4	.4	.2	.4	.1	.7
LPG	1.0	.1	Q	.1	.2	.1	.1	.1	.3
OTHER	.6	Q	Q	Q	.1	.1	.1	Q	.2
NO	52.4	1.9	5.6	6.1	4.7	5.4	8.5	4.5	15.8
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)									
YES	31.3	1.0	4.4	4.1	3.4	3.2	4.9	2.5	7.8
FIREPLACE	13.2	.5	2.6	1.9	1.6	1.6	2.2	.9	1.9
PORTABLE ELECTRIC HEATER	6.9	.2	.4	.6	.8	.8	1.1	.8	2.3
HEATING STOVE	4.1	.1	.6	.7	.2	.4	.6	.3	1.1
BUILT-IN ELECTRIC UNITS	3.2	.1	.5	.7	.3	.2	.5	.1	.8
PORTABLE KEROSENE HEATER	2.6	.1	.4	.3	.4	.2	.4	.1	.7
CENTRAL WARM-AIR FURNACE	1.7	Q	.2	.3	.2	.2	.2	.1	.5
OIL OR GAS ROOM HEATER	1.7	Q	Q	.1	.2	.1	.5	.2	.6
COOKING STOVE	1.0	Q	Q	Q	.1	.1	.1	.1	.6
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.5	.1	.2	.1	.2	.2	.2	.1	.4
NO	52.4	1.9	5.6	6.1	4.7	5.4	8.5	4.5	15.8

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Year House Built

Table 19. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
FUEL COMBINATIONS									
USE NATURAL GAS FOR HEATING...	47.5	1.0	3.7	5.0	4.9	5.5	9.1	4.4	14.0
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	25.6	.6	2.3	3.4	3.5	3.4	4.9	2.3	5.2
NATURAL GAS FOR HOT WATER AND NO A/C.....	17.8	.3	1.1	1.1	1.1	1.6	3.5	1.5	7.4
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.4	Q	.2	.3	.3	.3	.5	.2	.6
ELECTRICITY FOR HOT WATER AND NO A/C.....	1.7	Q	.1	.1	.1	.1	.2	.3	.8
OTHER.....	.1	Q	Q	Q	Q	Q	Q	Q	Q
USE ELECTRICITY FOR HEATING...	13.4	1.5	4.2	3.0	1.8	1.0	.9	.3	.7
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	9.0	1.1	3.0	2.2	1.2	.6	.6	.2	.2
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.9	.2	.8	.5	.4	.2	.2	.1	.4
OTHER.....	1.5	.2	.4	.3	.1	.2	.2	Q	.1
USE FUEL OIL FOR MAIN HEAT....	11.3	Q	.8	.6	.3	1.2	1.9	1.4	5.0
FUEL OIL FOR HOT WATER AND HAVE A/C.....	2.6	Q	.3	.1	Q	.4	.6	.2	.9
FUEL OIL FOR HOT WATER AND NO A/C.....	2.6	Q	.2	.1	Q	.2	.4	.4	1.3
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.0	Q	.1	.2	Q	.4	.4	.3	.5
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.2	Q	.2	.2	.2	.1	.3	.3	.8
OTHER.....	2.0	Q	Q	Q	Q	.1	.1	.1	1.6
USE WOOD FOR MAIN HEAT.....	5.6	.2	.7	.8	.6	.5	.7	.5	1.8
USE LPG FOR MAIN HEAT.....	3.8	.2	.5	.6	.3	.3	.5	.2	1.2
USE KEROSENE FOR MAIN HEAT....	.7	Q	Q	.1	.1	Q	.2	Q	.4
USE COAL FOR MAIN HEAT.....	.9	Q	Q	.1	.1	.1	.1	.2	.4
NO HEATING FUEL.....	.4	Q	.1	Q	Q	Q	.1	Q	.1
OTHER FUEL.....	.1	Q	Q	Q	Q	Q	Q	Q	Q
HAVE THERMOSTAT									
YES.....	66.6	2.7	9.3	9.2	7.2	7.0	10.7	5.0	15.5
NO.....	17.2	.2	.7	1.0	.9	1.6	2.7	2.0	8.1
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)									
TURN HEATER ON OR OFF (UP OR DOWN).....	8.6	.2	.2	.6	.5	.8	1.4	1.1	3.9
OPEN OR CLOSE WINDOWS OR DOORS.....	5.8	.1	.2	.2	.4	.6	.8	.7	2.8
ADJUST DRAFT OR AMOUNT OF FUEL.....	2.9	Q	.2	.3	.3	.3	.3	.2	1.2
TURN RADIATORS ON OR OFF..	1.1	Q	.1	Q	Q	.1	.2	.2	.6
USE COOKING APPLIANCES....	1.6	Q	Q	.1	.1	.2	.3	.3	.7
OTHER METHODS.....	.6	Q	Q	Q	.1	Q	.1	.1	.4
WATER HEATING FUEL									
NATURAL GAS.....	47.1	1.1	3.9	4.8	4.7	5.4	8.8	4.1	14.3
ELECTRICITY.....	26.6	1.6	5.2	4.6	2.9	2.3	2.9	1.8	5.4
FUEL OIL OR KEROSENE.....	5.7	Q	.5	.3	.2	.7	1.1	.7	2.3
LPG.....	3.5	.2	.4	.5	.3	.2	.5	.3	1.2
WOOD.....	.4	Q	Q	Q	Q	Q	.1	Q	.3
COAL.....	.1	Q	Q	Q	Q	Q	Q	Q	.1
SOLAR.....	.3	Q	.1	Q	Q	Q	Q	Q	.1
NONE.....	.1	Q	Q	Q	Q	Q	Q	Q	.1
MAIN COOKING FUEL									
ELECTRICITY.....	45.0	2.2	7.6	7.4	4.6	4.8	6.3	3.2	8.8
NATURAL GAS.....	33.6	.5	1.8	2.2	3.0	3.4	6.4	3.4	13.0
LPG.....	4.9	.2	.5	.6	.4	.5	.7	.4	1.7
WOOD.....	.1	Q	Q	Q	Q	Q	Q	Q	.1
OTHER/NONE.....	.2	Q	Q	Q	Q	Q	Q	Q	.1
CLOTHES DRYING FUEL									
WITH CLOTHES DRYER.....	50.1	1.7	6.7	6.8	5.2	5.2	8.8	4.2	11.3
ELECTRICITY.....	37.9	1.5	5.6	5.6	4.1	4.1	6.0	3.2	7.8
NATURAL GAS.....	11.3	.2	1.0	1.1	1.0	.9	2.7	1.0	3.3
LPG.....	.9	Q	.1	Q	.1	.1	.1	.1	.3
WITHOUT CLOTHES DRYER.....	33.7	1.2	3.2	3.4	2.8	3.4	4.5	2.8	12.3

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Year House Built

Table 19. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
AIR CONDITIONING (A/C)									
CENTRAL A/C ONLY	22.7	1.6	5.2	4.6	3.6	2.9	2.6	1.0	1.2
INDIVIDUAL ROOM UNITS ONLY	25.3	.5	1.7	2.6	2.0	2.7	5.2	2.7	8.0
CENTRAL A/C AND ROOM UNITS	.6	Q	.1	.1	.1	.1	.1	Q	.1
NO AIR CONDITIONING	35.1	.8	3.0	3.0	2.4	3.0	5.5	3.2	14.3
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED									
ALL	32.5	1.8	6.1	5.7	4.5	4.0	4.6	2.0	3.7
SOME	16.1	.3	.9	1.6	1.1	1.6	3.2	1.8	5.6
NONE	35.1	.8	3.0	3.0	2.4	3.0	5.5	3.2	14.3
WOOD BURNED IN PAST 12 MONTHS									
YES	21.4	0.8	3.6	3.3	2.2	2.2	3.1	1.6	4.6
ONE-THIRD CORD OR LESS	6.3	.2	1.3	.8	.4	.6	.9	.6	1.3
MORE THAN ONE-THIRD CORD	15.2	.5	2.2	2.5	1.8	1.6	2.2	1.0	3.3
NO	62.3	2.1	6.4	7.0	5.8	6.4	10.2	5.4	19.0
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE									
YES	72.1	2.7	9.4	9.6	7.3	7.6	11.6	6.1	17.8
NO	11.6	.2	.6	.6	.7	1.0	1.7	.9	5.8
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	1.7	6.8	7.5	5.8	6.2	11.4	5.8	16.1
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)									
USES ANY NATURAL GAS	37.3	.6	2.7	3.8	3.4	4.2	8.2	3.8	10.6
DOES NOT USE NATURAL GAS	24.1	1.1	4.2	3.7	2.4	2.0	3.3	1.9	5.5
GAS IS AVAILABLE	5.1	.1	.9	.6	.4	.5	.9	.5	1.2
(PERCENT)	21.3	9.1	21.9	16.8	16.7	24.1	28.1	25.9	21.9
GAS IS NOT AVAILABLE	19.0	1.0	3.3	3.1	2.0	1.5	2.3	1.4	4.3
(PERCENT)	78.7	90.9	78.1	83.2	83.3	75.9	71.9	74.1	78.1
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	22.4	1.2	3.1	2.7	2.3	2.4	1.9	1.2	7.5
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	9.1	.1	.9	.7	.7	1.0	1.0	.7	4.2
NO/NO MAIN HEATING SYSTEM	13.3	1.1	2.3	2.1	1.6	1.4	1.0	.5	3.4
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	10.9	.3	1.2	1.2	1.0	1.3	1.1	.6	4.3
NO/NO WATER HEATING FUEL									
NO HOT RUNNING WATER	11.5	.9	2.0	1.5	1.3	1.1	.9	.6	3.2
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	.7	Q	.1	.2	.3	.1	Q	Q	.1
NO	12.2	.9	2.0	2.0	1.5	1.5	.8	.6	2.8
NO AIR CONDITIONING	9.4	.2	1.0	.5	.5	.8	1.1	.6	4.7

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Fuel Use by Year House Built

Table 20. Fuel Use by Year House Built, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
FUELS USED FOR ANY USE (MORE THAN ONE FUEL OFTEN USED)									
ELECTRICITY	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	99.8
NATURAL GAS	64.6	42.2	41.3	52.9	63.0	73.2	74.0	71.9	72.3
WOOD	26.8	29.3	37.4	33.4	28.7	27.5	24.8	23.9	20.3
FUEL OIL	15.4	.6	8.2	7.3	7.0	15.7	16.5	21.8	24.2
LPG	8.7	7.9	7.2	9.3	8.7	7.9	7.2	7.7	10.7
KEROSENE	4.0	2.0	4.2	4.0	5.9	2.8	4.4	2.1	4.3
COAL	1.8	1.0	.5	1.9	1.5	1.4	1.5	2.8	2.5
SOLAR COLLECTORS	.6	1.5	1.2	.1	.8	.7	.5	.1	.6
MAIN HEATING FUEL AND HEATING EQUIPMENT									
NATURAL GAS	56.7	33.8	36.8	48.5	60.8	64.1	68.1	62.1	59.2
CENTRAL WARM-AIR FURNACE	34.7	26.8	29.2	40.2	43.6	44.2	40.4	35.5	25.5
STEAM OR HOT WATER SYSTEM	8.8	.1	4.7	3.9	8.5	9.4	8.2	7.3	14.3
FLOOR, WALL, OR PIPELESS FURNACE	7.8	3.3	2.7	3.7	7.8	6.8	14.1	10.0	8.5
ROOM HEATER/OTHER	5.4	3.6	.2	.7	1.0	3.7	5.4	9.3	10.9
ELECTRICITY	16.0	51.1	41.8	29.1	21.9	11.4	6.9	4.9	3.1
BUILT-IN ELECTRIC UNITS	6.0	8.6	12.9	13.7	10.7	4.5	2.6	1.8	1.5
CENTRAL WARM-AIR FURNACE	4.2	16.8	15.6	7.1	4.6	1.0	1.3	.5	.4
HEAT PUMP	4.3	23.0	12.8	5.8	5.5	4.5	1.6	.6	.1
OTHER	1.5	2.8	.5	2.5	1.1	1.4	1.4	2.1	1.2
FUEL OIL	13.5	.6	8.2	6.0	4.2	14.3	14.1	19.8	21.2
STEAM OR HOT WATER SYSTEM	7.4	Q	4.4	2.4	.9	7.5	7.5	10.5	12.9
CENTRAL WARM-AIR FURNACE	5.4	.6	3.8	3.5	3.3	5.7	5.6	7.5	7.3
OTHER	.7	Q	Q	.1	Q	1.2	1.0	1.8	.9
WOOD	6.7	7.3	6.7	7.7	6.9	5.7	5.1	6.8	7.5
HEATING STOVE	5.8	7.0	5.3	7.4	6.6	4.7	3.5	5.5	6.6
OTHER	1.0	.3	1.4	.3	.4	1.0	1.5	1.3	.9
LPG	4.5	5.2	5.0	6.0	3.7	3.4	3.8	3.3	5.1
CENTRAL WARM-AIR FURNACE	2.0	4.2	3.0	4.8	2.0	1.0	1.1	.2	1.5
ROOM HEATER	1.7	.7	1.1	.3	1.5	1.4	1.4	3.0	2.7
OTHER	.8	.3	1.0	.9	.2	1.0	1.3	.1	.8
KEROSENE	.9	Q	Q	.7	.9	.2	1.2	.6	1.6
OTHER	1.2	2.0	.4	1.6	1.1	.6	.5	2.3	1.7
NONE	.5	Q	1.1	.4	.4	.3	.4	.3	.6
USE SECONDARY HEATING FUEL (MORE THAN ONE MAY BE USED)									
YES	37.4	34.6	44.1	40.4	41.7	37.7	36.4	35.5	33.2
WOOD	19.7	21.3	30.8	25.7	21.7	21.2	19.7	16.2	12.1
ELECTRICITY	12.5	12.0	10.4	13.2	14.1	12.3	12.0	12.3	13.1
NATURAL GAS	3.2	1.3	2.7	.9	2.6	1.9	3.3	6.2	4.2
FUEL OIL	1.4	Q	Q	.9	1.4	1.5	1.9	1.2	2.3
KEROSENE	3.2	2.0	4.2	3.5	5.0	2.5	3.3	1.7	2.9
LPG	1.2	1.9	.4	1.0	2.2	1.4	.9	.9	1.3
OTHER	.7	.8	.2	.5	1.0	.7	1.0	.3	1.0
NO	62.6	65.4	55.9	59.6	58.3	62.3	63.6	64.5	66.8
USE SECONDARY HEATING EQUIPMENT (MORE THAN ONE MAY BE USED)									
YES	37.4	34.6	44.1	40.4	41.7	37.7	36.4	35.5	33.2
FIREPLACE	15.8	18.3	26.3	18.4	20.0	18.7	16.1	12.6	8.1
PORTABLE ELECTRIC HEATER	8.3	6.7	3.9	5.4	9.7	9.1	8.5	10.8	9.9
HEATING STOVE	4.8	2.6	6.0	6.7	3.0	4.7	4.5	4.9	4.7
BUILT-IN ELECTRIC UNITS	3.8	3.9	4.6	6.6	4.0	2.0	3.6	2.0	3.3
PORTABLE KEROSENE HEATER	3.1	2.0	4.2	2.9	5.0	2.4	3.2	1.7	2.8
CENTRAL WARM-AIR FURNACE	2.0	.9	1.7	2.8	2.4	2.0	1.5	1.8	2.2
OIL OR GAS ROOM HEATER	2.1	.5	Q	.8	2.5	1.2	3.4	3.5	2.7
COOKING STOVE	1.2	.7	Q	.2	1.0	.7	.9	1.1	2.7
HEAT PUMP, STEAM OR WATER SYSTEM, PIPELESS FURNACE OR OTHER	1.8	2.7	2.2	1.3	2.5	2.1	1.5	1.4	1.7
NO	62.6	65.4	55.9	59.6	58.3	62.3	63.6	64.5	66.8

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Year House Built

Table 20. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
FUEL COMBINATIONS									
USE NATURAL GAS FOR HEATING...	56.7	33.8	36.8	48.5	60.8	64.1	68.1	62.1	59.2
NATURAL GAS FOR HOT WATER AND HAVE A/C.....	30.5	22.0	23.1	32.8	42.9	39.8	36.4	33.5	21.9
NATURAL GAS FOR HOT WATER AND NO A/C.....	21.2	9.3	11.1	11.0	13.6	19.1	26.6	21.8	31.5
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.8	1.6	2.0	3.4	3.4	3.5	3.5	2.5	2.4
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.0	.9	.6	1.2	1.0	1.6	1.3	3.9	3.3
OTHER.....	.1	Q	Q	Q	Q	.1	.3	.4	.2
USE ELECTRICITY FOR HEATING...	16.0	51.1	41.8	29.1	21.9	11.4	6.9	4.9	3.1
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	10.7	36.8	30.2	21.4	15.1	6.6	4.3	2.4	.9
ELECTRICITY FOR HOT WATER AND NO A/C.....	3.4	7.8	7.5	4.6	5.2	2.6	1.4	1.9	1.9
OTHER.....	1.8	6.6	4.0	3.1	1.6	2.2	1.1	.7	.4
USE FUEL OIL FOR MAIN HEAT....	13.5	.6	8.2	6.0	4.2	14.3	14.1	19.8	21.2
FUEL OIL FOR HOT WATER AND HAVE A/C.....	3.1	Q	3.3	1.3	.4	4.8	4.2	3.5	3.8
FUEL OIL FOR HOT WATER AND NO A/C.....	3.1	Q	1.5	1.2	.5	2.3	3.0	5.8	5.3
ELECTRICITY FOR HOT WATER AND HAVE A/C.....	2.3	Q	1.4	1.7	.5	4.4	3.3	4.1	2.1
ELECTRICITY FOR HOT WATER AND NO A/C.....	2.6	Q	2.0	1.7	2.8	1.4	2.5	4.6	3.3
OTHER.....	2.4	.6	Q	.1	Q	1.4	1.1	1.7	6.6
USE WOOD FOR MAIN HEAT.....	6.7	7.3	6.7	7.7	6.9	5.7	5.1	6.8	7.5
USE LPG FOR MAIN HEAT.....	4.5	5.2	5.0	6.0	3.7	3.4	3.8	3.3	5.1
USE KEROSENE FOR MAIN HEAT....	.9	Q	Q	.7	.9	.2	1.2	.6	1.6
USE COAL FOR MAIN HEAT.....	1.1	1.0	.4	1.4	.8	.6	.5	2.3	1.6
NO HEATING FUEL.....	.5	Q	1.1	.4	.4	.3	.4	.3	.6
OTHER FUEL.....	.1	1.0	Q	.2	.3	Q	Q	Q	.2
HAVE THERMOSTAT									
YES.....	79.5	92.5	92.8	90.1	89.3	81.4	80.0	71.4	65.8
NO.....	20.5	7.5	7.2	9.9	10.7	18.6	20.0	28.6	34.2
METHODS FOR CONTROLLING TEMPERATURE (MORE THAN ONE MAY BE USED)									
TURN HEATER ON OR OFF (UP OR DOWN).....	10.3	5.5	1.9	5.6	6.2	9.8	10.6	15.4	16.4
OPEN OR CLOSE WINDOWS OR DOORS.....	6.9	3.3	2.1	2.0	4.4	6.9	6.3	9.6	11.9
ADJUST DRAFT OR AMOUNT OF FUEL.....	3.4	1.6	2.2	3.1	3.8	3.0	2.2	3.3	5.0
TURN RADIATORS ON OR OFF..	1.4	Q	.7	Q	.6	1.4	1.2	2.5	2.4
USE COOKING APPLIANCES....	1.9	1.1	.1	.6	1.4	2.2	2.2	3.8	2.8
OTHER METHODS.....	.8	.2	.4	.3	.7	.3	.4	1.0	1.5
WATER HEATING FUEL									
NATURAL GAS.....	56.2	38.5	38.7	47.3	58.6	62.6	65.6	59.1	60.3
ELECTRICITY.....	31.8	53.5	52.2	45.0	35.5	26.3	21.9	26.1	22.7
FUEL OIL OR KEROSENE.....	6.7	Q	4.8	2.7	1.9	7.8	8.0	10.3	9.7
LPG.....	4.1	6.2	3.6	4.6	3.6	2.8	3.4	3.9	5.0
WOOD.....	.5	.5	Q	Q	Q	Q	.6	.3	1.1
COAL.....	.2	Q	Q	.2	Q	Q	.2	.3	.3
SOLAR.....	.3	.8	.7	Q	.3	.5	.1	Q	.4
NONE.....	.2	.7	Q	Q	Q	Q	.2	Q	.3
MAIN COOKING FUEL									
ELECTRICITY.....	53.7	76.0	76.7	72.6	57.5	55.4	46.9	46.2	37.1
NATURAL GAS.....	40.0	17.2	18.2	21.4	36.6	39.2	47.7	48.0	55.0
LPG.....	5.8	6.3	5.2	6.0	5.4	5.4	5.0	5.2	7.0
WOOD.....	.2	.5	Q	Q	Q	Q	.2	.3	.4
OTHER/NONE.....	.3	Q	Q	Q	.4	Q	.2	.3	.6
CLOTHES DRYING FUEL									
WITH CLOTHES DRYER.....	59.8	59.2	67.4	66.4	65.0	60.5	66.0	60.5	48.0
ELECTRICITY.....	45.3	51.4	56.3	55.2	50.7	47.9	45.2	45.0	33.0
NATURAL GAS.....	13.4	7.1	9.7	10.7	12.9	10.9	20.5	14.3	13.9
LPG.....	1.1	.7	1.5	.5	1.4	1.7	.5	1.2	1.3
WITHOUT CLOTHES DRYER.....	40.2	40.8	32.6	33.6	35.0	39.5	34.0	39.5	52.0

SEE FOOTNOTES AT END OF TABLE

Fuel Use by Year House Built

Table 20. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
AIR CONDITIONING (A/C)									
CENTRAL A/C ONLY	27.1	55.7	52.6	44.9	44.7	33.4	19.2	14.7	5.0
INDIVIDUAL ROOM UNITS ONLY	30.2	16.6	17.1	25.2	24.3	31.2	38.7	38.5	34.0
CENTRAL A/C AND ROOM UNITS	.7	Q	.7	.8	1.3	.7	.8	.6	.6
NO AIR CONDITIONING	41.9	27.7	29.6	29.1	29.7	34.7	41.3	46.1	60.4
NUMBER OF ROOMS THAT CAN BE AIR CONDITIONED									
ALL	38.8	61.9	61.3	55.6	56.2	46.8	34.6	28.5	15.8
SOME	19.3	10.4	9.1	15.3	14.0	18.5	24.2	25.4	23.9
NONE	41.9	27.7	29.6	29.1	29.7	34.7	41.3	46.1	60.4
WOOD BURNED IN PAST 12 MONTHS									
YES	25.6	26.9	35.7	32.0	27.8	25.9	23.6	22.6	19.6
ONE-THIRD CORD OR LESS	7.5	8.1	13.4	7.8	5.5	7.5	7.1	8.5	5.4
MORE THAN ONE-THIRD CORD	18.1	18.8	22.3	24.2	22.3	18.3	16.5	14.1	14.1
NO	74.4	73.1	64.3	68.0	72.2	74.1	76.4	77.4	80.4
HOUSEHOLD OWNS OR HAS REGULAR USE OF A VEHICLE									
YES	86.1	93.7	94.2	94.0	90.8	88.1	87.0	87.0	75.3
NO	13.9	6.3	5.8	6.0	9.2	11.9	13.0	13.0	24.7
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
AVAILABILITY OF NATURAL GAS IN THE NEIGHBORHOOD (SINGLE-FAMILY UNITS AND MOBILE HOMES)									
USES ANY NATURAL GAS	60.7	35.0	38.8	50.7	58.5	67.3	71.5	66.7	66.0
DOES NOT USE NATURAL GAS	39.3	65.0	61.2	49.3	41.5	32.7	28.5	33.3	34.0
GAS IS AVAILABLE	8.4	5.9	13.4	8.3	6.9	7.9	8.0	8.6	7.5
GAS IS NOT AVAILABLE	30.9	59.1	47.8	41.0	34.6	24.9	20.4	24.7	26.6
TOTAL HOUSEHOLDS IN 2-OR-MORE UNIT BUILDINGS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CENTRAL MAIN HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	40.6	5.8	27.4	24.3	29.4	41.8	49.6	57.3	55.4
NO/NO MAIN HEATING SYSTEM	59.4	94.2	72.6	75.7	70.6	58.2	50.4	42.7	44.6
CENTRAL WATER HEATING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	48.7	22.5	37.4	44.3	43.7	54.9	55.4	49.2	56.9
NO/NO WATER HEATING FUEL									
NO HOT RUNNING WATER	51.3	77.5	62.6	55.7	56.3	45.1	44.6	50.8	43.1
CENTRAL AIR CONDITIONING SYSTEM FOR THE BUILDING (2-OR-MORE UNIT BUILDINGS)									
YES	3.3	3.9	2.3	5.9	11.1	3.3	1.5	3.6	.9
NO	54.6	79.5	64.3	74.4	65.8	64.5	43.3	47.4	37.1
NO AIR CONDITIONING	42.0	16.5	33.4	19.7	23.0	32.2	55.2	49.0	62.0

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Appliance Use by Census Region and Area Type

Table 21. Appliance Use by Census Region and Area Type, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	83.8	18.0	21.3	28.1	16.5	63.2	29.4	33.8	20.6
TYPE OF APPLIANCES USED									
ELECTRIC APPLIANCES USED									
TELEVISION SET (COLOR)	71.0	15.5	18.3	22.8	14.4	54.3	24.2	30.1	16.7
TELEVISION SET (B/W)	38.9	8.9	10.6	13.7	5.8	29.6	13.7	15.9	9.3
CLOTHES WASHER (AUTOMATIC)	57.9	11.9	14.5	20.2	11.4	42.4	16.7	25.7	15.5
CLOTHES WASHER (WRINGER)	2.5	.5	1.0	.9	.1	1.5	.6	.9	1.0
RANGE (STOVE-TOP OR BURNERS)	44.7	7.6	11.9	16.5	8.7	31.8	12.1	19.7	12.9
CLOTHES DRYER	37.9	6.9	9.7	14.2	7.2	26.3	9.7	16.7	11.6
DISHWASHER	30.3	5.8	6.8	10.3	7.3	24.7	9.3	15.3	5.6
WINDOW OR CEILING FAN	23.5	5.0	6.5	10.0	1.9	17.6	7.7	9.9	5.9
HUMIDIFIER	11.3	2.5	6.3	1.7	.8	7.8	2.7	5.1	3.5
DEHUMIDIFIER	7.5	2.4	3.9	1.1	.1	5.5	1.6	3.9	2.1
WHOLE HOUSE COOLING FAN	6.5	1.3	1.8	2.8	.6	5.0	1.6	3.4	1.5
EVAPORATIVE COOLER	3.6	Q	.1	.6	2.8	3.0	1.7	1.3	.6
GAS APPLIANCES USED									
RANGE (STOVE-TOP OR BURNERS)	39.0	10.3	9.6	11.4	7.7	31.5	17.3	14.1	7.6
CLOTHES DRYER	12.2	2.7	4.3	2.4	2.8	10.6	4.3	6.3	1.6
OUTDOOR PIPED GAS GRILL	3.0	.7	.6	1.3	.5	2.7	.8	1.9	.4
OUTDOOR LPG GAS GRILL	6.4	2.4	1.5	1.8	.7	4.9	1.4	3.6	1.5
OUTDOOR GAS LIGHT	1.4	.1	.5	.7	.1	1.2	.4	.8	.3
SWIMMING POOL HEATER	.3	Q	.1	Q	.1	.3	.1	.2	Q
NUMBER OF REFRIGERATORS USED									
1	72.4	15.2	17.6	25.1	14.5	54.6	26.3	28.3	17.8
2 OR MORE	11.1	2.7	3.6	2.9	1.9	8.5	3.0	5.4	2.7
NONE	.2	.1	.1	.1	Q	.1	.1	Q	.1
MOST USED REFRIGERATOR									
ELECTRIC	83.5	17.9	21.2	28.0	16.4	63.0	29.3	33.7	20.5
FROST-FREE	52.6	10.2	12.7	18.8	10.9	39.9	16.3	23.6	12.7
NOT FROST-FREE	30.9	7.7	8.5	9.2	5.5	23.1	13.0	10.1	7.8
OTHER FUEL/NO REFRIGERATOR	.3	.1	.1	.1	.1	.2	.1	.1	.1
SECOND USED REFRIGERATOR									
ELECTRIC	11.1	2.7	3.6	2.9	1.9	8.4	3.0	5.4	2.7
FROST-FREE	3.7	1.0	.9	1.1	.6	2.9	1.2	1.8	.7
NOT FROST-FREE	7.4	1.7	2.7	1.7	1.3	5.5	1.9	3.6	1.9
NONE/OTHER FUEL	72.7	15.2	17.7	25.2	14.6	54.8	26.4	28.4	17.9
NUMBER OF SEPARATE FREEZERS USED									
1	28.3	4.7	8.2	10.9	4.5	18.6	6.4	12.2	9.7
2 OR MORE	2.7	.3	.9	1.1	.4	1.3	.3	1.0	1.4
NONE	52.8	12.9	12.3	16.0	11.6	43.3	22.7	20.6	9.5
MOST USED FREEZER									
ELECTRIC	31.0	5.0	9.1	12.0	4.9	19.9	6.7	13.2	11.1
FROST-FREE	7.9	1.1	2.0	3.5	1.4	5.3	1.8	3.5	2.6
NOT FROST-FREE	23.0	4.0	7.1	8.5	3.5	14.6	4.9	9.7	8.4
NONE/OTHER FUEL	52.8	12.9	12.3	16.0	11.6	43.3	22.7	20.6	9.5
NUMBER OF OVENS USED									
1	55.4	13.5	13.2	18.6	10.1	41.9	21.2	20.7	13.5
2	20.6	2.8	5.7	6.8	5.3	15.7	5.5	10.1	4.9
3 OR MORE	2.3	.3	.8	.7	.6	1.8	.6	1.2	.5
NONE	5.4	1.4	1.6	1.9	.5	3.8	2.1	1.7	1.6
MOST USED OVEN									
ELECTRIC	44.6	7.6	11.5	16.3	9.1	32.0	12.1	19.9	12.6
MICROWAVE	4.9	.6	1.6	1.3	1.4	3.7	1.5	2.2	1.1
OTHER ELECTRIC	39.7	7.0	10.0	15.0	7.7	28.3	10.6	17.7	11.4
GAS	33.7	8.9	8.1	9.7	6.9	27.3	15.2	12.2	6.3
NONE/OTHER FUEL	5.5	1.4	1.6	2.0	.5	3.8	2.1	1.7	1.7

SEE FOOTNOTES AT END OF TABLE

Appliance Use by Census Region and Area Type

Table 21. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
SECOND OVEN USED									
ELECTRIC	20.0	2.5	5.7	6.8	5.1	15.0	5.3	9.7	5.0
MICROWAVE	12.6	1.4	3.6	4.4	3.1	9.2	3.2	6.0	3.3
OTHER ELECTRIC	7.5	1.1	2.0	2.3	2.1	5.8	2.0	3.7	1.7
GAS	2.8	.6	.8	.7	.8	2.5	.8	1.6	.3
NONE/OTHER FUEL	60.9	14.9	14.8	20.6	10.6	45.7	23.3	22.4	15.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Appliance Use by Census Region and Area Type

Table 22. Appliance Use by Census Region and Area Type, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TYPE OF APPLIANCES USED									
ELECTRIC APPLIANCES USED									
TELEVISION SET (COLOR).....	84.8	86.2	86.0	81.2	87.5	85.9	82.3	89.1	81.1
TELEVISION SET (B/W).....	46.5	49.5	49.7	48.7	35.2	46.8	46.7	47.0	45.3
CLOTHES WASHER (AUTOMATIC)..	69.1	66.3	68.0	71.9	69.0	67.1	56.8	76.1	75.2
CLOTHES WASHER (WRINGER)....	3.0	2.8	4.7	3.2	.9	2.3	2.1	2.5	5.0
RANGE (STOVE-TOP OR BURNERS).....	53.3	42.6	55.7	58.8	52.8	50.3	41.3	58.2	62.6
CLOTHES DRYER.....	45.3	38.3	45.4	50.7	43.6	41.7	32.8	49.4	56.4
DISHWASHER.....	36.1	32.5	31.8	36.8	44.4	39.1	31.8	45.4	27.1
WINDOW OR CEILING FAN.....	28.0	27.9	30.7	35.6	11.6	27.8	26.1	29.3	28.6
HUMIDIFIER.....	13.5	13.7	29.7	5.9	5.0	12.4	9.2	15.1	16.8
DEHUMIDIFIER.....	9.0	13.4	18.4	4.1	.5	8.7	5.4	11.5	10.0
WHOLE HOUSE COOLING FAN.....	7.8	7.4	8.4	10.0	3.6	8.0	5.5	10.1	7.2
EVAPORATIVE COOLER.....	4.2	.1	.5	2.2	17.2	4.8	5.7	4.0	2.7
GAS APPLIANCES USED									
RANGE (STOVE-TOP OR BURNERS).....	46.6	57.4	45.2	40.5	46.9	49.8	58.9	41.9	36.7
CLOTHES DRYER.....	14.6	15.1	20.4	8.6	16.7	16.7	14.7	18.5	8.0
OUTDOOR PIPED GAS GRILL.....	3.6	3.6	3.0	4.5	2.9	4.2	2.7	5.6	1.8
OUTDOOR LPG GAS GRILL.....	7.7	13.1	7.0	6.6	4.4	7.8	4.6	10.6	7.1
OUTDOOR GAS LIGHT.....	1.7	.7	2.2	2.4	.9	1.8	1.2	2.4	1.2
SWIMMING POOL HEATER.....	.4	.1	.5	.1	.9	.5	.3	.6	.1
NUMBER OF REFRIGERATORS USED									
1.....	86.4	84.4	82.8	89.5	88.1	86.4	89.4	83.8	86.5
2 OR MORE.....	13.3	15.2	16.8	10.3	11.7	13.4	10.3	16.1	12.9
NONE.....	.3	.4	.4	.2	.2	.2	.3	.1	.5
MOST USED REFRIGERATOR									
ELECTRIC.....	99.7	99.6	99.5	99.8	99.5	99.7	99.7	99.8	99.5
FROST-FREE.....	62.8	56.8	59.6	66.9	66.4	63.1	55.3	69.9	61.7
NOT FROST-FREE.....	36.9	42.9	39.9	32.9	33.1	36.6	44.4	29.8	37.8
OTHER FUEL/NO REFRIGERATOR....	.3	.4	.5	.2	.5	.3	.3	.2	.5
SECOND USED REFRIGERATOR									
ELECTRIC.....	13.2	15.2	16.7	10.2	11.7	13.3	10.3	15.9	12.9
FROST-FREE.....	4.4	5.6	4.2	4.0	3.9	4.7	4.0	5.3	3.6
NOT FROST-FREE.....	8.8	9.6	12.5	6.2	7.8	8.7	6.4	10.7	9.4
NONE/OTHER FUEL.....	86.8	84.8	83.3	89.8	88.3	86.7	89.7	84.1	87.1
NUMBER OF SEPARATE FREEZERS USED									
1.....	33.8	26.4	38.4	38.9	27.1	29.4	21.6	36.2	47.2
2 OR MORE.....	3.2	1.6	4.1	4.0	2.5	2.1	1.1	2.9	6.6
NONE.....	63.0	72.1	57.5	57.1	70.4	68.5	77.3	60.9	46.2
MOST USED FREEZER									
ELECTRIC.....	37.0	27.9	42.5	42.9	29.6	31.5	22.7	39.1	53.8
FROST-FREE.....	9.5	5.9	9.3	12.6	8.3	8.4	6.0	10.5	12.8
NOT FROST-FREE.....	27.5	22.1	33.2	30.3	21.3	23.1	16.7	28.7	41.0
NONE/OTHER FUEL.....	63.0	72.1	57.5	57.1	70.4	68.5	77.3	60.9	46.2
NUMBER OF OVENS USED									
1.....	66.1	75.1	62.0	66.3	61.4	66.3	72.0	61.3	65.7
2.....	24.6	15.4	26.7	24.3	32.5	24.8	18.9	30.0	24.0
3 OR MORE.....	2.8	1.7	3.7	2.4	3.3	2.9	1.9	3.7	2.4
NONE.....	6.5	7.8	7.7	6.9	2.8	6.0	7.2	5.0	7.9
MOST USED OVEN									
ELECTRIC.....	53.2	42.6	54.1	58.2	55.1	50.7	41.2	58.9	61.0
MICROWAVE.....	5.8	3.5	7.4	4.5	8.5	5.9	5.1	6.6	5.6
OTHER ELECTRIC.....	47.4	39.1	46.8	53.6	46.6	44.8	36.1	52.3	55.5
GAS.....	40.2	49.6	38.2	34.7	42.1	43.3	51.6	36.0	30.8
NONE/OTHER FUEL.....	6.6	7.8	7.7	7.1	2.8	6.1	7.2	5.1	8.1

SEE FOOTNOTES AT END OF TABLE

Appliance Use by Census Region and Area Type

Table 22. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
SECOND OVEN USED									
ELECTRIC	23.9	13.9	26.5	24.1	31.0	23.7	17.9	28.8	24.4
MICROWAVE	15.0	7.9	17.1	15.8	18.5	14.6	11.0	17.7	16.2
OTHER ELECTRIC	8.9	6.0	9.4	8.3	12.5	9.1	6.9	11.1	8.2
GAS	3.4	3.2	3.8	2.4	4.7	3.9	2.9	4.9	1.7
NONE/OTHER FUEL	72.7	83.0	69.7	73.5	64.3	72.3	79.2	66.3	74.0

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Census Region and Area Type

Table 23. Thermal Characteristics by Census Region and Area Type, as of November 1982 (Million Households Except Where Averages Are Indicated)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	83.8	18.0	21.3	28.1	16.5	63.2	29.4	33.8	20.6
NUMBER OF WINDOWS									
1 TO 6	15.2	3.6	3.3	4.2	4.2	13.3	7.9	5.4	2.0
7 TO 12	34.6	5.4	8.3	13.2	7.8	24.3	11.2	13.1	10.2
13 TO 18	22.6	5.5	6.3	7.9	2.9	16.4	6.6	9.8	6.2
19 OR MORE	11.2	3.5	3.4	2.8	1.5	9.0	3.7	5.3	2.2
NONE	.3	Q	.1	Q	.1	.2	.1	.2	.1
AVERAGE NUMBER OF WINDOWS	12.1	13.2	12.8	11.8	10.6	12.1	11.2	12.8	12.3
NUMBER OF STORM WINDOWS									
1 TO 6	9.0	2.5	3.3	2.0	1.2	6.7	3.3	3.4	2.3
7 TO 12	19.3	4.4	8.0	5.2	1.7	13.1	5.3	7.8	6.2
13 TO 18	13.6	4.7	5.2	3.3	.5	9.7	3.4	6.3	3.9
19 OR MORE	6.8	2.7	2.6	1.1	.3	5.3	2.0	3.3	1.4
NONE/NO WINDOWS	35.1	3.6	2.2	16.5	12.9	28.4	15.5	13.0	6.7
AVERAGE NUMBER OF STORM WINDOWS	7.1	10.8	11.0	4.8	2.1	6.9	5.6	8.0	7.9
PERCENT OF WINDOWS WITH STORM WINDOWS									
100 PERCENT	35.8	10.8	14.5	8.4	2.1	25.3	9.9	15.4	10.5
76 TO 99 PERCENT	5.8	2.1	2.3	1.0	.3	4.3	1.6	2.7	1.5
51 TO 75 PERCENT	3.4	.7	1.6	.7	.4	2.6	1.3	1.3	.9
1 TO 50 PERCENT	3.6	.7	.7	1.4	.8	2.6	1.2	1.4	1.0
NONE/NO WINDOWS	35.1	3.6	2.2	16.5	12.9	28.4	15.5	13.0	6.7
NUMBER OF OUTSIDE DOORS									
1	7.6	1.9	1.9	1.9	1.8	6.5	4.1	2.5	1.0
2	39.0	6.8	10.7	14.1	7.3	27.8	13.0	14.8	11.2
3	22.1	4.4	5.1	7.9	4.7	16.5	6.9	9.6	5.6
4 OR MORE	10.9	2.0	2.6	3.9	2.4	8.6	2.5	6.0	2.3
NONE	4.2	2.7	1.0	.2	.3	3.8	2.9	.9	.4
AVERAGE NUMBER OF DOORS	2.4	2.1	2.4	2.5	2.5	2.4	2.1	2.6	2.4
TYPE AND NUMBER OF OUTSIDE DOORS									
STANDARD DOORS									
1	12.2	2.6	2.0	3.6	4.0	10.9	5.6	5.3	1.3
2	43.5	7.3	12.1	15.3	8.8	31.2	14.3	17.0	12.3
3	16.9	3.9	4.0	6.8	2.2	12.1	4.8	7.3	4.8
4 OR MORE	5.5	1.3	1.3	2.0	.9	4.0	1.2	2.8	1.5
NONE/NO DOORS	5.7	2.8	1.9	.4	.7	5.0	3.5	1.5	.7
AVERAGE NUMBER OF STANDARD DOORS	2.1	1.9	2.1	2.3	1.9	2.0	1.8	2.2	2.3
SLIDING GLASS DOORS									
1	16.8	2.2	4.0	5.2	5.4	13.9	5.5	8.4	2.9
2 OR MORE	4.0	.4	1.0	1.0	1.7	3.6	1.1	2.6	.4
NONE/NO DOORS	62.9	15.3	16.3	21.9	9.4	45.6	22.8	22.8	17.3
AVERAGE NUMBER OF SLIDING GLASS DOORS	.3	.2	.3	.3	.6	.4	.3	.4	.2
NUMBER OF STORM DOORS									
1	12.7	2.0	4.0	5.0	1.7	8.9	4.1	4.8	3.8
2	24.2	6.8	9.6	6.1	1.7	16.7	6.6	10.1	7.5
3	8.3	2.4	3.1	2.5	.3	5.9	1.9	4.0	2.4
4 OR MORE	3.1	.7	1.1	1.1	.2	2.2	.4	1.8	1.0
NONE	31.2	3.4	2.5	13.1	12.3	25.8	13.5	12.2	5.4
NO OUTSIDE DOORS	4.2	2.7	1.0	.2	.3	3.8	2.9	.9	.4
AVERAGE NUMBER OF STORM DOORS	1.2	1.4	1.8	1.1	.4	1.1	.8	1.3	1.5
AVERAGE NUMBER OF STANDARD STORM DOORS	1.0	1.3	1.5	.9	.3	.9	.7	1.1	1.3
AVERAGE NUMBER OF SLIDING GLASS STORM DOORS	.2	.1	.3	.1	.1	.2	.1	.2	.1
PERCENT OF OUTSIDE DOORS WITH STORM DOORS									
100 PERCENT	28.0	7.4	11.9	7.3	1.5	19.1	7.4	11.8	8.9
51 TO 99 PERCENT	8.2	2.4	2.8	2.3	.6	6.1	2.1	4.0	2.1
1 TO 50 PERCENT	12.2	2.1	3.1	5.1	1.8	8.4	3.5	4.9	3.7
NONE/NO DOORS	35.4	6.1	3.5	13.3	12.6	29.6	16.5	13.1	5.8

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Census Region and Area Type

Table 23. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL SINGLE-FAMILY UNITS.....	57.7	10.6	15.0	20.9	11.2	41.4	16.4	25.0	16.2
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)									
YES.....	45.5	8.5	12.8	15.9	8.3	33.0	12.1	20.9	12.5
ALL INSULATED.....	38.1	6.8	11.0	13.2	7.1	27.6	10.0	17.6	10.6
PART INSULATED.....	4.6	1.1	1.2	1.6	.7	3.4	1.2	2.2	1.3
NONE, VERY LITTLE INSULATED.....	.8	.4	.2	.2	Q	.6	.4	.2	.2
DON'T KNOW AMOUNT/ NOT REPORTED.....	2.0	.3	.5	.9	.3	1.5	.5	1.0	.5
NO.....	7.7	1.3	1.3	3.1	2.0	5.1	2.5	2.5	2.6
DON'T KNOW/NOT REPORTED.....	4.5	.8	.9	1.8	.9	3.4	1.8	1.6	1.1
TYPE OF INSULATION									
BATTS ONLY.....	21.8	5.6	5.1	8.1	2.9	15.4	4.9	10.6	6.3
AVERAGE NUMBER OF INCHES....	5.2	5.1	5.3	5.2	5.0	5.1	4.8	5.2	5.4
LOOSE FILL ONLY.....	13.3	1.2	4.7	4.2	3.3	9.5	4.2	5.2	3.9
AVERAGE NUMBER OF INCHES....	6.8	5.3	7.8	6.4	6.5	6.6	6.4	6.8	7.3
BATTS AND LOOSE FILL ONLY.....	5.3	.9	2.1	1.5	.7	3.7	1.0	2.7	1.6
AVERAGE NUMBER OF INCHES....	10.3	9.9	10.6	10.6	9.5	10.4	10.2	10.5	10.1
OTHER/COMBINATION.....	2.8	.4	.4	1.3	.7	2.4	.9	1.5	.5
DON'T KNOW TYPE/NOT REPORTED..	2.1	.3	.4	.8	.6	1.8	1.0	.9	.3
NO INSULATION/DON'T KNOW/ NOT REPORTED.....	12.1	2.1	2.2	4.9	2.9	8.4	4.3	4.1	3.7
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)									
YES.....	35.3	7.2	10.8	12.1	5.2	25.1	8.5	16.6	10.2
ALL WALLS.....	29.2	5.8	9.1	10.0	4.4	20.8	6.8	14.0	8.5
SOME WALLS.....	6.1	1.4	1.7	2.1	.8	4.3	1.7	2.6	1.8
NO.....	12.8	2.1	2.0	5.0	3.8	8.6	4.3	4.3	4.2
DON'T KNOW/NOT REPORTED.....	9.5	1.3	2.2	3.8	2.1	7.7	3.6	4.1	1.8
FLOOR INSULATION (SINGLE-FAMILY UNITS)									
HAVE BASEMENT/CRAWL SPACE.....	44.7	9.3	13.6	14.5	7.3	30.5	11.9	18.6	14.2
HEATED.....	12.7	3.6	6.5	1.5	1.1	9.6	3.7	5.9	3.0
NONE OR PART HEATED.....	32.0	5.7	7.1	13.0	6.2	20.9	8.2	12.7	11.1
HAVE FLOOR INSULATION.....	6.1	1.3	1.5	2.4	.8	4.0	1.2	2.8	2.1
ALL PARTS INSULATED.....	4.3	.8	.9	1.9	.7	2.8	.8	1.9	1.5
SOME PARTS INSULATED.....	1.9	.5	.6	.6	.2	1.2	.4	.9	.6
NO FLOOR INSULATION.....	15.0	2.4	3.3	6.5	2.8	9.4	3.9	5.5	5.5
DON'T KNOW/NOT REPORTED ...	11.0	2.0	2.3	4.1	2.5	7.5	3.1	4.3	3.5
NO BASEMENT/CRAWL SPACE.....	13.0	1.3	1.4	6.4	3.9	10.9	4.4	6.4	2.1
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)									
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION....	28.5	7.3	11.6	7.7	1.9	19.6	6.4	13.2	8.9
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION..	51.8	10.5	14.8	17.9	8.6	37.3	14.0	23.3	14.5
UNITS WITH NONE OF THESE TYPES OF INSULATION.....	5.8	.1	.2	2.9	2.5	4.1	2.4	1.7	1.7

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Census Region and Area Type

Table 24. Thermal Characteristics by Census Region and Area Type, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NUMBER OF WINDOWS									
1 TO 6	18.2	20.0	15.3	14.8	25.6	21.0	26.7	16.0	9.5
7 TO 12	41.3	29.8	38.8	47.0	47.1	38.5	38.1	38.9	49.7
13 TO 18	26.9	30.5	29.5	28.1	17.8	25.9	22.5	29.0	30.0
19 OR MORE	13.3	19.5	15.8	10.1	8.9	14.2	12.5	15.7	10.6
NONE	.3	.2	.7	Q	.6	.3	.2	.5	.3
NUMBER OF STORM WINDOWS									
1 TO 6	10.7	13.9	15.7	7.0	7.3	10.5	11.2	10.0	11.3
7 TO 12	23.0	24.6	37.6	18.6	10.0	20.7	17.9	23.2	30.1
13 TO 18	16.3	26.2	24.3	11.6	2.9	15.3	11.4	18.8	19.1
19 OR MORE	8.1	15.2	12.3	4.1	1.6	8.4	6.9	9.7	7.0
NONE/NO WINDOWS	41.9	20.1	10.2	58.7	78.2	45.0	52.6	38.4	32.6
PERCENT OF WINDOWS WITH STORM WINDOWS									
100 PERCENT	42.8	60.0	68.1	30.1	12.8	40.1	33.7	45.6	51.1
76 TO 99 PERCENT	6.9	11.7	10.9	3.7	2.0	6.8	5.4	8.1	7.2
51 TO 75 PERCENT	4.1	4.1	7.6	2.4	2.4	4.1	4.4	3.8	4.2
1 TO 50 PERCENT	4.3	4.1	3.2	5.1	4.6	4.1	4.0	4.2	5.0
NONE/NO WINDOWS	41.9	20.1	10.2	58.7	78.2	45.0	52.6	38.4	32.6
NUMBER OF OUTSIDE DOORS									
1	9.0	10.8	9.0	6.9	10.7	10.3	13.9	7.3	5.0
2	46.6	38.1	50.4	50.2	44.6	44.0	44.2	43.8	54.5
3	26.4	24.8	23.9	28.1	28.4	26.1	23.3	28.4	27.4
4 OR MORE	13.0	11.2	12.1	13.9	14.4	13.6	8.6	17.8	11.1
NONE	5.1	15.1	4.6	.9	1.9	6.1	9.9	2.7	2.0
TYPE AND NUMBER OF OUTSIDE DOORS									
STANDARD DOORS									
1	14.5	14.5	9.6	12.7	24.0	17.2	19.0	15.6	6.4
2	51.9	40.7	56.9	54.5	53.3	49.4	48.6	50.2	59.6
3	20.2	21.8	18.5	24.2	13.6	19.1	16.4	21.5	23.3
4 OR MORE	6.6	7.2	6.2	7.3	5.2	6.4	4.2	8.3	7.1
NONE/NO DOORS	6.8	15.7	8.7	1.3	4.0	7.9	11.8	4.5	3.5
SLIDING GLASS DOORS									
1	20.1	12.3	18.8	18.5	33.0	22.1	18.7	25.0	14.1
2 OR MORE	4.8	2.2	4.7	3.5	10.1	5.7	3.6	7.6	2.0
NONE/NO DOORS	75.1	85.5	76.5	78.0	56.9	72.2	77.7	67.4	83.9
NUMBER OF STORM DOORS									
1	15.2	11.4	18.6	17.8	10.3	14.0	13.8	14.2	18.7
2	28.9	37.9	45.1	21.9	10.0	26.4	22.3	30.0	36.5
3	9.9	13.3	14.6	8.9	1.9	9.3	6.5	11.7	11.6
4 OR MORE	3.7	3.6	5.3	4.0	1.3	3.4	1.3	5.2	4.8
NONE	37.2	18.7	11.8	46.5	74.5	40.8	46.1	36.2	26.4
NO OUTSIDE DOORS	5.1	15.1	4.6	.9	1.9	6.1	9.9	2.7	2.0
PERCENT OF OUTSIDE DOORS WITH STORM DOORS									
100 PERCENT	33.4	41.1	55.8	25.9	8.9	30.3	25.1	34.8	43.2
51 TO 99 PERCENT	9.7	13.5	13.2	8.3	3.6	9.6	7.0	11.9	10.2
1 TO 50 PERCENT	14.5	11.7	14.6	18.3	11.1	13.3	12.0	14.5	18.2
NONE/NO DOORS	42.3	33.8	16.4	47.4	76.4	46.8	56.0	38.9	28.4

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Census Region and Area Type

Table 24. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL SINGLE-FAMILY UNITS.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)									
YES.....	79.0	80.1	85.4	76.4	74.1	79.7	73.7	83.7	77.1
ALL INSULATED.....	66.2	64.0	73.1	63.4	64.0	66.6	60.8	70.4	65.2
PART INSULATED.....	8.0	10.0	8.0	7.9	6.6	8.2	7.4	8.6	7.8
NONE, VERY LITTLE INSULATED.....	1.3	3.4	1.2	.8	.4	1.4	2.3	.8	1.2
DON'T KNOW AMOUNT/ NOT REPORTED.....	3.4	2.6	3.1	4.2	3.1	3.6	3.2	3.8	3.0
NO.....	13.3	12.1	8.5	15.0	17.8	12.2	15.5	10.1	16.1
DON'T KNOW/NOT REPORTED.....	7.7	7.8	6.1	8.7	8.0	8.1	10.9	6.3	6.8
TYPE OF INSULATION									
BATTS ONLY.....	37.7	52.6	34.3	38.8	26.4	37.2	29.6	42.2	39.1
LOOSE FILL ONLY.....	23.1	10.9	31.3	20.1	29.3	22.8	25.9	20.8	23.7
BATTS AND LOOSE FILL ONLY.....	9.1	9.0	13.8	7.4	6.3	9.0	6.3	10.7	9.6
OTHER/COMBINATION.....	4.9	3.6	2.9	6.3	6.3	5.7	5.4	5.9	2.9
DON'T KNOW TYPE/NOT REPORTED..	3.6	3.1	2.4	3.7	5.8	4.4	5.9	3.5	1.6
NO INSULATION/DON'T KNOW/ NOT REPORTED.....	21.0	19.9	14.6	23.6	25.9	20.3	26.3	16.3	22.9
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)									
YES.....	61.2	67.9	71.8	57.9	47.0	60.6	51.8	66.3	63.0
ALL WALLS.....	50.7	54.3	60.3	47.8	39.6	50.1	41.4	55.8	52.1
SOME WALLS.....	10.6	13.6	11.5	10.1	7.5	10.4	10.4	10.5	11.0
NO.....	22.2	19.4	13.4	23.8	34.0	20.8	26.3	17.2	25.9
DON'T KNOW/NOT REPORTED.....	16.5	12.7	14.9	18.3	18.9	18.6	21.9	16.5	11.1
FLOOR INSULATION (SINGLE-FAMILY UNITS)									
HAVE BASEMENT/CRAWL SPACE.....	77.5	87.5	90.8	69.5	65.1	73.7	72.9	74.3	87.2
HEATED.....	22.0	33.6	43.2	7.2	9.9	23.3	22.7	23.6	18.7
NONE OR PART HEATED.....	55.6	53.9	47.6	62.3	55.2	50.5	50.2	50.7	68.5
HAVE FLOOR INSULATION.....	10.6	12.1	10.3	11.7	7.6	9.6	7.2	11.2	13.1
ALL PARTS INSULATED.....	7.4	7.5	6.3	8.9	5.9	6.7	5.0	7.8	9.2
SOME PARTS INSULATED.....	3.2	4.7	4.0	2.8	1.6	3.0	2.3	3.4	3.9
NO FLOOR INSULATION.....	26.0	22.9	21.7	30.9	25.2	22.8	23.8	22.1	34.0
DON'T KNOW/NOT REPORTED ...	19.0	18.8	15.6	19.7	22.5	18.1	19.1	17.4	21.4
NO BASEMENT/CRAWL SPACE.....	22.5	12.5	9.2	30.5	34.9	26.3	27.1	25.7	12.8
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)									
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION....	49.5	68.5	77.6	36.8	17.4	47.4	39.0	52.8	54.9
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION..	89.9	98.7	98.8	85.9	77.3	90.1	85.5	93.1	89.5
UNITS WITH NONE OF THESE TYPES OF INSULATION.....	10.1	1.3	1.2	14.1	22.7	9.9	14.5	6.9	10.5

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Housing Structure and Ownership

Table 25. Thermal Characteristics by Housing Structure And Ownership, as of November 1982 (Million Households Except Where Averages Are Indicated)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
TOTAL HOUSEHOLDS	83.8	53.8	45.1	8.7	3.9	2.7	1.1	10.1	2.1	8.0	12.2	1.0	11.3	3.7	3.0	0.8
NUMBER OF WINDOWS																
1 TO 6	15.2	2.6	1.9	.7	.7	.4	.3	3.2	.2	3.0	8.4	.6	7.9	.2	.1	.1
7 TO 12	34.6	23.0	18.0	4.9	1.6	1.1	.5	4.6	.9	3.7	3.1	.3	2.8	2.3	1.8	.5
13 TO 18	22.6	18.2	16.0	2.2	1.1	.8	.3	1.8	.8	1.0	.5	.2	.3	1.0	.8	.2
19 OR MORE	11.2	9.9	9.0	.8	.4	.4	Q	.5	.2	.3	.1	Q	.1	.3	.2	Q
NONE	.3	.1	.1	Q	Q	Q	Q	Q	Q	Q	.2	Q	.2	Q	Q	Q
AVERAGE NUMBER OF WINDOWS	12.1	14.2	14.6	12.0	11.9	13.0	9.3	9.4	12.5	8.6	5.4	7.2	5.3	11.9	12.0	11.6
NUMBER OF STORM WINDOWS																
1 TO 6	9.0	3.3	2.6	.7	.6	.3	.2	1.8	.2	1.6	3.2	.2	2.9	.1	.1	Q
7 TO 12	19.3	13.6	12.4	1.3	.8	.6	.2	2.7	.8	1.9	1.1	.1	1.0	1.1	.8	.3
13 TO 18	13.6	11.5	10.6	1.0	.7	.6	Q	.9	.5	.4	Q	Q	Q	.5	.5	Q
19 OR MORE	6.8	6.0	5.6	.4	.4	.3	Q	.3	.2	.1	Q	Q	Q	.1	.1	Q
NONE/NO WINDOWS	35.1	19.3	14.0	5.3	1.4	.8	.6	4.5	.6	3.9	7.9	.7	7.3	1.9	1.5	.4
AVERAGE NUMBER OF STORM WINDOWS	7.1	8.8	9.6	4.5	7.7	9.4	3.7	5.1	8.8	4.2	1.8	1.5	1.8	5.6	5.7	5.4
PERCENT OF WINDOWS WITH STORM WINDOWS																
100 PERCENT	35.8	24.5	22.4	2.1	1.8	1.3	.5	4.2	1.3	2.9	3.8	.3	3.5	1.5	1.3	.3
76 TO 99 PERCENT	5.8	4.7	4.3	.4	.2	.2	Q	.5	.1	.4	.2	Q	.2	.2	.1	.1
51 TO 75 PERCENT	3.4	2.6	2.4	.2	.2	.2	Q	.4	.1	.3	.2	Q	.2	Q	Q	Q
1 TO 50 PERCENT	3.6	2.6	2.0	.7	.2	.2	Q	.6	.1	.5	.1	Q	.1	.1	.1	Q
NONE/NO WINDOWS	35.1	19.3	14.0	5.3	1.4	.8	.6	4.5	.6	3.9	7.9	.7	7.3	1.9	1.5	.4
NUMBER OF OUTSIDE DOORS																
1	7.6	.5	.2	.3	.1	Q	.1	2.1	.2	1.9	4.7	.2	4.5	.1	Q	Q
2	39.0	24.2	18.9	5.3	1.8	1.1	.7	5.7	1.3	4.4	4.2	.4	3.7	3.2	2.5	.7
3	22.1	19.0	16.8	2.2	1.4	1.0	.4	.9	.3	.5	.4	.1	.2	.4	.4	.1
4 OR MORE	10.9	9.8	9.1	.8	.6	.5	.1	.4	.1	.3	Q	Q	Q	Q	Q	Q
NONE	4.2	-	-	-	Q	Q	Q	1.1	.2	.9	3.0	.2	2.8	-	-	-
AVERAGE NUMBER OF DOORS	2.4	2.8	2.9	2.4	2.7	2.8	2.4	1.8	2.0	1.7	1.2	1.6	1.1	2.1	2.1	2.1
TYPE AND NUMBER OF OUTSIDE DOORS																
STANDARD DOORS																
1	12.2	2.3	1.8	0.5	0.4	0.2	0.3	2.7	0.3	2.4	6.4	0.6	5.8	0.3	0.2	Q
2	43.5	31.5	25.7	5.8	2.2	1.5	.7	5.3	1.3	4.0	1.5	Q	1.5	3.1	2.4	0.6
3	16.9	14.8	13.0	1.8	1.0	.8	.2	.7	.3	.4	.1	Q	.1	.4	.3	.1
4 OR MORE	5.5	4.9	4.4	.5	.2	.2	Q	.3	.1	.3	Q	Q	Q	Q	Q	Q
NONE/NO DOORS	5.7	.3	.2	.1	Q	Q	Q	1.1	.2	.9	4.2	.4	3.8	.1	Q	Q
AVERAGE NUMBER OF STANDARD DOORS	2.1	2.4	2.5	2.3	2.3	2.4	2.0	1.7	1.9	1.6	.8	.6	.8	2.0	2.0	2.0
SLIDING GLASS DOORS																
1	16.8	11.3	10.5	.8	1.0	.6	.4	.7	.1	.7	3.5	.6	2.9	.3	.3	Q
2 OR MORE	4.0	3.1	2.9	.2	.3	.2	Q	.2	.1	.1	.5	.1	.3	.1	Q	Q
NONE/NO DOORS	62.9	39.5	31.8	7.7	2.6	1.9	.7	9.3	2.0	7.3	8.2	.2	8.0	3.4	2.6	.7
AVERAGE NUMBER OF SLIDING GLASS DOORS	.3	.4	.4	.1	.4	.4	.4	.1	.1	.1	.4	.9	.3	.1	.1	.1
NUMBER OF STORM DOORS																
1	12.7	7.3	6.0	1.4	.4	.1	.2	1.8	.3	1.5	1.9	.2	1.7	1.3	1.0	.2
2	24.2	19.3	17.7	1.6	1.6	1.2	.4	2.1	.9	1.2	.5	Q	.5	.7	.7	Q
3	8.3	7.6	7.3	.3	.4	.4	Q	.2	.1	.1	.1	Q	Q	Q	Q	Q
4 OR MORE	3.1	2.9	2.7	.2	.1	.1	Q	.1	Q	.1	Q	Q	Q	Q	Q	Q
NONE	31.2	16.5	11.3	5.1	1.4	.9	.5	4.8	.6	4.2	6.7	.5	6.2	1.8	1.3	.5
NO OUTSIDE DOORS	4.2	-	-	-	Q	Q	Q	1.1	.2	.9	3.0	.2	2.8	-	-	-
AVERAGE NUMBER OF STORM DOORS	1.2	1.5	1.7	.7	1.4	1.5	1.0	.7	1.2	.6	.3	.3	.3	.7	.8	.5
AVERAGE NUMBER OF STANDARD STORM DOORS	1.0	1.3	1.4	.7	1.2	1.4	.7	.7	1.1	.5	.1	.1	.1	.7	.8	.5
AVERAGE NUMBER OF SLIDING GLASS STORM DOORS	.2	.2	.2	Q	.2	.2	.3	Q	.1	Q	.1	.2	.1	Q	Q	Q

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Housing Structure And Ownership

Table. 25. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
PERCENT OF OUTSIDE DOORS WITH STORM DOORS																
100 PERCENT	28.0	21.4	19.8	1.5	1.4	1.2	0.3	2.7	1.0	1.7	1.9	0.2	1.7	0.6	0.6	Q
51 TO 99 PERCENT	8.2	7.1	6.6	.5	.7	.5	.2	.3	.1	.1	Q	Q	Q	.1	.1	Q
1 TO 50 PERCENT	12.2	8.6	7.2	1.3	.4	.2	.2	1.3	.3	1.1	.6	Q	.6	1.3	1.0	0.2
NONE/NO DOORS	35.4	16.7	11.4	5.3	1.4	.9	.5	5.9	.8	5.1	9.7	.7	8.9	1.8	1.3	.5
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	61.4	53.8	45.1	8.7	3.9	2.7	1.1	-	-	-	-	-	-	3.7	3.0	.8
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
YES	48.3	43.0	39.2	3.8	2.5	2.0	.6	-	-	-	-	-	-	2.8	2.4	.4
ALL INSULATED	40.6	36.1	33.3	2.8	2.0	1.6	.5	-	-	-	-	-	-	2.5	2.1	.4
PART INSULATED	4.8	4.3	3.7	.6	.3	.3	.1	-	-	-	-	-	-	.2	.2	Q
NONE, VERY LITTLE INSULATED	.8	.6	.5	.1	.1	.1	Q	-	-	-	-	-	-	.1	.1	Q
DON'T KNOW AMOUNT/ NOT REPORTED	2.0	1.9	1.7	.3	Q	Q	Q	-	-	-	-	-	-	.1	.1	Q
NO	8.0	7.0	4.6	2.5	.6	.5	.1	-	-	-	-	-	-	.3	.2	.1
DON'T KNOW/NOT REPORTED	5.1	3.8	1.4	2.4	.7	.2	.5	-	-	-	-	-	-	.7	.4	.3
TYPE OF INSULATION																
BATTS ONLY	23.7	20.5	18.5	2.0	1.2	.9	.3	-	-	-	-	-	-	2.0	1.7	.3
AVERAGE NUMBER OF INCHES	5.1	5.2	5.3	4.9	4.4	4.4	4.5	-	-	-	-	-	-	4.4	4.4	4.3
LOOSE FILL ONLY	13.4	12.8	11.9	.9	.5	.4	.1	-	-	-	-	-	-	.1	.1	Q
AVERAGE NUMBER OF INCHES	6.8	6.9	6.9	6.8	4.9	5.1	3.9	-	-	-	-	-	-	7.3	7.3	Q
BATTS AND LOOSE FILL ONLY	5.3	5.1	4.9	.2	.2	.2	Q	-	-	-	-	-	-	Q	Q	Q
AVERAGE NUMBER OF INCHES	10.3	10.3	10.4	10.2	10.1	10.0	12.0	-	-	-	-	-	-	Q	Q	Q
OTHER/COMBINATION	3.1	2.5	2.3	.3	.3	.2	Q	-	-	-	-	-	-	.2	.2	Q
DON'T KNOW TYPE/NOT REPORTED	2.6	1.9	1.3	.5	.2	.1	.1	-	-	-	-	-	-	.5	.4	.1
NO INSULATION/DON'T KNOW/ NOT REPORTED	13.1	10.8	5.9	4.8	1.3	.8	.6	-	-	-	-	-	-	1.0	.6	.4
HAVE WALL INSULATION (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
YES	38.3	33.4	30.6	2.8	1.9	1.5	0.4	-	-	-	-	-	-	3.0	2.5	0.5
ALL WALLS	32.0	27.7	25.6	2.1	1.5	1.1	.3	-	-	-	-	-	-	2.7	2.3	.4
SOME WALLS	6.3	5.7	5.0	.7	.4	.4	Q	-	-	-	-	-	-	.2	.2	.1
NO	13.0	11.8	8.9	2.9	1.0	.8	.3	-	-	-	-	-	-	.2	.2	Q
DON'T KNOW/NOT REPORTED	10.1	8.6	5.7	2.9	.9	.4	.5	-	-	-	-	-	-	.6	.3	.3
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION	29.8	27.2	25.8	1.3	1.4	1.2	.2	-	-	-	-	-	-	1.3	1.1	.2
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION	55.0	48.4	42.9	5.5	3.4	2.5	.9	-	-	-	-	-	-	3.2	2.6	.6
UNITS WITH NONE OF THESE TYPES OF INSULATION	6.4	5.4	2.2	3.1	.4	.2	.3	-	-	-	-	-	-	.6	.4	.2
TOTAL SINGLE-FAMILY UNITS	57.7	53.8	45.1	8.7	3.9	2.7	1.1	-	-	-	-	-	-	-	-	-
FLOOR INSULATION (SINGLE-FAMILY UNITS)																
HAVE BASEMENT/CRAWL SPACE	44.7	42.1	35.4	6.7	2.6	2.0	.6	-	-	-	-	-	-	-	-	-
HEATED	12.7	11.5	10.7	.8	1.2	1.0	.2	-	-	-	-	-	-	-	-	-
NONE OR PART HEATED	32.0	30.6	24.7	5.9	1.4	1.0	.4	-	-	-	-	-	-	-	-	-
HAVE FLOOR INSULATION	6.1	6.0	5.5	.5	.1	.1	Q	-	-	-	-	-	-	-	-	-
ALL PARTS INSULATED	4.3	4.1	3.8	.3	.1	.1	Q	-	-	-	-	-	-	-	-	-
SOME PARTS INSULATED	1.9	1.9	1.7	.1	Q	Q	Q	-	-	-	-	-	-	-	-	-
NO FLOOR INSULATION	15.0	14.3	11.4	2.9	.6	.6	.1	-	-	-	-	-	-	-	-	-
DON'T KNOW/NOT REPORTED	11.0	10.3	7.7	2.5	.7	.4	.3	-	-	-	-	-	-	-	-	-
NO BASEMENT/CRAWL SPACE	13.0	11.7	9.7	2.0	1.3	.7	.5	-	-	-	-	-	-	-	-	-

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Housing Structure And Ownership

Table 26. Thermal Characteristics by Housing Strucure And Ownership, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NUMBER OF WINDOWS																
1 TO 6	18.2	4.9	4.3	8.1	19.3	16.0	27.2	31.8	9.6	37.7	69.0	57.8	70.0	4.4	3.5	8.1
7 TO 12	41.3	42.7	40.0	56.7	41.5	39.3	46.6	45.4	42.0	46.3	25.3	26.6	25.1	61.8	61.5	62.6
13 TO 18	26.9	33.9	35.5	25.7	28.7	30.5	24.5	17.7	35.9	12.8	3.7	15.5	2.6	25.9	26.6	23.1
19 OR MORE	13.3	18.4	20.1	9.5	10.5	14.2	1.8	5.0	11.5	3.2	.7	Q	.8	7.9	8.3	6.3
NONE	.3	.2	.2	Q	Q	Q	Q	.2	1.1	Q	1.4	Q	1.5	Q	Q	Q
NUMBER OF STORM WINDOWS																
1 TO 6	10.7	6.1	5.7	8.4	14.9	12.1	21.7	17.7	8.4	20.2	26.0	24.7	26.1	3.7	3.1	6.1
7 TO 12	23.0	25.4	27.4	14.5	21.4	22.3	19.5	26.4	35.3	24.0	8.8	6.6	9.0	28.4	27.1	33.2
13 TO 18	16.3	21.5	23.4	11.3	17.1	22.5	4.3	8.8	21.7	5.4	.2	Q	.3	13.3	15.3	5.2
19 OR MORE	8.1	11.1	12.3	4.7	9.6	12.9	1.8	2.7	7.8	1.3	.2	Q	.2	3.3	3.2	3.6
NONE/NO WINDOWS	41.9	35.9	31.1	61.1	37.0	30.3	52.8	44.4	26.8	49.1	64.9	68.7	64.5	51.4	51.2	51.9
PERCENT OF WINDOWS WITH STORM WINDOWS																
100 PERCENT	42.8	45.5	49.7	23.8	47.1	49.1	42.4	41.1	59.3	36.2	31.3	29.0	31.5	40.3	42.1	33.4
76 TO 99 PERCENT	6.9	8.7	9.5	4.9	6.3	8.7	.4	4.8	3.0	5.3	1.6	1.1	1.6	4.6	2.8	11.5
51 TO 75 PERCENT	4.1	4.9	5.3	2.6	5.1	6.3	2.2	4.0	6.2	3.4	1.4	Q	1.6	.9	1.1	Q
1 TO 50 PERCENT	4.3	4.9	4.4	7.6	4.6	5.7	2.1	5.7	4.7	6.0	.9	1.1	.8	2.8	2.8	3.2
NONE/NO WINDOWS	41.9	35.9	31.1	61.1	37.0	30.3	52.8	44.4	26.8	49.1	64.9	68.7	64.5	51.4	51.2	51.9
NUMBER OF OUTSIDE DOORS																
1	9.0	1.0	.5	3.3	2.2	1.1	4.8	20.7	9.5	23.8	38.8	20.6	40.4	2.1	1.7	3.8
2	46.6	44.9	41.8	61.1	46.1	41.5	56.9	56.3	62.3	54.7	34.0	43.8	33.1	85.5	85.5	85.2
3	26.4	35.4	37.3	25.1	36.8	38.0	33.9	8.5	14.9	6.8	2.9	13.2	2.0	11.9	12.1	11.0
4 OR MORE	13.0	18.3	20.1	8.9	15.0	19.4	4.4	3.9	4.9	3.7	.2	1.9	Q	.5	.7	Q
NONE	5.1	-	-	-	Q	Q	Q	10.5	8.5	11.1	24.2	20.5	24.5	-	-	-
TYPE AND NUMBER OF OUTSIDE DOORS																
STANDARD DOORS																
1	14.5	4.3	4.1	5.4	11.3	6.3	23.4	26.6	13.9	30.0	52.7	61.7	51.9	7.4	8.3	3.8
2	51.9	58.5	57.0	66.7	56.2	55.6	57.5	52.4	61.1	50.1	12.2	Q	13.2	81.6	81.5	82.2
3	20.2	27.4	28.8	20.4	26.0	30.1	16.0	6.7	12.5	5.1	.7	Q	.8	9.5	9.1	11.0
4 OR MORE	6.6	9.2	9.8	5.9	6.3	8.0	2.2	3.2	3.0	3.2	Q	Q	Q	Q	Q	Q
NONE/NO DOORS	6.8	.5	.3	1.6	.3	Q	.9	11.1	9.4	11.5	34.4	38.3	34.1	1.5	1.1	2.9
SLIDING GLASS DOORS																
1	20.1	20.9	23.2	9.4	26.4	23.4	33.3	7.0	2.3	8.2	28.8	60.6	26.1	8.7	11.0	Q
2 OR MORE	4.8	5.7	6.4	1.9	7.2	8.4	4.3	1.8	4.9	1.0	3.8	15.1	2.8	1.5	1.1	2.9
NONE/NO DOORS	75.1	73.4	70.4	88.7	66.5	68.2	62.5	91.2	92.8	90.8	67.4	24.3	71.1	89.8	87.9	97.1
NUMBER OF STORM DOORS																
1	15.2	13.6	13.2	15.6	9.3	4.2	21.2	17.9	15.0	18.7	15.9	20.2	15.5	34.0	34.6	31.6
2	28.9	35.9	39.3	18.0	41.7	44.7	34.5	20.6	40.5	15.2	4.4	2.6	4.6	18.3	22.1	3.5
3	9.9	14.1	16.1	3.5	10.4	13.9	2.2	2.2	5.7	1.3	.5	1.0	.4	.9	.5	2.3
4 OR MORE	3.7	5.4	6.1	1.9	3.0	4.3	Q	1.1	1.6	.9	.1	1.0	Q	Q	Q	Q
NONE	37.2	30.7	25.2	59.4	35.6	32.9	42.1	47.7	28.7	52.8	55.0	54.8	55.0	46.9	42.8	62.6
NO OUTSIDE DOORS	5.1	-	-	-	Q	Q	Q	10.5	8.5	11.1	24.2	20.5	24.5	-	-	-
PERCENT OF OUTSIDE DOORS WITH STORM DOORS																
100 PERCENT	33.4	39.8	44.0	17.8	36.7	42.3	23.4	26.3	44.4	21.4	15.8	20.1	15.4	16.4	19.2	5.8
51 TO 99 PERCENT	9.7	13.2	14.7	5.7	17.1	18.8	13.3	2.6	6.8	1.5	.2	1.0	.1	2.9	3.6	Q
1 TO 50 PERCENT	14.5	15.9	16.0	15.5	10.6	6.1	21.2	12.9	11.7	13.2	4.9	3.6	5.1	33.8	34.4	31.6
NONE/NO DOORS	42.3	31.1	25.3	61.0	35.6	32.9	42.1	58.2	37.1	63.9	79.1	75.3	79.5	46.9	42.8	62.6

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Housing Structure And Ownership

Table 26. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	HOUSING STRUCTURE BY OWNERSHIP														
		SINGLE-FAMILY DETACHED			SINGLE-FAMILY ATTACHED			BUILDING WITH 2 TO 4 UNITS			BUILDING WITH 5 OR MORE UNITS			MOBILE HOME		
		TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT	TOTAL	OWN	RENT
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	-	-	-	-	-	100.0	100.0	100.0
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
YES	78.7	80.0	86.8	44.2	65.3	72.1	49.1	-	-	-	-	-	-	74.3	79.5	54.3
ALL INSULATED	66.2	67.2	73.9	32.4	51.9	57.2	39.3	-	-	-	-	-	-	66.7	70.1	53.6
PART INSULATED	7.8	8.0	8.1	7.4	8.4	9.5	5.8	-	-	-	-	-	-	4.3	5.2	.7
NONE, VERY LITTLE INSULATED	1.3	1.2	1.1	1.3	3.9	4.2	3.2	-	-	-	-	-	-	1.5	1.9	Q
DON'T KNOW AMOUNT/ NOT REPORTED	3.3	3.6	3.7	3.2	1.1	1.2	.9	-	-	-	-	-	-	1.9	2.3	Q
NO	13.0	13.1	10.1	28.5	16.5	18.8	11.2	-	-	-	-	-	-	7.7	6.5	12.6
DON'T KNOW/NOT REPORTED	8.4	7.0	3.1	27.2	18.2	9.1	39.7	-	-	-	-	-	-	17.9	14.1	33.0
TYPE OF INSULATION																
BATTS ONLY	38.6	38.2	41.1	22.8	32.0	33.9	27.5	-	-	-	-	-	-	52.5	56.5	37.2
LOOSE FILL ONLY	21.8	23.8	26.4	9.9	13.6	15.8	8.2	-	-	-	-	-	-	1.9	2.4	Q
BATTS AND LOOSE FILL ONLY	8.6	9.4	10.8	2.2	5.2	7.2	.4	-	-	-	-	-	-	Q	Q	Q
OTHER/COMBINATION	5.0	4.7	5.0	3.3	7.4	9.1	3.3	-	-	-	-	-	-	6.3	6.5	5.5
DON'T KNOW TYPE/NOT REPORTED	4.3	3.5	3.0	6.1	6.1	4.5	9.7	-	-	-	-	-	-	13.7	14.2	11.7
NO INSULATION/DON'T KNOW/ NOT REPORTED	21.3	20.0	13.2	55.8	34.7	27.9	50.9	-	-	-	-	-	-	25.7	20.5	45.7
HAVE WALL INSULATION (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
YES	62.4	62.1	67.8	32.5	49.5	56.2	33.4	-	-	-	-	-	-	79.8	84.9	60.1
ALL WALLS	52.1	51.6	56.7	24.7	38.2	41.8	29.8	-	-	-	-	-	-	73.5	78.7	53.0
SOME WALLS	10.3	10.5	11.1	7.9	11.3	14.5	3.6	-	-	-	-	-	-	6.3	6.1	7.1
NO	21.2	21.9	19.7	33.7	26.7	28.8	21.9	-	-	-	-	-	-	4.4	5.5	Q
DON'T KNOW/NOT REPORTED	16.5	16.0	12.6	33.8	23.8	15.0	44.7	-	-	-	-	-	-	15.8	9.6	39.9
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS AND MOBILE UNITS)																
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION	48.5	50.5	57.3	15.3	35.1	43.6	14.8	-	-	-	-	-	-	34.0	36.5	24.2
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION	89.6	90.0	95.0	63.9	88.6	93.3	77.4	-	-	-	-	-	-	84.3	86.8	74.5
UNITS WITH NONE OF THESE TYPES OF INSULATION	10.4	10.0	5.0	36.1	11.4	6.7	22.6	-	-	-	-	-	-	15.7	13.2	25.5
TOTAL SINGLE-FAMILY UNITS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	-	-	-	-	-	-	-	-	-
FLOOR INSULATION (SINGLE-FAMILY UNITS)																
HAVE BASEMENT/CRAWL SPACE	77.5	78.3	78.4	77.4	67.2	73.5	52.4	-	-	-	-	-	-	-	-	-
HEATED	22.0	21.4	23.7	9.2	30.2	35.0	18.8	-	-	-	-	-	-	-	-	-
NONE OR PART HEATED	55.6	56.9	54.7	68.1	37.0	38.5	33.6	-	-	-	-	-	-	-	-	-
HAVE FLOOR INSULATION	10.6	11.2	12.3	5.3	2.8	4.0	Q	-	-	-	-	-	-	-	-	-
ALL PARTS INSULATED	7.4	7.7	8.5	3.8	2.8	4.0	Q	-	-	-	-	-	-	-	-	-
SOME PARTS INSULATED	3.2	3.5	3.8	1.5	Q	Q	Q	-	-	-	-	-	-	-	-	-
NO FLOOR INSULATION	26.0	26.6	25.3	33.6	16.4	20.6	6.6	-	-	-	-	-	-	-	-	-
DON'T KNOW/NOT REPORTED	19.0	19.1	17.1	29.2	17.8	14.0	26.9	-	-	-	-	-	-	-	-	-
NO BASEMENT/CRAWL SPACE	22.5	21.7	21.6	22.6	32.8	26.5	47.6	-	-	-	-	-	-	-	-	-

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Heating And Cooling Degree Days

Table 27. Thermal Characteristics by Heating And Cooling Degree-Days, as of November 1982 (Million Households except Where Averages Are Indicated)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE						CENSUS REGIONS						
								NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD		5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL HOUSEHOLDS	83.8	8.5	21.0	22.1	19.6	12.6	9.6	8.3	21.3	16.8	11.3	6.0	10.5
NUMBER OF WINDOWS													
1 TO 6	15.2	1.3	3.0	4.9	3.7	2.4	1.2	2.4	3.3	2.3	1.8	1.5	2.7
7 TO 12	34.6	3.1	7.6	8.6	9.2	6.0	2.9	2.5	8.3	7.7	5.5	2.8	4.9
13 TO 18	22.6	2.8	6.2	5.7	4.7	3.1	3.5	2.0	6.3	4.9	2.9	1.1	1.8
19 OR MORE	11.2	1.4	4.0	2.9	1.8	1.1	2.0	1.5	3.4	1.8	1.0	.5	.9
NONE	.3	Q	.2	Q	.1	Q	Q	Q	.1	Q	Q	Q	.1
AVERAGE NUMBER OF WINDOWS	12.1	12.9	13.3	11.9	11.4	11.1	14.0	12.3	12.8	12.1	11.4	10.4	10.6
NUMBER OF STORM WINDOWS													
1 TO 6	9.0	1.4	2.9	3.1	.9	.6	1.2	1.3	3.3	1.3	.6	1.0	.2
7 TO 12	19.3	2.9	6.9	6.4	2.5	.6	2.6	1.8	8.0	4.6	.6	1.4	.2
13 TO 18	13.6	2.5	4.9	4.3	1.6	.3	2.9	1.8	5.2	2.9	.3	.4	Q
19 OR MORE	6.8	1.0	3.0	2.1	.4	.2	1.5	1.2	2.6	1.0	.2	.2	Q
NONE/NO WINDOWS	35.1	.7	3.3	6.2	14.1	10.8	1.4	2.2	2.2	6.9	9.5	2.8	10.1
AVERAGE NUMBER OF STORM WINDOWS	7.1	11.2	10.8	8.7	3.2	1.5	11.5	9.9	11.0	6.9	1.5	4.9	.5
PERCENT OF WINDOWS WITH STORM WINDOWS													
100 PERCENT	35.8	6.2	12.7	11.7	4.1	1.1	6.0	4.8	14.5	7.3	1.1	1.9	.2
76 TO 99 PERCENT	5.8	.7	2.6	1.9	.5	.1	1.3	.8	2.3	.9	.1	.2	.1
51 TO 75 PERCENT	3.4	.6	1.4	1.0	.3	.1	.5	.3	1.6	.6	.1	.4	Q
1 TO 50 PERCENT	3.6	.3	1.0	1.3	.7	.4	.4	.3	.7	1.0	.4	.6	.1
NONE/NO WINDOWS	35.1	.7	3.3	6.2	14.1	10.8	1.4	2.2	2.2	6.9	9.5	2.8	10.1
NUMBER OF OUTSIDE DOORS													
1	7.6	1.1	1.8	1.8	1.9	0.9	0.9	1.1	1.9	1.0	0.9	0.5	1.3
2	39.0	4.4	9.7	9.5	9.5	5.9	4.0	2.8	10.7	8.6	5.5	3.0	4.3
3	22.1	1.9	5.5	5.5	5.6	3.7	2.8	1.7	5.1	4.6	3.3	1.6	3.1
4 OR MORE	10.9	1.0	2.7	2.9	2.5	1.7	1.3	.7	2.6	2.4	1.5	.7	1.6
NONE	4.2	.2	1.3	2.4	Q	.3	.6	2.1	1.0	.2	Q	.1	.2
AVERAGE NUMBER OF DOORS	2.4	2.3	2.4	2.3	2.5	2.5	2.4	1.7	2.4	2.5	2.5	2.5	2.5
TYPE AND NUMBER OF OUTSIDE DOORS													
STANDARD DOORS													
1	12.2	.9	2.6	3.1	3.8	1.8	1.2	1.4	2.0	1.9	1.7	1.3	2.7
2	43.5	4.9	10.9	10.2	10.8	6.7	4.5	2.8	12.1	9.5	5.8	3.3	5.4
3	16.9	1.4	4.3	4.3	3.7	3.2	2.4	1.5	4.0	3.7	3.1	.8	1.4
4 OR MORE	5.5	.6	1.5	1.8	1.1	.6	.9	.4	1.3	1.5	.6	.3	.5
NONE/NO DOORS	5.7	.7	1.8	2.7	.2	.3	.7	2.1	1.9	.3	.1	.3	.4
AVERAGE NUMBER OF STANDARD DOORS	2.1	2.0	2.1	2.0	2.1	2.2	2.2	1.6	2.1	2.3	2.2	1.9	1.9
SLIDING GLASS DOORS													
1	16.8	1.8	3.7	4.2	4.7	2.5	1.3	1.0	4.0	3.2	2.0	2.2	3.2
2 OR MORE	4.0	.3	1.0	.6	1.4	.7	.3	.1	1.0	.5	.5	.4	1.3
NONE/NO DOORS	62.9	6.4	16.3	17.2	13.5	9.5	8.0	7.3	16.3	13.1	8.8	3.4	6.0
AVERAGE NUMBER OF SLIDING GLASS DOORS	.3	.3	.3	.3	.4	.3	.2	.1	.3	.3	.3	.5	.6

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Heating And Cooling Degree Days

Table 27. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
NUMBER OF STORM DOORS													
1	12.7	1.7	3.7	3.3	2.2	1.7	1.3	0.7	4.0	3.3	1.7	1.4	0.3
2	24.2	3.7	8.4	7.8	3.0	1.3	3.9	3.0	9.6	4.9	1.2	1.4	.3
3	8.3	1.0	3.0	2.8	1.1	.4	1.4	1.0	3.1	2.1	.4	.3	Q
4 OR MORE	3.1	.5	.9	1.0	.3	.3	.5	.2	1.1	.9	.3	.2	Q
NONE	31.2	1.3	3.7	4.7	12.9	8.7	2.0	1.4	2.5	5.4	7.7	2.6	9.7
NO OUTSIDE DOORS	4.2	.2	1.3	2.4	Q	.3	.6	2.1	1.0	.2	Q	.1	.2
AVERAGE NUMBER OF STORM DOORS	1.2	1.7	1.6	1.4	.7	.5	1.6	1.2	1.8	1.4	.6	1.0	.1
AVERAGE NUMBER OF STANDARD STORM DOORS	1.0	1.5	1.4	1.3	.6	.5	1.4	1.1	1.5	1.2	.5	.7	.1
AVERAGE NUMBER OF SLIDING GLASS STORM DOORS	.2	.2	.2	.2	.1	.1	.2	.1	.3	.2	.1	.2	Q
PERCENT OF OUTSIDE DOORS WITH STORM DOORS													
100 PERCENT	28.0	5.1	9.4	9.1	3.3	1.2	4.1	3.3	11.9	6.1	1.2	1.2	.2
51 TO 99 PERCENT	8.2	.8	3.1	2.6	1.1	.6	1.5	.9	2.8	1.8	.6	.5	.1
1 TO 50 PERCENT	12.2	1.1	3.5	3.3	2.3	1.9	1.5	.6	3.1	3.3	1.8	1.5	.3
NONE/NO DOORS	35.4	1.5	4.9	7.1	12.9	9.0	2.6	3.5	3.5	5.6	7.7	2.7	9.9
TOTAL SINGLE-FAMILY UNITS	57.7	6.0	14.0	14.5	13.7	9.4	6.2	4.4	15.0	12.7	8.2	4.2	7.0
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)													
YES	45.5	5.2	11.7	11.8	10.1	6.7	5.0	3.5	12.8	10.2	5.8	3.5	4.8
ALL INSULATED	38.1	4.4	9.9	9.8	8.4	5.6	4.1	2.7	11.0	8.6	4.7	3.0	4.1
PART INSULATED	4.6	.5	1.2	1.2	1.0	.7	.6	.5	1.2	.9	.7	.3	.4
NONE, VERY LITTLE INSULATED	.8	Q	.2	.3	.1	.1	.1	.3	.2	.1	.1	Q	Q
DON'T KNOW AMOUNT/ NOT REPORTED	2.0	.3	.4	.5	.6	.3	.2	.1	.5	.6	.3	.2	.2
NO	7.7	.4	1.3	1.6	2.4	1.9	.8	.5	1.3	1.5	1.6	.3	1.7
DON'T KNOW/NOT REPORTED	4.5	.4	1.0	1.1	1.2	.8	.5	.4	.9	1.1	.7	.4	.5
TYPE OF INSULATION													
BATTS ONLY	21.8	2.0	6.0	6.3	4.6	2.8	3.3	2.3	5.1	5.4	2.7	1.2	1.7
AVERAGE NUMBER OF INCHES	5.2	6.1	5.2	5.2	4.9	5.0	5.4	4.6	5.3	5.3	4.9	5.1	4.9
LOOSE FILL ONLY	13.3	1.7	3.2	3.2	2.9	2.3	.7	.5	4.7	2.5	1.7	1.4	1.9
AVERAGE NUMBER OF INCHES	6.8	9.2	6.8	6.6	6.5	5.7	5.8	4.7	7.8	7.1	5.5	6.8	6.3
BATTS AND LOOSE FILL ONLY	5.3	.9	1.6	1.4	.8	.6	.6	.4	2.1	1.0	.6	.5	.2
AVERAGE NUMBER OF INCHES	10.3	12.8	9.9	9.7	8.7	11.5	10.8	8.8	10.6	10.2	11.5	10.7	6.5
OTHER/COMBINATION	2.8	.3	.4	.4	1.1	.6	.2	.2	.4	.8	.5	.1	.6
DON'T KNOW TYPE/NOT REPORTED	2.1	.2	.5	.3	.7	.4	.2	.1	.4	.4	.3	.3	.4
NO INSULATION/DON'T KNOW/ NOT REPORTED	12.1	.8	2.3	2.7	3.6	2.7	1.2	.9	2.2	2.6	2.4	.7	2.2
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)													
YES	35.3	4.6	9.7	9.6	6.6	4.7	4.3	2.9	10.8	7.9	4.1	2.7	2.6
ALL WALLS	29.2	3.9	8.0	8.0	5.3	4.0	3.5	2.3	9.1	6.6	3.4	2.3	2.1
SOME WALLS	6.1	.7	1.7	1.7	1.3	.8	.8	.6	1.7	1.4	.7	.3	.5
NO	12.8	.8	2.1	2.6	4.4	3.0	1.1	1.0	2.0	2.5	2.5	.7	3.1
DON'T KNOW/NOT REPORTED	9.5	.7	2.2	2.2	2.7	1.7	.8	.6	2.2	2.3	1.6	.8	1.3
FLOOR INSULATION (SINGLE-FAMILY UNITS)													
HAVE BASEMENT/CRAWL SPACE	44.7	5.7	12.5	12.7	9.9	4.0	5.6	3.7	13.6	10.9	3.6	3.6	3.7
HEATED	12.7	2.9	5.0	4.2	.5	.1	1.8	1.7	6.5	1.5	Q	.8	.3
NONE OR PART HEATED	32.0	2.7	7.4	8.6	9.4	3.9	3.8	1.9	7.1	9.4	3.6	2.7	3.5
HAVE FLOOR INSULATION	6.1	.7	1.5	2.0	1.7	.2	.8	.5	1.5	2.2	.2	.5	.4
ALL PARTS INSULATED	4.3	.4	1.0	1.4	1.4	.1	.5	.3	.9	1.7	.1	.4	.3
SOME PARTS INSULATED	1.9	.3	.5	.6	.3	.1	.4	.1	.6	.5	.1	.1	.1
NO FLOOR INSULATION	15.0	1.3	3.7	3.8	4.2	2.0	1.7	.7	3.3	4.7	1.8	1.3	1.5
DON'T KNOW/NOT REPORTED	11.0	.7	2.3	2.7	3.5	1.7	1.3	.7	2.3	2.5	1.6	.9	1.6
NO BASEMENT/CRAWL SPACE	13.0	.4	1.5	1.8	3.8	5.4	.6	.7	1.4	1.8	4.5	.6	3.3

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Heating and Cooling Degree-Days

Table 27. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE											
							CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)													
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION....	28.5	4.7	10.0	9.2	3.6	1.0	4.3	3.0	11.6	6.7	1.0	1.8	0.2
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION..	51.8	6.0	13.8	14.0	11.0	7.1	6.1	4.4	14.8	11.8	6.2	3.8	4.8
UNITS WITH NONE OF THESE TYPES OF INSULATION.....	5.8	.1	.2	.5	2.7	2.3	.1	Q	.2	.9	2.0	.4	2.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Heating and Cooling Degree-Days

Table 28. Thermal Characteristics by Heating And Cooling Degree-Days, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)-- LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NUMBER OF WINDOWS													
1 TO 6	18.2	15.0	14.3	22.1	18.8	18.8	12.7	28.6	15.3	14.0	16.1	25.3	25.8
7 TO 12	41.3	36.2	36.4	38.8	47.2	47.9	29.7	30.0	38.8	45.8	48.7	47.5	46.9
13 TO 18	26.9	32.6	29.7	25.9	24.2	24.5	36.1	23.9	29.5	29.5	26.0	18.3	17.5
19 OR MORE	13.3	16.1	18.8	13.1	9.4	8.8	21.2	17.5	15.8	10.8	9.2	8.7	9.0
NONE	.3	.1	.8	.1	.5	Q	.3	Q	.7	Q	Q	.1	.9
NUMBER OF STORM WINDOWS													
1 TO 6	10.7	16.9	13.9	13.9	4.7	4.9	12.5	15.5	15.7	8.0	5.4	17.3	1.5
7 TO 12	23.0	34.0	32.6	28.9	12.9	4.9	26.7	22.2	37.6	27.5	5.3	24.2	2.0
13 TO 18	16.3	29.0	23.5	19.2	8.3	2.6	30.4	21.4	24.3	17.5	2.9	7.3	.4
19 OR MORE	8.1	12.2	14.1	9.6	2.1	1.7	15.6	14.6	12.3	5.7	1.7	3.7	.4
NONE/NO WINDOWS	41.9	7.9	15.9	28.3	71.9	85.9	14.7	26.3	10.2	41.4	84.7	47.5	95.7
PERCENT OF WINDOWS WITH STORM WINDOWS													
100 PERCENT	42.8	73.4	60.3	53.0	20.8	9.0	62.3	57.3	68.1	43.7	9.9	31.9	1.9
76 TO 99 PERCENT	6.9	8.5	12.5	8.4	2.4	1.0	13.5	9.7	10.9	5.6	.9	4.2	.7
51 TO 75 PERCENT	4.1	6.8	6.8	4.5	1.6	.9	4.8	3.2	7.6	3.4	1.0	6.0	.4
1 TO 50 PERCENT	4.3	3.3	4.6	5.8	3.3	3.3	4.7	3.5	3.2	6.0	3.6	10.4	1.4
NONE/NO WINDOWS	41.9	7.9	15.9	28.3	71.9	85.9	14.7	26.3	10.2	41.4	84.7	47.5	95.7
NUMBER OF OUTSIDE DOORS													
1	9.0	12.4	8.8	8.1	9.8	7.5	9.0	12.9	9.0	6.1	8.2	8.5	11.9
2	46.6	51.4	46.2	43.0	48.5	47.2	41.9	33.7	50.4	51.0	49.0	50.5	41.2
3	26.4	22.1	26.0	24.7	28.4	29.7	28.6	20.3	23.9	27.3	29.3	27.2	29.0
4 OR MORE	13.0	11.7	13.0	13.2	12.9	13.5	14.0	8.0	12.1	14.4	13.2	12.4	15.6
NONE	5.1	2.3	6.1	11.1	.2	2.2	6.6	25.1	4.6	1.2	.4	1.2	2.2
TYPE AND NUMBER OF OUTSIDE DOORS													
STANDARD DOORS													
1	14.5	10.5	12.2	13.9	19.5	14.4	12.3	17.2	9.6	11.1	15.1	21.2	25.6
2	51.9	57.5	51.9	46.1	55.3	53.2	46.5	34.0	56.9	56.3	51.9	55.7	51.8
3	20.2	16.3	20.5	19.6	18.7	25.4	24.6	18.5	18.5	22.0	27.4	13.3	13.7
4 OR MORE	6.6	6.9	7.0	8.2	5.4	4.6	9.1	5.0	6.2	8.8	5.0	5.2	5.1
NONE/NO DOORS	6.8	8.8	8.4	12.1	1.1	2.3	7.5	25.3	8.7	1.8	.5	4.5	3.7
SLIDING GLASS DOORS													
1	20.1	20.8	17.4	19.2	24.1	19.5	13.0	11.5	18.8	19.2	17.5	37.7	30.4
2 OR MORE	4.8	3.8	4.9	2.8	7.1	5.3	3.5	.7	4.7	2.8	4.4	6.1	12.3
NONE/NO DOORS	75.1	75.4	77.6	78.0	68.8	75.2	83.5	87.8	76.5	78.0	78.1	56.2	57.3
NUMBER OF STORM DOORS													
1	15.2	20.0	17.7	15.0	11.5	13.6	13.6	8.7	18.6	19.8	14.9	24.1	2.5
2	28.9	43.9	40.1	35.2	15.2	10.2	39.9	35.6	45.1	29.2	11.0	23.2	2.6
3	9.9	12.3	14.1	12.9	5.4	2.9	14.6	11.7	14.6	12.6	3.2	4.5	.5
4 OR MORE	3.7	6.4	4.5	4.7	1.8	2.2	4.7	2.4	5.3	5.1	2.4	3.0	.4
NONE	37.2	15.0	17.4	21.2	65.9	69.0	20.6	16.5	11.8	32.0	68.1	43.9	91.9
NO OUTSIDE DOORS	5.1	2.3	6.1	11.1	.2	2.2	6.6	25.1	4.6	1.2	.4	1.2	2.2
PERCENT OF OUTSIDE DOORS WITH STORM DOORS													
100 PERCENT	33.4	59.6	44.8	41.0	16.8	9.3	42.0	40.0	55.8	36.5	10.3	20.9	2.1
51 TO 99 PERCENT	9.7	9.6	14.9	11.7	5.4	4.6	15.7	10.9	13.2	10.5	5.0	8.6	.8
1 TO 50 PERCENT	14.5	13.4	16.7	15.1	11.7	14.9	15.2	7.6	14.6	19.8	16.2	25.3	3.0
NONE/NO DOORS	42.3	17.4	23.5	32.2	66.1	71.2	27.1	41.6	16.4	33.3	68.5	45.2	94.1

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Heating and Cooling Degree-Days

Table 28. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD)-- LONG-TERM AVERAGE					CENSUS REGIONS						
							NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		<2,000 CDD AND >7,000 HDD	<2,000 CDD AND 5,500 TO 7,000 HDD	<2,000 CDD AND 4,000 TO 5,499 HDD	<2,000 CDD AND <4,000 HDD	>2,000 CDD AND <4,000 HDD	5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL SINGLE-FAMILY UNITS.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)													
YES.....	79.0	86.8	83.3	81.3	73.9	71.5	80.5	79.5	85.4	79.9	71.0	84.0	68.2
ALL INSULATED.....	66.2	73.1	70.9	67.7	61.4	59.3	66.7	60.4	73.1	67.3	57.5	72.0	59.2
PART INSULATED.....	8.0	9.0	8.3	8.1	7.5	7.9	9.4	10.8	8.0	7.3	8.7	7.3	6.2
NONE, VERY LITTLE INSULATED.....	1.3	.3	1.6	2.2	.9	.9	1.7	5.8	1.2	.7	' 1.0	.4	.4
DON'T KNOW AMOUNT/ NOT REPORTED.....	3.4	4.4	2.5	3.3	4.1	3.4	2.7	2.5	3.1	4.6	3.7	4.3	2.4
NO.....	13.3	7.2	9.4	11.1	17.7	20.0	12.1	12.0	8.5	11.8	19.8	6.4	24.7
DON'T KNOW/NOT REPORTED.....	7.7	6.0	7.3	7.7	8.4	8.5	7.4	8.5	6.1	8.3	9.2	9.6	7.1
TYPE OF INSULATION													
BATTS ONLY.....	37.7	32.9	43.0	43.7	33.8	29.7	53.2	51.7	34.3	42.7	32.6	29.7	24.4
LOOSE FILL ONLY.....	23.1	28.6	22.6	22.4	21.0	24.5	11.0	10.7	31.3	19.7	20.6	32.7	27.2
BATTS AND LOOSE FILL ONLY.....	9.1	15.5	11.3	9.4	5.8	6.3	9.1	8.8	13.8	7.8	6.9	11.2	3.3
OTHER/COMBINATION.....	4.9	4.7	2.7	3.0	8.1	6.8	3.2	4.3	2.9	6.1	6.6	3.5	8.0
DON'T KNOW TYPE/NOT REPORTED..	3.6	3.3	3.5	2.2	5.1	4.2	3.8	2.2	2.4	3.3	4.2	6.5	5.3
NO INSULATION/DON'T KNOW/ NOT REPORTED.....	21.0	13.2	16.7	18.7	26.1	28.5	19.5	20.5	14.6	20.1	29.0	16.0	31.8
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)													
YES.....	61.2	76.0	69.6	66.4	48.4	50.2	69.9	65.2	71.8	62.5	50.7	63.5	37.2
ALL WALLS.....	50.7	64.7	57.3	55.0	38.9	42.2	56.2	51.7	60.3	51.7	41.8	55.9	29.8
SOME WALLS.....	10.6	11.3	12.3	11.4	9.4	8.0	13.7	13.5	11.5	10.8	8.9	7.6	7.4
NO.....	22.2	12.4	14.8	18.1	32.0	31.7	17.8	21.6	13.4	19.8	30.1	17.4	44.0
DON'T KNOW/NOT REPORTED.....	16.5	11.5	15.6	15.5	19.6	18.1	12.3	13.2	14.9	17.7	19.2	19.1	18.8
FLOOR INSULATION (SINGLE-FAMILY UNITS)													
HAVE BASEMENT/CRAWL SPACE.....	77.5	93.6	89.0	87.9	72.0	42.2	90.6	83.3	90.8	85.6	44.4	85.0	53.3
HEATED.....	22.0	48.4	35.8	28.9	3.4	.8	29.4	39.5	43.2	11.6	.4	20.2	3.8
NONE OR PART HEATED.....	55.6	45.3	53.2	59.0	68.6	41.5	61.1	43.8	47.6	74.1	43.9	64.8	49.5
HAVE FLOOR INSULATION.....	10.6	12.0	10.7	13.8	12.3	2.3	13.1	10.8	10.3	17.4	2.7	11.5	5.3
ALL PARTS INSULATED.....	7.4	6.4	6.9	9.7	9.9	1.5	7.3	7.7	6.3	13.5	1.7	8.6	4.3
SOME PARTS INSULATED.....	3.2	5.6	3.8	4.1	2.4	.8	5.8	3.2	4.0	3.9	.9	2.8	1.0
NO FLOOR INSULATION.....	26.0	21.2	26.2	26.4	30.8	21.1	27.8	16.1	21.7	36.9	21.6	31.6	21.3
DON'T KNOW/NOT REPORTED ...	19.0	12.1	16.3	18.9	25.5	18.1	20.2	16.9	15.6	19.7	19.7	21.8	22.9
NO BASEMENT/CRAWL SPACE.....	22.5	6.4	11.0	12.1	28.0	57.8	9.4	16.7	9.2	14.4	55.6	15.0	46.7
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)													
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION....	49.5	77.8	71.3	63.6	26.5	10.8	69.6	67.1	77.6	52.7	11.9	42.5	2.4
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION..	89.9	98.8	98.4	96.4	80.6	75.4	98.3	99.2	98.8	92.5	75.5	91.4	68.8
UNITS WITH NONE OF THESE TYPES OF INSULATION.....	10.1	1.2	1.6	3.6	19.4	24.6	1.7	.8	1.2	7.5	24.5	8.6	31.2

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Year House Built

Table 29. Thermal Characteristics by Year House Built, as of November 1982 (Million Households Except Where Averages are Indicated)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	83.8	2.9	10.0	10.2	8.1	8.6	13.4	7.0	23.6
NUMBER OF WINDOWS									
1 TO 6	15.2	1.1	3.2	2.5	1.6	2.0	1.1	.6	3.1
7 TO 12	34.6	1.2	3.9	4.4	3.7	3.4	6.0	3.0	9.1
13 TO 18	22.6	.4	2.2	2.2	2.2	2.1	4.3	2.4	6.6
19 OR MORE	11.2	.2	.7	.9	.6	1.0	2.0	1.0	4.8
NONE	.3	Q	.1	.2	Q	Q	Q	Q	Q
AVERAGE NUMBER OF WINDOWS	12.1	9.1	10.1	10.3	11.2	11.4	13.2	13.3	13.8
NUMBER OF STORM WINDOWS									
1 TO 6	9.0	.5	1.5	1.1	.5	.8	.9	.7	2.9
7 TO 12	19.3	.6	2.3	2.7	1.7	1.5	3.3	1.7	5.5
13 TO 18	13.6	.2	1.5	1.5	1.3	1.4	2.2	1.3	4.2
19 OR MORE	6.8	.2	.6	.5	.4	.6	1.1	.5	3.0
NONE/NO WINDOWS	35.1	1.4	4.1	4.5	4.1	4.3	5.8	2.9	8.0
AVERAGE NUMBER OF STORM WINDOWS	7.1	5.3	6.5	6.2	6.1	6.2	7.2	7.2	8.7
PERCENT OF WINDOWS WITH STORM WINDOWS									
100 PERCENT	35.8	1.3	5.2	4.6	3.2	3.3	5.3	2.6	10.3
76 TO 99 PERCENT	5.8	Q	.4	.7	.3	.5	1.0	.5	2.3
51 TO 75 PERCENT	3.4	Q	.1	.3	.2	.2	.5	.6	1.5
1 TO 50 PERCENT	3.6	.1	.1	.2	.2	.3	.8	.4	1.5
NONE/NO WINDOWS	35.1	1.4	4.1	4.5	4.1	4.3	5.8	2.9	8.0
NUMBER OF OUTSIDE DOORS									
1	7.6	.3	1.3	1.0	1.0	.8	.9	.2	2.0
2	39.0	1.2	3.5	4.4	3.2	3.7	7.0	4.0	11.9
3	22.1	.9	3.2	2.7	2.4	2.4	3.5	1.7	5.3
4 OR MORE	10.9	.4	1.8	1.6	1.1	1.1	1.6	.7	2.4
NONE	4.2	Q	.2	.4	.3	.6	.3	.4	2.0
AVERAGE NUMBER OF DOORS	2.4	2.5	2.6	2.5	2.5	2.3	2.5	2.3	2.2
TYPE AND NUMBER OF OUTSIDE DOORS									
STANDARD DOORS									
1	12.2	0.9	2.5	1.9	1.8	1.4	1.2	0.3	2.3
2	43.5	1.4	4.5	5.2	4.0	4.4	7.8	4.2	12.1
3	16.9	.4	2.0	1.8	1.5	1.6	3.1	1.5	5.1
4 OR MORE	5.5	.1	.3	.5	.3	.4	1.1	.6	2.1
NONE/NO DOORS	5.7	.1	.7	.9	.5	.7	.3	.5	2.0
AVERAGE NUMBER OF STANDARD DOORS	2.1	1.8	1.9	1.9	1.9	2.0	2.3	2.2	2.2
SLIDING GLASS DOORS									
1	16.8	1.2	4.3	3.4	2.8	2.3	1.6	.7	.7
2 OR MORE	4.0	.4	1.2	1.0	.6	.3	.3	Q	.2
NONE/NO DOORS	62.9	1.3	4.5	5.8	4.7	6.0	11.5	6.3	22.7
AVERAGE NUMBER OF SLIDING GLASS DOORS	.3	.7	.7	.6	.5	.4	.2	.1	Q
NUMBER OF STORM DOORS									
1	12.7	.4	1.9	1.9	1.4	1.1	1.8	1.0	3.3
2	24.2	.5	2.1	2.7	2.0	2.3	4.5	2.5	7.5
3	8.3	.4	.9	.9	.9	1.0	1.3	.7	2.1
4 OR MORE	3.1	.2	.7	.6	.3	.1	.4	.2	.6
NONE	31.2	1.4	4.2	3.7	3.1	3.6	5.0	2.1	8.1
NO OUTSIDE DOORS	4.2	Q	.2	.4	.3	.6	.3	.4	2.0
AVERAGE NUMBER OF STORM DOORS	1.2	1.1	1.2	1.2	1.2	1.0	1.2	1.3	1.1
AVERAGE NUMBER OF STANDARD STORM DOORS	1.0	.7	.8	1.0	1.0	.9	1.2	1.2	1.1
AVERAGE NUMBER OF SLIDING GLASS STORM DOORS	.2	.4	.4	.3	.2	.1	.1	.1	Q

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Year House Built

Table 29. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
PERCENT OF OUTSIDE DOORS WITH STORM DOORS									
100 PERCENT	28.0	0.7	2.7	2.9	2.5	2.6	5.2	2.9	8.5
51 TO 99 PERCENT	8.2	.3	1.3	1.4	.9	.8	1.2	.5	1.9
1 TO 50 PERCENT	12.2	.4	1.7	1.7	1.3	1.1	1.7	1.2	3.2
NONE/NO DOORS	35.4	1.5	4.3	4.1	3.4	4.1	5.3	2.5	10.1
TOTAL SINGLE-FAMILY UNITS	57.7	1.6	5.8	6.0	5.2	6.0	11.2	5.8	16.1
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)									
YES	45.5	1.5	5.4	5.4	4.6	5.1	9.0	4.4	10.0
ALL INSULATED	38.1	1.3	4.8	4.9	4.2	4.4	7.3	3.4	7.8
PART INSULATED	4.6	Q	.3	.3	.2	.4	1.1	.8	1.5
NONE, VERY LITTLE INSULATED	.8	Q	Q	Q	Q	.1	.2	.1	.4
DON'T KNOW AMOUNT/ NOT REPORTED	2.0	.1	.3	.3	.2	.3	.5	.2	.3
NO	7.7	Q	.2	.2	.3	.4	1.1	.9	4.5
DON'T KNOW/NOT REPORTED	4.5	.1	.2	.4	.3	.4	1.0	.5	1.5
TYPE OF INSULATION									
BATTS ONLY	21.8	.6	2.9	2.6	2.3	2.5	4.4	2.1	4.4
AVERAGE NUMBER OF INCHES	5.2	7.2	5.9	5.7	5.0	4.9	4.6	4.7	5.1
LOOSE FILL ONLY	13.3	.5	1.6	1.9	1.4	1.3	2.2	1.2	3.2
AVERAGE NUMBER OF INCHES	6.8	9.3	8.2	7.3	5.8	6.1	6.4	5.9	6.8
BATTS AND LOOSE FILL ONLY	5.3	.1	.5	.5	.5	.7	1.2	.6	1.2
AVERAGE NUMBER OF INCHES	10.3	18.0	12.2	10.5	8.9	9.9	9.9	9.6	10.3
OTHER/COMBINATION	2.8	.2	.2	.1	.2	.4	.7	.2	.8
DON'T KNOW TYPE/NOT REPORTED	2.1	Q	.3	.3	.2	.2	.5	.2	.4
NO INSULATION/DON'T KNOW/ NOT REPORTED	12.1	.1	.4	.6	.6	.9	2.1	1.4	6.1
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)									
YES	35.3	1.5	5.0	4.8	3.7	3.4	6.1	3.1	7.6
ALL WALLS	29.2	1.5	4.8	4.7	3.5	3.0	4.7	2.2	4.8
SOME WALLS	6.1	Q	.2	.1	.2	.4	1.4	.9	2.8
NO	12.8	Q	.3	.3	.6	1.1	2.7	1.6	6.1
DON'T KNOW/NOT REPORTED	9.5	Q	.5	.9	.9	1.4	2.3	1.1	2.4
FLOOR INSULATION (SINGLE-FAMILY UNITS)									
HAVE BASEMENT/CRAWL SPACE	44.7	.8	3.4	4.2	3.3	4.1	8.7	5.0	15.3
HEATED	12.7	.4	1.3	1.4	1.0	1.2	2.3	1.3	3.8
NONE OR PART HEATED	32.0	.4	2.2	2.8	2.3	2.9	6.3	3.7	11.5
HAVE FLOOR INSULATION	6.1	.2	.8	.9	.8	.7	1.0	.5	1.4
ALL PARTS INSULATED	4.3	.1	.6	.7	.6	.5	.6	.3	.8
SOME PARTS INSULATED	1.9	Q	.2	.2	.2	.2	.4	.2	.6
NO FLOOR INSULATION	15.0	.2	.6	1.0	.7	1.1	2.9	2.0	6.5
DON'T KNOW/NOT REPORTED	11.0	.1	.8	.9	.8	1.1	2.4	1.2	3.6
NO BASEMENT/CRAWL SPACE	13.0	.8	2.4	1.8	1.9	1.9	2.5	.8	.8
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)									
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION	28.5	.8	3.6	3.3	2.7	2.9	5.3	2.8	7.0
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION	51.8	1.5	5.6	5.8	4.8	5.4	9.9	5.2	13.5
UNITS WITH NONE OF THESE TYPES OF INSULATION	5.8	Q	.2	.2	.4	.5	1.3	.6	2.6

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Thermal Characteristics by Year House Built

Table 30. Thermal Characteristics by Year House Built, as of November 1982 (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NUMBER OF WINDOWS									
1 TO 6	18.2	38.0	31.7	24.8	20.0	23.6	8.0	8.4	13.1
7 TO 12	41.3	41.0	38.8	43.0	45.3	39.6	44.8	42.1	38.5
13 TO 18	26.9	14.6	22.4	22.0	27.1	24.7	32.2	34.9	27.9
19 OR MORE	13.3	6.5	6.5	8.6	7.6	11.6	14.9	14.6	20.4
NONE	.3	Q	.5	1.6	Q	.4	Q	Q	.1
NUMBER OF STORM WINDOWS									
1 TO 6	10.7	17.9	15.5	10.8	6.7	9.3	7.0	9.4	12.2
7 TO 12	23.0	19.8	22.9	26.5	20.5	17.8	24.5	24.5	23.4
13 TO 18	16.3	6.6	14.7	14.2	16.4	16.3	16.8	18.8	17.9
19 OR MORE	8.1	6.5	5.6	4.6	5.0	6.7	8.3	6.5	12.6
NONE/NO WINDOWS	41.9	49.3	41.3	43.9	51.3	49.9	43.4	40.8	33.8
PERCENT OF WINDOWS WITH STORM WINDOWS									
100 PERCENT	42.8	46.3	52.0	45.2	40.1	37.9	39.4	37.3	43.6
76 TO 99 PERCENT	6.9	1.2	4.1	6.5	3.8	6.2	7.6	7.1	9.8
51 TO 75 PERCENT	4.1	.2	1.2	2.6	2.8	2.5	3.8	8.5	6.3
1 TO 50 PERCENT	4.3	3.0	1.4	1.8	2.0	3.4	5.8	6.2	6.5
NONE/NO WINDOWS	41.9	49.3	41.3	43.9	51.3	49.9	43.4	40.8	33.8
NUMBER OF OUTSIDE DOORS									
1	9.0	10.0	13.5	9.4	12.9	9.5	6.9	2.2	8.5
2	46.6	42.4	35.0	43.5	39.5	43.3	52.5	56.5	50.6
3	26.4	31.2	31.7	26.6	29.8	27.8	26.5	24.6	22.3
4 OR MORE	13.0	14.8	18.2	16.0	14.1	12.5	12.3	10.4	10.2
NONE	5.1	1.5	1.6	4.4	3.7	6.8	1.9	6.3	8.5
TYPE AND NUMBER OF OUTSIDE DOORS									
STANDARD DOORS									
1	14.5	32.2	24.8	18.4	21.8	16.6	8.8	3.6	9.6
2	51.9	47.4	44.7	50.6	50.0	51.5	58.1	59.6	51.2
3	20.2	12.1	19.9	17.2	18.9	18.6	23.1	21.2	21.5
4 OR MORE	6.6	4.1	3.4	4.9	3.4	5.2	8.1	8.8	9.0
NONE/NO DOORS	6.8	4.2	7.1	8.9	5.9	8.1	2.0	6.8	8.6
SLIDING GLASS DOORS									
1	20.1	41.4	43.0	33.1	34.1	26.2	11.6	9.4	3.2
2 OR MORE	4.8	13.3	12.1	10.1	7.7	3.9	2.1	.4	.6
NONE/NO DOORS	75.1	45.3	44.9	56.8	58.2	69.9	86.3	90.2	96.2
NUMBER OF STORM DOORS									
1	15.2	14.6	19.0	18.2	16.9	12.3	13.4	14.8	13.9
2	28.9	15.7	21.4	26.9	25.1	27.3	33.8	35.6	31.7
3	9.9	12.9	9.3	9.0	11.7	11.2	9.9	10.7	8.8
4 OR MORE	3.7	6.4	7.1	5.6	3.9	1.1	3.3	2.6	2.7
NONE	37.2	48.8	41.6	36.0	38.6	41.3	37.7	29.9	34.4
NO OUTSIDE DOORS	5.1	1.5	1.6	4.4	3.7	6.8	1.9	6.3	8.5

SEE FOOTNOTES AT END OF TABLE

Thermal Characteristics by Year House Built

Table 30. (Continued)

HOUSEHOLD CHARACTERISTICS	TOTAL	YEAR HOUSE BUILT							
		1980 OR LATER	1975 TO 1979	1970 TO 1974	1965 TO 1969	1960 TO 1964	1950 TO 1959	1940 TO 1949	1939 OR EARLIER
PERCENT OF OUTSIDE DOORS WITH STORM DOORS									
100 PERCENT	33.4	23.9	27.5	28.8	30.7	30.3	39.2	40.7	35.8
51 TO 99 PERCENT	9.7	10.5	12.6	14.1	11.1	8.9	8.7	6.6	7.9
1 TO 50 PERCENT	14.5	15.2	16.8	16.6	15.8	12.6	12.6	16.4	13.4
NONE/NO DOORS	42.3	50.4	43.2	40.4	42.3	48.2	39.6	36.3	42.9
TOTAL SINGLE-FAMILY UNITS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HAVE ROOF OR CEILING INSULATION (SINGLE-FAMILY UNITS)									
YES	79.0	92.3	93.1	90.5	88.4	85.8	80.9	76.1	62.4
ALL INSULATED	66.2	85.0	82.6	81.4	81.2	73.7	65.6	58.2	48.3
PART INSULATED	8.0	3.0	5.9	4.7	4.0	6.4	9.5	13.5	9.5
NONE, VERY LITTLE INSULATED	1.3	.6	Q	.1	.1	1.5	1.7	1.3	2.5
DON'T KNOW AMOUNT/ NOT REPORTED	3.4	3.8	4.6	4.3	3.1	4.2	4.1	3.2	2.1
NO	13.3	2.8	3.7	2.9	5.5	6.8	10.3	15.2	28.1
DON'T KNOW/NOT REPORTED	7.7	4.9	3.2	6.6	6.2	7.4	8.8	8.7	9.6
TYPE OF INSULATION									
BATTS ONLY	37.7	35.2	49.4	43.1	45.1	42.5	39.0	36.4	27.3
LOOSE FILL ONLY	23.1	33.7	27.6	31.2	27.2	21.4	19.8	20.0	20.0
BATTS AND LOOSE FILL ONLY	9.1	7.7	8.2	8.9	8.9	11.7	10.7	10.5	7.3
OTHER/COMBINATION	4.9	13.5	3.5	2.1	3.8	7.0	6.3	3.5	4.8
DON'T KNOW TYPE/NOT REPORTED	3.6	2.3	4.3	5.1	3.4	3.2	4.4	3.9	2.6
NO INSULATION/DON'T KNOW/ NOT REPORTED	21.0	7.7	6.9	9.5	11.6	14.2	19.1	23.9	37.6
HAVE WALL INSULATION (SINGLE-FAMILY UNITS)									
YES	61.2	95.6	85.9	79.5	71.8	57.5	54.6	53.5	47.4
ALL WALLS	50.7	95.6	81.8	77.6	67.8	50.0	42.0	38.6	29.9
SOME WALLS	10.6	Q	4.2	1.9	4.1	7.5	12.6	14.9	17.5
NO	22.2	1.5	5.9	5.3	11.2	18.9	24.4	27.6	38.0
DON'T KNOW/NOT REPORTED	16.5	2.9	8.2	15.2	17.0	23.6	21.0	18.9	14.6
FLOOR INSULATION (SINGLE-FAMILY UNITS)									
HAVE BASEMENT/CRAWL SPACE	77.5	49.1	59.0	69.7	63.0	68.3	77.6	86.0	95.0
HEATED	22.0	23.1	21.7	23.5	19.3	19.5	21.0	22.7	23.6
NONE OR PART HEATED	55.6	26.0	37.3	46.2	43.7	48.8	56.6	63.3	71.4
HAVE FLOOR INSULATION	10.6	10.1	13.4	14.8	14.6	11.7	9.0	8.1	8.4
ALL PARTS INSULATED	7.4	8.5	10.1	11.9	11.7	9.0	5.7	4.8	4.7
SOME PARTS INSULATED	3.2	1.6	3.2	3.0	2.9	2.7	3.3	3.3	3.7
NO FLOOR INSULATION	26.0	10.1	10.9	16.1	13.1	18.8	25.8	34.8	40.4
DON'T KNOW/NOT REPORTED	19.0	5.9	13.1	15.2	16.0	18.3	21.9	20.5	22.6
NO BASEMENT/CRAWL SPACE	22.5	50.9	41.0	30.3	37.0	31.7	22.4	14.0	5.0
INSULATION CHARACTERISTICS (SINGLE-FAMILY UNITS)									
UNITS WITH SOME OR ALL STORM WINDOWS, AND SOME OR ALL STORM DOORS, AND ROOF OR CEILING INSULATION	49.5	53.4	61.7	55.4	52.5	48.8	47.4	47.9	43.8
UNITS WITH ONE OR MORE OF THESE TYPES OF INSULATION	89.9	97.3	96.1	96.6	92.7	90.9	88.4	90.4	84.1
UNITS WITH NONE OF THESE TYPES OF INSULATION	10.1	2.7	3.9	3.4	7.3	9.1	11.6	9.6	15.9

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Conservation Improvements

Table 31. Conservation Improvements Made From December 1981 Through November 1982 by Census Region and Area Type (Million Households Except Where Averages are Indicated)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	83.8	18.0	21.3	28.1	16.5	63.2	29.4	33.8	20.6
TOTAL HOUSEHOLDS ADDING ITEMS...	4.9	1.1	1.8	1.5	.6	3.4	1.3	2.0	1.6
STORM DOORS (STANDARD OR SLIDING GLASS).....	3.2	.6	1.2	1.1	.3	2.1	.8	1.2	1.1
AVERAGE NUMBER ADDED.....	1.4	1.4	1.3	1.4	1.2	1.4	1.4	1.3	1.4
STORM WINDOWS.....	2.3	.7	.8	.5	.4	1.8	.6	1.1	.6
AVERAGE NUMBER ADDED.....	7.0	6.7	7.2	7.6	6.2	6.6	6.0	7.0	8.1
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES.....	61.4	11.0	15.7	22.7	12.0	43.1	16.7	26.4	18.3
SINGLE-FAMILY UNITS OR MOBILE HOMES ADDING ITEMS.....	18.4	3.3	6.5	5.9	2.7	13.1	4.7	8.4	5.3
CAULKING.....	7.8	1.4	3.4	2.2	.9	5.5	2.1	3.4	2.3
WEATHER STRIPPING.....	5.5	1.4	1.8	1.8	.6	4.4	1.5	2.9	1.1
CLOSEABLE SHUTTERS, INSULATING DRAPES, OR REFLECTIVE FILM.....	2.0	.3	.7	.6	.3	1.4	.6	.9	.5
PLASTIC SHEETS.....	4.0	.6	1.8	1.2	.4	2.6	1.0	1.6	1.3
ROOF OR CEILING INSULATION....	2.1	.4	.8	.4	.4	1.3	.5	.9	.7
INSULATION AROUND WATER HEATER.....	1.8	.2	.6	.3	.7	1.4	.6	.8	.4
OUTSIDE WALL INSULATION.....	1.2	.2	.5	.4	.1	.8	.3	.5	.4
AUTOMATIC OR CLOCK THERMOSTAT.....	.7	.1	.2	.3	.2	.6	.3	.4	.1
INSULATION AROUND HOT WATER PIPES.....	1.3	.3	.3	.5	.2	1.0	.4	.6	.3
WOOD-BURNING STOVE.....	1.3	.3	.3	.4	.2	.6	.2	.5	.6
INSULATION AROUND HEATING DUCTS.....	.8	.2	.2	.3	.1	.6	.3	.4	.2
FLOOR INSULATION.....	.9	.2	.3	.3	.1	.7	.2	.6	.2
ELECTRICAL OR MECHANICAL FURNACE IGNITION.....	.5	.1	.3	.1	Q	.4	.1	.3	.1
AUTOMATIC FLUE DOOR.....	.5	.1	.3	.1	Q	.4	.1	.2	.1
FLAME RETENTION HEAD BURNER...	.2	.1	Q	Q	Q	.2	Q	.1	Q
HEAT PUMP.....	.2	Q	Q	.2	Q	.2	.1	.1	Q
SINGLE-FAMILY UNITS OR MOBILE HOMES ADDING STORM WINDOWS, STORM DOORS, OR OTHER CONSERVATION MEASURES LISTED ABOVE....	20.1	3.9	7.2	6.5	2.6	14.3	5.2	9.1	5.8
HOME ENERGY AUDIT DURING PAST 12 MONTHS									
YES.....	2.3	.5	.5	.6	.6	1.8	.7	1.1	.5
NO.....	59.1	10.5	15.2	22.1	11.4	41.3	16.0	25.3	17.8

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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Conservation Improvements

Table 32. Conservation Improvements Made From December 1981 Through November 1982 by Census Region and Area Type (Percentage of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION				AREA TYPE			
						METROPOLITAN			NON-METROPOLITAN
		NORTHEAST	NORTH CENTRAL	SOUTH	WEST	TOTAL	CENTRAL CITY	OUTSIDE CENTRAL CITY	
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
TOTAL HOUSEHOLDS ADDING ITEMS...	5.9	6.0	8.3	5.4	3.5	5.3	4.5	6.1	7.6
STORM DOORS (STANDARD OR SLIDING GLASS)	3.8	3.1	5.6	4.1	1.9	3.3	2.9	3.6	5.6
STORM WINDOWS	2.8	3.8	3.8	1.7	2.2	2.8	2.2	3.3	2.8
TOTAL SINGLE-FAMILY UNITS AND MOBILE HOMES	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
SINGLE-FAMILY UNITS OR MOBILE HOMES ADDING ITEMS	30.0	30.3	41.4	25.9	22.5	30.4	28.4	31.6	29.0
CAULKING	12.8	13.2	21.3	9.6	7.2	12.9	12.7	13.0	12.5
WEATHER STRIPPING	9.0	12.6	11.4	7.8	5.0	10.3	9.1	11.1	6.0
CLOSEABLE SHUTTERS, INSULATING DRAPES, OR REFLECTIVE FILM	3.2	3.0	4.5	2.8	2.3	3.3	3.5	3.3	2.8
PLASTIC SHEETS	6.5	5.8	11.4	5.2	3.1	6.1	6.1	6.1	7.4
ROOF OR CEILING INSULATION	3.3	3.8	5.2	1.9	3.1	3.1	2.8	3.3	3.9
INSULATION AROUND WATER HEATER	2.9	2.1	3.5	1.5	5.5	3.2	3.5	3.1	2.1
OUTSIDE WALL INSULATION	1.9	2.1	2.9	1.7	.7	1.8	1.6	2.0	2.1
AUTOMATIC OR CLOCK THERMOSTAT	1.1	.7	1.0	1.3	1.3	1.5	1.5	1.5	.3
INSULATION AROUND HOT WATER PIPES	2.1	3.0	2.1	2.2	1.3	2.3	2.2	2.4	1.8
WOOD-BURNING STOVE	2.0	2.6	2.2	1.7	1.9	1.5	.9	1.9	3.3
INSULATION AROUND HEATING DUCTS	1.3	1.9	1.4	1.2	.9	1.5	1.5	1.4	1.0
FLOOR INSULATION	1.5	1.8	2.0	1.3	1.0	1.7	1.1	2.1	1.0
ELECTRICAL OR MECHANICAL FURNACE IGNITION	.9	1.0	1.6	.6	.4	1.0	.6	1.2	.7
AUTOMATIC FLUE DOOR	.8	.7	1.7	.5	.2	.8	.6	.9	.6
FLAME RETENTION HEAD BURNER	.3	1.2	.2	Q	.2	.4	.3	.5	.1
HEAT PUMP	.3	Q	.3	.7	.1	.4	.3	.4	.2
SINGLE-FAMILY UNITS OR MOBILE HOMES ADDING STORM WINDOWS, STORM DOORS, OR OTHER CONSERVATION MEASURES LISTED ABOVE	32.8	35.4	45.7	28.5	21.5	33.1	31.0	34.4	31.9
HOME ENERGY AUDIT DURING PAST 12 MONTHS									
YES	3.7	4.4	3.4	2.6	5.3	4.2	4.1	4.2	2.5
NO	96.3	95.6	96.6	97.4	94.7	95.8	95.9	95.8	97.5

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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Number of U.S. Households by Inside Temperatures, Heating Degree-Days and Size of Residence

Table 33. Number of U.S. Households by Inside Temperatures, Heating Degree-Days and Size of Residence, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) APRIL 1982 THROUGH MARCH 1983 BY HEATED SQUARE FOOTAGE								
		MORE THAN 5,499 HHD			4,000 TO 5,499 HHD			LESS THAN 4,000 HHD		
		LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.
TOTAL HOUSEHOLDS	83.8	9.1	10.7	8.1	8.7	10.0	6.0	12.5	14.9	3.7
HAVE HEATING CONTROLS										
YES	66.6	7.1	9.7	7.7	5.3	8.8	5.8	6.9	11.9	3.4
NO/DO NOT HEAT	17.2	2.0	1.0	.5	3.4	1.2	.2	5.6	3.0	.3
DAYTIME TEMPERATURE WHEN SOMEONE IS AT HOME										
HEAT IS TURNED ON	64.8	6.9	9.7	7.6	5.2	8.7	5.8	6.4	11.2	3.3
63 DEGREES OR LESS	3.2	.3	.9	.6	.3	.3	.3	.4	.2	.1
64 TO 66 DEGREES	8.9	1.1	1.6	1.4	.8	1.1	.8	.7	1.0	.4
67 TO 69 DEGREES	18.4	2.0	3.3	2.4	1.2	2.7	2.0	1.1	2.7	.9
70 DEGREES	17.8	2.1	2.1	2.0	1.5	2.6	1.5	1.9	3.1	.9
71 OR MORE DEGREES	16.4	1.4	1.8	1.3	1.3	1.9	1.2	2.4	4.1	1.0
HEAT TURNED OFF	1.0	Q	Q	Q	Q	Q	Q	.2	.6	.1
UNKNOWN/NO ANSWER	.7	.2	Q	Q	.1	.1	Q	.2	.1	Q
DAYTIME TEMPERATURE WHEN NO ONE IS AT HOME										
HEAT IS TURNED ON	55.7	6.5	9.5	7.6	4.3	7.9	5.6	3.7	7.8	2.7
63 DEGREES OR LESS	18.0	2.2	3.4	2.7	1.3	2.6	1.6	1.2	2.4	.7
64 TO 66 DEGREES	13.2	1.8	2.2	2.0	1.1	1.9	1.3	.6	1.5	.8
67 TO 69 DEGREES	10.1	.9	1.9	1.6	.9	1.2	1.2	.6	1.3	.5
70 DEGREES	7.9	1.0	1.2	.8	.7	1.2	.8	.6	1.3	.3
71 OR MORE DEGREES	6.5	.7	.8	.6	.4	1.0	.6	.7	1.3	.4
HEAT TURNED OFF	10.2	.4	.2	.1	.9	.8	.2	3.0	4.0	.6
UNKNOWN/NO ANSWER	.8	.2	Q	Q	.1	.1	Q	.2	.1	.1
NIGHTTIME (SLEEPING HOURS)										
HEAT IS TURNED ON	59.0	6.6	9.5	7.6	4.6	8.3	5.6	4.8	9.1	2.8
63 DEGREES OR LESS	15.9	1.5	3.0	2.3	1.0	2.2	1.5	1.3	2.4	.8
64 TO 66 DEGREES	14.8	1.9	2.5	2.1	1.3	2.2	1.4	1.0	1.8	.7
67 TO 69 DEGREES	13.0	1.4	2.0	1.9	1.1	1.7	1.3	.8	2.3	.5
70 DEGREES	8.8	1.2	1.1	.9	.8	1.2	.9	.8	1.3	.5
71 OR MORE DEGREES	6.5	.6	.9	.4	.3	1.0	.5	1.0	1.4	.3
HEAT TURNED OFF	6.9	.2	.2	Q	.6	.4	.2	1.9	2.7	.6
UNKNOWN/NO ANSWER	.7	.2	Q	Q	.1	.1	Q	.2	.1	Q

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Number of U.S. Households by Inside Temperatures, Heating Degree-Days and Size of Residence

Table 34. Number of U.S. Households by Inside, Temperatures, Heating Degree-Days and Size of Residence, as of November 1982 (Percent of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) APRIL 1982 THROUGH MARCH 1983 BY HEATED SQUARE FOOTAGE								
		MORE THAN 5,499 HHD			4,000 TO 5,499 HHD			LESS THAN 4,000 HHD		
		LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.
TOTAL HOUSEHOLDS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HAVE HEATING CONTROLS										
YES	79.5	78.0	90.9	94.4	60.9	88.1	96.3	55.1	79.7	92.6
NO/DO NOT HEAT	20.5	22.0	9.1	5.6	39.1	11.9	3.7	44.9	20.3	7.4
HAVE HEATING CONTROLS	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
DAYTIME TEMPERATURE WHEN SOMEONE IS AT HOME										
HEAT IS TURNED ON	97.3	96.8	99.9	99.7	98.1	98.8	99.5	93.7	94.0	96.4
63 DEGREES OR LESS	4.9	3.5	9.0	7.6	5.3	3.5	4.6	5.1	2.0	2.3
64 TO 66 DEGREES	13.4	15.0	16.3	18.2	15.2	12.3	14.3	10.3	8.6	12.5
67 TO 69 DEGREES	27.7	28.6	34.0	31.6	23.5	31.1	33.7	15.9	23.0	25.7
70 DEGREES	26.7	30.2	21.8	25.9	28.9	29.8	26.5	27.8	25.7	26.0
71 OR MORE DEGREES	24.7	19.5	18.8	16.4	25.2	22.1	20.3	34.5	34.6	29.9
HEAT TURNED OFF	1.6	.6	.1	.1	.1	.5	.1	3.4	4.9	2.9
UNKNOWN/NO ANSWER	1.1	2.6	Q	.2	1.8	.7	.4	3.0	1.1	.7
DAYTIME TEMPERATURE WHEN NO ONE IS AT HOME										
HEAT IS TURNED ON	83.6	91.7	97.6	99.0	81.7	90.4	96.1	54.2	65.4	78.9
63 DEGREES OR LESS	27.0	30.3	34.9	34.8	24.0	29.8	28.0	17.0	20.0	20.4
64 TO 66 DEGREES	19.8	25.7	22.6	25.7	20.7	21.2	23.0	8.9	12.2	23.3
67 TO 69 DEGREES	15.2	12.3	20.0	20.2	17.4	13.8	20.9	8.4	11.3	14.0
70 DEGREES	11.9	13.8	12.1	10.4	12.6	14.1	14.4	9.3	11.0	8.1
71 OR MORE DEGREES	9.7	9.6	7.9	7.9	7.0	11.5	9.8	10.7	11.0	13.0
HEAT TURNED OFF	15.3	5.1	2.4	.8	16.6	8.9	3.6	43.2	33.8	18.8
UNKNOWN/NO ANSWER	1.1	3.1	Q	.2	1.8	.7	.4	2.6	.8	2.3
NIGHTTIME (SLEEPING HOURS)										
HEAT IS TURNED ON	88.6	93.1	98.1	99.4	87.3	94.5	96.8	69.4	76.6	80.7
63 DEGREES OR LESS	23.9	21.1	30.4	29.4	19.8	25.3	26.5	18.2	20.1	22.2
64 TO 66 DEGREES	22.2	26.5	25.8	27.3	24.1	24.6	23.4	14.7	14.9	21.3
67 TO 69 DEGREES	19.5	19.9	21.0	24.5	21.7	19.6	21.5	11.1	19.0	14.6
70 DEGREES	13.2	17.2	11.3	12.3	15.7	13.5	16.2	11.0	11.1	14.2
71 OR MORE DEGREES	9.8	8.5	9.6	5.9	6.1	11.4	9.2	14.4	11.5	8.5
HEAT TURNED OFF	10.3	3.4	1.7	.5	11.5	4.8	2.9	27.1	22.9	18.6
UNKNOWN/NO ANSWER	1.1	3.4	.2	.2	1.2	.7	.4	3.5	.5	.7

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Number of U.S. Households Changing Temperatures at Night by Heating Degree-Days and Size of Residence

Table 35. Number of U.S. Households Changing Temperatures at Night by Heating Degree-Days and Size of Residence, as of November 1982 (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) APRIL 1982 THROUGH MARCH 1983 BY HEATED SQUARE FOOTAGE								
		MORE THAN 5,499 HDD			4,000 TO 5,499 HDD			LESS THAN 4,000 HDD		
		LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.
TOTAL HOUSEHOLDS	83.8	9.1	10.7	8.1	8.7	10.0	6.0	12.5	14.9	3.7
HOUSEHOLDS WITH HEATING CONTROLS AND HEAT TURNED ON IN DAYTIME	64.8	6.9	9.7	7.6	5.2	8.7	5.8	6.4	11.2	3.3
NIGHTTIME (SLEEPING HOURS) TEMPERATURE-SETTING BEHAVIOR										
TURNS HEAT DOWN AT NIGHT	32.5	3.2	5.3	4.1	2.5	5.0	2.9	2.6	5.1	1.9
1 TO 2 DEGREES	4.5	.4	.9	.7	.3	.6	.5	.3	.7	.2
3 TO 5 DEGREES	13.3	1.3	2.4	1.7	1.2	2.2	1.3	.8	1.5	.8
6 TO 10 DEGREES	10.3	1.1	1.5	1.4	.7	1.6	1.0	1.0	1.4	.6
11 OR MORE DEGREES	4.3	.4	.4	.3	.4	.6	.2	.5	1.4	.2
KEEPS SAME TEMPERATURE AT NIGHT	24.8	3.1	4.1	3.4	2.0	3.1	2.6	2.0	3.7	.8
TURNS HEAT OFF AT NIGHT	5.9	.2	.2	Q	.6	.4	.2	1.6	2.2	.5
TURNS HEAT UP AT NIGHT	1.5	.3	.2	.1	.1	.2	.1	.2	.2	.1
OTHER	.2	.1	Q	Q	Q	Q	Q	.1	Q	Q

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"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Number of U.S. Households Changing Temperatures at Night by Heating Degree-Days and Size of Residence

Table 36. Number of U.S. Households Changing Temperatures at Night by Heating Degree-Days and Size of Residence, as of November 1982 (Percent of Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	HEATING DEGREE DAYS (HDD) APRIL 1982 THROUGH MARCH 1983 BY HEATED SQUARE FOOTAGE								
		MORE THAN 5,499 HHD			4,000 TO 5,499 HHD			LESS THAN 4,000 HHD		
		LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.	LESS THAN 1,000 SQ.FT.	1,000 TO 1,999 SQ.FT.	MORE THAN 1,999 SQ.FT.
HOUSEHOLDS WITH HEATING CONTROLS AND HEAT TURNED ON IN DAYTIME .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
NIGHTTIME (SLEEPING HOURS) TEMPERATURE-SETTING BEHAVIOR										
TURNS HEAT DOWN AT NIGHT.....	50.1	46.5	54.1	53.8	48.5	57.1	50.4	40.3	45.3	56.4
1 TO 2 DEGREES.....	7.0	5.2	9.1	9.6	5.7	6.4	7.9	5.4	6.6	5.1
3 TO 5 DEGREES.....	20.5	19.3	24.6	22.2	22.9	25.8	22.8	11.7	13.6	25.3
6 TO 10 DEGREES	15.9	16.5	15.9	17.8	13.1	18.1	16.4	16.0	12.7	19.4
11 OR MORE DEGREES.....	6.7	5.5	4.5	4.1	6.8	6.8	3.2	7.2	12.4	6.5
KEEPS SAME TEMPERATURE AT NIGHT.....	38.2	45.6	41.7	44.7	37.7	35.5	45.2	30.7	33.1	25.7
TURNS HEAT OFF AT NIGHT.....	9.1	3.1	1.6	.3	11.0	4.8	2.9	24.7	19.6	16.3
TURNS HEAT UP AT NIGHT.....	2.3	4.0	2.4	1.2	2.9	2.6	1.5	2.4	2.0	1.7
OTHER.....	.3	.8	.2	Q	Q	.1	Q	2.0	Q	Q

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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Mean Daytime Temperature for U.S. Households by Main Heating Fuel, Secondary Heating, and Age of Householder

Table 37. Mean Daytime Temperature for U.S. Households by Main Heating Fuel, Secondary Heating, and Age of Householder, as of November 1982--Households With Heating Controls and Heat on in Daytime (Degrees Fahrenheit)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION AND ANNUAL HEATING DEGREE-DAYS (HDD) OR COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE						
		NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
HOUSEHOLDS WITH HEATING CONTROLS AND HEAT TURNED ON IN DAYTIME	69.3	67.5	68.7	69.2	69.9	71.5	68.1	69.6
NIGHTTIME (SLEEPING HOURS) TEMPERATURE-SETTING BEHAVIOR								
TURNS HEAT DOWN AT NIGHT								
YES	69.8	68.3	69.0	69.7	70.6	71.9	68.7	70.3
NO	68.7	66.8	68.2	68.6	68.9	71.1	67.4	69.3
MAIN HEATING FUEL								
NATURAL GAS	69.4	67.9	68.4	69.2	70.3	70.8	68.7	69.6
ELECTRICITY	69.6	68.2	Q	68.5	69.4	72.2	67.3	70.1
FUEL OIL OR KEROSENE	68.4	66.9	69.2	69.2	69.5	Q	67.7	Q
LPG	69.3	Q	Q	69.0	69.7	Q	66.7	Q
WOOD/COAL/OTHER	70.0	68.2	Q	71.4	70.2	Q	68.3	Q
SECONDARY HEATING								
YES	68.9	66.7	68.0	69.1	69.7	71.2	67.8	69.0
NO	69.5	68.2	69.0	69.2	70.1	71.6	68.5	70.0
MAIN HEATING FUEL GAS, ELECTRICITY, OIL PAID BY HOUSEHOLD								
YES	69.2	67.2	68.6	69.0	69.7	71.4	68.0	69.7
NO	69.8	69.0	68.9	69.6	71.2	Q	69.2	Q
WOOD/COAL/OTHER	70.0	68.2	Q	71.4	70.2	Q	68.3	Q
AGE OF HOUSEHOLDER								
UNDER 25 YEARS	69.1	67.5	Q	68.4	70.6	Q	66.8	Q
25 TO 34 YEARS	68.7	66.4	67.0	68.4	69.9	70.6	67.9	69.8
35 TO 44 YEARS	69.0	67.0	67.8	69.1	69.5	71.7	67.7	69.5
45 TO 59 YEARS	69.4	67.7	69.1	69.3	69.7	71.2	68.3	69.6
60 YEARS AND OVER	69.9	68.5	69.6	70.0	70.2	72.2	69.1	69.7

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Number of U.S. Households by Main Heating Fuel, Secondary Heating, and Age of Householder

Table 38. Number of U.S. Households by Main Heating Fuel, Secondary Heating, and Age of Householder, as of November 1982--Households with Heating Controls and Heat on in Daytime (Million Households)

HOUSEHOLD CHARACTERISTICS	TOTAL	CENSUS REGION AND ANNUAL HEATING DEGREE-DAYS (HDD) OR COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE						
		NORTHEAST		NORTH CENTRAL	SOUTH		WEST	
		5,500 HDD OR MORE	LESS THAN 5,500 HDD	4,000 HDD OR MORE	LESS THAN 2,000 CDD	2,000 CDD OR MORE	4,000 HDD OR MORE	LESS THAN 4,000 HDD
TOTAL HOUSEHOLDS	83.8	9.6	8.3	21.3	16.8	11.3	6.0	10.5
HOUSEHOLDS WITH HEATING CONTROLS AND HEAT TURNED ON IN DAYTIME	64.8	7.9	6.0	19.0	12.8	7.2	4.9	7.0
NIGHTTIME (SLEEPING HOURS) TEMPERATURE-SETTING BEHAVIOR								
TURNS HEAT DOWN AT NIGHT								
YES	32.5	3.8	3.2	9.9	7.6	3.1	2.7	2.3
NO	32.4	4.1	2.8	9.2	5.2	4.1	2.2	4.7
MAIN HEATING FUEL								
NATURAL GAS	38.4	3.0	3.1	14.0	6.4	3.6	2.7	5.5
ELECTRICITY	11.4	.7	.3	1.9	2.9	2.8	1.3	1.3
FUEL OIL OR KEROSENE	9.2	3.4	2.4	1.4	1.6	.1	.3	Q
LPG	2.5	.2	Q	.9	.6	.5	.2	.1
WOOD/COAL/OTHER	3.4	.7	.1	.7	1.2	.2	.3	.1
SECONDARY HEATING								
YES	25.7	3.6	2.0	6.5	5.4	2.9	2.4	2.9
NO	39.1	4.3	4.0	12.5	7.4	4.3	2.5	4.1
MAIN HEATING FUEL GAS, ELECTRICITY, OIL PAID BY HOUSEHOLD								
YES	54.6	6.3	4.8	16.1	10.1	6.5	4.2	6.7
NO	6.9	.9	1.1	2.2	1.5	.5	.4	.2
WOOD/COAL/OTHER	3.4	.7	.1	.7	1.2	.2	.3	.1
AGE OF HOUSEHOLDER								
UNDER 25 YEARS	4.3	0.4	Q	1.4	1.1	0.4	0.4	0.5
25 TO 34 YEARS	14.9	1.7	1.2	4.2	3.1	1.7	1.5	1.5
35 TO 44 YEARS	11.7	1.6	.9	3.5	2.5	1.4	.8	1.0
45 TO 59 YEARS	15.6	1.9	1.6	4.5	3.0	1.8	1.0	1.8
60 YEARS AND OVER	18.4	2.4	2.3	5.3	3.1	1.8	1.2	2.2

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Use of Air-Conditioning Equipment

Table 39. Use of Air Conditioning Equipment in the United States in the Summer of 1982 by Region, Climate Zones, Income, Type of Equipment, and Payment for Air Conditioning Fuel--Households with Air Conditioning Equipment

HOUSEHOLD CHARACTERISTICS	MILLION HOUSEHOLDS						PERCENTAGE OF HOUSEHOLDS					
	TOTAL	DID NOT USE AIR CONDITIONING EQUIPMENT	AIR CONDITIONING TURNED ON:			NOT LIVING HERE IN SUMMER 1982	TOTAL	DID NOT USE AIR CONDITIONING EQUIPMENT	AIR CONDITIONING TURNED ON:			NOT LIVING HERE IN SUMMER 1982
			A FEW TIMES	QUITE A BIT	ALL SUMMER				A FEW TIMES	QUITE A BIT	ALL SUMMER	
TOTAL HOUSEHOLDS	48.7	3.7	24.3	8.0	10.4	2.2	100.0	7.6	50.0	16.5	21.4	4.5
CENSUS REGION												
NORTHEAST.....	9.4	1.1	6.3	1.1	.6	.2	100.0	11.7	67.6	11.9	6.8	2.0
NORTH CENTRAL.....	12.3	1.1	7.3	2.1	1.3	.5	100.0	9.1	59.6	16.8	10.4	4.0
SOUTH.....	21.3	1.0	7.6	3.7	7.7	1.2	100.0	4.6	35.6	17.6	36.4	5.8
WEST.....	5.7	.5	3.1	1.1	.8	.3	100.0	8.6	53.8	19.1	13.5	4.9
COOLING DEGREE-DAYS (CDD)-- APRIL 1982 THROUGH MARCH 1983												
2,000 CDD OR MORE.....	9.5	.3	2.5	1.5	4.5	.6	100.0	3.5	26.1	16.3	47.4	6.6
1,000 TO 1,999 CDD.....	10.9	.6	4.2	2.3	3.3	.5	100.0	5.1	38.9	21.0	30.1	4.9
500 TO 999 CDD.....	19.4	1.8	11.6	3.2	2.2	.6	100.0	9.2	59.6	16.5	11.3	3.3
LESS THAN 500 CDD.....	8.9	1.0	6.0	1.0	.5	.4	100.0	11.3	67.9	11.0	5.2	4.5
1981 FAMILY INCOME												
LESS THAN $5,000.....	3.7	.3	1.9	.6	.6	.4	100.0	8.2	50.8	16.0	15.6	9.5
$5,000 TO $9,999.....	6.8	.7	3.7	.9	1.2	.4	100.0	9.6	54.8	12.6	17.2	5.7
$10,000 TO $14,999.....	7.3	.6	3.7	1.2	1.3	.4	100.0	8.7	50.7	17.2	17.8	5.6
$15,000 TO $19,999.....	4.9	.3	2.7	.9	.8	.2	100.0	6.1	55.7	17.9	16.1	4.2
$20,000 TO $24,999.....	6.6	.5	3.4	1.2	1.4	.2	100.0	8.2	50.4	17.4	20.9	3.1
$25,000 TO $34,999.....	10.3	.6	4.9	1.8	2.6	.4	100.0	6.0	47.4	17.4	25.1	4.1
$35,000 OR MORE.....	9.0	.6	4.0	1.5	2.6	.2	100.0	7.1	44.9	16.5	29.0	2.4
AIR CONDITIONING (A/C) EQUIPMENT												
CENTRAL A/C UNITS.....	23.4	1.1	9.1	4.7	7.6	.9	100.0	4.5	38.9	20.0	32.6	4.0
INDIVIDUAL ROOM A/C UNITS.....	25.3	2.6	15.2	3.4	2.8	1.3	100.0	10.4	60.2	13.2	11.1	5.0
PAY FOR ELECTRICITY/GAS FOR AIR CONDITIONING												
YES.....	45.2	3.6	22.7	7.4	9.6	2.0	100.0	7.9	50.2	16.3	21.1	4.5
NO.....	3.4	.1	1.6	.6	.9	.2	100.0	3.5	46.8	18.9	25.3	5.5

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Residential Wood Consumption

Table 40. U.S. Residential Wood Consumption for the Year Ending November 1982

HOUSEHOLD CHARACTERISTICS	HOUSEHOLDS BURNING WOOD					HOUSEHOLDS BURNING MORE THAN ONE-THIRD CORD OF WOOD				
	NUMBER OF HOUSEHOLDS		TOTAL NUMBER OF CORDS BURNED		AVERAGE NUMBER OF CORDS BURNED PER HOUSEHOLD	NUMBER OF HOUSEHOLDS		TOTAL NUMBER OF CORDS BURNED		AVERAGE NUMBER OF CORDS BURNED PER HOUSEHOLD
	(MIL'NS)	(PERCENT)	(MIL'NS)	(PERCENT)		(MIL'NS)	(PERCENT)	(MIL'NS)	(PERCENT)	
TOTAL HOUSEHOLDS	21.4	100.0	48.6	100.0	2.3	15.2	100.0	47.3	100.0	3.1
CENSUS REGION AND ANNUAL HEATING DEGREE-DAYS (HDD) OR COOLING DEGREE-DAYS (CDD)--LONG-TERM AVERAGE										
NORTHEAST	4.1	19.2	12.0	24.8	2.9	3.1	20.2	11.8	25.0	3.9
5,500 HDD OR MORE	3.0	13.9	10.6	21.9	3.6	2.3	15.0	10.5	22.2	4.6
LESS THAN 5,500 HDD	1.1	5.3	1.4	2.9	1.2	.8	5.2	1.3	2.8	1.7
NORTH CENTRAL	4.8	22.6	13.5	27.8	2.8	3.6	23.5	13.2	28.0	3.7
SOUTH	7.6	35.7	16.6	34.2	2.2	5.7	37.9	16.3	34.4	2.8
LESS THAN 2,000 CDD	5.7	26.5	14.0	28.9	2.5	4.5	29.4	13.8	29.1	3.1
2,000 CDD OR MORE	2.0	9.2	2.6	5.4	1.3	1.3	8.5	2.5	5.2	1.9
WEST	4.8	22.5	6.4	13.1	1.3	2.8	18.5	6.0	12.6	2.1
LESS THAN 4,000 HDD	2.3	10.8	1.7	3.5	.7	1.1	7.5	1.5	3.1	1.3
4,000 HDD OR MORE	2.5	11.7	4.7	9.6	1.9	1.7	11.0	4.5	9.5	2.7
AREA TYPE										
METROPOLITAN	14.5	67.4	21.2	43.7	1.5	9.2	60.8	20.2	42.7	2.2
CENTRAL CITY	4.3	19.9	3.7	7.6	.9	2.2	14.5	3.3	6.9	1.5
OUTSIDE CENTRAL CITY	10.2	47.5	17.6	36.2	1.7	7.0	46.3	16.9	35.8	2.4
NON-METROPOLITAN	7.0	32.6	27.3	56.3	3.9	5.9	39.2	27.1	57.3	4.6
ANNUAL HEATING DEGREE-DAYS (HDD) AND COOLING DEGREE-DAYS (CDD) --LONG-TERM AVERAGE										
<2,000 CDD AND >7,000 HDD	2.8	12.8	14.1	29.1	5.1	2.4	15.6	14.0	29.7	6.0
<2,000 CDD AND 5,500 TO 7,000 HDD	5.2	24.3	10.3	21.1	2.0	3.5	22.8	9.9	20.9	2.9
<2,000 CDD AND 4,000 TO 5,499 HDD	6.1	28.6	12.1	24.9	2.0	4.5	29.7	11.8	24.9	2.6
<2,000 CDD AND <4,000 HDD	5.3	24.8	9.4	19.4	1.8	3.5	23.3	9.1	19.2	2.6
>2,000 CDD AND <4,000 HDD	2.0	9.5	2.7	5.5	1.3	1.3	8.6	2.5	5.3	1.9
MEASURED HEATED SQUARE FOOTAGE OF RESIDENCE										
LESS THAN 600 SQUARE FEET	0.4	1.9	1.3	2.7	3.2	0.3	2.0	1.3	2.7	4.2
600 TO 999 SQUARE FEET	2.1	9.8	6.1	12.6	2.9	1.7	11.0	6.0	12.8	3.6
1,000 TO 1,599 SQUARE FEET	6.2	28.9	14.1	29.1	2.3	4.5	29.9	13.8	29.3	3.1
1,600 TO 1,999 SQUARE FEET	4.0	18.6	9.2	19.0	2.3	3.0	20.0	9.0	19.0	3.0
2,000 TO 2,399 SQUARE FEET	3.2	15.0	5.7	11.8	1.8	1.9	12.7	5.5	11.5	2.8
2,400 TO 2,999 SQUARE FEET	2.9	13.5	5.7	11.8	2.0	1.9	12.5	5.5	11.7	2.9
3,000 OR MORE SQUARE FEET	2.6	12.3	6.3	13.0	2.4	1.8	11.9	6.1	13.0	3.4
YEAR HOUSE BUILT										
1939 OR EARLIER	4.6	21.6	15.4	31.7	3.3	3.3	22.1	15.2	32.0	4.5
1940 TO 1949	1.6	7.4	3.5	7.1	2.2	1.0	6.5	3.4	7.1	3.4
1950 TO 1959	3.1	14.7	6.4	13.1	2.0	2.2	14.6	6.2	13.1	2.8
1960 TO 1964	2.2	10.4	3.8	7.9	1.7	1.6	10.4	3.7	7.8	2.3
1965 TO 1969	2.2	10.5	4.3	8.8	1.9	1.8	11.9	4.2	8.9	2.3
1970 TO 1974	3.3	15.2	7.0	14.3	2.1	2.5	16.3	6.8	14.3	2.7
1975 TO 1979	3.6	16.6	6.2	12.8	1.7	2.2	14.7	5.9	12.5	2.7
1980 OR LATER	.8	3.7	2.0	4.2	2.6	.5	3.6	2.0	4.2	3.6
1981 FAMILY INCOME										
LESS THAN $5,000	1.0	4.7	2.8	5.8	2.8	.8	5.4	2.8	5.9	3.4
$5,000 TO $9,999	1.5	7.1	6.6	13.7	4.3	1.2	8.2	6.6	13.9	5.3
$10,000 TO $14,999	2.4	11.0	7.0	14.4	3.0	2.0	13.0	6.9	14.6	3.5
$15,000 TO $19,999	2.5	11.9	7.6	15.7	3.0	1.9	12.3	7.5	15.9	4.0
$20,000 TO $24,999	2.8	13.2	5.6	11.5	2.0	2.1	13.7	5.4	11.5	2.6
$25,000 TO $34,999	5.2	24.0	9.7	20.0	1.9	3.6	23.4	9.4	19.9	2.6
$35,000 OR MORE	6.0	28.1	9.2	18.9	1.5	3.6	23.9	8.7	18.3	2.4

SEE FOOTNOTES AT END OF TABLE

Table 40. (Continued)

HOUSEHOLD CHARACTERISTICS	HOUSEHOLDS BURNING WOOD					HOUSEHOLDS BURNING MORE THAN ONE-THIRD CORD OF WOOD				
	NUMBER OF HOUSEHOLDS		TOTAL NUMBER OF CORDS BURNED		AVERAGE NUMBER OF CORDS BURNED PER HOUSEHOLD	NUMBER OF HOUSEHOLDS		TOTAL NUMBER OF CORDS BURNED		AVERAGE NUMBER OF CORDS BURNED PER HOUSEHOLD
	(MIL'NS)	(PERCENT)	(MIL'NS)	(PERCENT)		(MIL'NS)	(PERCENT)	(MIL'NS)	(PERCENT)	
MAIN HEATING FUEL										
NATURAL GAS	8.8	40.9	9.0	18.5	1.0	5.0	33.2	8.3	17.5	1.6
FUEL OIL OR KEROSENE	2.8	12.9	4.5	9.3	1.6	1.9	12.8	4.3	9.2	2.2
ELECTRICITY	3.0	13.8	3.6	7.4	1.2	1.8	12.2	3.3	7.0	1.8
WOOD	5.6	26.3	28.8	59.3	5.1	5.3	34.8	28.7	60.7	5.4
FIREPLACE	.4	1.7	1.2	2.4	3.2	.3	1.8	1.2	2.4	4.1
AIRTIGHT STOVE	4.1	19.1	20.3	41.8	5.0	3.9	25.9	20.3	42.8	5.2
NONAIRTIGHT STOVE	.7	3.2	3.7	7.6	5.4	.6	3.9	3.7	7.8	6.2
FURNACE/OTHER	.4	2.0	3.5	7.3	8.2	.4	2.9	3.5	7.5	8.2
LPG	.7	3.0	1.8	3.7	2.8	.6	3.7	1.8	3.8	3.2
OTHER	.7	3.3	1.0	2.0	1.4	.5	3.5	1.0	2.0	1.8
SECONDARY HEATING WITH WOOD										
YES	15.5	72.3	19.5	40.1	1.3	9.7	63.9	18.3	38.7	1.9
NO	5.9	27.7	29.1	59.9	4.9	5.5	36.1	29.0	61.3	5.3
AMOUNT OF WOOD BURNED IN PAST 12 MONTHS										
1.49 CORDS OR LESS	11.7	54.6	5.2	10.8	.4	5.4	35.7	4.0	8.4	.7
1.5 TO 2.49 CORDS	3.0	13.9	5.5	11.2	1.8	3.0	19.6	5.5	11.5	1.8
2.5 TO 3.49 CORDS	2.0	9.5	5.9	12.1	2.9	2.0	13.4	5.9	12.5	2.9
3.5 TO 4.49 CORDS	1.1	5.3	4.5	9.3	3.9	1.1	7.6	4.5	9.5	3.9
4.5 CORDS OR MORE	3.6	16.7	27.4	56.5	7.7	3.6	23.7	27.4	58.0	7.7
ANY WOOD PURCHASED										
YES	7.1	33.2	17.6	36.2	2.5	5.8	38.4	17.3	36.5	3.0
NO/NOT REPORTED	14.3	66.8	31.0	63.8	2.2	9.3	61.6	30.1	63.5	3.2
PRICE PER CORD PAID IN 1982										
LESS THAN $50	1.2	5.8	5.8	11.9	4.6	1.2	8.1	5.8	12.2	4.7
$50 TO $75	1.5	6.9	4.2	8.6	2.8	1.3	8.7	4.1	8.7	3.1
$75 AND OVER	3.2	15.1	6.1	12.7	1.9	2.6	17.4	6.0	12.7	2.3
NONE PURCHASED/DON'T KNOW/NOT REPORTED	15.5	72.2	32.4	66.8	2.1	10.0	65.8	31.4	66.3	3.1

"-" = DATA NOT APPLICABLE.
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.
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SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Average Annual Heating Degree-Days

Table 41. U.S. Average Annual Heating Degree-Days by Type of Main Heating Fuel and Region, Secondary Heating, Housing Structure, Year Built, Tenure, Income, Age and Origin of Householder (Annual Heating Degree-Days--April 1982 Through March 1983.)

HOUSEHOLD CHARACTERISTICS	Total	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	FUEL OIL OR KEROSENE	ELECTRICITY	LIQUEFIED PETROLEUM GAS	WOOD	OTHER/NONE
TOTAL HOUSEHOLDS	4,546	4,596	5,379	3,691	3,928	4,953	3,940
CENSUS REGION AND DIVISION							
NORTHEAST	5,739	5,590	5,678	5,914	7,126	6,843	5,702
NEW ENGLAND	6,318	6,102	6,325	6,006	7,230	6,863	6,858
MIDDLE ATLANTIC	5,562	5,493	5,424	5,887	7,096	6,824	5,555
NORTH CENTRAL	6,109	6,076	6,681	5,764	6,198	6,298	6,746
EAST NORTH CENTRAL	6,051	5,946	6,595	5,860	6,186	6,883	6,746
WEST NORTH CENTRAL	6,247	6,373	7,039	5,429	6,210	5,003	Q
SOUTH	3,032	3,117	3,649	2,510	2,463	3,637	4,121
SOUTH ATLANTIC	3,108	3,690	3,629	1,909	2,101	3,881	4,118
EAST SOUTH CENTRAL	3,560	3,402	4,034	3,752	3,191	3,671	4,154
WEST SOUTH CENTRAL	2,553	2,571	Q	2,439	2,750	2,205	Q
WEST	3,805	3,634	5,371	3,943	5,348	4,968	2,013
MOUNTAIN	5,136	5,576	6,261	2,739	6,543	6,396	6,187
PACIFIC	3,332	2,990	5,068	4,404	3,557	4,280	1,586
SECONDARY HEATING							
YES	4,605	4,484	5,370	4,018	4,256	4,910	5,226
NO	4,512	4,653	5,385	3,521	3,721	5,053	3,427
HOUSING STRUCTURE BY OWNERSHIP							
SINGLE-FAMILY DETACHED	4,490	4,501	5,334	3,559	3,873	4,936	3,922
SINGLE-FAMILY ATTACHED	4,747	4,551	5,224	5,178	5,143	5,964	2,329
BUILDING WITH 2 TO 4 UNITS	4,787	4,746	5,709	3,277	8,034	5,954	4,552
BUILDING WITH 5 OR MORE UNITS	4,672	4,950	5,373	3,877	6,504	Q	3,553
MOBILE HOME	4,092	4,381	5,057	3,386	3,607	4,728	Q
YEAR HOUSE BUILT							
1939 OR EARLIER	5,088	5,004	5,582	4,477	4,418	5,286	4,030
1940 TO 1949	4,498	4,351	5,178	4,328	2,894	4,675	4,521
1950 TO 1959	4,300	4,354	5,077	2,851	2,970	4,451	2,831
1960 TO 1964	4,127	4,298	4,871	2,717	2,403	4,224	3,592
1965 TO 1969	4,250	4,378	5,479	3,455	3,867	4,998	3,929
1970 TO 1974	4,613	4,605	5,624	4,198	4,625	5,149	5,339
1975 TO 1979	4,384	4,670	5,661	3,917	4,176	4,928	1,587
1980 OR LATER	3,782	4,528	5,821	2,947	4,230	5,322	5,093

SEE FOOTNOTES AT END OF TABLE

Average Annual Heating Degree-Days

Table 41. (Continued)

HOUSEHOLD CHARACTERISTICS	Total	MAIN HEATING FUEL IN NOVEMBER 1982					
		NATURAL GAS	FUEL OIL OR KEROSENE	ELECTRICITY	LIQUEFIED PETROLEUM GAS	WOOD	OTHER/NONE
OWN/RENT							
OWN	4,595	4,644	5,430	3,507	4,036	4,992	4,522
RENT	4,458	4,514	5,274	3,945	3,646	4,775	2,883
1981 FAMILY INCOME							
LESS THAN $5,000	4,471	4,487	5,233	3,945	3,766	3,821	5,504
$5,000 TO $9,999	4,549	4,613	5,385	3,846	3,992	4,973	2,517
$10,000 TO $14,999	4,538	4,572	5,321	3,545	3,972	5,068	3,984
$15,000 TO $19,999	4,708	4,697	5,274	4,125	3,829	5,179	3,376
$20,000 TO $24,999	4,566	4,623	5,356	3,793	3,272	4,937	5,027
$25,000 TO $34,999	4,517	4,567	5,667	3,542	4,246	5,079	3,569
$35,000 OR MORE	4,510	4,623	5,364	3,359	4,268	5,122	3,695
BELOW 100% OF POVERTY	4,356	4,371	5,128	3,822	3,524	4,165	4,915
BELOW 125% OF POVERTY	4,453	4,442	5,244	3,896	3,950	4,323	4,567
AGE OF HOUSEHOLDER							
UNDER 25 YEARS	4,481	4,605	5,109	3,960	4,350	4,466	2,892
25 TO 34 YEARS	4,558	4,616	5,386	3,817	3,871	5,248	4,536
35 TO 44 YEARS	4,618	4,736	5,256	3,576	3,550	5,139	4,644
45 TO 59 YEARS	4,511	4,445	5,416	3,751	4,504	4,959	3,790
60 YEARS AND OVER	4,539	4,617	5,455	3,465	3,717	4,417	3,457
ORIGIN OF HOUSEHOLDER							
WHITE	4,649	4,723	5,468	3,678	4,101	5,082	4,544
BLACK	4,059	4,036	4,836	3,853	2,786	3,236	6,422
OTHER	3,457	3,672	4,813	3,704	4,351	5,692	225
HISPANIC DESCENT							
YES	3,897	3,946	5,149	2,927	2,292	3,988	3,016
NO	4,581	4,634	5,392	3,725	4,006	4,976	4,025

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NOTE: BECAUSE OF ROUNDING, DATA MAY NOT SUM TO TOTALS. PERCENTAGES ARE CALCULATED ON UNROUNDED NUMBERS. SEE GLOSSARY FOR DEFINITION OF TERMS USED IN THIS REPORT.
SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Reasons for Making Energy Conservation Improvements or Equipment Changes

Table 42. Reasons for Making Energy Conservation Improvements or Equipment Changes in Single-Family or Mobile Homes Between September 1980 and November 1982.

ITEM	NUMBER OF HOUSEHOLDS (MILLIONS)	PERCENT MAKING CHANGE FOR REASONS GIVEN (MULTIPLE REASONS WERE ALLOWED)									
		SAVE MONEY	COMFORT	REPLACEMENT	MAKING HOME IMPROVEMENTS	TAX CREDIT	ENERGY AUDIT	LOW-COST GOVERNMENT LOANS	RECOMMENDED BY FRIEND	MEDIA	OTHER
CONSERVATION IMPROVEMENT											
CAULKING	16.8	77	27	11	11	4	2	1	1	3	1
WEATHERSTRIPPING	12.7	81	31	8	6	4	2	1	1	2	1
PLASTIC SHEETS	8.2	86	48	3	1	3	1	Q	2	2	Q
ROOF OR CEILING INSULATION	7.4	80	35	6	12	15	5	4	2	4	1
STORM DOORS											
HINGED DOORS	6.2	63	34	27	19	8	1	2	2	2	4
SLIDING DOORS	1.2	63	48	6	19	7	2	4	Q	3	Q
STORM WINDOWS	5.8	72	34	19	19	13	3	3	2	3	2
WATER HEATER INSULATION	4.7	86	6	1	5	4	10	2	3	10	Q
SHUTTERS, DRAPES, FILM	4.3	76	42	4	8	2	Q	Q	1	2	4
WALL INSULATION	3.4	73	40	6	35	13	1	3	1	1	Q
INSULATION--HOT WATER/COOLING PIPES	3.1	70	22	10	8	5	5	1	1	6	3
INSULATION--BASEMENT/CRAWL SPACE	2.4	82	44	6	16	9	6	4	2	3	Q
AUTOMATIC SET--BACK THERMOSTAT	2.2	53	27	28	6	3	1	1	2	4	3
INSULATION--DUCTS	1.7	64	23	7	18	4	2	2	7	3	Q
ELECTRICAL/MECHANICAL FURNACE IGNITION	1.4	45	9	51	7	9	10	Q	Q	1	Q
AUTOMATIC FLUE DAMPER	1.0	83	14	20	6	16	15	Q	2	6	Q
FLAME RETENTION HEAD BURNER	.6	58	24	60	4	13	7	Q	3	Q	2
EQUIPMENT CHANGE											
HEATING SYSTEM CHANGE	7.6	62	38	29	4	5	3	Q	4	3	2
REPLACEMENT	3.5	47	25	56	2	7	5	Q	1	2	Q
SAME FUEL	2.5	36	24	67	2	7	6	Q	1	1	Q
DIFFERENT FUEL	1.0	74	26	30	1	7	1	1	1	5	1
ADDITIONAL SYSTEM	2.3	74	57	2	10	7	3	1	7	2	2
SAME FUEL	.4	34	77	8	30	4	10	Q	9	Q	Q
DIFFERENT FUEL	1.9	83	51	Q	6	8	2	1	7	2	3
WATER HEATER REPLACED	6.6	14	4	80	4	2	1	Q	2	1	2
SAME FUEL	5.9	6	2	87	4	Q	1	Q	1	Q	1
DIFFERENT FUEL	.5	68	27	29	2	11	3	Q	5	Q	8
WOOD BURNING STOVE	3.4	84	44	3	2	2	Q	Q	4	3	4
CENTRAL AIR CONDITIONING	1.4	27	47	46	11	6	2	Q	Q	Q	Q
REPLACEMENT	.8	28	27	76	3	10	Q	Q	Q	Q	Q
ADDITIONAL	.5	22	72	4	25	1	4	Q	Q	Q	Q
HEAT PUMP	.3	56	44	5	13	Q	4	Q	Q	Q	Q

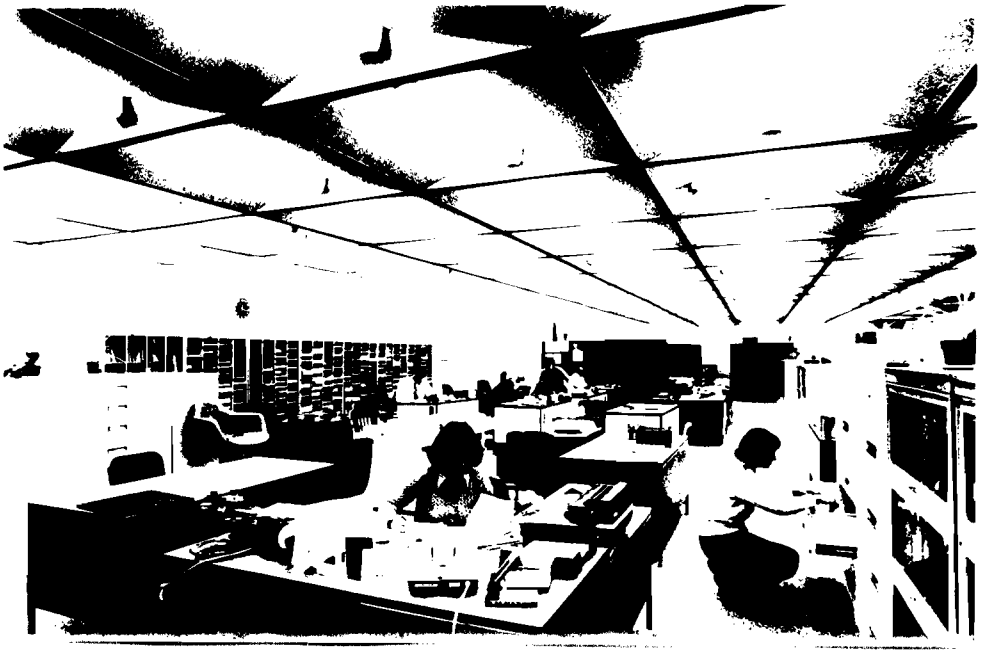
"Q" = DATA WITHHELD BECAUSE OF A LARGE VARIANCE.

NOTE: THE IMPROVEMENTS OR CHANGES WERE COMPLETED OR IN PROGRESS BETWEEN SEPTEMBER 1980 AND THE INTERVIEW, GENERALLY TAKEN AS NOVEMBER 1982. BECAUSE SOME DATA ARE MISSING, DATA MAY NOT SUM TO TOTALS.

SOURCE: ENERGY INFORMATION ADMINISTRATION, OFFICE OF ENERGY MARKETS AND END USE, END USE DIVISION, FORM EIA-457, THE 1982 RESIDENTIAL ENERGY CONSUMPTION SURVEY.

Appendix A

How the Survey Was Conducted



Appendix A

Introduction

Data Collection

The Interview

HOW THE SURVEY WAS CONDUCTED

The Residential Energy Consumption Surveys (RECS) have been designed by the Energy Information Administration (EIA) to provide information concerning energy consumption within the residential sector. Information concerning the housing unit is collected through personal interviews with a representative national sample of households. Data concerning actual energy consumption are obtained from fuel records maintained by the household's fuel suppliers. An inventory of motor vehicles used by the household residents is also obtained at the time of the personal interview.[1]

The fieldwork for this study was conducted by a contractor, Response Analysis Corporation of Princeton, New Jersey. The original sample consisted of 5,903 units, of which some 95 either were not used for dwelling purposes or were not habitable. Of the 5,808 habitable housing units, 536 were ineligible for this study due to a current vacancy or seasonal occupancy (the units were not the primary residence for the occupants). Personal interviews were conducted at 4,475 of the 5,272 eligible units, for a response rate of 84.9 percent. Subsequently, mail questionnaires were sent to 703 of the 797 households that had not participated in personal interviews. Completed questionnaires were returned by 249 of these households, or 35.4 percent of those mailed. Of the total eligible households, responses were received from 89.6 percent (or 4,724 households).

Interviewer contacts at sample households were begun in late September 1982 and continued through January 1983; more than 90 percent of the personal interviews were completed in October and November. Most of the 249 completed mail questionnaires were received in January and February 1983, with a few additional questionnaires received in March. In keeping with past practice in this series of surveys, November was regarded as the rough midpoint for data collection activity. Thus, November 1982 was the date for determining the independent estimates of the size of the universe of households used in the ratio estimation of survey results.

The average personal interview which included measurements of the housing unit lasted 52 minutes, with 83 percent of the interviews lasting between 30 and 70 minutes. For a subsample of households in which measurements were not made (827 households) the average interview lasted 44 minutes. The interview with the householder (or his or her spouse) covered structural features of the house related to energy, such as insulation, doors, and windows; the heating and cooling systems, with the fuels used in these systems; use of wood; energy conservation improvements and the reasons for making the improvements; household appliances; household vehicles; receipt of government assistance for the cost of heating; and demographic data on household members. The questionnaire is reproduced in Appendix D.

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[1] Fuel consumption for household vehicles is collected through the Household Transportation Study, which uses subsamples from the residential surveys. Data collected for the period June 1979 through September 1981 are reported in Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, June 1979 to December 1980, DOE/EIA-0319 (Washington, D.C., April 1982) and Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, Supplement: January 1981 to September 1981, DOE/EIA-328 (Washington, D.C., February 1983). Data were collected for 1983 using households from this survey.

Appendix A (Continued)

At the end of the interview, respondents were asked to sign a waiver authorizing the contractor to obtain records of energy consumption from the housing unit's energy supplier(s). At this time, the interviewer also measured the dimensions of certain housing units, using a retractable 50-foot metal tape measure, and recorded the dimensions on a rough-drawn diagram of the floor plan. (See Appendix B for further details on the measurement of housing units.)

The Interviewers

A total of 290 interviewers completed one or more personal interviews for this study. The type of training received by interviewers for this study depended primarily on the experience of the interviewer on the 1980 or 1981 RECS. As shown in Table A1, 167 interviewers (58 percent) had completed interviews on a prior RECS. The remainder were conducting their first RECS, but had interviewing experience either with other survey research organizations, or with the U.S. Bureau of the Census.

Table A1. Experience and Training of 1982 RECS Interviewers

Experience on Prior RECS	Training for This RECS[a]	Number of Interviewers
Yes[b]	Home study	167
Yes[c]	Regional training meeting	2
No	Regional training meeting	120
No	Other training	1
		290

[a]All interviewers completed a practice interview and quiz.
[b]Attended regional training meeting and completed interviews on a prior RECS.
[c]Completed interviews on RECS, but did not attend a regional training meeting in a prior year.
Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Two-day regional training meetings were held in 14 locations around the country in September 1982. These meetings were attended by 122 interviewers, including almost all those who had not interviewed on a prior RECS. Each session was led by a trainer who had attended a 2-day workshop in Princeton, New Jersey. The 2-day training session for interviewers covered general interviewing techniques, background of the Residential Energy Consumption Surveys, the household questionnaire, ways to measure the respondents' homes, the sampling tasks, and administrative requirements.

All interviewers were required to complete a practice interview and quiz on the questionnaire and sampling procedures. These materials were reviewed by the contractor's central office staff. The basic training document for both the regional meetings and home study was a 78-page manual, Instructions for Interviewers, Residential Energy Consumption Survey, Fall-Winter, 1982-1983.

Appendix A (Continued)

Interviewers were paid on an hourly basis for their work on RECS, including time for home study, attendance at training sessions, review of completed interviews, actual interviewing time, and travel time to and from training sessions and sample clusters. Interviewers were also reimbursed at standard mileage rates for use of personal vehicles and other travel expenses. Interviewers working in locations believed to present a hazard to their safety were compensated for use of an escort. Each interviewer conducted an average of 15 interviews. Twenty-one interviewers each completed fewer than 6 interviews; the average for this group of 21 interviewers was 3.5 completed interviews. The most interviews completed by one interviewer was 42. Twenty percent of the personal interviews were verified by telephone or mail to ensure that interviews were conducted as intended.

Sample Design

The universe for this sample design includes all housing units occupied as the primary residence in the 50 States and the District of Columbia. The sample of households used as the basis for the 1981 estimates was selected by using a probability sampling design developed especially for the Residential Energy Consumption Survey. The sample design was used for the first time for the 1980 survey. The design required a sample with a minimum level of precision within each of the 10 Federal regions and 9 Census divisions. This requirement meant disproportionate sampling in each of the 17 intersections created by the overlap between the Federal regions and the Census divisions.

The 3,141 counties and independent cities in the 50 States and the District of Columbia were divided into 1,782 Primary Sampling Units (PSU's) on the basis of Standard Metropolitan Statistical Areas (SMSA's)[2], county and independent city boundary lines, and population characteristics. The PSU's were grouped into 131 strata having roughly similar population totals within each of the 17 intersections. Each stratum contained PSU's similar in several characteristics, including, among others, the dominant space-heating fuel and, in some strata, weather conditions. Some PSU's comprising all or part of large metropolitan areas were large enough in population to be a stratum by themselves; 31 of the PSU's are of this type and are called Self-Representing (SR) because the sample from each PSU represented only that PSU. In the other 100 strata, one PSU was selected from among two or more PSU's in the stratum. Each of the 100 PSU's selected from these strata is called Non-Self-Representing (NSR) because each PSU also represents the nonselected PSU's in its stratum.

A number of intermediate probability sampling stages preceded the final selection of RECS households. These stages included the selection of Minor Civil Divisions (MCD's), such as cities, towns, townships, and other Census divisions within each PSU. Within the MCD's, Census tracts or Enumeration Districts (ED's) were selected. A segment of 25 or more housing units was selected within a tract or ED. Segments were formed from field counts in easily identified geographic units. Detailed field listings were created for each segment by a person who visited the area and identified each housing unit by street address or apartment number or other observable feature. A cluster of 25 housing units was selected from the sample segment. The ultimate cluster to be contacted for interviews (averaging about four housing units) was systematically selected from the cluster, and these housing units constituted the assignments given to the interviewers. The number of ultimate clusters totaled 1,515.

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[2] SMSA's are now called MSA's (Metropolitan Statistical Areas), as announced in the press release of March 18, 1983 from the Administrator for Information and Regulatory Affairs, Office of Management and Budget.

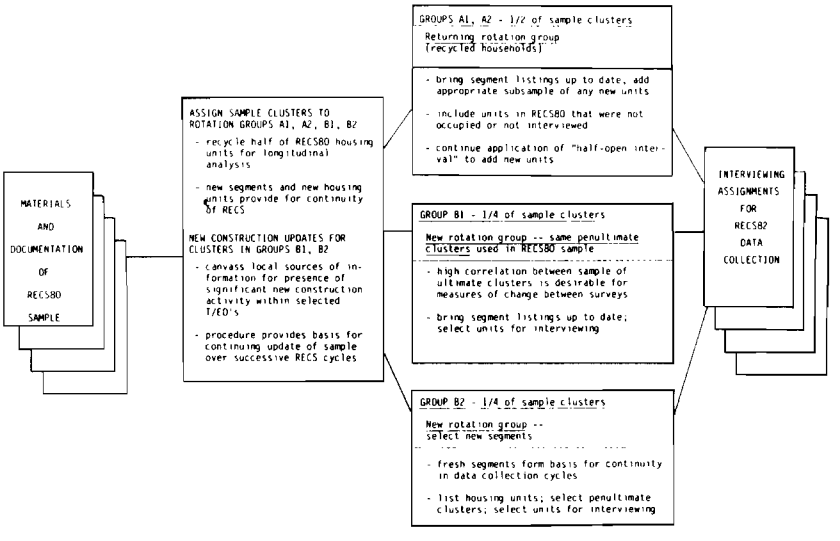
Appendix A (Continued)

The 131 PSU's were selected in early 1980. The population sizes of PSU's were 1978 population estimates from the U.S. Bureau of the Census. Other data used in stratification, such as the dominant home heating fuel, came from the 1970 Census. Classifications of MSA's used for definition and stratification of PSU's were also based on the 1970 Census. (Metropolitan area classifications used in the tabulation of results for this RECS, are based on June 1983 definitions of the Office of Management and Budget.) For selection within PSU's, 1980 projected household counts for subareas of the PSU were used. The projections were based on data for MCD's provided by the National Planning Data Corporation. Within selected MCD's, the procedure for deriving estimated numbers of households in tracts and enumeration districts was based on data from a combination of sources, including Reuben H. Donnelley household address counts, 1970 Census data, and contacts with local sources of information such as a zoning board or agency issuing building permits.

This is the first survey in the RECS series to include a plan for rotation of sample units from an earlier RECS. The primary objective was to provide for longitudinal analysis of a sample of the same housing units over a two-year period. To accomplish this objective in an efficient way, and to set the stage for continuity in the RECS series, systematic random procedures were used to divide the 1,515 clusters in the basic sample into four subsamples, designated as A1, A2, B1, B2. In the 1982 RECS, Groups A1 and A2 constitute a returning rotation group in which procedures were designed to contact for interview primarily a sample of the same housing units that had been in the sample two years earlier (in 1980). Groups B1 and B2 constitute, in the 1982 RECS, a new rotation group in which housing units were included in the RECS sample for the first time. (See Figure A1).

Procedures for updating the sample for new construction and for other changes in housing unit stock were incorporated in sampling operations so that each rotation group, as well as the total RECS sample, is a probability sample of the population covered by the survey.

Figure A1. Sampling Operations for 1982 RECS



Appendix A (Continued)

Rotation Groups A1 and A2

The general plan for these sample clusters (757 of the total of 1,515) was to contact for interview the same housing units that had been contacted two years earlier, including housing units that had been vacant as well as noninterviews (refusals, not-at-home, etc.) and completed units.

Prior to contacting households for RECS 1982 interviews, interviewers made visits to sample segments to check 1980 housing unit listings for missed units and to update listings for new construction, demolition, and conversion of structures from one use to another. Newly constructed or converted units, and those missed in the 1980 listings, were sampled at the RECS 1982 sampling rate.

Rotation Groups B1 and B2

The first step in these rotation groups (758 of the total of 1,515 clusters) was a new construction update procedure based on a canvass, primarily by telephone, of local sources of information (building permit issuing agencies, zoning boards, tax offices, etc.). The objective was to determine whether significant new construction--defined as groups of 25 or more housing units--had occurred in the 1980-1982 period, within the Census Tracts and Enumeration Districts that were included in the RECS sample.

In the canvass, significant new construction was found in Census Tracts and Enumeration Districts in 123 of the 758 clusters in these rotation groups. New field counts were made and new segments selected based on the new measures of size.

In Tracts and Enumeration Districts in which significant new construction (clusters of 25 or more new housing units) was not found, procedures diverged in rotation groups B1 and B2.

In rotation group B1, 1980 RECS housing unit listings were checked and updated (for missed units, new construction, etc.) prior to the start of field contacts for interviews. This step in rotation group B1 was identical to the listing checks carried out for rotation groups A1 and A2. However, housing units for the 1982 RECS sample were selected from among those not selected in the earlier RECS.

In rotation group B2, a new segment was selected for the 1982 RECS.

Survey Estimates

Survey estimates were developed to project sample results to the universe. The universe includes all households in the 50 States and the District of Columbia. Households on military installations are included. The definition of household is the same as that used by the U.S. Bureau of the Census. At the time of the survey, November 1982, the universe was estimated to contain 83,788,000 households, based on Current Population Survey (CPS) estimates of the population.

Weights were calculated for each sample household. The household weight reflected the probability of selection for that household and additional adjustments to correct for potential biases arising from the failure to contact all sample housing units and the failure to list all housing units in the sample area. Contacts were not successful with 10.4 percent of the eligible units.

The adjustment for these noninterviews was designed to spread the effects of noninterviews over the interviewed sample of households in the final cluster. The noninterview weight is equal to the number of households in the ultimate cluster (interviews plus noninterviews) divided by the number of interviews. When the weight computed in this way was greater than 2.0, however, that part of the noninterview adjustment that exceeded 2.0 was spread over the remaining ultimate clusters in the PSU.

The failure to list all housing units in the field-listing task is a common problem in surveys of this type. The result is an undercount of housing units in the sample area and, hence, an underestimate of the number of households in the universe. The undercount in RECS surveys is in the range of 7 to 9 percent. This problem is treated in two ways in the RECS. One treatment occurs during the interviewing process and the second in the estimation process. During the interviewing stage, unlisted housing units or households are discovered by querying the household where interviews are conducted to determine if other households are present in the unit. In addition, the interviewer is instructed to conduct an interview at all housing units contained in the geographical area between the interviewed household and the next listed address. This tactic reduces the number of missed households but does not completely eliminate the noncoverage problem.

The noncoverage problem is also treated by using ratio estimation to adjust selected estimates of households to official population values. Ratio adjustment took place in two stages for the 1982 RECS. The first-stage adjustment was computed from information for PSU's in NSR strata only. A separate factor was created for each of 20 cells (four regions classified by five home heating fuel categories). The implementation of this factor reduced somewhat the amount of variance due to the sampling of PSU's. The first-stage adjustment for cell "c" is given by:

$$R_{1c} = N_c / M_c$$

where N_c is the total number of households (1980 Census population) in cell c for all PSU's in RECS NSR strata, and

M_c is an estimate of N_c generated by applying RECS PSU sampling weights to 1980 Census household totals for cell c in RECS NSR sample PSU's.

The second-stage factor adjusted data from the survey after nonresponse adjustment and first-stage ratio estimation to independently derived estimates of the number of households in 12 categories shown in Table A2. The second-stage adjustment for category k was given by

$$R_{2k} = H_k / G_k$$

where H_k is an independent estimate of the total, and

G_k is the RECS estimate prior to the second-stage ratio adjustment of the total number of households in category k.

The numerator is based on a linear interpolation of values for each of the 12 cells between Current Population Survey (CPS) estimates for March 1982 and March 1983. The second-stage factor reduced both the between-PSU variance and the within-PSU variance.

Appendix A (Continued)

An intermediate step was introduced in the 1982 RECS to adjust RECS estimates approximately to current CPS estimates for numbers of households of each of the following types:

One-person households, male householder
One-person households, female householder
All other households

The purpose of this intermediate step was to reduce possible bias in the RECS sample due to undercoverage of one-person households, particularly those with male householders.

The procedures related to the second stage ratio estimate were carried out in three steps: the second-stage ratio estimate was performed, the intermediate adjustment for number of persons in household was carried out, and the second-stage ratio estimate was iterated to produce the final estimates approximately equal to the control totals shown in Table A2.

Table A2. Population Estimates Used as Controls in Ratio Estimates

Census Region	MSA--Central City	MSA--Outside Central City	Non-MSA	Total
Northeast	6,005,000	8,163,000	3,783,000	17,951,000
North Central ..	5,889,000	8,089,000	7,327,000	21,305,000
South	7,422,000	8,706,000	11,927,000	28,055,000
West	5,447,000	7,509,000	3,521,000	16,477,000
Total	24,763,000	32,467,000	26,558,000	83,788,000

Source: Estimates derived from March 1982 and March 1983 Current Population Surveys.

Minimizing Nonresponse

In an effort to maximize the validity of the survey data, a multiwave, multicontact approach was employed. Before the initial contacts, a letter was sent to each household from the Administrator of the EIA, briefly describing the purposes and stressing the importance of the survey. Beginning in September 1982, interviewers made up to seven or more callbacks at different times of the day throughout the week in an effort to minimize the number of uncontacted households. The interviewers also queried neighbors regarding the most opportune times to contact the prospective respondent. By the end of the first wave, 95 addresses were found to be nonresidential and an additional 513 were found to be ineligible. Some 4,037 personal interviews were completed, leaving 1,258 nonrespondents in this wave.

A second wave was initiated in an effort to contact households that were not available during the first wave and to attempt to convince selected first-wave refusals to reconsider. A new set of letters preceded the renewed effort and, in most cases, the sampled housing units were assigned to a different interviewer. Again, up to seven or more attempts were made to contact the prospective respondents. At the end of this wave, an additional 22 addresses were found to be ineligible. As a result of the second wave, an additional 394 interviews were completed, leaving 842 nonrespondents.

Appendix A (Continued)

A third wave was initiated in an effort to reach nonrespondents in a number of locations that had low completion rates. One address was found to be ineligible and an additional 44 personal interviews were completed in the third wave.

In a final attempt to reduce nonresponse, an abbreviated version of the questionnaire (adapted for self-administration) was mailed to most of the remaining nonrespondents. A $2 incentive was included in the mailing. As a result of this effort, 249 additional households responded.

After three waves of personal interview attempts and the mailed questionnaire, 548 households or 10.4 percent of all eligible housing units had not responded. These results are displayed in Table A3.

These efforts were successful in accomplishing the following:

- Approximately 85 percent of the households were contacted and agreed to be interviewed personally. An additional 4.7 percent of the sample households completed and returned mailed questionnaires.
- Of the 4,724 responses, 85.5 percent were obtained during the first wave of contacts; 8.3 percent were obtained during the second wave; and 0.9 percent resulted from third-wave contacts. Some 5.3 percent were responses to the mailed questionnaire.

- Of all households that participated in the personal interviews, 40.1 percent required only one visit and 68.7 percent were completed with no more than two callbacks.

- A total of 202 personal interviews were completed in the second and third waves with respondents who had previously refused to participate, representing 4.5 percent of all completed personal interviews. In addition, of the 249 mailed questionnaires that were completed and returned, 177 were from households that previously refused to participate.

Table A3. Interviews Completed by Stage

	Personal Interviews			Status After Third Wave	Mail	Final Status
	First Wave	Second Wave	Third Wave			
Total Listed Units.....	5,903	1,258	842	5,903	797	5,903
Nonhousing Units						
Business, Other	32	0	0	32	-	32
Not Habitable	20	0	0	20	-	20
Nonhousing Unit	43	0	0	43	-	43
Subtotal	95			95		95
Housing Units	5,808	1,258	842	5,808	797	5,808
Ineligible Units						
Vacant	383	20	1	404		404
Seasonal Vacant	130	2	0	132	-	132
Subtotal	513	22	1	536		536
Eligible Units	5,295	1,236	841	5,272	797	5,272
Not Completed--Personal						
No One Home	365	168	38	101		101
Eligible Respondent Not Home	46	17	7	19	-	19
Refused	724	445	31	605	-	605
Illness	24	12	0	12	-	12
Language Barrier	7	1	0	3	-	3
Wrong Respondent or Unit	15	0	0	7	-	7
Not Contacted[b]	52	187	721	29	-	29
Other	25	12	0	21	-	21
Subtotal	1,258	842	797	797		797
Not Completed--Mail						
Unusable Address	-	-	-	-	22	22
Post Master Return ..	-	-	-	-	41	41
Returned Blank	-	-	-	-	109	109
Returned Unusable ...	-	-	-	-	15	15
Not Returned	-	-	-	-	289	289
Other Not Mailed	-	-	-	-	72	72
Subtotal					548	548
Total Interviews Completed	4,037	394	44	4,475	249	4,724

[a]A household that refused an interview during any one of the three waves was classified as a "refusal" for the final status even though no one was at home in the second or third wave.

[b]Includes households that moved after initial contact.

"-" = Data not applicable.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Response Rates and Household Characteristics

This section of the report will compare various response and nonresponse rates across Census region, location type, and structure type. These rates are reported in Table A4.

Several patterns are clear from Table A4. First, personal interviews enjoyed the most success in the South (86.5 percent), in non-MSA areas (89.7 percent), and among residents of mobile homes (87.4 percent). Conversely, the interviewers had their lowest success rates in the Northeast (81.7 percent), MSA central cities (80.8 percent), and in buildings with five or more residential units (76.7 percent). It is important to keep in mind when looking at the categories that make up these groupings that there is no guarantee that the characteristics are independent. Rather, it is highly likely that they overlap, that is to say, the Northeast has a high concentration of central cities and large apartment buildings.

The total response-rate patterns with regard to highest and lowest rates are generally not affected by the addition of the responses to the mailed questionnaire; however, the overall range from highest to lowest decreases by several percentage points. The highest refusal rates correspond to the lowest success rates for the personal interviews. The lowest refusal-rate categories match the highest personal interview success groups. Overall response rates are approximately two percentage points higher for new rotation groups (households not contacted for an earlier RECS) than for returning rotation groups.

Appendix A (Continued)

Table A4. Response Rates by Region, Location, Type of Structure, and Rotation Groups (Percentage of Eligible Housing Units)

Characteristic	Response Rates			Personal Interview Nonresponse Rates	
	Personal Interview	Mail Questionnaire	Total Response	Refuse	Unable to Contact
Total	84.9	4.7	89.6	11.4	3.6
Census Region					
Northeast	81.7	5.2	86.9	13.1	5.2
North Central	84.4	5.4	89.9	12.5	3.0
South	86.5	3.2	89.7	9.7	3.8
West	85.9	5.4	91.3	11.2	2.9
Location Type					
MSA--Central City	80.8	6.1	86.8	13.6	5.6
MSA--Outside Central City	85.0	4.6	89.6	12.5	2.5
Non-MSA	89.7	3.2	93.0	7.5	2.8
Structure Type					
Single-Family House	86.2	4.4	90.6	11.6	2.3
Mobile Home	87.4	2.0	89.5	8.9	3.6
Buildings with Two to Four Units	85.0	4.2	89.2	10.2	4.8
Buildings with Five or More Units	76.7	7.9	84.5	13.0	10.3
Rotation Group					
Returning Rotation Group	83.9	4.8	88.7	12.7	3.4
New Rotation Group	85.9	4.6	90.5	10.3	3.9

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Adjustments for Item Nonresponse

Item nonresponse occurs when respondents do not know the answer or refuse to answer a question or when an interviewer does not ask a question or does not record an answer. Imputations were made for nonresponse to most items that were to be used for making national estimates and items that had less than 10-percent nonresponse. Items for which national estimates are made but for which imputations were not made include questions on the presence, type, and amount of attic and floor insulation; the presence of wall insulation. For these items, the number of missing cases was considered large enough that the imputations would have introduced too much additional error.

The most frequently used imputation procedure was hot-deck. This procedure requires sorting the file of households by variables related to the missing item. A household is then selected that has the same value of the related variables, and this "donor" household supplies the value for the variable that is missing in the "donee" household.

Appendix A (Continued)

Less frequently used imputation methods included random selection from the distribution of the known values of a variable, regression estimates, and use of modal values. Regression procedures were used to impute the total square footage of the housing unit when actual measurements were missing. The random selection procedure was used only to assign dates (month and/or year) when those responses were missing. Discussion of the regression procedure and other imputations involved in the square footage estimates is found in Appendix B. A few variables were imputed by assigning modal values; this was done when the distribution of available data showed a highly skewed distribution.

The RECS personal interview questionnaire contained 443 items of information. These items were treated as follows with respect to imputations.

Imputation Method	Number
Not Imputed	155
Imputed	288
Hot-deck	229
Random	39
Modal	20
Total	443

Table A5 shows the most frequently imputed items, the number of cases requiring imputation, and the method used.

The 249 mailed questionnaires had considerable missing data since the mailed questionnaire was a small subset of questions from the household interview. For the mailed questionnaire, a modified hot-deck imputation method was used. A hot-deck matrix was created for both mailed-questionnaire and personal-interview households using Census region, type of housing unit structure, space heating fuel, hot water fuel, and presence and fuel of air conditioning. For each mailed questionnaire household, a donor personal interview household was chosen from the same cell of the hot-deck matrix whenever possible. For 95 percent of the mailed questionnaires, donors matched on all hot-deck variables.

Since each cell of the matrix usually contained several possible donors, a donor was chosen from the cell based on how closely it matched the mailed questionnaire household on a number of additional variables. These variables were: income, number of household members, number of household vehicles, age of householder, tenure, number of rooms, model year of newest vehicle, and household structure (married couple, other). Except for information on household vehicles, which was taken directly from the mailed questionnaire, the entire set of responses from the donor household was imputed to the mailed questionnaire households. This means that all responses for mailed questionnaire households are imputed except weather data, fuel consumption data acquired from the household's fuel suppliers, the geographic location of the mailed questionnaire household, information on household vehicles, and those items in the hot-deck imputation process for which an exact match was obtained.

Appendix A (Continued)

Table A5. 1982 Residential Energy Consumption Survey Items Most Frequently Imputed

Item	Cases Imputed	Percentage of Total Sample[a] (4,724)	Method of Imputing
1981 Family Income	604	13	Hot-deck
Year House Was Built	318	7	Hot-deck
Availability of Natural Gas	305	7	Hot-deck
Householder Completed Highest Grade	262	6	Hot-deck
Square Footage of Housing Unit	192	4	(b)
Most-Used Oven Is Microwave	145	3	Hot-deck
Condominium or Cooperative	138	3	Hot-deck
Warm Air Forced Through Ducts	116	3	Hot-deck
Basement or Crawl Space Heated	100	2	Hot-deck
Central Water-Heating System for the Building	95	2	Hot-deck
Central Heating System for The Building	77	2	Hot-deck
Number of Window or Ceiling Fans	71	2	Hot-deck
Monthly Rent of Dwelling	65	1	Hot-deck
Heating Stove is Air Tight	61	1	Hot-deck
Other Reason No Heat Last Winter	60	1	Hot-deck
Heating System Broken Last Winter	59	1	Hot-deck
No Fuel Available Last Winter	59	1	Hot-deck
Age of Householder	57	1	Hot-deck
No Heat from Landlord Last Winter	57	1	Hot-deck
Unable to Pay for Fuel Last Winter	55	1	Hot-deck
Age of Second Household Member	55	1	Hot-deck
Thermostat Present to Adjust Temperature	49	1	Hot-deck
Fuel of Most-Used Refrigerator	49	1	Modal
Type of Foundation Under Home	48	1	Hot-deck
Government Provided Other Energy Devices	47	1	Hot-deck
Second Oven Is Microwave	47	1	Hot-deck
Month Caulking Added	45	1	Random
Fuel of Most-Used Freezer	42	1	Modal

[a]Mailed questionnaires are not included in the percentage. To account for these, add 5 percentage points to the percentage list.

[b]See Appendix B for details on the square footage imputations.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Appendix A (Continued)

Rental Agent Survey

Telephone interviews were carried out with rental agents and landlords of RECS households living in multiunit dwellings who did not pay directly to utility companies or fuel suppliers for one or more household fuels. The primary purpose of the rental agent survey was to verify information from household respondents on fuels used and main heating equipment.

The telephone interviews with rental agents or their deputies were conducted in September 1983.

Altogether, 168 rental agents were interviewed. These interviews covered 308 households in 206 buildings. The 308 households were 57.0 percent of the total of 540 households living in multiunit buildings who had one or more fuels included in their rent.

Editing Completed Questionnaires

Interviewers mailed completed questionnaires to the contractor, where they were carefully reviewed. The first step in the review process was to verify the accuracy of the basic identifying information. Next, the questionnaires were manually reviewed by two editors to ensure completeness and the logical consistency of selected patterns of responses and to prepare the questionnaires for translation into machine-readable form. Keypunching of important items was fully verified. Overall, 25 percent of the keypunching work was fully verified. Finally, the data were machine edited to further ensure completeness, logical consistency, and the legitimacy of coded values. The computer editing utilized a proprietary software package called EDITOR II.

The contractor attempted to resolve inconsistencies or ambiguities in the data internally, by reference to other parts of the questionnaire. When these efforts failed to resolve an important problem, particularly those involving heating fuels or heating equipment and/or relationships between questionnaire responses and data on fuel consumption, the contractor made telephone contact with a member of the household in question. Telephone contacts of this type were completed with approximately 10 percent of households during the course of data editing for this survey.

Comparisons were made between rental agent and household respondent reports on main heating fuel, main heating equipment, supplemental heating fuel, water-heating fuel, and air-conditioning fuel. Each discrepancy was individually examined. Changes were made in the household record whenever it was judged that the rental agent was more knowledgeable than the household respondent on specific fuels and/or equipment.

Editors followed the guideline that the rental agent was the more knowledgeable person when the landlord paid for the fuel and the fuel was used as the main home heating, water-heating, or air-conditioning fuel. The rental agent's view generally prevailed also in the case in which the rental agent paid for the main heating fuel and the rental agent's description of the main heating equipment differed from that of the household respondent.

Since a supplemental heating fuel was more likely to be under the household's control, even in a multiunit dwelling, the respondent's definition of supplemental heating fuel was generally accepted.

Table A6. Changes Made in Household Records Based on Information from Rental Agents

The changes in the household records that resulted from these inquiries are given in Table A6.

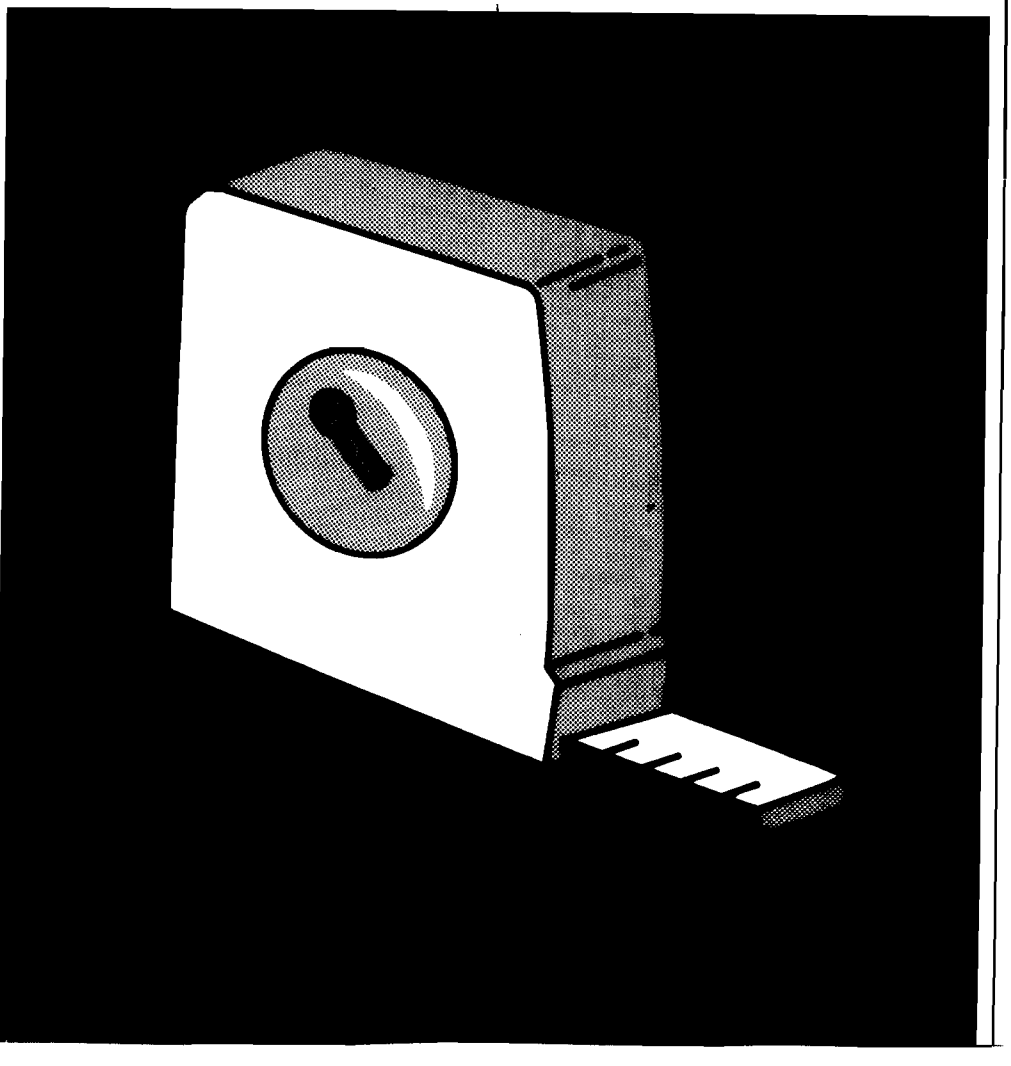
Type of Changes Made in Household Records	Fuel Paid by Rental Agent	Number with Any Changes Made	Percentage with Changes Made
All Households in Rental Agent Survey	308	80	26
Main Heating Fuel	255	31	12
Main Heating Equipment	(a)	40	16
Supplementary Heating Fuel	(a)	5	2
Water-Heating Fuel	272	36	13
Air-Conditioning Fuel	44	2	5

[a]Responses of rental agents and household respondents were compared for the 255 households for which the rental agent paid for the main heating fuel.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Appendix B

Estimates of the Size of U.S. Housing Units in Square Feet



Appendix B

Introduction

Interviewers for the 1982 Residential Energy Consumption Survey were given 50-foot tape measures to measure the dimensions of housing units. The instructions were to measure the "area enclosed from the weather." This included garages attached to the house, attics either heated or finished, and basements enclosed from the weather (see Square Feet in Glossary for further definition). Interviewers also recorded the dimensions of areas that were heated and unheated. This further breakdown into heated and unheated areas provides a closer approximation to the area of the housing unit that places the demand on the heating system and, therefore, is the figure that may prove to be more useful in analyzing residential energy consumption. All measurements were rounded to the nearest foot by the interviewer or in the editing process. Interviewers were given an option of measuring the home from the inside, taking into account the thickness of inside walls, or from the outside.

Interviewers were instructed to measure all housing units in new rotation groups B1 and B2. Housing units in the returning rotation groups A1 and A2 which did not have complete measurements taken in the 1980 RECS were also to be measured. Additionally, a subsample of 1/4 of the returning rotation groups which were completely measured in the 1980 RECS was selected to be measured again in the 1982 RECS. This subsample will serve as the basis for methodological analyses of differences between 1980 RECS and 1982 RECS measurements.

Interviewers were instructed to skip the measurement step for the remaining 3/4 of the returning rotation groups with complete measurements in the 1980 RECS, provided that the housing unit was occupied by the same family as in the 1980 RECS, and that no changes had been made in the structure or in heated square feet. For these 827 households, measurements taken during the 1980 RECS are used in the 1982 RECS data file.

Interviewers attempted to measure the size of 3,648 housing units. In 95 percent of the cases, usable measurements were acquired. In 5 percent, the measurements either were not usable or were not made. Although most cases contained the basic information, some imputations were required to produce a final set of three figures for each housing unit:

HOMEAREA = total square footage of area enclosed from the weather

HEATED = total square footage of heated area

UNHEATED = HOMEAREA - HEATED = total square footage of unheated area.

Table B1 indicates the number of cases with missing data. The imputations required standardizing all measurements to outside measurements when the measurement was made from inside the home, characterizing a measurement as inside or outside when this was unknown, apportioning the total space between heated and unheated when this proportion was unknown or partially known, and estimating the total square footage when the measurements were not made or not usable.

Scaling Up Outside Measurements

As shown in Table B1, 2,277 homes had complete dimensions for the total area, the heated area, and the unheated area. The only adjustment required was to scale up the measurement for the 1,058 homes that were measured on the inside. The inside measurements were standardized to outside dimensions. The scaling value was determined for each housing unit as a quadratic function of HOMEAREA for the housing unit.

$$SCALE = .888 + 1.99E\text{-}04 \times HOMEAREA - 3.59E\text{-}08 \times (HOMEAREA)^2 \quad (B1)$$

This formula indicates that the larger the HOMEAREA, the larger the scaling-up value. These scale values, which increased the inside measurements, ranged from 5.05 to 16.23 percent, depending on the size of HOMEAREA. For any case in which HOMEAREA was less than 1,000, SCALE was set to 1.05; for HOMEAREA greater than 2,765, SCALE was set to 1.16.

The equation was developed in the following manner: Regression prediction equations were developed independently for homes measured from the inside and homes measured from the outside. Both equations were used to generate estimates of floorspace for homes measured from the inside in the range of 1,000 to 3,000 square feet. The relationship between the ratio of predicted "outside" to "inside" floorspace and the actual inside floorspace for these homes was fitted in a quadratic equation. The predicted scale factors from the quadratic equation were then applied to cases measured from the outside to estimate "inside" floorspace. A second quadratic fit of "outside" to "inside" floorspace was executed, this time using all households measured from the outside or inside with predicted or measured inside area in the range of 1,000 to 3,000 square feet. The last two steps were repeated until the quadratic fit of "outside" to "inside" converged to a stable solution.

Appendix B (Continued)

Table B1. Completeness of Data on Square Footage of Housing Units

Amount of Information Collected	Number of Households	Percent
Complete Set of Dimensions	2,277	62
Outside measurement of home	1,219	33
Inside measurement of home	1,058	29
Partial Information		
Information available on heated and unheated areas. Unknown whether dimensions are for inside or outside of home	996	27
Total area known, but information on heated and unheated areas is missing. Also may be unknown whether dimensions are for inside or outside of home	92	3
Basement dimensions missing	63	2
Complete set of dimensions for all floors except basement. Basement total area known, but information on heated and unheated areas for basement is missing	28	1
All dimensions missing or unusable	192	5
Total	3,648	100

Note: The floor area for the 249 households responding by mail was imputed through a hot-deck procedure. The mail questionnaires are not included in this table. Also excluded from the table are 827 households for which measurements were taken from the 1980 RECS data file.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Treatment of Housing Units with Some Missing Data

The 996 cases lacking information as to whether the measurements were inside or outside, or in which the measurements may have been a combination of inside and outside, were treated as though measurements were outside. This was because average predictions based upon regression models using homes measured outside matched average totals for this group very closely, while predictions based upon regression models using homes measured inside were seriously biased on the low side.

The 92 cases lacking information on the ratio of heated to unheated space borrowed that ratio from housing units with complete data, on a PSU by PSU basis. For most of these cases, information was also lacking as to whether the measurements were inside or outside, and measurements were again assumed to be outside.

For the 63 cases with missing basement dimensions, the basement area was imputed by using a simple regression based on the area of the first floor. The heated and unheated areas were determined or imputed and then added to known totals for the remaining floors. The total area was then scaled up to outside dimensions, if necessary.

There were 28 cases in which the ratio of heated to unheated space for the basement was unknown. This ratio was imputed by using an appropriate empirical distribution of heated to unheated ratios. Two such distributions were used: one for homes with basements only, and one for homes with a basement plus crawl space and/or slab.

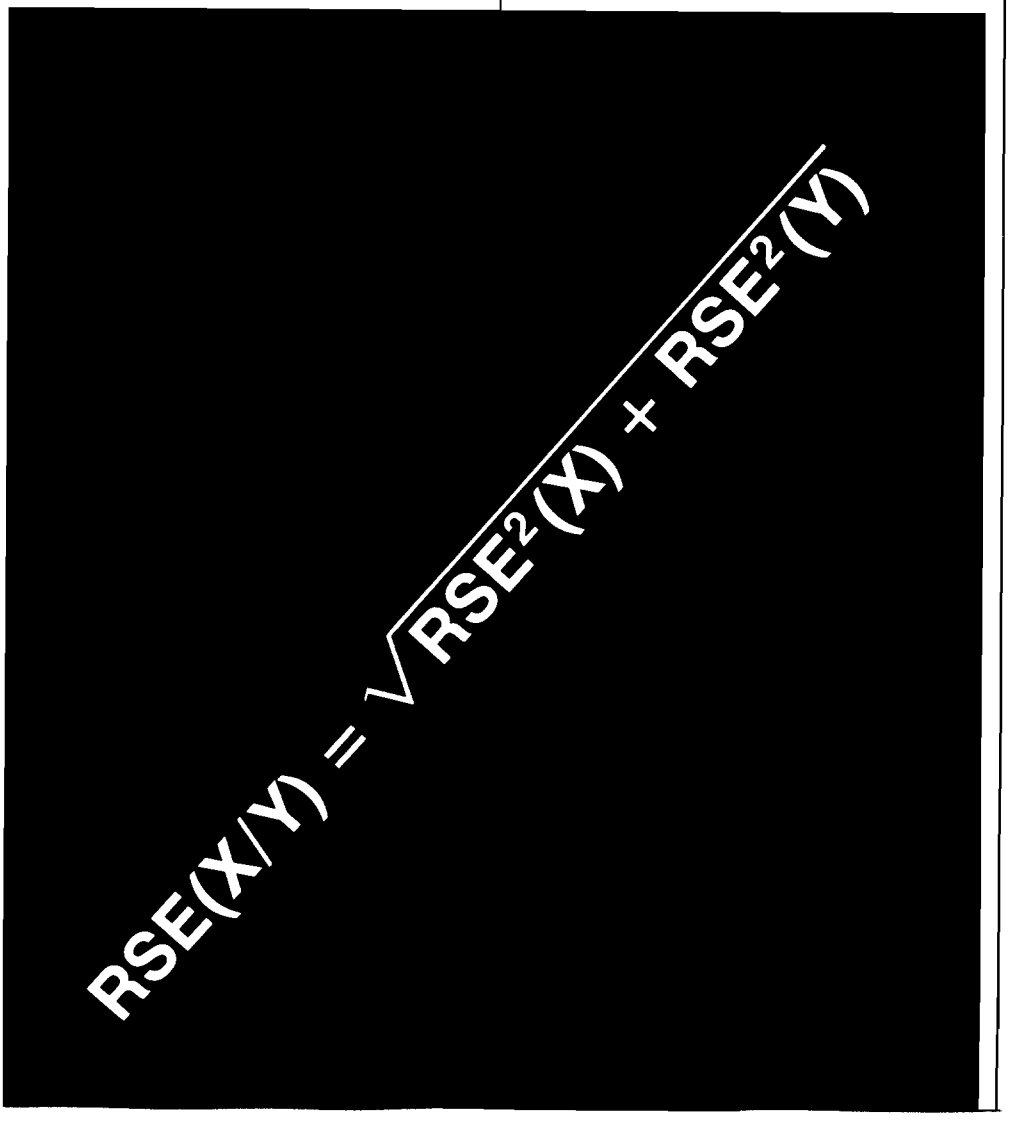
Regression Model

A regression equation was used for the 192 cases with no usable data. After HOMEAREA had been imputed by using the regression model, the ratio of heated to unheated space was imputed using the same procedures described above for housing units for which that ratio was missing.

All estimates were than scaled up. This was necessary since the regression equations estimated inside dimensions. The prediction equations for outside dimensions were not used in the imputations because regression models based on cases with inside measurements yielded substantially better fits.

Appendix C

Limitations of the Data



Appendix C

Introduction

Data from the 1982 Residential Energy Consumption Survey (RECS) are subject to many sources of sampling error, nonsampling error, and bias. Sampling error is a measure of the variability in the data because a sample of households was surveyed rather than the entire population. Because the survey used probability sampling techniques, sampling errors of the survey estimates can be estimated and used as a guide in making inferences from the sample estimates to the total population.

Nonsampling error and bias are measures of variability due to the conduct of the survey. They can include population undercoverage during sampling, response bias and variance, interviewer error, coding and/or keypunching error, and nonresponse bias. The wording and format of survey questionnaires, the procedures used to select and train interviewers, and the quality control built into the data collection, receipt, and processing operations were all designed to minimize these sources of error (for discussion of these procedures, see Appendix A, "How the Survey Was Conducted"). In addition, response adjustments and ratio estimations were incorporated into the survey estimator to help reduce both sampling and nonsampling error. These procedures also are discussed in Appendix A.

Nonsampling Error

Completeness of Data

Data are not collected for the following two types of housing units:

- Vacant housing units. These units may have minimal heating for protection from the weather and lighting for security. They also may not be vacant all year long. The Annual Housing Survey (AHS) estimated that there were 5.0 million vacant, year-round housing units in 1981.

- Second homes for the owner's use. The AHS estimates there were 1.5 million homes "held for occasional use" in 1981.

These two types of units are not included primarily because of the difficulty in acquiring data and limitations in the availability of funds. The RECS data are collected by interviewing someone who knows the housing unit and who may sign an authorization form for release of fuel records from the fuel supplier. That type of person does not usually live at the sample unit.

Heating Degree-Days

The heating degree days shown in Table 41 represent a unique source of information inasmuch as the Residential Energy Consumption Survey contains weather data matched to individual households. This unique matching makes it possible to present weather data for households classified by the kinds of information collected in the RECS survey. Table 41 shows, for example, that households heating with fuel oil or kerosene experienced 5,379 heating degree days (HDD) in 1982 (April 1982 through March 1983) whereas natural gas heated homes experienced 4,596 HDD.

The matching between households and weather is done by using maps to locate the NOAA division for each sample household. Once the NOAA division is identified, a simple average is computed for all weather stations within the NOAA division which report temperatures. (See NOAA Division in Glossary).

This average is assigned to all the RECS households located within the NOAA division. Temperatures can vary from one part of the division to another as, for example, between the city and nearby country side. It is yet to be determined whether assigning temperatures from the nearest weather station would provide more useful information.

This procedure produces the averages in Table C1 attributed to RECS. The NOAA data in Table C1 are derived from NOAA publications entitled State, Regional, and National Monthly and Seasonal Heating Degree Days Weighted by Population (1980 Census).

At the national level, the RECS estimates are consistently 1 to 5 percent higher than those for NOAA. The NOAA estimates are within two standard errors of the RECS estimates, but the fact that the RECS estimates are consistently higher raises concerns about what may be causing the difference.

Beyond the sampling error of RECS estimates, the differences must be either in the population weights or in the heating degree-day numbers for the NOAA division. The average HDD for the NOAA divison is calculated in the same way--both the RECS and NOAA calculate a simple average of temperatures for reporting stations in the NOAA division. A more detailed inspection may reveal differences in methods and in data used that are not apparent in published descriptions of how this is done. For example, NOAA averages over stations that report both temperature and precipitation, whereas RECS averages are for all stations reporting temperature whether or not they report precipitation.

An initial inspection of weights shows that RECS weights are larger for the South and West and are getting larger as the population shifts from colder to warmer areas. This difference in weights, however, only exacerbates the problem, for the larger weight RECS gives to households in warmer areas would drive the RECS estimates lower, not higher.

Appendix C (Continued)

Table C1. Comparison of Annual Heating Degree-Days Population Weighted by the National Oceanic and Atmospheric Administration (NOAA) and by the Residential Energy Consumption Survey (RECS)

	Year[a]				
	1978	1979	1980	1981	1982
United States					
NOAA	5,008	4,721	4,745	4,831	4,439
RECS	5,038	4,935	4,854	4,933	4,546
Percent Difference	+0.6	+4.5	+2.3	+2.1	+2.4
North Central					
NOAA	7,064	6,673	6,423	6,857	5,956
RECS	6,762	6,576	6,616	7,014	6,109
Percent Difference	-4.3	-1.5	+3.0	+2.3	+2.6
Northeast					
NOAA	6,244	5,952	6,307	6,307	5,636
RECS	6,175	6,265	6,404	6,416	5,739
Percent Difference	-1.1	+5.3	+1.5	+1.7	+1.8
West					
NOAA	4,218	3,647	3,485	3,695	3,865
RECS	4,728	4,368	3,448	3,715	3,805
Percent Difference	+12.1	+19.8	-1.1	+0.5	-1.6
South					
NOAA	3,037	2,986	3,112	2,920	2,793
RECS	2,967	2,982	3,292	3,093	3,032
Percent Difference	-2.3	-0.1	+5.8	+5.9	+8.6

[a]From April of year indicated through March of succeeding year.

Square Feet of Floor Space. The longitudinal design of the 1982 RECS made it possible to measure a subsample of the housing units twice. This subsample contained 355 housing units; the first measurement was made in 1980 and the second one in 1982. The two measurements can be compared as a test of the reliability of the measuring procedure. Not all units in the subsample yielded measurements that are usable in the analysis of the reliability of the measuring procedure. In four of the cases, the interviewer did not go back to the original 1980 RECS housing unit. For nine additional cases, either changes had been made in the size of the housing unit, changes were in progress, or it could not be determined that no changes were made. Housing units where the measurements for the 1982 RECS are either incomplete or missing also cannot be used in the reliability analysis. Table C2 presents the results of the reliability analysis using housing units with good square footage data for both the 1980 and 1982 RECS.

Table C2. Comparison of Housing Units Measured in 1980 and 1982 by Housing Types

	Total	Single-Family Detached	Mobile Home	Multi-unit Building	Building Type Responses Differ in 1980 and 1982
Number of Cases	300	208	14	70	8
Average Square Feet Per Housing Unit					
1980	1,797	2,116	803	1,082	1,503
1982	1,821	2,142	721	1,147	1,282
Median Percent Difference in Square Footage	11.7	11.8	7.2	12.2	11.3
Average Heated Square Footage Per Housing Unit					
1980	1,536	1,780	798	966	1,469
1982	1,521	1,751	711	1,039	1,194
Median Percent Difference in Heated Square Footage	15.6	16.9	7.2	14.4	13.4

Source: Energy Information Administration, 1980 and 1982 Residential Energy Consumption Surveys.

In Table C2, the housing units are grouped into types. The units are grouped according to both the 1980 and 1982 responses. The types used are single-family detached homes, mobile homes, and units in buildings with more than one unit. Single-family attached units are in the group with multi-unit buildings. If the 1980 and 1982 designations are the same, the units are categorized by that group type. If the two designations are different, then the unit is put into a separate category.

The percent change shown in Table C2 is the absolute value of the difference as a percentage of the average of the two measurements. The median is tabled instead of the mean because a few large values for percent change will have a misleadingly large effect on the mean of the percent change.

The measuring technique was refined slightly between 1980 and 1982. The average measured square footage of all 300 cases increased only marginally, indicating that on the average the refinement had a small effect. On the other hand, the median percent difference in square footage is 11.7 percent. In addition, for 10 units in the subsample, the percent change exceeds 70 percent. This indicates that the measuring technique could be improved.

Estimates are also made for that portion of the total floor space that is heated. The reliability of these measurements is lower than for the total area of the unit. This may be because any vagueness about the total area was multiplied by the added task of identifying the heated areas. For example, the time of the interview may determine if an occasionally heated area is reported to the interviewer as being heated. Note that the median percent change has increased from 11.7 percent to 15.6 percent.

One of the persistent problems in clarifying the measuring task has been identifying basements for households in multi-family units. A significant portion of buildings with 2 to 4 units have basements, but the basements are often for the use of all families in the building and cannot, therefore, be included as private living space for any one apartment.

Indoor Temperatures. The data on indoor temperatures are believed to be generally accurate for the purpose of ordering households along a temperature gradient. The following limitations, however, are causes for further study of the role these data play in residential energy consumption. The questionnaire asked respondents for indoor temperatures during sleeping hours and during the day when the home was occupied and when it was unoccupied; the questionnaire did not ask for temperatures on a specific day. The implication was that typical temperatures were being requested. The reported temperatures, especially for some respondents, are impressions of typical temperatures and may not represent the actual temperatures, or the averages of actual temperatures, in the home. The tendency to give impressions is more likely to occur for households that turn off their heat during the day or night. Indoor temperatures for these households may not be known or may not follow a typical pattern since the outdoor weather conditions and the thermal characteristics of the housing unit will determine the indoor temperature.

Other factors likely to make these reports unreliable indicators of the actual temperatures include the following: respondents may not check temperatures or thermostat settings on a regular basis or may not have thermostats that are marked with degree settings; temperatures may differ from thermostat settings (a home can become warmer than the thermostat setting); thermostats may need to be recalibrated; and, finally, disagreement may exist among household members as to the typical temperature. The unreliability of these data for some respondents was highlighted in 1982 when a small number of households were called back to inquire about nighttime temperatures that exceeded daytime temperatures. Many of these households changed their reports by 5 to 10 degrees or more.

Sampling Errors

The form of the sampling error that is presented here is the relative standard error (RSE). The RSE is also known as the coefficient of variation. For a given survey statistic, Y, the relative standard error, RSE (Y), is given by

$$RSE\ (Y) = (S_Y\ /Y) \times 100\%.$$

Thus the standard error of Y is given by

$$S_Y = RSE\ (Y) \times Y/100.$$

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Determination of Relative Sampling Errors for Household Counts

This section provides generalized procedures and examples for use in calculating relative standard errors for several types of statistics from the 1982 RECS survey.[1] The generalized procedures involve the use of tables that relate the RSE of a statistic to the number of households over which the statistic applies. These tables are based on regression equations developed using RSE's computed by a half-sample replication procedure. They were developed for the 1982 RECS data and will change for subsequent surveys. The end of this section provides a discussion of the half-sample replication technique and the generalized sampling error equations developed and used in this section. Generalized procedures are provided for household counts, percentages based upon counts, aggregate totals, and averages.

Procedures are presented here for determining relative sampling errors (RSE) for statistics that are counts of households. The counts can be obtained from this report, other reports of the 1982 RECS, or the public-use data tape for the 1982 RECS. For some household counts, the RSE is zero. Household counts with a zero RSE are called control totals. A simplified method for determining RSE's for household counts that are not control totals is presented, followed by a more complete, longer method. The simplified method can be used for any household count, but it will produce overestimates of sampling errors in some cases.

Control Totals. The numbers of households that live in each of the four Census regions were used as design parameters for the 1982 RECS. These household counts are listed in Table C5. The counts will have zero RSE's or sampling error in the RECS. They are based on results of the Current Population Survey (CPS) compiled by the U.S. Bureau of the Census. The CPS surveys are subject to their own sampling variances. Any errors in these numbers can be considered to be biases of the 1982 RECS. In this report, these household counts or sums of these counts are referred to as control totals.

Simplified Method. For a household count that is not a control total, read or extrapolate its RSE value from Table C3. (The RSE's listed in Table C3 can be obtained by using the first equation listed in Table C10.) The value should be adjusted by multiplying by the appropriate value or values for 10^B from Table C4.

If the characteristic of the statistic being considered is not listed in Table C4, use B=0 (10^B =1), or use a value for a characteristic that has similar clustering tendencies. If two characteristics define the statistic, multiply by both values of 10^B from Table C4. If more than two characteristics define the variable, choose no more than two and select the two that are the least correlated. A more complete discussion of the clustering factors is given later in this appendix. (See "Discussion of Generalized Variance Equations.")

[1] The source of data for the calculation of relative standard errors is the 1982 Residential Energy Consumption Survey.

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Table C3. Relative Standard Errors for Survey Estimates of the Number of Households

Million Households	One Relative Standard Error (Percent)	Million Households	One Relative Standard Error (Percent)
0.1	46.5	1.0	17.5
0.2	35.1	1.5	14.6
0.3	29.7	2.0	12.8
0.4	26.3	3.0	10.5
0.5	23.8	4.0	9.2
0.6	22.0	5.0	8.2
0.7	20.6	10.0	5.8
0.8	19.4	20.0	4.1
0.9	18.4	40.0	2.8

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Table C4. Clustering Factors for Calculation of Relative Standard Errors for Survey Estimates of the Number of Households

Cell Definition	Value of 10^B
Heating and Cooling Degree-Days	1.86
MSA (1980)	1.24
Housing Structure	1.20
Natural Gas is Water or Space Heating Fuel	1.16
Electricity is Water or Space Heating Fuel	1.13
Year House Built	1.08
Origin (Race)	1.07
Wood is Main Space Heating Fuel	1.07
How Utilities are Paid	1.06
LPG is Water or Space Heating Fuel	1.05
Hispanic Descent	1.03
Main Heating Equipment	1.02
Wood is Burned	1.02
Fuel Oil is Water or Space Heating Fuel	0.99
Own/Rent	0.98
Poor--125 Percent	0.97
Secondary Heating Equipment	0.97
Number of Doors	0.97
Types of Appliances Used	0.97
Have Air Conditioning Equipment	0.96
Add Weatherstripping	0.95
Add Caulking	0.94
Number of Windows	0.94
Have Energy Audit	0.93
Number of Storm Windows	0.91
Number of Heated Square Feet	0.90
Sex of Householder	0.90
Age of Householder	0.87
Family Income	0.87
Number of Household Members	0.86

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

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Longer Method. The second method for calculating sampling errors for household counts uses the control totals listed in Table C5.

Step 1: Find the statistic's appropriate control from Table C5. The control total is the number of households in the Census region for which the sampling error is being determined. The control may be the sum of several control totals provided. If the correct control is not obvious, use the larger of several, which may be correct. If the household count is a control total, set the RSE equal to zero; otherwise, proceed to Step 2.

Step 2: If the household count is less than one-half of its control total, use method one described earlier. If not, compute a control complement for the household count and proceed to Step 3. Control complement = (control total - household count).

Step 3: Use the control complement as the new household count. Then read or extrapolate its RSE value from Table C3. Multiply this value by the appropriate 10^B value or values from Table C4. Denote this as CCRSE.

Step 4: Multiply the CCRSE value from Step 3 by the control complement and divide by the household count. This yields: RSE = CCRSE x (control complement) / (household count).

Table C5. Relative Standard Error Control Totals (Million Households)

Type of Aggregate	Control Totals	Upper Bound for Direct Application of Formula or Table
National	83.8	41.9
Census Region		
Northeast	18.0	9.0
North Central	21.3	10.7
South	28.1	14.1
West	16.5	8.3

Note: The MSA control parameters do not appear in this table. The reason for this is that the control parameters were based on 1970 definitions of MSA's, but this report contains tabulations based on 1983 definitions of MSA's.

Source: Estimates derived from the March 1982 and 1983 Current Population Surveys.

Consider the computation of sampling error for the estimate, 15.5 million households heat with natural gas in the North Central region.

Step 1: From Table C5, the control total is 21.3 million, the number of households that live in the North Central region.

Step 2: The number 15.5 million is more than one-half of 21.3. Its control complement then is (21.3 - 15.5 = 5.8).

Step 3: Extrapolating from Table C3, the RSE for 5.8 is 7.8 percent. Multiply 7.8 by the values for 10^B from Table C3 for household counts over categories restricted to households whose main space-heating fuel is natural gas. (7.8 x 1.16 = 9.05 percent.)

Step 4: Multiply CCRSE by the control complement divided by the household count.
(RSE = 9.05 x 5.8/15.5 = 3.4 percent.)

The standard error corresponding to this relative standard error applies to both the control complement and the original household count.

Determination of Relative Standard Errors for Percentages Based Upon Household Counts

Let X be an estimate of the number of households that have characteristics C_1 and C_2. Let Z be an estimate of the number of households that have characteristic C_1 but do not have characteristic C_2. Set Y = X + Z. Then Y is an estimate of the number of households that have characteristic C_1. Set p = 100 X/Y. Then p is an estimate of the percentage of households that have characteristic C_2 among all households that have characteristic C_1. The RSE of p can be approximated using

$$RSE(p) = \sqrt{RSE^2(X) - RSE^2(Y)}.$$

This approximation works best when RSE(X) and RSE(Y) are estimated using a generalized variance equation. The approximation may differ greatly from the correct value if RSE(X) and RSE(Y) are half-sample estimates. This equation may also produce inaccurate approximations when it is applied to percentages that are not based on household counts or are based on ratios of household counts that cannot be characterized by the format.

Determination of Relative Standard Errors for Average and Aggregate Statistics

The RSE's of statistics that give the aggregate total of heated area (square feet) or wood burned or the average per household for heated areas, heating degree-days, indoor winter temperature, wood burned, storm doors, storm windows, doors, and windows can be approximated by using Tables C6 through C9. The RSE's listed in Tables C6 through C9 can be obtained using the equations listed in Table C10.

The tables give the RSE of a statistic as a function of the number of households for over which the statistic applies. The number of households can be obtained from either the same table as the statistic or a corresponding table. Care must be taken in determining the appropriate number of households. For instance, the number of households for statistics in Table 37 can be obtained from Table 38.

When calculating the RSE of a statistic giving total heated square footage or total square footage (heated and unheated), the column in Table C6 or C7 that should be used depends on whether the number of households is a control total or not. If it is a control total, use the column corresponding to the mean. For all other cases involving

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RSE's for total square footage (heated only or heated and unheated), use the column corresponding to the total square footage. The reason for this is that when the number of households is a control total, then the number is a design parameter of the survey and is not subject to sampling error. In these cases, the RSE of the total square footage is the same as the RSE of mean. For all other cases, the error in the estimate of the number of households is part of the error in the estimate of the total square footage.

For example, consider the Northeast Census region. The weights for the observations used in the RECS were adjusted so that the number of households in the Northeast Census region equals 18.0 million. This adjustment makes this number of households a control total. When calculating the RSE of the total heated square footage in the Northeast Census region, use the column for mean heated square footage per housing unit. Extrapolating from Table C6 yields an RSE of 2.6 percent (using the equation in Table C10 yields an RSE of 2.55 percent). Next consider the 23.6 million housing units that were built in 1939 or earlier. This number of households is not a control total. When calculating the RSE of the total heated square footage for all housing units that were built in 1939 or earlier, use the column for total heated square footage. Extrapolating from Table C6 yields an RSE of 4.1 percent.

When calculating the RSE of averages, it is not necessary to worry about whether the number of households is a control total or not. It is necessary to carefully determine the number of households. For example, consider the calculation of the RSE of the average number of cords of wood burned over all households that burn wood and live in the Northeast Census region. There are 4.1 million households in this group. Use this number in determining the RSE, not the number of households in the Northeast Census region. Extrapolating from Table C7 yields an RSE of 13.9 percent.

When calculating the RSE for average annual heating degree-days in Table 41, the equation in Table C10 must be used. The equation involves the average heating degree-days as well as the number of households. A table displaying RSE's for statistics that are average annual heating degree-days would need to be two dimensional--one dimension for number of households and another dimension for average heating degree-days.

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Table C6. Relative Standard Errors for Statistics of Heated Square Footage of the Housing Unit

Million Households	One Relative Standard Error (Percent)		
	Total Heated Square Footage	Mean Heated Square Feet Per Housing Unit	Mean Heated Square Feet Per Household Member
0.1	51.0	20.6	32.1
0.2	37.5	15.6	23.0
0.3	31.3	13.3	18.9
0.4	27.5	11.8	16.5
0.5	24.9	10.8	14.8
0.6	23.0	10.0	13.6
0.7	21.4	9.4	12.6
0.8	20.2	8.9	11.8
0.9	19.2	8.5	11.2
1.0	18.3	8.2	10.6
1.5	15.3	6.9	8.7
2.0	13.4	6.2	7.6
3.0	11.2	5.2	6.2
4.0	9.9	4.7	5.4
5.0	8.9	4.3	4.9
10.0	6.6	3.2	3.5
20.0	4.8	2.4	2.5
40.0	3.5	1.8	1.8
83.8	2.5	1.4	1.3

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

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Table C7. Relative Standard Errors for Statistics of Square Footage of Housing Unit (Heated and Unheated), Wood Burned, and Indoor Temperatures

	One Relative Standard Error (Percent)				
Million Households	Total Square Footage (Heated and Unheated)	Mean Square Footage Per Housing Unit (Heated and Unheated)	Total Cords of Wood Burned	Average Cords Burned Per Household	Indoor Daytime Temperature When Someone is Home
0.1	48.9	20.9	52.8	39.4	2.3
0.2	36.3	15.9	42.9	32.4	1.7
0.3	30.5	13.5	38.0	28.9	1.4
0.4	26.9	12.1	34.9	26.6	1.2
0.5	24.4	11.1	32.6	25.0	1.1
0.6	22.6	10.3	30.9	23.8	1.0
0.7	21.1	9.7	29.5	22.8	1.0
0.8	20.0	9.2	28.3	21.9	0.9
0.9	19.0	8.8	27.4	21.2	0.9
1.0	18.1	8.4	26.5	20.6	0.8
1.5	15.2	7.1	23.5	18.4	0.7
2.0	13.5	6.4	21.5	16.9	0.6
3.0	11.3	5.4	19.1	15.1	0.5
4.0	10.0	4.8	17.5	13.9	0.4
5.0	9.1	4.4	16.4	13.1	0.4
10.0	6.7	3.4	13.3	10.8	0.3
20.0	5.0	2.6	10.8	8.9	0.2
40.0	3.7	1.9	8.8	7.3	0.2
83.8	2.7	1.4	(a)	(a)	0.1

[a]Exceeds maximum number of households for this statistic.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Table C8. Relative Standard Errors for Statistics of Average Number of Doors

	One Relative Standard Error (Percent)					
				Storm Doors		
Million Households	Sliding Glass Doors	Standard Doors	Doors (Standard and Sliding Glass)	Sliding Glass	Standard	Sliding Glass and Standard
0.1	93.7	17.6	17.5	126.2	52.3	51.0
0.2	68.9	13.4	13.3	94.5	38.2	36.8
0.3	57.5	11.4	11.3	79.7	31.8	30.4
0.4	50.6	10.2	10.1	70.7	27.9	26.6
0.5	45.8	9.3	9.2	64.4	25.2	24.0
0.6	42.3	8.6	8.5	59.7	23.2	22.0
0.7	39.5	8.1	8.0	56.0	21.7	20.5
0.8	37.2	7.7	7.6	52.9	20.4	19.2
0.9	35.3	7.3	7.3	50.4	19.3	18.2
1.0	33.7	7.0	7.0	48.2	18.4	17.3
1.5	28.1	6.0	5.9	40.7	15.3	14.3
2.0	24.7	5.3	5.3	36.1	13.5	12.5
3.0	20.7	4.5	4.5	30.4	11.2	10.3
4.0	18.2	4.1	4.0	27.0	9.8	9.0
5.0	16.5	3.7	3.7	24.6	8.9	8.1
10.0	12.1	2.8	2.8	18.4	6.5	5.9
20.0	8.9	2.1	2.1	13.8	4.7	4.2
40.0	6.5	1.6	1.6	10.3	3.5	3.1
83.8	4.7	1.2	1.2	7.6	2.5	2.2

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

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Table C9. Relative Standard Error for Statistics of Average Number of Windows, Inches of Insulation, and Number of Storm Windows or Storm Doors Added

	One Relative Standard Error (Percent)						
			Inches of Insulation				
Million Households	Windows	Storm Windows	Batts	Loose Fill	Batts and Loose Fill	Storm Windows Added	Storm Doors Added
0.1	21.1	58.1	18.4	23.4	17.8	32.9	20.0
0.2	15.9	41.7	14.1	17.7	13.1	22.9	14.3
0.3	13.4	34.4	12.0	15.0	10.9	18.6	11.8
0.4	11.9	30.0	10.8	13.4	9.6	16.0	10.2
0.5	10.8	27.0	9.9	12.2	8.7	14.2	9.2
0.6	10.1	24.7	9.2	11.3	8.0	13.0	8.4
0.7	9.4	23.0	8.7	10.7	7.5	12.0	7.8
0.8	8.9	21.5	8.2	10.1	7.1	11.2	7.3
0.9	8.5	20.4	7.9	9.6	6.7	10.5	6.9
1.0	8.1	19.4	7.6	9.2	6.4	9.9	6.6
1.5	6.9	16.0	6.5	7.8	5.4	8.1	5.4
2.0	6.1	13.9	5.8	7.0	4.7	6.9	4.7
3.0	5.2	11.5	4.9	5.9	3.9	5.6	3.9
4.0	4.6	10.0	4.4	5.3	3.5	(a)	3.4
5.0	4.2	9.0	4.1	4.8	3.1	(a)	(a)
10.0	3.1	6.5	3.1	3.6	2.3	(a)	(a)
20.0	2.4	4.6	2.4	2.7	(a)	(a)	(a)
40.0	1.8	3.3	1.8	(a)	(a)	(a)	(a)
83.8	1.3	2.3	(a)	(a)	(a)	(a)	(a)

[a]Exceeds maximum number of households for this statistic.

Note: For inches of insulation, million households equals the number that report having that type of insulation. For storm windows or doors added, million households equals the number adding storm windows or doors.

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

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Table C10. Relative Standard Error Equations

Type of Statistic	Generalized Variance Equation
Household Counts	$Log(RSE) = 1.244 - 0.450 \times Log(NHSLD) - 0.027 \times [(Log(NHSLD))^2]$.
Total Heated Square Footage	$Log(RSE) = 1.262 - 0.445 \times Log(NHSLD)$.
Mean Heated Square Feet Per Housing Unit	$Log(RSE) = 0.912 - 0.402 \times Log(NHSLD)$.
Mean Heated Square Feet Per Household Member	$Log(RSE) = 1.025 - 0.481 \times Log(NHSLD)$.
Total Square Footage (Heated and Unheated)	$Log(RSE) = 1.259 - 0.430 \times Log(NHSLD)$.
Mean Square Footage Per Housing Unit (Heated and Unheated)	$Log(RSE) = 0.924 - 0.397 \times Log(NHSLD)$.
Annual Heating Degree-Days (April 1982 Through March 1983)	$Log(RSE) = 1.414 - 0.327 \times Log(NHSLD) - 0.139 \times (AVEHDD/1,000)$.
Total Cords of Wood Burned	$Log(RSE) = 1.423 - 0.299 \times Log(NHSLD)$.
Average Cords Burned Per Household	$Log(RSE) = 1.314 - 0.281 \times Log(NHSLD)$.
Indoor Daytime Temperatures When Someone Is Home	$Log(RSE) = -0.088 - 0.447 \times Log(NHSLD)$.
Average Per Household	
Sliding Glass Doors	$Log(RSE) = 1.527 - 0.444 \times Log(NHSLD)$.
Standard Doors	$Log(RSE) = 0.848 - 0.398 \times Log(NHSLD)$.
Doors (Sliding Glass and Standard)	$Log(RSE) = 0.843 - 0.401 \times Log(NHSLD)$.
Sliding Glass Storm Doors	$Log(RSE) = 1.683 - 0.418 \times Log(NHSLD)$.
Standard Storm Doors	$Log(RSE) = 1.266 - 0.453 \times Log(NHSLD)$.
Storm Doors (Sliding Glass and Standard)	$Log(RSE) = 1.238 - 0.469 \times Log(NHSLD)$.
Windows	$Log(RSE) = 0.910 - 0.414 \times Log(NHSLD)$.
Storm Windows	$Log(RSE) = 1.287 - 0.477 \times Log(NHSLD)$.
Inches of Batt Insulation	$Log(RSE) = 0.878 - 0.386 \times Log(NHSLD)$.
Inches of Loose Fill Insulation	$Log(RSE) = 0.965 - 0.404 \times Log(NHSLD)$.
Inches of Batts and Loose Fill Insulation	$Log(RSE) = 0.807 - 0.444 \times Log(NHSLD)$.
Storm Windows Added	$Log(RSE) = 0.998 - 0.519 \times Log(NHSLD)$.
Storm Doors Added	$Log(RSE) = 0.818 - 0.484 \times Log(NHSLD)$.

Note: NHSLD is the number of households in millions. Logarithms are calculated to the base 10. AVEHDD is the Average Annual Heating Degree-Days.
Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Appendix C (Continued)

Discussion of the Generalized Variance Equations

The generalized variance equations shown in Table C10 were obtained using a least squares regression. The RSE's used as input data in the regression procedure were obtained using a half-sample variance estimating procedure. The details of this procedure follow this discussion. The generalized variance equations were developed to provide users of the 1982 RECS data with a procedure for obtaining RSE's.

The generalized variance equations listed in this report apply only to data for the 1982 RECS. These equations will have to be changed if they are to be applied to data from other RECS surveys. They cannot be used with any other data sets, since they reflect the sample design of the 1982 Residential Energy Consumption Survey.

In calculating sampling errors for household count statistics, the appropriate control total depends upon the geographic division to which the household count is restricted. Table C5 lists control totals for the country as a whole and the four Census regions. Control totals can also be sums of the control totals listed in Table C5. For example, if one is considering the number of households in the country whose main heating fuel is fuel oil, then from Table C5, the control total is the estimated number of households in the country (83.8 million). If one wants the number of households that heat with fuel oil in New England, the appropriate control total is the number of households in the Northeast (18.0 million), from Table C5. The New England Census division is contained in the Northeast Census region, but Census division was not used as a control total. If the appropriate control total is not obvious, use the larger of the ones that may be appropriate. This will be a conservative choice.

A household count statistic is an estimate of the number of households that belong to a certain subset of all households in the country. The subset is defined by restrictions on certain characteristics. The value of 10^B from Table C4, the cell definition factor, depends partly on the amount of clustering of the characteristics used in defining the cell. In particular, the value of 10^B depends on the strength of the tendency of households with similar characteristics to live in groups within each replicate pair. (See "Half-Sample Estimation Procedures for Sampling Errors" for a discussion of replication.) If the characteristic is highly clustered, the value of 10^B is greater than one. If the characteristic is widely spread out, the value of 10^B is less than one. For example, one possible characteristic is heating and cooling degree-days. People who live close to each other experience the same weather conditions; consequently, the value of 10^B for heating and cooling degree-days is greater than one. On the other hand, there is some clustering of households headed by people of the same age group, but this tendency is less pronounced than for most other characteristics. As a result, the value of 10^B for age of household head is less than one. As a final example, consider the Census region in which households are contained. Everyone in the same pair of replicate groups lives in the same Census region. Therefore, there is no way of defining a cluster based on Census region within a pair of replicate groups. As a result, the value of 10^B for Census regions is 1.0.

Appendix C (Continued)

Half-Sample Estimation Procedures for Sampling Errors

The complex multistage, multiframe design of the survey makes it almost impossible to construct an exact algebraic variance estimator. The method used to produce variances for the RECS is balanced half-sample replication (see References 1 and 2). The generalized variance equations described were based on sampling errors produced by this half-sample technique. To apply the half-sample technique to this survey, the 131 Primary Sampling Units (PSU's) were grouped into 81 strata. Thirty-one of the strata were treated as self-representing; either they consisted of large metropolitan areas that came into the sample with certainty or they were PSU's in a stratum that could not be paired with another stratum that had similar characteristics. In these strata, segments were divided into two replication groups. Each of the remaining 50 strata consisted of two sample PSU's belonging to the same Census division. The two replication groups in these strata consisted of one PSU each.

To save time and effort, a fully balanced half-sample design was not used. Instead, the half-samples were balanced only among strata in the same Census region. If a fully balanced design were used, it would require 88 half-samples. By balancing only within Census regions, a balanced design could be constructed using 32 half-samples.

The survey was constructed so that the results in each Census region can stand alone. No PSU lines cross Census region boundaries. The non self-representing PSU's were paired within Census regions. All controlled selection was done within each Census region. The ratio estimation was also done within each Census region. Consequently, the national totals can be considered to be the sum of four independent totals for the four Census regions. Therefore, the variance of a national total is the sum of the variances for its four corresponding regional totals. This fact was used as one justification for balancing the half-sample design only within Census regions.

The 32 half-sample design is defined by a 32 x 81 matrix of +1's and -1's. The 32 rows correspond to the 32 half-samples and the 81 columns correspond to the 81 pairs of replication groups. The +1's and -1's determine which of the groups in the pairs is used in each half-sample. All column totals are 0. Therefore, each of the groups is used in exactly 16 of the half-samples. The columns for sets of pairs that fall within the same Census region are orthogonal. This is not necessarily true for columns corresponding to pairs that fall into different Census regions.

The 32 x 81 design matrix was constructed using a 32 x 32 orthogonal matrix adapted from an article by Plackett and Burman (Reference 3). The rows of this 32 x 32 matrix were randomly sorted. The sorting preserves orthogonality. For each Census region, K columns were randomly selected from the sorted matrix. Therefore, K is the number of replication groups in a Census region. After the columns for a Census region have been selected, the rows are randomly sorted again.

Without the random sortings, any two of the columns would either be orthogonal or identical. For any column, at most three other columns could be identical to it. The three other columns would correspond to pairs in the three other Census regions. When two columns are identical, it means the groups corresponding to the +1's will always be in 16 half-samples together. (The groups corresponding to the -1's would follow a similar pattern.) Random sorting makes the possibility of two identical rows zero for all practical purposes.

Appendix C (Continued)

Variance estimates for selected survey statistics were created by computing 32 half-sample estimates for each statistic. If a +1 falls in the i^{th} row and j^{th} column of the design matrix, the replication group corresponding to the +1 in the the j^{th} pair was used in the i^{th} half-sample. The sampling weights in each half-sample were ratio-adjusted upward so that the total number of households in each Census region classified by SMSA status corresponded to the control total for that cell.

As a result of using control totals, the total number of households in each of the 12 cells (Census region classified by SMSA status) is the same for all half-samples. The variance for these 12 totals, then, is zero. Any errors in these numbers are biases. In particular, they are affected by any undercount or overcount in the 1980 Census and Current Population Surveys.

The half-sample variance estimate for the survey estimate Y' of characteristic Y is given by

$$S_{Y'}^2 = \sum (Y'_i - Y')^2/32,$$

where Y'_i is the i^{th} half-sample estimate of Y, and Y' is the full sample estimate of Y. The half-sample procedure measures variability due to sampling error and random response variance.

References

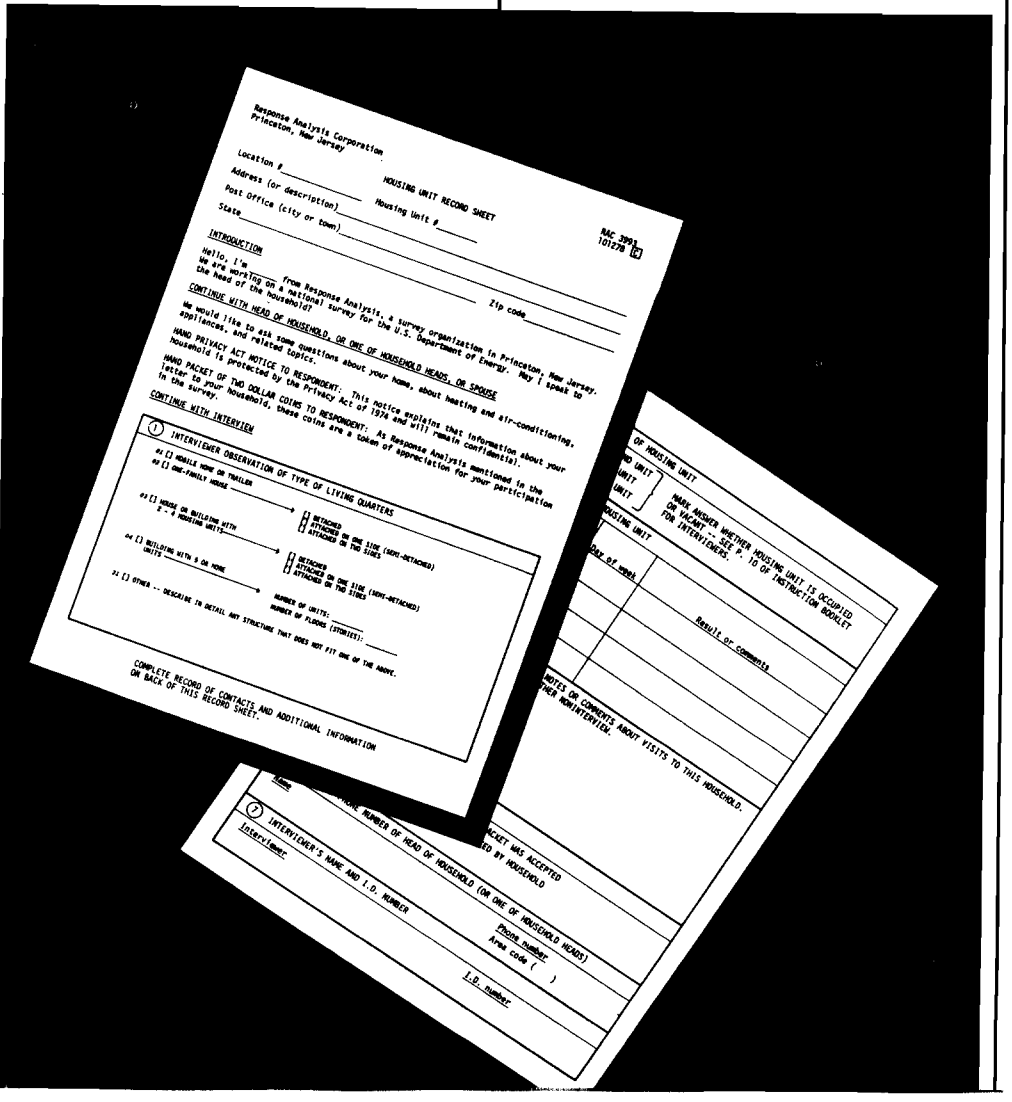
1. National Center for Health Statistics. "Replication: An Approach to the Analysis of Data from Complex Surveys." Vital and Health Statistics. U.S. Public Health Service Publication No. 1000--Series 2--No. 14. Washington, D.C.: U.S. Government Printing Office, April 1966.

2. National Center for Health Statistics. "Pseudoreplication: Further Evaluation and Application of the Balanced Half-Sample Technique." Vital and Health Statistics. U.S. Public Health Service Publication No. 1000--Series 2--No. 31. Washington, D.C.: U.S. Government Printing Office, January 1969.

3. Plackett, R. L., and Burman, J. P.: "The Design of Optimum Multifactorial Experiments." Biometrika 33 (1946): 305-325.

Appendix D

Survey Forms



Appendix D

This Appendix contains copies of the survey forms used in the 1982 Residential Energy Consumption Survey.

EIA-457A Housing Unit Record Sheet (actual form was pink)

EIA-457B Household Questionnaire (actual form had a green cover)

EIA-457E Electricity Utility Form (actual form was yellow)

EIA-457F Natural Gas Utility Form (actual form was pink)

EIA-457G Fuel Oil Supplier Form (actual form was green)

EIA-457H Liquefied Petroleum Gas Supplier Form (actual form was blue)

Appendix D (Continued)

Response Analysis Corporation
Princeton, New Jersey
RAC 4334 091082

OMB No. 1905-0093
Expires May 31, 1983
EIA 457A
F-4005

HOUSING UNIT RECORD SHEET

Location # _____ Housing Unit # _____

Address (or description)

_____

Post Office (city or town) _____

State _____ Zip Code _____

Use questionnaire that does not have a red dot on the cover for this housing unit.

INTRODUCTION

Hello, I'm _____ from Response Analysis, a survey organization in Princeton, New Jersey. We are working on a national survey for the U.S. Department of Energy. May I speak to the head of household, that is, the person in whose name the home is owned or rented?

CONTINUE WITH HOUSEHOLDER, ONE OF HOUSEHOLDERS, OR SPOUSE/PARTNER.

We would like to ask some questions about your home, about heating and air-conditioning, household vehicles, and related topics.

HAND PRIVACY ACT NOTICE TO RESPONDENT. This notice explains that information about your household is protected by The Privacy Act of 1974 and will remain confidential.

CONTINUE WITH INTERVIEW

(1) INTERVIEWER OBSERVATION OF TYPE OF LIVING QUARTERS

MARK BOX BELOW:

11[] MOBILE HOME OR TRAILER

21[] ONE-FAMILY HOUSE--DETACHED
22[] ONE-FAMILY HOUSE--ATTACHED ON ONE SIDE (SEMI-DETACHED)
23[] ONE-FAMILY HOUSE--ATTACHED ON TWO SIDES

31[] HOUSE OR BUILDING WITH 2-4 HOUSING UNITS--DETACHED
32[] HOUSE OR BUILDING WITH 2-4 HOUSING UNITS--ATTACHED ON ONE SIDE (SEMI-DETACHED)
33[] HOUSE OR BUILDING WITH 2-4 HOUSING UNITS--ATTACHED ON TWO SIDES

41[] BUILDING WITH 5 OR MORE HOUSING UNITS → MARK ANSWERS:
NUMBER OF HOUSING UNITS: _____
NUMBER OF FLOORS (STORIES): _____

51[] OTHER--DESCRIBE IN DETAIL ANY STRUCTURE THAT DOES NOT FIT ONE OF ABOVE. (INCLUDE NUMBER OF UNITS AND FLOORS)

_____

_____

COMPLETE RECORD OF CONTACTS AND ADDITIONAL INFORMATION ON BACK OF THIS RECORD SHEET.

Appendix D (Continued)

(2) TYPE OF OCCUPANCY OF HOUSING UNIT

1 [] YEAR-ROUND UNIT
2 [] SEASONAL UNIT
3 [] MIGRATORY UNIT

MARK ANSWER WHETHER HOUSING UNIT IS OCCUPIED OR VACANT -- SEE P.13 OF INSTRUCTION BOOKLET FOR INTERVIEWERS.

(3) RECORD OF VISITS TO HOUSING UNIT

Visit number	Time of day (include AM or PM	Date	Day of Week	Result or Comments

(4) USE THIS SPACE FOR ADDITIONAL NOTES OR COMMENTS ABOUT VISITS TO THIS HOUSEHOLD. DESCRIBE FULLY IF REFUSAL OR OTHER NONINTERVIEW.

(5) NAME AND PHONE NUMBER OF HOUSEHOLDER (OR ONE OF HOUSEHOLDERS)

Name

Phone number

Area Code ( )

(6) INTERVIEWER'S NAME AND I.D. NUMBER

Interviewer

I.D. number

Appendix D (Continued)

OMB No. 1905-0093 • EIA 457B
Expires May 31, 1983

This survey is voluntary and authorized under the Federal Energy Administration Act of 1974 (Public Law 93-275) as amended. Information about specific households will be kept strictly confidential. The data will be summarized within large groupings for statistical purposes.

Residential Energy Consumption Survey

Fall-Winter • 1982-1983

Energy Information Administration
U.S. Department of Energy

Location #	111-116
Housing Unit #	117-118

Appendix D (Continued)

TIME INTERVIEW STARTED [AM / PM]

1

1. In what year did your family move into this (house/apartment)?

01 [] BEFORE 1940
02 [] 1940-1949
03 [] 1950-1959
04 [] 1960-1964
05 [] 1965-1969
06 [] 1970-1974 *121-122*
07 [] 1975-1979
08 [] 1980
09 [] 1981
10 [] 1982
11 [] 1983 --ASK Q. 2

IF "1982" or "1983", ASK:

2. In which month did you move in? (SPECIFY MONTH AND ENTER LAST DIGIT OF YEAR.)

MONTH: [ ] *123-124*

YEAR: 198[ ]

3. In what year was this (house/building) built? Just your estimate.

01 [] BEFORE 1940
02 [] 1940-1949
03 [] 1950-1959
04 [] 1960-1964
05 [] 1965-1969
06 [] 1970-1974
07 [] 1975-1976 *125-126*
08 [] 1977
09 [] 1978
10 [] 1979
11 [] 1980
12 [] 1981
13 [] 1982
14 [] 1983

EIA 457B • 1982 Residential Energy Consumption Survey

Appendix D (Continued)

4. Altogether (counting all areas that are used as year-round living space), how many rooms do you have in your living quarters? Do not count bathrooms, unheated porches, foyers, or hallways. (SEE INSTRUCTION BELOW.)

NUMBER OF ROOMS: [ ] *127-128*

5. How many complete bathrooms and how many half-bathrooms do you have? (A complete bathroom is a room with a flush toilet, bathtub or shower, and a sink/washbasin with running water. A half-bath has at least a flush toilet or bathtub or shower, but does not have all the facilities for a complete bathroom.)

NUMBER OF COMPLETE BATHROOMS: [ ] *129*
[] NONE

NUMBER OF HALF BATHROOMS: [ ] *130*
[] NONE

INTERVIEWER INSTRUCTIONS:

Q. 4 -- Generally count any room as long as it is a comfortable place to rest, read, study, etc., year-round.

Do not count laundry rooms, unfinished attics or basements, open porches, or unfinished space used for storage.

Appendix D (Continued)

HAND RESPONDENT EXHIBIT 6/7

6. What is the main fuel used for heating your home?
(SEE INSTRUCTION BELOW)

	Q. 6 MAIN FUEL (MARK ONLY ONE)	Q. 7 MARK ALL THAT APPLY	131-132
GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD	01 []	[]	133
LPG GAS (BOTTLED OR TANK GAS)	02 []	[]	134
FUEL OIL	03 []	[]	135
KEROSENE OR COAL OIL	04 []	[]	136
ELECTRICITY	05 []	[]	137
COAL OR COKE	06 []	[]	138
WOOD	07 []	[]	139
SOLAR COLLECTORS	08 []	[]	140
OTHER (SPECIFY): _____			
_____	21 []	[]	141
DON'T KNOW	96 []	[]	142
NO HEATING FUEL USED -- TAKE BACK EXHIBIT 6/7; SKIP TO Q. 27	00 []		
NO ADDITIONAL FUEL -- SKIP TO Q. 9		[]	143

7. What other fuels, if any, are used to heat your home -- including those that are used to provide heat just occasionally?

MARK ALL THAT APPLY
(IF NONE, MARK "NO ADDITIONAL FUEL")

IF ONE OR MORE ADDITIONAL FUELS MENTIONED IN Q. 7, ASK:

8. Does your main heating fuel -- (FUEL NAMED IN Q. 6) -- provide almost all of the heat for your home, about three-fourths, or closer to half of the heat for your home?

1 [] ALMOST ALL (MORE THAN 95%)
2 [] ABOUT THREE-FOURTHS (67-94%)
3 [] CLOSER TO HALF (66% OR LESS)

144

INTERVIEWER INSTRUCTIONS:

Q. 6 -- If two or more heating fuels are used, the main heating fuel is one that provides most of the heat for the home.

Q. 6-7 -- If household recently converted to a different fuel, or is in the process of conversion, mark answer for fuel(s) in use for winter of 1982-1983.

EIA 457B • 1982 Residential Energy Consumption Survey

Appendix D (Continued)

TURN TO EXHIBIT 9/10

9. What is the main heating equipment used with your main heating fuel?

	Q.9 MAIN EQUIPMENT (MARK ONLY ONE)	Q. 10 MARK ALL THAT APPLY	145-146
HOT WATER PIPES RUNNING THROUGH A SLAB FLOOR (RADIANT HEATING)	01[]	[]	147
STEAM OR HOT WATER SYSTEM WITH RADIATORS OR CONVECTORS	02[]	[]	148
CENTRAL WARM-AIR FURNACE WITH DUCTS TO INDIVIDUAL ROOMS (DO NOT COUNT HEAT PUMP HERE)	03[]	[]	149
HEAT PUMP	04[]	[]	150
BUILT-IN ELECTRIC UNITS (PERMANENTLY INSTALLED IN WALL, CEILING, OR BASEBOARD)	05[]	[]	151
FLOOR, WALL, OR PIPELESS FURNACE	06[]	[]	152
ROOM HEATER BURNING GAS, OIL, KEROSENE (NOT PORTABLE)	07[]	[]	153
HEATING STOVE BURNING WOOD, COAL, COKE	08[]	[]	154
FIREPLACE(S)	09[]	[]	155
PORTABLE ELECTRIC HEATER(S)	10[]	[]	156
PORTABLE KEROSENE HEATER(S)	11[]	[]	157
COOKING STOVE, RANGE, OR OVEN (USED TO HEAT HOME, AS WELL AS FOR COOKING)	12[]	[]	158
OTHER (SPECIFY): _____	21[]	[]	159
DON'T KNOW	96[]	[]	160
NO ADDITIONAL EQUIPMENT		[]	161

10. What other types of equipment, if any, are used to heat your home -- including those that are used to provide heat just occasionally? MARK ALL THAT APPLY (IF NONE, MARK "NO ADDITIONAL EQUIPMENT")

IF "CENTRAL WARM-AIR FURNACE" MENTIONED IN Q. 9 OR Q. 10, ASK:

11. For the central warm-air furnace, is the warm air forced through the ducts by a fan?
1 [] YES
0 [] NO
6 [] DON'T KNOW
162

IF "HEATING STOVE BURNING WOOD, COAL, COKE" MENTIONED IN Q. 9 OR Q. 10, ASK:

12. Is the heating stove airtight?
1 [] YES
0 [] NO
6 [] DON'T KNOW
163

TAKE BACK EXHIBIT 9/10

IF 2 OR MORE HOUSING UNITS IN BUILDING, ASK Q. 13. OTHERWISE SKIP TO Q. 14

13. Is your home heated by a central system that also provides heat for one or more units in addition to your own, or is the main heating equipment for your living quarters only?
1 [] CENTRAL SYSTEM FOR ONE OR MORE ADDITIONAL UNITS
2 [] MAIN HEATING EQUIPMENT FOR THESE LIVING QUARTERS ONLY
6 [] DON'T KNOW
164

Appendix D (Continued)

14. Has any wood been burned in your home in the past 12 months?

1[] YES
0[] NO -- SKIP TO Q. 21 *165*

IF "YES," HAND RESPONDENT EXHIBIT 15, AND ASK: *166*

15. This exhibit illustrates about one cord of wood. Did your household burn less than this amount, or about this amount or more?

1[] LESS THAN ONE CORD -- ASK Q. 16
2[] ONE CORD OR MORE -- SKIP TO Q. 17

IF "LESS THAN ONE CORD," TURN TO EXHIBIT 16, AND ASK:

16. Which of these is most nearly the amount of wood burned in your household in the past 12 months?

1[] A FEW LOGS OR SCRAPS OF WOOD
2[] 1/4 TO 1/3 OF A CORD
3[] 1/2 CORD (ABOUT ONE PICK-UP TRUCK OF WOOD) *167*
4[] OVER 1/2 CORD BUT LESS THAN A FULL CORD

TAKE BACK EXHIBIT 16; ASK Q. 18

IF "ONE CORD OR MORE" ON Q. 15, TURN TO EXHIBIT 17, AND ASK:

17. This exhibit shows wood piles of different sizes. Just using these as general reference points, about how many cords of wood did you burn in your household in the past 12 months? (SEE INSTRUCTION BELOW.)

NUMBER OF CORDS: [ ] *168-170*

TAKE BACK EXHIBIT 17; ASK Q. 18

18. Did you purchase any wood to burn in your home in the last 12 months?

1[] YES
0[] NO -- SKIP TO Q. 21 *171*

19. On your household's most recent purchase of wood, how was the wood measured: by the half-cord, cord, truckload, or some other measure? (IF "TRUCKLOAD," PROBE FOR SIZE OF TRUCK.)

1[] HALF-CORD
2[] CORD *172*
3[] TRUCKLOAD (SPECIFY SIZE OF TRUCK): _____
5[] OTHER (SPECIFY): _____

20. About what was the price per (half-cord/cord/truckload/other measure) on your household's most recent purchase of wood? (SHOW NUMBER OF DOLLARS FOR UNIT OF MEASURE RECORDED IN ANSWER TO Q. 19.)

PRICE: $ _____.00 *173-175*

INTERVIEWER INSTRUCTIONS:

Q. 17 -- Exhibit 17 is intended only for general reference. Probe for respondent's best estimate of number of cords burned -- this, of course, will ordinarily be a number different from the specific quantities shown on the exhibit. Record answer to nearest cord, or cord plus fraction, as given by respondent (for example: 1, 1-1/2, 4, 10, 12, and so on).

Appendix D (Continued)

207-208:02

21. At what temperature do you usually keep your home during the day in the wintertime when someone is at home? (SEE INSTRUCTION BELOW.)
[ ] DEGREES FAHRENHEIT 211-212
95 [] HEAT TURNED OFF

22. At what temperature do you usually keep your home during the day in the wintertime when no one is at home? (SEE INSTRUCTION BELOW.)
[ ] DEGREES FAHRENHEIT 213-214
95 [] HEAT TURNED OFF

23. At what temperature do you usually keep your home during sleeping hours in the wintertime? (SEE INSTRUCTION BELOW.)
[ ] DEGREES FAHRENHEIT 215-216
95 [] HEAT TURNED OFF

24. Do you have a thermostat that can be used to adjust the temperature in your home during the heating season?
1[] YES -- SKIP TO Q. 26 217
0[] NO

IF "NO", HAND RESPONDENT EXHIBIT 25 AND ASK:

25. Please look at this list and tell me the ways, if any, you use to adjust the temperature in your home during the heating season. MARK ALL THAT APPLY.

OPENING AND CLOSING WINDOWS OR DOORS	[]	218
OPENING AND CLOSING HOT AIR VENTS	[]	219
TURN HEATER ON OR OFF (UP OR DOWN)	[]	220
TURN RADIATORS OR CONVECTORS ON OR OFF	[]	221
ADJUST DRAFT OR AMOUNT OF FUEL FOR WOOD OR COAL FIRE	[]	222
USE COOKING STOVE, OVEN, OR RANGE TO HEAT HOME	[]	223
OTHER (SPECIFY): _____	[]	224
NO WAY TO ADJUST THE TEMPERATURE	[]	225

HAND RESPONDENT EXHIBIT 26

26. During the past winter (October 1981-April 1982) was your home without heat for one or more days for any of these reasons? (INTERVIEWER: READ AND MARK "YES," OR "NO," FOR EACH ITEM.)

Unable to pay for fuel or utilities	1[] YES	0[] NO	226
Landlord did not provide heat	1[] YES	0[] NO	227
Heating system broken or under repair	1[] YES	0[] NO	228
No fuel available	1[] YES	0[] NO	229
Other (Specify): _____	1[] YES	0[] NO	230

TAKE BACK EXHIBIT 26

INTERVIEWER INSTRUCTIONS:

Q. 21-23 -- If respondent keeps different sections of the house at different temperatures, we want to know the temperature in the part of the house where the people are. If, for example, the heat is turned off upstairs during the day because the family is downstairs, we want the downstairs temperature.

If respondent doesn't know temperature, but does know thermostat setting, record thermostat setting. Otherwise, probe for best estimate.

HAND RESPONDENT EXHIBIT 27/29

27. Which fuel is used most for heating water (other than just for cooking purposes)?

01 [] GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
02 [] LPG GAS (BOTTLED OR TANK GAS)
03 [] FUEL OIL
04 [] KEROSENE OR COAL OIL
05 [] ELECTRICITY
06 [] COAL OR COKE
07 [] WOOD
08 [] SOLAR COLLECTORS
21 [] OTHER (SPECIFY): _____

231-232

00 [] NO FUEL USED -- TAKE BACK EXHIBIT 27/29; SKIP TO Q. 32
96 [] DON'T KNOW

28. In addition to your main fuel, do you use any other fuel for heating water (other than just for cooking purposes)?

1 [] YES
2 [] NO -- TAKE BACK EXHIBIT 27/29; SKIP TO Q. 30

233

IF "YES," ASK:

29. What is the additional fuel?

01 [] GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
02 [] LPG GAS (BOTTLED OR TANK GAS)
03 [] FUEL OIL
04 [] KEROSENE OR COAL OIL
05 [] ELECTRICITY
06 [] COAL OR COKE
07 [] WOOD
08 [] SOLAR COLLECTORS
21 [] OTHER (SPECIFY): _____

234-235

96 [] DON'T KNOW

TAKE BACK EXHIBIT 27/29

30. Do you have hot running water in your home?

1 [] YES
0 [] NO

236

IF 2 OR MORE HOUSING UNITS IN BUILDING, ASK Q. 31. OTHERWISE, SKIP TO Q. 32.

31. Is your hot water supplied by a central system that also provides hot water for one or more units in addition to your own, or is the water heater for your living quarters only?

1 [] CENTRAL SYSTEM FOR ONE OR MORE ADDITIONAL UNITS
2 [] FOR THESE LIVING QUARTERS ONLY
6 [] DON'T KNOW

237

Appendix D (Continued)

32. Do you have air-conditioning equipment, either a central system or individual window or wall units? (MARK ALL THAT APPLY.)

[] YES, CENTRAL SYSTEM 238
[] YES, INDIVIDUAL (WINDOW/WALL) UNITS 239
[] NO -- SKIP TO Q. 38

IF "INDIVIDUAL (WINDOW/WALL) UNITS" ON Q. 32, ASK:

33. How many individual window or wall units do you have?

NUMBER OF UNITS: [ ] 240-241

IF "CENTRAL SYSTEM" ON Q. 32, ASK:

34. Does the central air-conditioning system use gas from underground pipes, LPG, or electricity?

1 [] GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
2 [] LPG GAS (BOTTLED OR TANK GAS) 242
3 [] ELECTRICITY
6 [] DON'T KNOW

IF 2 OR MORE HOUSING UNITS IN BUILDING, ASK Q. 35, OTHERWISE SKIP TO Q. 36

35. Is it a central air-conditioning system that also cools one or more units in addition to your own, or is the main air-conditioning equipment for your living quarters only?

1[] CENTRAL SYSTEM FOR ONE OR MORE ADDITIONAL UNITS 243
2[] AIR-CONDITIONING IS FOR THESE LIVING QUARTERS ONLY
6[] DON'T KNOW

36. How many rooms in your (house/apartment) can be cooled by your air-conditioning? Do not count bathrooms, hallways, foyers, or enclosed porches.

NUMBER OF ROOMS: [ ] 244-245
95 [] ENTIRE HOUSE OR APARTMENT

HAND RESPONDENT EXHIBIT 37

37. Which of the statements on this exhibit best describes the way you used your air conditioner(s) last summer? (MARK ONLY ONE.)

0 [] DID NOT USE AT ALL
1 [] TURNED ON ONLY A FEW DAYS OR NIGHTS WHEN REALLY NEEDED
2 [] TURNED ON QUITE A BIT
3 [] TURNED ON JUST ABOUT ALL SUMMER 246
5 [] OTHER (SPECIFY): _____

TAKE BACK EXHIBIT 37

EIA 457B • 1982 Residential Energy Consumption Survey

Appendix D (Continued)

38. How many doors do you have in your home that go from a heated area to the outside or to an unheated area? (SEE INSTRUCTION BELOW.) NUMBER OF DOORS: [ ] 247-248

[] NONE -- SKIP TO Q. 44

HAND RESPONDENT EXHIBIT 39

39. Please look at this exhibit of different kinds of doors. How many of each of these types of doors do you have?

	Q. 39 NUMBER OF DOORS	Q. 40 NUMBER WITH STORM DOOR OR INSULATING GLASS	Q. 41 NUMBER STORM/ INSULATING DOORS PUT IN SINCE SEPT. 1, 1980	Q. 42	Q. 43 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
a.	Sliding glass doors [] NONE 249	[] NONE 250	[] NONE 251	MONTH: ____ YEAR: 198____ [] IN PROCESS 252-255	256-258 1 2 3 4 5 6 7 8 9 10 (SPECIFY): ____
b.	Other doors to the outside [] NONE 261	[] NONE 262	[] NONE 263	MONTH: ____ YEAR: 198____ [] IN PROCESS 264-267	268-270 1 2 3 4 5 6 7 8 9 10 (SPECIFY): ____

TAKE BACK EXHIBIT 39

FOR EACH TYPE OF DOOR FOR WHICH ANSWER IS "ONE OR MORE," ASK:

40. (Does/How many of) the ____ door(s) have (a storm door/ storm doors) or insulating glass?

FOR EACH TYPE OF STORM DOOR OR DOOR WITH INSULATING GLASS, ASK:

41. How many of the (storm/insulated glass) doors were put in your home since September 1,1980?

IF ONE OR MORE, ASK:

42. In what month and year did you get (it/them)?

HAND RESPONDENT EXHIBIT 43/48

43. Which of these were most important in your decision to install (storm/ insulated glass) door(s)?

CIRCLE NUMBERS FOR ALL REASONS THAT APPLY

TAKE BACK EXHIBIT 43/48

INTERVIEWER INSTRUCTIONS:

Q. 38-39 -- Count each pair of sliding glass doors as one door. Include doors that go to an unheated porch or garage. Do not include doors to a heated hallway in an apartment building, doors that are permanently sealed shut, or doors to an unheated attic or basement.

REASONS FOR Q. 43

1 FOR COMFORT
2 TO SAVE HEATING AND/OR COOLING COSTS
3 TO TAKE THE COST AS A CREDIT ON INCOME TAX RETURN
4 TO TAKE ADVANTAGE OF GOVERNMENT MONEY OR LOW-COST GOVERNMENT LOANS FOR IMPROVEMENTS
5 DID THIS BECAUSE WE WERE DOING OTHER HOME IMPROVEMENTS AT SAME TIME
6 RECOMMENDED BY FRIEND OR RELATIVE
7 RECOMMENDED BY PROFESSIONAL ENERGY ADVISOR (ENERGY AUDITOR OR EXPERT)
8 HEARD OR READ ABOUT BENEFITS (ON RADIO OR TV, MAGAZINE OR NEWSPAPERS)
9 REPLACEMENT OF BROKEN OR DEFECTIVE ITEM
10 OTHER REASON (SPECIFY)

Appendix D (Continued)

307-308:03

44. How many windows do you have in your home? Please include basement, attic, garage, and porch windows only if these areas are heated. (SEE INSTRUCTION BELOW.)

Q. 44 NUMBER OF WINDOWS	Q. 45 NUMBER WITH STORM WINDOWS OR INSULATING GLASS	Q. 46 NUMBER STORM WINDOWS PUT IN SINCE SEPT. 1, 1980	Q. 47	Q. 48 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
_____	_____	_____	MONTH: _____	321-325
[] NONE 311-312	[] NONE 313-314	[] NONE 315-316	YEAR: 198 ____ [] IN PROCESS 317-320	1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____

45. How many of the windows have storm windows or insulating glass? (SEE INSTRUCTION BELOW.)

IF ONE OR MORE WINDOWS WITH STORM WINDOWS OR INSULATING GLASS, ASK:

46. How many of the storm windows or windows with insulating glass were put in your home since September 1, 1980?

IF ONE OR MORE, ASK:

47. In what month and year were they put in?

HAND RESPONDENT EXHIBIT 43/48

48. Which of these were most important in your decision to install (storm windows/windows with insulating glass)? CIRCLE NUMBERS FOR ALL REASONS THAT APPLY.

TAKE BACK EXHIBIT 43/48

INTERVIEWER INSTRUCTIONS:

Q. 44 -- Each window that opens separately should be counted as one window. Also count windows that are fixed in place. Do not include windows (glass panels) in doors.

Q. 45 -- Windows made of double glass and other types of insulating glass count the same as storm windows.

REASONS FOR Q. 48

1 FOR COMFORT
2 TO SAVE HEATING AND/OR COOLING COSTS
3 TO TAKE THE COST AS A CREDIT ON INCOME TAX RETURN
4 TO TAKE ADVANTAGE OF GOVERNMENT MONEY OR LOW-COST GOVERNMENT LOANS FOR IMPROVEMENTS
5 DID THIS BECAUSE WE WERE DOING OTHER HOME IMPROVEMENTS AT SAME TIME
6 RECOMMENDED BY FRIEND OR RELATIVE
7 RECOMMENDED BY PROFESSIONAL ENERGY ADVISOR (ENERGY AUDITOR OR EXPERT)
8 HEARD OR READ ABOUT BENEFITS (ON RADIO OR TV, MAGAZINE OR NEWSPAPERS)
9 REPLACEMENT OF BROKEN OR DEFECTIVE ITEM
10 OTHER REASON (SPECIFY)

Appendix D (Continued)

IF ONE-FAMILY HOUSE OR MOBILE HOME, ASK Q. 49ff. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75 ON PAGE 18

49. Do you have insulation in all, or some, or none of the outside walls of your home?

1 [] ALL
2 [] SOME
0 [] NONE
6 [] DON'T KNOW

322

50. Do you have roof or ceiling insulation?

1 [] YES
0 [] NO -- SKIP TO Q. 54
6 [] DON'T KNOW -- SKIP TO Q. 54

323

IF "YES," HAND RESPONDENT EXHIBIT 51 AND ASK:

51. About how much of the roof or ceiling area is insulated?

0 [] VERY LITTLE (LESS THAN 5%)
1 [] 1/4 (5 - 33%)
2 [] 1/2 (34 - 66%)
3 [] 3/4 (67 - 95%)
4 [] ALL (96 - 100%)

324

TURN TO EXHIBIT 52

52. This exhibit shows different kinds of insulation. Please tell me whether or not you have each one in your roof or ceiling area.

a. BATT/BLANKET	1 [] YES 0 [] NO 6 [] DON'T KNOW 329	____ INCHES [] DON'T KNOW 330-331
b. LOOSE PARTICLES/ LOOSE FILL	1 [] YES 0 [] NO 6 [] DON'T KNOW 332	____ INCHES [] DON'T KNOW 333-334
c. FIRM FOAM/ FIRM PLASTIC	1 [] YES 0 [] NO 6 [] DON'T KNOW 335	____ INCHES [] DON'T KNOW 336-337
d. SPRAYED-IN FOAM	1 [] YES 0 [] NO 6 [] DON'T KNOW 338	____ INCHES [] DON'T KNOW 339-340
e. OTHER (SPECIFY): _____ _____	1 [] YES 0 [] NO 6 [] DON'T KNOW 341	____ INCHES [] DON'T KNOW 342-343

FOR EACH "YES," ASK:

53. About how many inches of (INSULATION TYPE) do you have in your roof or ceiling area?

TAKE BACK EXHIBIT 52

Appendix D (Continued)

CONTINUE IF ONE-FAMILY HOUSE OR MOBILE HOME. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75

HAND RESPONDENT EXHIBIT 54

54. Please look at this list and tell me which items, if any, have been added or installed in your home since September 1, 1980.

Q. 54	Q. 55	Q. 56 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
a. Roof or ceiling insulation [] YES [] NO [] IN PROCESS 344	MONTH: _____ YEAR: 198 _____ [] IN PROCESS 345-348	349-353 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
b. Insulation in the outside walls [] YES [] NO [] IN PROCESS 354	MONTH: _____ YEAR: 198 _____ [] IN PROCESS 355-358	359-363 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
c. Insulation in the basement or crawl space below floor of house [] YES [] NO [] IN PROCESS 364	MONTH: _____ YEAR: 198 _____ [] IN PROCESS 365-368	369-373 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____

TAKE BACK EXHIBIT 54

FOR EACH "YES," OR "IN PROCESS" ANSWER, ASK:

55. In what month and year was the work completed? (SEE INSTRUCTION BELOW.)

HAND RESPONDENT EXHIBIT 56

56. Which of these were most important in your decision to add/install the insulation? CIRCLE NUMBERS FOR ALL REASONS THAT APPLY

TAKE BACK EXHIBIT 56

INTERVIEWER INSTRUCTIONS:

Q. 54 -- Mark "Yes," "No," or "In Process," for each item. Count as "In Process" any work started but not yet completed. Do not count changes made before this household moved in.

Q. 55 -- If household has done item more than once, write down the most recent date.

REASONS FOR Q. 56

1 FOR COMFORT
2 TO SAVE HEATING AND/OR COOLING COSTS
3 TO TAKE THE COST AS A CREDIT ON INCOME TAX RETURN
4 TO TAKE ADVANTAGE OF GOVERNMENT MONEY OR LOW-COST GOVERNMENT LOANS FOR IMPROVEMENTS
5 DID THIS BECAUSE WE WERE DOING OTHER HOME IMPROVEMENTS AT SAME TIME
6 RECOMMENDED BY FRIEND OR RELATIVE
7 RECOMMENDED BY PROFESSIONAL ENERGY ADVISOR (ENERGY AUDITOR OR EXPERT)
8 HEARD OR READ ABOUT BENEFITS (ON RADIO OR TV, MAGAZINE OR NEWSPAPERS)
9 REPLACEMENT OF BROKEN OR DEFECTIVE ITEM
10 OTHER REASON (SPECIFY)

Appendix D (Continued)

CONTINUE IF ONE-FAMILY HOUSE OR MOBILE HOME. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75

HAND RESPONDENT EXHIBIT 57

57. Have any of these been added or installed in your home since September 1, 1980?

	Q. 57	Q. 58	Q. 59	Q. 60	Q. 61 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
a. A replacement or additional home heating system or furnace	1[] YES 0[] NO 2[] IN PROCESS 411	1[] REPLACEMENT 2[] ADDITIONAL 412	1[] SAME FUEL 2[] DIFFERENT FUEL 413	MONTH: _____ YEAR: 198____ [] IN PROCESS 414-417	418-421 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
b. A replacement or additional hot water heater, boiler, or tank	1[] YES 0[] NO 2[] IN PROCESS 423	1[] REPLACEMENT 2[] ADDITIONAL 424	1[] SAME FUEL 2[] DIFFERENT FUEL 425	MONTH: _____ YEAR: 198____ [] IN PROCESS 426-429	430-434 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
c. A replacement or additional central air-conditioning system	1[] YES 0[] NO 2[] IN PROCESS 435	1[] REPLACEMENT 2[] ADDITIONAL 436	1[] SAME FUEL 2[] DIFFERENT FUEL 437	MONTH: _____ YEAR: 198____ [] IN PROCESS 438-441	442-446 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____

TAKE BACK EXHIBIT 57

FOR EACH "YES", OR "IN PROCESS", ON Q. 57, ASK:

58. Was this a replacement or an additional system?

59. Does it use the same fuel or different fuel than the one you had before?

60. In what month and year was the work completed?

HAND RESPONDENT EXHIBIT 61

61. Which of these were most important in your decision to replace/add the new system? CIRCLE NUMBERS FOR ALL REASONS THAT APPLY

TAKE BACK EXHIBIT 61

IF "YES," OR "IN PROCESS," ON Q. 57a, b, or c, ASK:

62. Has/have the replacement/additional system(s) included the use of active solar energy or wind energy devices?

1[] YES
0[] NO
447

IF "YES," ASK:

63. Please describe the new system.

448-449

REASONS FOR Q. 61
1 FOR COMFORT
2 TO SAVE HEATING AND/OR COOLING COSTS
3 TO TAKE THE COST AS A CREDIT ON INCOME TAX RETURN
4 TO TAKE ADVANTAGE OF GOVERNMENT MONEY OR LOW-COST GOVERNMENT LOANS FOR IMPROVEMENTS
5 DID THIS BECAUSE WE WERE DOING OTHER HOME IMPROVEMENTS AT SAME TIME
6 RECOMMENDED BY FRIEND OR RELATIVE
7 RECOMMENDED BY PROFESSIONAL ENERGY ADVISOR (ENERGY AUDITOR OR EXPERT)
8 HEARD OR READ ABOUT BENEFITS (ON RADIO OR TV, MAGAZINE OR NEWSPAPERS)
9 REPLACEMENT OF BROKEN OR DEFECTIVE ITEM
10 OTHER REASON (SPECIFY)

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Appendix D (Continued)

CONTINUE IF ONE-FAMILY HOUSE OR MOBILE HOME. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75

HAND RESPONDENT EXHIBIT 64

64. Please look at this list and as I read each item tell me which, if any, have been added or installed in your home since September 1, 1980. (SEE INSTRUCTIONS AT BOTTOM OF FACING PAGE.)

	Q. 64	Q. 65	Q. 66 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
a. An automatic set-back or clock thermostat	1 [] YES 0 [] NO 2 [] IN PROCESS 450	MONTH: _____ YEAR: 198_____ [] IN PROCESS 451-454	455-457 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
b. Flame retention head burner for furnace (fuel oil)	1 [] YES 0 [] NO 2 [] IN PROCESS 460	MONTH: _____ YEAR: 198_____ [] IN PROCESS 461-464	465-467 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
c. Automatic flue door (vent damper)	1 [] YES 0 [] NO 2 [] IN PROCESS 470	MONTH: _____ YEAR: 198_____ [] IN PROCESS 471-474	475-477 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
d. Electrical or mechanical furnace ignition system (spark ignition)	1 [] YES 507- 0 [] NO 508: 06 2 [] IN PROCESS 511	MONTH: _____ YEAR: 198_____ [] IN PROCESS 512-515	516 520 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
e. Insulation around heating and/or cooling ducts	1 [] YES 0 [] NO 2 [] IN PROCESS 521	MONTH: _____ YEAR: 198_____ [] IN PROCESS 522-525	526-530 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
f. Insulation around the hot water and/or cooling pipes	1 [] YES 0 [] NO 2 [] IN PROCESS 531	MONTH: _____ YEAR: 198_____ [] IN PROCESS 532-535	536-540 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
g. Insulation around the hot water heater	1 [] YES 0 [] NO 2 [] IN PROCESS 541	MONTH: _____ YEAR: 198_____ [] IN PROCESS 542-545	546-550 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____

Q. 64-66 ARE CONTINUED ON FACING PAGE

FOR EACH "YES," ASK:

65. In what month and year was the work completed? (SEE INSTRUCTION AT BOTTOM OF FACING PAGE.)

TURN TO EXHIBIT 66

66. Which of these were most important in your decision to add or install (TYPE OF ITEM ADDED OR INSTALLED)? CIRCLE NUMBERS FOR ALL REASONS THAT APPLY

Appendix D (Continued)

CONTINUED FROM PAGE 14

	Q. 64	Q. 65	Q. 66 CIRCLE NUMBERS FOR REASONS SELECTED BY RESPONDENT
h. Closeable shutters, insulating drapes, reflective film	1 [] YES 0 [] NO 2 [] IN PROCESS 661	MONTH: _____ YEAR: 198_____ [] IN PROCESS 662-665	666-669 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
i. Plastic sheets (over windows or other openings)	1 [] YES 0 [] NO 2 [] IN PROCESS 671	MONTH: _____ YEAR: 198_____ [] IN PROCESS 672-675	676-679 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
j. Caulking	1 [] YES 0 [] NO 2 [] IN PROCESS 681	MONTH: _____ YEAR: 198_____ [] IN PROCESS 682-685	686-689 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
k. Weather stripping around any windows or doors to the outside	1 [] YES 690-691 0 [] NO 692-693 2 [] IN PROCESS 694	MONTH: _____ YEAR: 198_____ [] IN PROCESS 695-698	699-702 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
l. Heat pump	1 [] YES 0 [] NO 2 [] IN PROCESS 701	MONTH: _____ YEAR: 198_____ [] IN PROCESS 702-705	706-709 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____
m. Wood-burning stove	1 [] YES 0 [] NO 2 [] IN PROCESS 711	MONTH: _____ YEAR: 198_____ [] IN PROCESS 712-715	716-719 1 2 3 4 5 6 7 8 9 10 (SPECIFY): _____

FOR EACH "YES," ASK:

65. In what month and year was the work completed (SEE INSTRUCTION BELOW.)

TURN TO EXHIBIT 66

66. Which of these were most important in your decision to add or install (TYPE OF ITEM ADDED OR INSTALLED)? CIRCLE NUMBERS FOR ALL REASONS THAT APPLY

TAKE BACK EXHIBIT 66

INTERVIEWER INSTRUCTIONS:

Q. 64 -- Mark "Yes," "No," or "In Process" for each item. Count as "In Process" any work started but not yet completed. Do not count any changes made before this household moved in.

Q. 65 -- If household has done item more than once, write down the most recent date.

REASONS FOR Q. 66

1 FOR COMFORT
2 TO SAVE HEATING AND/OR COOLING COSTS
3 TO TAKE THE COST AS A CREDIT ON INCOME TAX RETURN
4 TO TAKE ADVANTAGE OF GOVERNMENT MONEY OR LOW-COST GOVERNMENT LOANS FOR IMPROVEMENTS
5 DID THIS BECAUSE WE WERE DOING OTHER HOME IMPROVEMENTS AT SAME TIME
6 RECOMMENDED BY FRIEND OR RELATIVE
7 RECOMMENDED BY PROFESSIONAL ENERGY ADVISOR (ENERGY AUDITOR OR EXPERT)
8 HEARD OR READ ABOUT BENEFITS (ON RADIO OR TV, MAGAZINE OR NEWSPAPERS)
9 REPLACEMENT OF BROKEN OR DEFECTIVE ITEM
10 OTHER REASON (SPECIFY)

CONTINUE IF ONE-FAMILY HOUSE OR MOBILE HOME. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75

67. In the past 12 months, did a representative from your electric or gas company perform a detailed energy audit of your home?

1[] YES
0[] NO -- SKIP TO Q. 71

641

IF "YES," HAND RESPONDENT EXHIBIT 68 AND ASK:

68. This is a list of some possible reasons for requesting an energy audit. For each one, please tell me whether it was a very important reason for requesting an audit in your case, somewhat important, or not a reason at all.

	VERY IMPORTANT	SOMEWHAT IMPORTANT	NOT A REASON	
a. HIGH UTILITY OR FUEL BILLS	1[]	2[]	3[]	642
b. MY HOME WAS UNCOMFORTABLE	1[]	2[]	3[]	643
c. WE WERE PLANNING OTHER HOME IMPROVEMENTS	1[]	2[]	3[]	644
d. FRIENDS OR NEIGHBORS RECOMMENDED IT	1[]	2[]	3[]	645
e. THE AUDIT WAS A BARGAIN	1[]	2[]	3[]	646

69. Were there other reasons, not on the exhibit, that were important to you?

1[] YES
0[] NO -- TAKE BACK EXHIBIT 68; SKIP TO Q. 72

647

IF "YES," ON Q. 69, ASK:

70. What were they?

648-649

TAKE BACK EXHIBIT 68; SKIP TO Q. 72

IF "NO" ON Q. 67, HAND RESPONDENT EXHIBIT 71 AND ASK:

71. Which of these was the main reason for not requesting an energy audit? (MARK ONE ANSWER ONLY)

01[] OUR UTILITY DOES NOT OFFER ENERGY AUDITS
02[] WE HAVE ALREADY INSTALLED AS MANY ENERGY CONSERVATION ITEMS AS ARE REASONABLE
03[] DON'T NEED OUTSIDE ADVICE
04[] THE AUDIT COSTS TOO MUCH
05[] PLANNING ON MOVING SOON
06[] JUST MOVED IN
07[] WE RENT THIS RESIDENCE
08[] THE AUDIT WOULD NOT BE WORTH THE TIME AND EFFORT
09[] DIDN'T KNOW IT WAS AVAILABLE
21[] OTHER (SPECIFY): _____

650-651

TAKE BACK EXHIBIT 71

Appendix D (Continued)

CONTINUE IF ONE-FAMILY HOUSE OR MOBILE HOME. IF 2 OR MORE UNITS IN BUILDING, SKIP TO Q. 75

72. Do you have your own swimming pool? (SEE INSTRUCTION BELOW.)

1 [] YES
0 [] NO -- SKIP TO Q. 75

652

IF "YES," ASK:

73. Do you use a heater to heat the water?

1 [] YES
0 [] NO -- SKIP TO Q. 75

653

IF "YES," ASK:

HAND RESPONDENT EXHIBIT 74

74. What fuel is used for the heater?

01 [] GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
02 [] LPG GAS (BOTTLED OR TANK GAS)
03 [] FUEL OIL
04 [] KEROSENE OR COAL OIL
05 [] ELECTRICITY
06 [] COAL OR COKE
07 [] WOOD
08 [] SOLAR COLLECTORS
21 [] OTHER (SPECIFY): _____

96 [] DON'T KNOW

654-655

TAKE BACK EXHIBIT 74

INTERVIEWER INSTRUCTIONS:

Q. 72 -- Do NOT count ponds, hot tubs, jacuzzis, or children's wading pools as swimming pools.

Appendix D (Continued)

ASK EVERYONE

75. Do you have a refrigerator in your home that you use regularly or occasionally?

1 [] YES
0 [] NO -- SKIP TO Q. 79 656

IF "YES," ASK:

76. Do you have one refrigerator or more than one that is presently in use? (How many altogether?)

1 [] ONE
2 [] TWO 657
3 [] THREE OR MORE

ASK ABOUT EACH REFRIGERATOR -- FIRST ASK ABOUT REFRIGERATOR USED MOST: (SEE INSTRUCTION BELOW.)

	REFRIGERATOR #1	REFRIGERATOR #2
77. Is it electric or gas?	1 [] ELECTRIC 2 [] GAS 658	1 [] ELECTRIC 2 [] GAS 660
HAND RESPONDENT EXHIBIT 78		
78. Which of these best describes your refrigerator? (MARK ONE)		
• Freezer section (or ice cube section) must be defrosted periodically	1 [] 659	1 [] 661
• Freezer section defrosts automatically after frost builds up (catch pan must be emptied)	2 []	2 []
• Full frost-free (frost does not build up)	3 []	3 []
• No working freezer section	4 []	4 []

TAKE BACK EXHIBIT 78

INTERVIEWER INSTRUCTIONS:

Q. 77-78 -- If respondent has more than two refrigerators, ask about two used most.

Appendix D (Continued)

79. Do you have a home freezer -- one that is a separate appliance from the refrigerator -- that is presently in use?

1 [] YES
0 [] NO -- SKIP TO Q. 83 *662*

IF "YES," ASK:

80. Do you have one freezer or more than one that is presently in use? (How many altogether?)

1 [] ONE
2 [] TWO *663*
3 [] THREE OR MORE

ASK ABOUT EACH FREEZER -- ASK FIRST ABOUT FREEZER USED MOST: (SEE INSTRUCTION BELOW.)

	FREEZER #1	FREEZER #2
81. Is it electric or gas?	1 [] ELECTRIC 2 [] GAS *664*	1 [] ELECTRIC 2 [] GAS *666*
82. Is it a frost-free freezer or must it be defrosted?	1 [] FROST-FREE 2 [] MUST DEFROST *665*	1 [] FROST-FREE 2 [] MUST DEFROST *667*

INTERVIEWER INSTRUCTIONS:

Q. 81-82 -- If respondent has more than two freezers (that are appliances separate from refrigerators), ask about two used most.

Appendix D (Continued)

HAND RESPONDENT EXHIBIT 83

83. Thinking of all the different kinds of cooking done here, including cooking in the oven, on a range, and with small appliances, which fuel is used most?

01 [] GAS FROM UNDERGROUND PIPES SERVING THE NEIGHBORHOOD
02 [] LPG GAS (BOTTLED OR TANK GAS)
03 [] FUEL OIL
04 [] KEROSENE OR COAL OIL 668-669
05 [] ELECTRICITY
06 [] COAL OR COKE
07 [] WOOD
21 [] OTHER (SPECIFY): _____
00 [] NO COOKING DONE -- SKIP TO Q. 88

TAKE BACK EXHIBIT 83

84. Does your household use an oven of any type, including microwave or convection ovens, for cooking at least occasionally?

1 [] YES 670
0 [] NO -- SKIP TO Q. 88

IF "YES," ASK:

85. Do you have one oven or more than one oven that you presently use? (How many altogether?) (SEE INSTRUCTION BELOW.)

1 [] ONE
2 [] TWO 671
3 [] THREE OR MORE

ASK ABOUT EACH OVEN -- ASK FIRST ABOUT OVEN USED MOST: (SEE INSTRUCTION BELOW.)

OVEN #1	OVEN #2
86. Is your oven electric or gas?	
1 [] ELECTRIC	1 [] ELECTRIC
2 [] GAS 672	2 [] GAS 674
IF "ELECTRIC," ASK:	
87. Is it a microwave oven?	
1 [] YES	1 [] YES
0 [] NO 673	0 [] NO 675

INTERVIEWER INSTRUCTIONS:

Q. 85 -- Do NOT count toaster ovens in count of ovens.

Q. 86 -- If respondent has more than two ovens, ask about two used most.

Appendix D (Continued)

HAND RESPONDENT EXHIBIT 88

707-708:07

88. Please look at this list and, as I read each item, tell me which of these you use here in your (house/apartment)?

ELECTRIC RANGE (STOVE-TOP OR BURNERS)	1[] YES	0[] NO	711
GAS RANGE (STOVE-TOP OR BURNERS)	1[] YES	0[] NO	712
OUTDOOR GAS GRILL (USING GAS FROM UNDERGROUND PIPES)	1[] YES	0[] NO	713
OUTDOOR GAS GRILL (USING LPG--BOTTLED OR TANK GAS)	1[] YES	0[] NO	714
AUTOMATIC CLOTHES WASHER	1[] YES	0[] NO	715
WRINGER WASHING MACHINE (ELECTRIC)	1[] YES	0[] NO	716
ELECTRIC DISHWASHER	1[] YES	0[] NO	717
ELECTRIC CLOTHES DRYER	1[] YES	0[] NO	718
GAS CLOTHES DRYER	1[] YES	0[] NO	719
OUTDOOR GAS LIGHT	1[] YES	0[] NO	720
ELECTRIC DEHUMIDIFIER	1[] YES	0[] NO	721
ELECTRIC HUMIDIFIER	1[] YES	0[] NO	722
EVAPORATIVE COOLER (SWAMP COOLER)	1[] YES	0[] NO	723
"WHOLE HOUSE" COOLING FAN (IN ATTIC OR ENTRANCE TO ATTIC)	1[] YES	0[] NO	724
WINDOW OR CEILING FAN	[] YES	0[] NO NUMBER: [ ]	725
BLACK AND WHITE TELEVISION SET	[] YES	0[] NO NUMBER: [ ]	726
COLOR TELEVISION SET	[] YES	0[] NO NUMBER: [ ]	727

IF "YES" FOR WINDOW OR CEILING FAN, ASK:

89. How many window or ceiling fans do you use here in your home?

IF "YES" FOR BLACK AND WHITE TV SET, ASK:

90. How many black and white television sets do you use here in your home?

IF "YES" FOR COLOR TV SET, ASK:

91. How many color television sets do you use here in your home?

TAKE BACK EXHIBIT 88

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Appendix D (Continued)

Now some questions about cars.

92. How many members of your household can drive a car?

NUMBER OF DRIVERS: [ ] 728-729

[] NONE

HAND RESPONDENT EXHIBIT 93

93. Do you or other members of your household own or have the regular use of any cars, trucks, vans, or similar vehicles? (DO NOT INCLUDE MOTORCYCLES OR MOPEDS.) (SEE INSTRUCTION BELOW.)

1 [] YES

0 [] NO -- TAKE BACK EXHIBIT 93; SKIP TO Q. 102 730

IF "YES," ASK:

94. How many do you have?

NUMBER OF VEHICLES: [ ] 731-732

807-808;58

ASK ABOUT EACH VEHICLE.

95. Which type(s) do you have? (SEE INSTRUCTION BELOW.)

	VEHICLE NUMBER 1	VEHICLE NUMBER 2	VEHICLE NUMBER 3	VEHICLE NUMBER 4
STATION WAGON	01 [] 733-734	01 [] 756-757	01 [] 811-812	01 [] 834-835
AUTOMOBILE	02 []	02 []	02 []	02 []
JEEP OR SIMILAR VEHICLE	03 []	03 []	03 []	03 []
PASSENGER VAN OR MINIBUS	04 []	04 []	04 []	04 []
CARGO VAN	05 []	05 []	05 []	05 []
PICKUP TRUCK	06 []	06 []	06 []	06 []
OTHER TRUCK	07 []	07 []	07 []	07 []
MOTOR HOME	08 []	08 []	08 []	08 []
OTHER (SPECIFY):	21 []	21 []	21 []	21 []

TAKE BACK EXHIBIT 93

96. Please tell me the make and model year (of each one). (ENTER LAST TWO DIGITS OF MODEL YEAR.)

MAKE	735-736	758-759	813-814	836-837
	737-738	760-761	815-816	838-839
MODEL YEAR	19 ___ 739-740	19 ___ 762-763	19 ___ 817-818	19 ___ 840-841

97. What is the model name (of each one)? (SEE INSTRUCTION BELOW.) MODEL NAME

INTERVIEWER INSTRUCTIONS:

Q. 93 -- "Regular use" means keeping the vehicle at home.

Q. 95 -- If household has more than four vehicles, mark answers for the four vehicles used most.

Q. 97 -- For pick-up trucks and vans, be sure to get a specific model name (examples: Chevrolet Luv, Ford Courier, GMC G1500, or Datsun 620, etc.) If respondent does not know model name of truck, probe for size (1/2 ton, 3/4 ton, etc.)

Appendix D (Continued)

CONTINUE IF ONE OR MORE VEHICLES ON Q. 93. OTHERWISE SKIP TO Q. 102

ASK Q's. 98-101 FIRST ABOUT FIRST VEHICLE, THEN SECOND, THIRD, AND FOURTH.

USE COLUMNS FOR VEHICLE NUMBERS CORRESPONDING TO THOSE ON PRECEDING PAGE

These next questions are about your (first/second/third/fourth) vehicle.

		VEHICLE NUMBER			
		1	2	3	4
98. Did you get this vehicle within the past 12 months or did you have it before that?		741	764	915	938
	WITHIN PAST 12 MONTHS	1 []	1 []	1 []	1 []
	HAD IT MORE THAN 12 MONTHS -- SKIP TO Q. 101	2 []	2 []	2 []	2 []
IF "WITHIN PAST 12 MONTHS," ASK:					
99. In what month and year did you get it?		742-745	765-768	892-895	943-946
	MONTH				
	YEAR	198	198	198	198
100. How many miles has it been driven since you have had it, just approximately?		746-750	769-773	896-900	947-951
	MILES				
	DON'T KNOW	[]	[]	[]	[]
IF "HAD IT MORE THAN 12 MONTHS" ON Q. 98, ASK:					
101. How many miles was it driven during the past 12 months, just approximately?		751-755	774-778	901-905	952-956
	MILES				
	DON'T KNOW	[]	[]	[]	[]

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Appendix D (Continued)

102. Now I have some questions about the people who live here. Please tell me who they are, just in relation to (HOUSEHOLDER). I would also like to know their ages on their last birthdays. Please begin with (HOUSEHOLDER). (SEE INSTRUCTIONS BELOW).

PERSON NUMBER	WHO IS RESPON-DENT?	RELATIONSHIP TO HOUSEHOLDER	SEX		AGE	Q. 107 - EMPLOYMENT (AGE 14+)			
			FEMALE	MALE		FULL TIME	PART TIME	NOT EMPLOYED	
1		HOUSEHOLDER	1[]	2[]		1[]	2[]	0[]	861-867
2			1[]	2[]		1[]	2[]	0[]	871-877
3			1[]	2[]		1[]	2[]	0[]	902-908;09 911-917
4			1[]	2[]		1[]	2[]	0[]	921-927
5			1[]	2[]		1[]	2[]	0[]	931-937
6			1[]	2[]		1[]	2[]	0[]	941-947
7			1[]	2[]		1[]	2[]	0[]	951-957
8			1[]	2[]		1[]	2[]	0[]	961-967
9			1[]	2[]		1[]	2[]	0[]	971-977
10			1[]	2[]		1[]	2[]	0[]	1007-1006;10 1011-1017
11			1[]	2[]		1[]	2[]	0[]	1011-1017
12			1[]	2[]		1[]	2[]	0[]	1031-1037

I have listed (READ RELATIONSHIPS FROM Q. 102 ABOVE). Have I missed . . . . .

103. Any babies or small children? [] YES (ADD TO LISTING) [] NO

104. Any lodgers, boarders, or persons in your employ who live here? [] YES (ADD TO LISTING) [] NO

105. Anyone who usually lives here but is away traveling or in the hospital? (SEE INSTRUCTION BELOW.) [] YES (ADD TO LISTING) [] NO

106. Anyone else staying here who does not have a regular residence elsewhere? [] YES (ADD TO LISTING) [] NO

FOR EACH PERSON AGED 14 YEARS OR OLDER, ASK:

107. Is he/she employed full-time (30 hours or more per week), part-time, or not employed?

FOR OFFICE USE ONLY:

1038-1039

INTERVIEWER INSTRUCTIONS:

In general, the householder is the person (or one of the persons) in whose name the home is owned or rented.

For questions on this and the following pages, where the term "HOUSEHOLDER" is inserted, use the appropriate designation -- you, your husband, wife, partner -- depending on who is the householder and whom you are interviewing.

Q. 102 -- Be sure to list relationships, not names. Include members of a second family that share the housing unit. Check box to indicate which household member is the respondent.

Q. 105 -- Persons who are normally members of the household but who are now living away from home (e.g., college students or members of the Armed Forces) should not be listed.

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Appendix D (Continued)

108. Does another family share your home with you?

1[] YES (SEE INSTRUCTION BELOW.) *1040*
0[] NO

INTERVIEWER: MARK ANSWER. ASK, IF NECESSARY.

HOUSEHOLDER'S MARITAL STATUS

109. Which of the following best describes (HOUSEHOLDER): now married, widowed, divorced or separated, or never married? *1041*

1[] NOW MARRIED
2[] WIDOWED
3[] DIVORCED OR SEPARATED
4[] NEVER MARRIED

HAND RESPONDENT EXHIBIT 110

110. Which of the groups on this exhibit best describes (HOUSEHOLDER)?

1[] WHITE
2[] BLACK OR NEGRO
3[] AMERICAN INDIAN, ALASKAN NATIVE *1042*
4[] ASIAN, PACIFIC ISLANDER
5[] OTHER (SPECIFY): _____

TAKE BACK EXHIBIT 110

111. Is (HOUSEHOLDER) of Spanish or Hispanic origin or descent?

1[] YES
0[] NO *1043*

INTERVIEWER INSTRUCTIONS:

Q. 108 -- If answer is "YES," check whether the additional family (or unrelated individual) has a separate room or apartment that is defined by our rules as separate living quarters. Separate living quarters are those in which the occupants (1) live and eat separately from other persons in building, and (2) have direct access from outside the building or through a common hall.

Separate living quarters should be listed separately on your housing unit address list for this location. See sampling instructions as to whether an additional interview should be completed.

If the second family's space does meet the rules for separate living quarters, that space should be excluded from the information obtained in this interview. Go back over this interview to make corrections if necessary.

If the second family's space does not meet the definition of separate living quarters, be sure that the members of the second family are included in the list of household members in Q. 102.

Appendix D (Continued)

I have just a few questions for background statistical purposes.

112. What is the highest grade (or year) (HOUSEHOLDER) attended in school?

00[] NEVER ATTENDED SCHOOL -- SKIP TO Q. 114

01[] FIRST		07[] SEVENTH	
02[] SECOND		08[] EIGHTH	
03[] THIRD		09[] NINTH	
04[] FOURTH		10[] TENTH	1044-1045
05[] FIFTH		11[] ELEVENTH	
06[] SIXTH		12[] TWELFTH	

COLLEGE (ACADEMIC YEARS)

13[] C1	16[] C4
14[] C2	17[] C5
15[] C3	18[] C6 OR MORE

113. Did (HOUSEHOLDER) finish that grade (or year)? 1[] YES 0[] No 1046

HAND RESPONDENT EXHIBIT 114

114. In 1981 did you or any member of your family living here receive any income or benefits from: (INTERVIEWER: READ AND MARK "YES," OR "NO," FOR EACH ITEM.)

a. Wages or salaries	1[] YES	0[] NO	1047
b. Self employment from business or farm	1[] YES	0[] NO	1048
c. Aid to Families with Dependent Children (AFDC)	1[] YES	0[] NO	1049
d. Supplemental Security Income (SSI)	1[] YES	0[] NO	1050
e. General Assistance or other public assistance	1[] YES	0[] NO	1051
f. Food Stamps	1[] YES	0[] NO	1052
g. Social Security or Railroad Retirement	1[] YES	0[] NO	1053
h. Unemployment compensation	1[] YES	0[] NO	1054

TAKE BACK EXHIBIT 114

HAND RESPONDENT EXHIBIT 115

115. Now let's look at this list of income groups. Please tell me which group letter best describes the total combined income in 1981 of all members of your family living here, from all sources -- wages, dividends, Social Security, and so forth -- before taxes and deductions. (Family includes all related persons living in this household.)

CIRCLE LETTER FOR INCOME GROUP

01	A	LESS THAN $ 3,000	10	J	$11,000 - $11,999	19	S $27,500 - $29,999
02	B	$ 3,000 - $ 3,999	11	K	$12,000 - $12,999	20	T $30,000 - $32,499
03	C	$ 4,000 - $ 4,999	12	L	$13,000 - $13,999	21	U $32,500 - $34,999
04	D	$ 5,000 - $ 5,999	13	M	$14,000 - $14,999	22	V $35,000 - $39,999
05	E	$ 6,000 - $ 6,999	14	N	$15,000 - $17,499	23	W $40,000 - $49,999
06	F	$ 7,000 - $ 7,999	15	O	$17,500 - $19,999	24	X $50,000 - $74,999
07	G	$ 8,000 - $ 8,999	16	P	$20,000 - $22,499	25	Y $75,000 OR OVER
08	H	$ 9,000 - $ 9,999	17	Q	$22,500 - $24,999	96	[] DON'T KNOW
09	I	$10,000 - $10,999	18	R	$25,000 - $27,499	97	[] REFUSED

1055-1056

TAKE BACK EXHIBIT 115

IF ANSWER TO Q. 115 IS GROUP R THROUGH Y (INCOME $25,000 OR OVER), SKIP TO Q. 121

IF ANSWER TO Q. 115 IS GROUP A THROUGH Q (INCOME UNDER $25,000), "DON'T KNOW", OR REFUSED", CONTINUE WITH Q. 116

HAND RESPONDENT EXHIBIT 116

116. Between October 1, 1981 and September 30, 1982 did your household receive any of the following services free or at reduced cost, from the federal, state, or local government? (INTERVIEWER: READ AND MARK "YES," OR "NO," FOR EACH ITEM).

a. Insulation in the attic, outside wall, or basement/crawl space below the floor of the house	1[] YES	0[] NO	1057
b. Insulation around the hot water heater	1[] YES	0[] NO	1058
c. Repair of broken windows or doors to keep out the cold or hot weather	1[] YES	0[] NO	1059
d. Weather stripping or caulking around any windows or doors to the outside	1[] YES	0[] NO	1060
e. Storm doors or windows added	1[] YES	0[] NO	1061
f. Repair of broken furnace	1[] YES	0[] NO	1062
g. Furnace tuneup and/or modifications	1[] YES	0[] NO	1063
h. Other home energy-saving devices (Specify): _____	1[] YES	0[] NO	1064

TAKE BACK EXHIBIT 116

Appendix D (Continued)

117. The government has an energy assistance program that helps pay heating and cooling costs. This assistance can be received directly by the household or it can be paid directly to the electric or gas company, fuel dealer, or landlord.

Between October 1, 1981 and September 30, 1982 did your household receive assistance of this type for home cooling from the federal, state, or local government? 1[] YES 0[] NO 1065

118. Between October 1, 1981 and September 30, 1982 did your household receive assistance of this type for home heating from the federal, state, or local government? 1[] YES 0[] NO 1066

IF "YES," ON Q. 118, HAND RESPONDENT EXHIBIT 119 AND ASK:

119. Were heating assistance payments made in the form of checks, coupons, or vouchers sent to this household or were the payments sent directly to the utility company, fuel dealer, or landlord? (MARK "YES," OR "NO," FOR EACH ITEM.)

a. Check to household . . . . . 1[] YES 0[] NO 1067

b. Coupon/voucher to household . . . . . 1[] YES 0[] NO 1068

c. Assistance sent directly to electric or gas company, fuel dealer, or landlord . . . . . 1[] YES 0[] NO 1069

TAKE BACK EXHIBIT 119

120. Altogether, how much government energy assistance to help pay heating costs has been provided directly to this household and/or provided on behalf of this household to a utility company, fuel dealer, or landlord between October 1, 1981 and September 30, 1982? (PROBE FOR BEST ESTIMATE) 1070-1073

NUMBER OF DOLLARS $_____.00

ASK EVERYONE

121. Do you or members of your household own your home or do you rent?

1[] OWN (BUYING)
2[] RENT -- SKIP TO Q. 123 1074
3[] OCCUPIED WITHOUT PAYMENT OF RENT -- SKIP TO Q. 124

IF "OWN (BUYING)," ASK:

122. Is this (house/apartment) part of a condominium or cooperative?

1[] YES, CONDOMINIUM
2[] YES, COOPERATIVE 1075
0[] NO

IF "RENT," ASK: 1076-1079

123. What is the monthly rent of your (house/apartment)? $ _____.00 PER MONTH

IF RENT IS NOT PAID BY THE MONTH, NOTE IN THE SPACE BELOW THE TIME PERIOD COVERED AND THE AMOUNT PAID PER TIME PERIOD.

TIME PERIOD COVERED: _____

AMOUNT PAID PER TIME PERIOD: $ _____.00

Appendix D (Continued)

HAND RESPONDENT EXHIBIT 124

124. We may have covered some of these points before, but just to be sure, please look at this exhibit and tell me whether these fuels are used for these purposes in your household.

	USED	NOT USED	PAID BY HOUSEHOLD	INCLUDED IN RENT	OTHER (SPECIFY)	
ELECTRICITY						
a. FOR HOT WATER	1[]	0[]	1[]	2[]	5[] _____	1111-1112
b. FOR HEATING YOUR HOME	1[]	0[]	1[]	2[]	5[] _____	1113-1114
c. FOR AIR-CONDITIONING (CENTRAL OR WINDOW/WALL UNITS)	1[]	0[]	1[]	2[]	5[] _____	1115-1116
d. FOR COOKING	1[]	0[]	1[]	2[]	5[] _____	1117-1118
e. FOR LIGHTING AND OTHER APPLIANCES	1[]	0[]	1[]	2[]	5[] _____	1119-1120
GAS FROM UNDERGROUND PIPES SERVING YOUR NEIGHBORHOOD						
f. FOR HOT WATER	1[]	0[]	1[]	2[]	5[] _____	1121-1122
g. FOR HEATING YOUR HOME	1[]	0[]	1[]	2[]	5[] _____	1123-1124
h. FOR CENTRAL AIR-CONDITIONING	1[]	0[]	1[]	2[]	5[] _____	1125-1126
i. FOR COOKING INSIDE HOME	1[]	0[]	1[]	2[]	5[] _____	1127-1128
j. FOR COOKING ON OUTDOOR GRILL	1[]	0[]	1[]	2[]	5[] _____	1129-1130
k. FOR OTHER APPLIANCES (INCLUDE OUTSIDE GAS LIGHT HERE)	1[]	0[]	1[]	2[]	5[] _____	1131-1132
LPG GAS (BOTTLED OR TANK GAS)						
l. FOR HOT WATER	1[]	0[]	1[]	2[]	5[] _____	1133-1134
m. FOR HEATING YOUR HOME	1[]	0[]	1[]	2[]	5[] _____	1135-1136
n. FOR CENTRAL AIR-CONDITIONING	1[]	0[]	1[]	2[]	5[] _____	1137-1138
o. FOR COOKING INSIDE HOME	1[]	0[]	1[]	2[]	5[] _____	1139-1140
p. FOR COOKING ON OUTDOOR GRILL	1[]	0[]	1[]	2[]	5[] _____	1141-1142
q. FOR OTHER APPLIANCES (INCLUDE OUTSIDE GAS LIGHT HERE)	1[]	0[]	1[]	2[]	5[] _____	1143-1144
FUEL OIL OR KEROSENE						
r. FOR HOT WATER	1[]	0[]	1[]	2[]	5[] _____	1145-1146
s. FOR HEATING YOUR HOME	1[]	0[]	1[]	2[]	5[] _____	1147-1148
t. FOR COOKING	1[]	0[]	1[]	2[]	5[] _____	1149-1150

FOR EACH USE OF EACH FUEL, ASK:

125. Is that paid for by your household, included in your rent, or do you get it some other way?

TAKE BACK EXHIBIT 124

IF GAS FROM UNDERGROUND PIPES IS NOT USED, ASK Q. 126. OTHERWISE, SKIP TO INSTRUCTION AT BOTTOM OF THIS PAGE

126. Is gas from underground pipes available in this neighborhood?

1[] YES
0[] NO
6[] DON'T KNOW

1151

IF NONE OF FUEL BILLS ARE "PAID BY HOUSEHOLD," SKIP TO INSTRUCTION FOR Q. 144 ON PAGE 35
OTHERWISE, CONTINUE WITH Q. 127 ON NEXT PAGE.

IF HOUSEHOLD USES AND PAYS FOR ELECTRICITY, GAS (FROM UNDERGROUND PIPES OR LPG), OR FUEL OIL/ KEROSENE IN Q. 125, ASK Q. 127ff. OTHERWISE, SKIP TO INSTRUCTION FOR Q. 144.

HAND RESPONDENT EXHIBIT 127

127. Do any of your household fuel bills include charges for fuel used for purposes other than for your own living quarters, such as farm buildings or machinery, the house or apartment of another household, a business or office, or anything else?

1 [] YES
0 [] NO -- TAKE BACK EXHIBIT 127; SKIP TO INSTRUCTION FOR Q. 133 *1152*

IF "YES," ASK:

128. Which fuel bills include charges for fuel used for purposes other than your own living quarters? (MARK AS MANY AS APPLY.)

[] ELECTRICITY *1153*
[] GAS FROM UNDERGROUND PIPES *1154*
[] LPG GAS (BOTTLED OR TANK GAS) *1155*
[] FUEL OIL OR KEROSENE *1156*

TURN TO EXHIBIT 129-132

IF "ELECTRICITY" ON Q. 128, ASK:

129. About how much of your household's electricity bill is used for non-household uses such as farm buildings or machinery, the house or apartment of another household, a business or office, or anything else?

0 [] VERY LITTLE (LESS THAN 5%)
1 [] 1/4 (5 - 33%)
2 [] 1/2 (34 - 66%) *1157*
3 [] 3/4 (67 - 95%)

IF "GAS FROM UNDERGROUND PIPES" ON Q. 128, ASK:

130. About how much of your household's gas bill is used for non-household uses such as farm buildings or machinery, the house or apartment of another household, a business or office, or anything else?

0 [] VERY LITTLE (LESS THAN 5%)
1 [] 1/4 (5 - 33%)
2 [] 1/2 (34 - 66%) *1158*
3 [] 3/4 (67 - 95%)

IF "LPG GAS" ON Q. 128, ASK:

131. About how much of your household's LPG bill is used for non-household uses such as farm buildings or machinery, the house or apartment of another household, a business or office, or anything else?

0 [] VERY LITTLE (LESS THAN 5%)
1 [] 1/4 (5 - 33%)
2 [] 1/2 (34 - 66%) *1159*
3 [] 3/4 (67 - 95%)

IF "FUEL OIL OR KEROSENE" ON Q. 128, ASK:

132. About how much of your household's fuel oil/kerosene bill is used for non-household uses such as farm buildings or machinery, the house or apartment of another household, a business or office, or anything else?

0 [] VERY LITTLE (LESS THAN 5%)
1 [] 1/4 (5 - 33%
2 [] 1/2 (34 - 66%) *1160*
3 [] 3/4 (67 - 95%)

TAKE BACK EXHIBIT 129-132

Appendix D (Continued)

IF HOUSEHOLD USES AND PAYS FOR LPG GAS (SEE QUESTIONS 124-125, PARTS l-q), ASK Q. 133ff. OTHERWISE, SKIP TO INSTRUCTION FOR Q. 136.

133. About how many deliveries of LPG does your household usually get in a year?

NUMBER OF DELIVERIES: [ ] *1161-1162*

94[] CASH AND CARRY, PICK UP AT STORE
95[] LIVED HERE LESS THAN 1 YEAR

134. Did you buy LPG for this (house/apartment) in the past 12 months from one company or from more than one company?

1[] ONE COMPANY
2[] MORE THAN ONE COMPANY *1163*

IF "MORE THAN ONE COMPANY," ASK:

135. How many different companies?

2[] TWO
3[] THREE *1164*
4[] FOUR OR MORE

IF HOUSEHOLD USES AND PAYS FOR FUEL OIL OR KEROSENE (SEE QUESTIONS 124-125, PARTS r-t), ASK Q. 136ff. OTHERWISE, SKIP TO Q. 140.

136. About how many deliveries of fuel oil/kerosene does your household usually get in a year?

NUMBER OF DELIVERIES: [ ] *1165-1166*

94[] CASH AND CARRY, PICK UP AT STORE
95[] LIVED HERE LESS THAN 1 YEAR

137. Did you buy fuel oil/kerosene for this (house/apartment) in the past 12 months from one company or from more than one company?

1[] ONE COMPANY
2[] MORE THAN ONE COMPANY *1167*

IF "MORE THAN ONE," ASK:

138. How many different companies?

2[] TWO
3[] THREE *1168*
4[] FOUR OR MORE

HAND RESPONDENT EXHIBIT 139

139. About how much fuel oil/kerosene does your household use in a year -- which of these groups would it be, just approximately? PROBE FOR BEST ESTIMATE.

1[] LESS THAN 100 GALLONS PER YEAR
2[] 100-499 GALLONS PER YEAR
3[] 500-999 GALLONS PER YEAR *1169*
4[] 1000 OR MORE GALLONS PER YEAR

TAKE BACK EXHIBIT 139

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CONTINUE IF ANY ELECTRIC, GAS (FROM UNDERGROUND PIPES OR LPG), OR FUEL OIL/KEROSENE BILLS ARE PAID BY HOUSEHOLD. OTHERWISE, SKIP TO INSTRUCTION FOR Q. 144

140. In addition to the types of fuel you use, we are interested in the quantities used and in the amount that people pay for electricity, gas, fuel oil, or kerosene in different parts of the United States.

I have a form that would authorize the companies that supply your household to provide that information to Response Analysis Corporation. The authorization applies to the period from January 1982 through April 1986.

Since this study is being done nationwide, it will give a good picture of the differences in fuel cost and usage all over the country. The information is needed to help establish important national energy policies.

INTERVIEWER: REMOVE THE AUTHORIZATION FORM FROM THE QUESTIONNAIRE AND HAND TO RESPONDENT. EITHER YOU OR RESPONDENT SHOULD FILL IN THE NAME(S) OF COMPANIES. IF MORE THAN ONE LPG OR FUEL OIL OR KEROSENE COMPANY HAS BEEN USED SINCE JANUARY 1, 1982, FILL IN ADDITIONAL COMPANY NAMES ON OTHER SIDE OF FORM. PLEASE PRINT.

1 [] AUTHORIZATION FORM SIGNED *1170*

0 [] AUTHORIZATION FORM NOT SIGNED -- INTERVIEWER, EXPLAIN BELOW:

_____

_____

IF AUTHORIZATION FORM IS SIGNED, ASK Q. 141ff. OTHERWISE, SKIP TO INSTRUCTION FOR Q. 144.

141. Do your fuel bills come addressed to (NAME OF SIGNATURE ON AUTHORIZATION FORM), or are they in another name?

1[] SAME NAME -- SKIP TO Q. 143. *1171*

2[] ANOTHER NAME

IF BILL IS IN ANOTHER NAME, ASK:

142. What is that name and address:

BILLING NAME: _____

STREET ADDRESS: _____

CITY AND STATE: _____

ZIP CODE: _____

143. Would it be possible for you to give me your customer number at your electric/gas company? This number is on your bills from the company.

ELECTRIC COMPANY -- CUSTOMER NUMBER: _____ *1172*

[] NOT AVAILABLE/REFUSED

GAS (FROM UNDERGROUND PIPES) -- CUSTOMER NUMBER: _____ *1173*

[] NOT AVAILABLE/REFUSED

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Appendix D (Continued)

U.S. DEPARTMENT OF ENERGY SURVEY

Authorization Form for
Residential Energy Consumption Survey

I hereby give permission to the company (companies) below to provide information to Response Analysis Corporation (or other designee of the U.S. Department of Energy) for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers use of fuels (electricity, natural gas or LPG, fuel oil or kerosene) by my household from January 1, 1982 through April 30, 1986 including

1) the total amount of fuels used by my household
2) the total price charged for fuels by my household

Companies are authorized to provide this information by monthly periods or by delivery date, whichever applies.

A photocopy of this authorization may be accepted with the same authority as the original

Signature _____

Date _____

Remove Form Carefully At Perforation

PLEASE PRINT

YOUR NAME _____

ADDRESS _____ APT NO

CITY OR POST OFFICE _____ STATE _____ ZIP CODE

TELEPHONE
AREA CODE: _____ NUMBER: _____

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH FUEL USED BY YOUR HOUSEHOLD
(IF MORE THAN ONE SUPPLIER OF A PARTICULAR FUEL USE THE OTHER SIDE OF THIS SHEET)

ELECTRICITY →

PRINT FULL NAME OF ELECTRIC COMPANY _____

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE _____

TELEPHONE
AREA CODE: _____ NUMBER: _____

GAS → from underground pipes or LPG (bottled or tank gas)

PRINT FULL NAME OF GAS COMPANY _____

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE _____

TELEPHONE
AREA CODE: _____ NUMBER: _____

FUEL OIL → or KEROSENE

PRINT FULL NAME OF OIL COMPANY _____

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE _____

TELEPHONE
AREA CODE: _____ NUMBER: _____

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Appendix D (Continued)

GAS
LPG (bottled or tank gas)

SECOND GAS COMPANY

PRINT FULL NAME OF GAS COMPANY

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE

TELEPHONE
AREA CODE:_____ NUMBER:_____

THIRD GAS COMPANY

PRINT FULL NAME OF GAS COMPANY

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE

TELEPHONE
AREA CODE:_____ NUMBER:_____

FUEL OIL
or KEROSENE

SECOND FUEL OIL/KEROSENE COMPANY

PRINT FULL NAME OF OIL COMPANY

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE

TELEPHONE
AREA CODE:_____ NUMBER:_____

THIRD FUEL OIL/KEROSENE COMPANY

PRINT FULL NAME OF OIL COMPANY

LOCATION OF COMPANY (IF KNOWN) – CITY AND STATE

TELEPHONE
AREA CODE:_____ NUMBER:_____

IF HOUSEHOLD HAS ONE OR MORE FUELS "INCLUDED IN RENT" OR "OTHER" (SEE Q. 125 ON PAGE 29,) ASK Q. 144. OTHERWISE, SKIP TO Q. 145.

144. We may be needing some additional information about fuels used in this building (house). May I have the name of the person or company to whom you pay rent or who is responsible for paying the fuel bills for this building (house)?

NAME: _____ 1174

TELEPHONE NUMBER: (AREA CODE: _____) _____

STREET ADDRESS: _____

CITY OR TOWN/STATE/ZIP CODE: _____

ASK EVERYONE

145. For interview verification purposes, may I have your name, phone number, and mailing address please?

RESPONDENT'S NAME: _____

TELEPHONE NUMBER: (AREA CODE: ____) _____

STREET ADDRESS: _____

CITY OR TOWN/STATE/ZIP CODE: _____

1207-1208:12

146. INTERVIEWER: MARK TYPE OF HOUSING UNIT

1[] MOBILE HOME OR TRAILER
2[] ONE-FAMILY HOUSE
  1[] ONE STORY
  2[] TWO STORY
  3[] THREE STORY
  4[] SPLIT-LEVEL
  5[] OTHER (SPECIFY): _____
IF ONE-FAMILY HOUSE, MARK STYLE BASED ON GENERAL APPEARANCE FROM OUTSIDE
1211-1212
3[] HOUSE OR BUILDING WITH 2 TO 4 UNITS
4[] APARTMENT BUILDING OR OTHER STRUCTURE WITH 5 OR MORE UNITS

IF THIS IS A MOBILE HOME OR A BUILDING WITH 5 OR MORE HOUSING UNITS, SKIP TO Q. 153.
IF THIS IS A BUILDING WITH 2 TO 4 HOUSING UNITS, SKIP TO Q. 150.
IF THIS IS A ONE-FAMILY HOUSE, CONTINUE WITH Q. 147.

HAND RESPONDENT EXHIBIT 147

147. Does this house have a basement, an enclosed crawl space, a crawl space open to the outside, a concrete slab, or a combination of these?

1[] BASEMENT
2[] CRAWL SPACE -- ENCLOSED
3[] CRAWL SPACE -- OPEN TO THE OUTSIDE
4[] CONCRETE SLAB -- SKIP TO Q. 153
5[] COMBINATION (MARK ALL THAT APPLY.)
  [] BASEMENT
  [] CRAWL SPACE -- ENCLOSED
  [] CRAWL SPACE -- OPEN TO THE OUTSIDE
  [] CONCRETE SLAB

1213
1214
1215
1216
1217

TAKE BACK EXHIBIT 147

IF "BASEMENT," "CRAWL SPACE," OR "COMBINATION," ASK:

148. Is all, part, or none of the basement or crawl space heated?

1[] ALL -- SKIP TO Q. 153
2[] PART
0[] NONE

1218

IF RESPONDENT ASKS, A BASEMENT IS CONSIDERED HEATED IF IT IS A COMFORTABLE PLACE TO SIT, WORK, OR PLAY, ETC., YEAR-ROUND

IF "PART," OR "NONE" IS HEATED, HAND RESPONDENT EXHIBIT 149 AND ASK:

149. About how much of the floor area above the unheated basement or crawl space is insulated?

[] NONE, VERY LITTLE (LESS THAN 4%)
[] 1/4 (5 - 33%)
[] 1/2 (34 - 66%)
[] 3/4 (67 - 95%)
[] ALL (96 - 100%)
[] DON'T KNOW

1219

TAKE BACK EXHIBIT 149; SKIP TO Q. 153

Appendix D (Continued)

IF THIS IS A BUILDING WITH 2 TO 4 HOUSING UNITS, ASK Q. 150, OTHERWISE, SKIP TO Q. 153.

150. Does this building have a basement?
1[] YES
0[] NO
1220

IF "YES," ASK:

151. Is any part of the basement for the exclusive or primary use of your household?
1[] YES
0[] NO
1221

IF "YES," ASK:

152. Thinking of the basement space used by your household -- is all, part, or none of that space heated?
1[] ALL
2[] PART
0[] NONE
1222

IF RESPONDENT ASKS, A BASEMENT IS CONSIDERED HEATED IF IT IS A COMFORTABLE PLACE TO SIT, WORK, OR PLAY, ETC., YEAR-ROUND.

ASK EVERYONE

HAND RESPONDENT EXHIBIT 153

153. Since September 1980, have any of the kinds of things listed on this exhibit been done to your home -- that is, anything that has either increased or decreased the total number of square feet of space, or that has changed the number of square feet of heated space?
1[] YES
0[] NO
1223

IF "YES", TO Q. 153

154. Did the total number of square feet of space increase, decrease, or remain the same?
1[] INCREASED
2[] DECREASED
3[] REMAINED THE SAME
1224

155. Did the amount of heated space increase, decrease, or remain the same?
1[] INCREASED
2[] DECREASED
3[] REMAINED THE SAME
1225

156. Please give me a description of the work that was done.
1226-1227

157. In what month and year was the work completed?
MONTH: _____
YEAR: 198_____
1228-1231

TAKE BACK EXHIBIT 153

Appendix D (Continued)

158. So far, we've been talking about things in your household that affect your energy use. What we need also is a measure of your year-round living space.

With your permission, I would like to measure your home. I can do it from the inside or the outside. With your home, I think it would be most accurate to do it on the (inside/outside).

INTERVIEWER INSTRUCTIONS:

In general, measure all parts of the housing unit enclosed from the weather.

Basements or cellars

Include basements or cellars in one-family houses.

Include basement space in buildings with 2 to 4 housing units, if it is for the exclusive or primary use of household for this interview. See Q. 151.

Exclude basements and cellars in buildings with 5 or more units.

Exclude crawl spaces.

Attics

Include attics if heated or finished.

Exclude attics if unheated and also unfinished.

Garages, sheds, or barns

Include garages if attached to house and enclosed from the weather.

Exclude garages, sheds, or barns if not attached to house or if open to the weather.

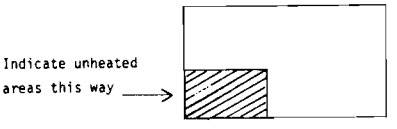
Porches

Include porches if enclosed from the weather.

Exclude porches if open to the weather.

Buildings with 2 or more housing units: Measure only the space used by household for this interview (do not measure the entire building).

Unheated areas: Within the housing unit that you measure, indicate unheated area(s) in the diagrams with lines. Give dimensions of unheated area(s).



USE BACKS OF MEASUREMENT PAGES FOR ADDITIONAL SPACE AS NEEDED, FOR SKETCHES AND MEASUREMENTS.

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Appendix D (Continued)

RECORD MEASUREMENTS ON DIAGRAM TO NEAREST FOOT

START HERE

if this household has a basement or cellar (see instruction on facing page for basements and cellars)

BASEMENT MEASUREMENTS [] FULL BASEMENT [] HALF BASEMENT

RECTANGULAR SHAPE	DRAW DIAGRAM, IF OTHER THAN RECTANGULAR
[ ] [ ]	

INTERVIEWER: HAVE YOU MARKED WITH LINES AND GIVEN DIMENSIONS OF UNHEATED AREAS IN DIAGRAM ABOVE?

START HERE

if this household does not have a basement or cellar

FIRST STORY MEASUREMENTS [] FULL STORY [] HALF STORY

RECTANGULAR SHAPE	DRAW DIAGRAM, IF OTHER THAN RECTANGULAR
[ ] [ ]	

INTERVIEWER: HAVE YOU MARKED WITH LINES AND GIVEN DIMENSIONS OF UNHEATED AREAS IN DIAGRAM ABOVE?

CONTINUE ON PAGE 41 FOR SECOND AND THIRD STORIES

FOR OFFICE USE ONLY

	Fir Codes			Unit A			Unit B			Unit C			Unit D			# of Units
	1232	33	34	35	36-37	38-39	40	41-42	43-44	45	46-47	48-49	50	51-52	53-54	55
B																
	1256	57	58	59	60-61	62-63	64	65-66	67-68	69	70-71	72-73	74	75-76	77-78	79
1																

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Appendix D (Continued)

IF NO SECOND OR THIRD STORY TO MEASURE, GO TO Q. 159

RECORD MEASUREMENTS ON DIAGRAM TO NEAREST FOOT

SECOND STORY MEASUREMENTS [] FULL STORY [] HALF STORY

RECTANGULAR SHAPE	DRAW DIAGRAM, IF OTHER THAN RECTANGULAR
[ ] [ ]	

INTERVIEWER: HAVE YOU MARKED WITH LINES AND GIVEN DIMENSIONS OF UNHEATED AREAS IN DIAGRAM ABOVE?

THIRD STORY MEASUREMENTS [] FULL STORY [] HALF STORY

RECTANGULAR SHAPE	DRAW DIAGRAM, IF OTHER THAN RECTANGULAR
[ ] [ ]	

INTERVIEWER: HAVE YOU MARKED WITH LINES AND GIVEN DIMENSIONS OF UNHEATED AREAS IN DIAGRAM ABOVE?

FOR OFFICE USE ONLY 1307-1308:13

	Fir Codes			Unit A			Unit B			Unit C				Unit D		# of Units
	1311	12	13	14	15-16	17-18	19	20-21	22-23	24	25-26	27-28	29	30-31	32-33	34
2																
	1335	36	37	38	39-40	41-42	43	44-45	46-47	48	49-50	51-52	53	54-55	56-57	58
3																

Heated	Unheated	DK Htd/Unhtd
1359-1363	1364-1368	1369-1373

TOTALS		
H	UH	DK
74	75	76

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Appendix D (Continued)

159. One part of my task is to mark on my diagram any parts of your home that are not heated during the heating season.

TELL RESPONDENT WHAT PARTS OF HOME, IF ANY, YOU HAVE MARKED AS NOT HEATED DURING HEATING SEASON. THEN ASK:

Is that correct -- have I missed any unheated areas?

REVISE SKETCHES AS NECESSARY; THEN MARK APPROPRIATE BOX AT RIGHT

0[] NO UNHEATED AREAS

1[] ALL UNHEATED AREAS HAVE BEEN MARKED WITH LINES 

2[] ENTIRE UNIT IS UNHEATED (NO HEATING EQUIPMENT)

160. INTERVIEWER:

MARK BOX TO INDICATE HOW MEASUREMENTS WERE OBTAINED FOR (HOUSE/APARTMENT)

01[] MEASURED INSIDE

02[] MEASURED OUTSIDE

03[] COMBINATION OF INSIDE AND OUTSIDE MEASUREMENTS

04[] RESPONDENT GAVE TOTAL SQUARE FEET FROM PLAN

05[] RESPONDENT'S ESTIMATES

21[] OTHER MEASUREMENT PROCEDURE (SPECIFY): _____

_____

TURN PAGE TO COMPLETE INTERVIEW

FOR OFFICE USE ONLY

FL	LQT

1377-1379

Appendix D (Continued)

INTERVIEWER REPORT ON MEASUREMENT OF YEAR-ROUND LIVING SPACE

161. WHAT PROBLEMS, IF ANY, DID YOU HAVE IN MEASURING THIS (HOUSE/APARTMENT)?

162. WHAT EFFECT, IF ANY, DID THESE PROBLEMS HAVE ON THE ACCURACY OF YOUR MEASUREMENTS?

1407-1408:14

TIME INTERVIEW COMPLETED: _____ AM / PM LENGTH OF INTERVIEW: _____ MINUTES *1411-1413*

INTERVIEWER'S SIGNATURE _____ DATE: _____ *1414-1419*

INTERVIEWER'S I.D. #: _____

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Appendix D (Continued)

U.S. DEPARTMENT OF ENERGY
1982 - 1983 RESIDENTIAL ENERGY CONSUMPTION SURVEY
Conducted by
RESPONSE ANALYSIS CORPORATION
P.O. Box 158, Princeton, New Jersey 08540
Mandatory under Public Law 93-275 and 94-385

OMB NO. 1905-0092
(Expires 8/31/83)
EIA-457E F-4153

HOUSEHOLD:

If the customer account number is not shown, please enter it.

If you have any questions, please call collect to Ms. Luci Raaum at (609) 921-3333

CUSTOMER
ACCOUNT #:

Information about specific households will be kept strictly confidential. The data will be summarized within large groupings for statistical purposes.

ELECTRICITY USAGE FROM MARCH 1, 1982 TO THE PRESENT					
Time Period	Consumption Period: Beginning Date	Consumption Period: Ending Date	Number of kWh Used	(Circle One) kWh are: A - Actual E - Estimates R - Read by Customer	Total Dollar* Amount
1				A E R	
2				A E R	
3				A E R	
4				A E R	
5				A E R	
6				A E R	
7				A E R	
8				A E R	
9				A E R	
10				A E R	
11				A E R	
12				A E R	
13				A E R	
14				A E R	
15				A E R	
16				A E R	
17				A E R	
18				A E R	

*Please include state and local taxes. Exclude merchandise, repair, and service charges. If the household is on the budget plan, do not provide the budgeted bill; provide instead the dollar amount that is the cost of the actual consumption in the period.

Form completed by: _____ (Name) _____ (Telephone Number) _____ (Date)

Appendix D (Continued)

OMB NO. 1905-0092
(Expires 8/31/83)
EIA-457F F-4154

U.S. DEPARTMENT OF ENERGY
1982 - 1983 RESIDENTIAL ENERGY CONSUMPTION SURVEY
Conducted by
RESPONSE ANALYSIS CORPORATION
P.O. Box 158, Princeton, New Jersey 08540
Mandatory under Public Law 93-275 and 94-385

If the customer account number is not shown, please enter it.

If you have any questions, please call collect to Ms. Luci Raaum at (609) 921-3333

HOUSEHOLD:

CUSTOMER
ACCOUNT #:

Information about specific households will be kept strictly confidential. The data will be summarized within large groupings for statistical purposes.

UTILITY GAS USAGE FROM MARCH 1, 1982 TO THE PRESENT

Time Period	Consumption Period Beginning Date	Consumption Period Ending Date	Quantity Used*	(Circle One) Quantities are: A - Actual E - Estimated R - Read by Customer	Total Dollar** Amount
1				A E R	
2				A E R	
3				A E R	
4				A E R	
5				A E R	
6				A E R	
7				A E R	
8				A E R	
9				A E R	
10				A E R	
11				A E R	
12				A E R	
13				A E R	
14				A E R	
15				A E R	
16				A E R	
17				A E R	
18				A E R	

*The quantity used is expressed in terms of: (Mark one)

[ ] Therms
[ ] Cubic Feet
[ ] Hundreds of Cubic Feet (CCF)
[ ] Thousands of Cubic Feet (MCF)
[ ] Other (Please specify): _____

**Please include state and local taxes. Exclude merchandise, repairs, and service charges. If the household is on the budget plan, do not provide the budgeted bill; provide instead the dollar amount that is the cost of the actual consumption in the period.

Form completed by _____ (Name) _____ (Telephone Number) _____ (Date)

Appendix D (Continued)

OMB NO. 1905-0092
(Expires 8/31/83)

EIA-457G F-4151

U.S. DEPARTMENT OF ENERGY

1982 - 1983 RESIDENTIAL ENERGY CONSUMPTION SURVEY

Conducted by
RESPONSE ANALYSIS CORPORATION
Research Park, Route 206
P. O. Box 158
Princeton, New Jersey 08540

FUEL OIL OR KEROSENE

HOUSEHOLD

These data will be combined with similar data throughout the country to show the use of fuel oil or kerosene in U.S. homes.

This research is being conducted by Response Analysis Corporation under U.S. Department of Energy Contract Number DE-AC01-82EI-11557. This survey is mandatory as authorized by the Federal Energy Administration Act of 1974 (Public Law 93-275), as amended by the Energy Conservation and Production Act (Public Law 94-385).

Information about specific households will be kept strictly confidential. The data will be summarized within large groupings for statistical purposes.

Appendix D (Continued)

HOUSEHOLD:

If you have any questions, please call collect to Luci Raaum at (609) 921-3333.

FUEL OIL AND KEROSENE USAGE

Please provide information on all deliveries to this household from January 1, 1982 to the present date. If information is available only for a shorter period, just report deliveries for that shorter period.

Del. #	Column 1 Date of Delivery	Column 2 Fuel Sold Was: Fuel oil #1 (1) Fuel oil #2 (2) Kerosene (K) Other (O) (Circle one)	Column 3 Gallons Delivered	Column 4 Price per Gallon	Column 5 Total Dollar Amount*	Column 6 Was tank completely filled: Yes No Don't Know (DK) (Circle one)
1		1 2 K O				YES NO DK
2		1 2 K O				YES NO DK
3		1 2 K O				YES NO DK
4		1 2 K O				YES NO DK
5		1 2 K O				YES NO DK
6		1 2 K O				YES NO DK
7		1 2 K O				YES NO DK
8		1 2 K O				YES NO DK
9		1 2 K O				YES NO DK
10		1 2 K O				YES NO DK
11		1 2 K O				YES NO DK
12		1 2 K O				YES NO DK
13		1 2 K O				YES NO DK
14		1 2 K O				YES NO DK
15		1 2 K O				YES NO DK
16		1 2 K O				YES NO DK
17		1 2 K O				YES NO DK
18		1 2 K O				YES NO DK

PLEASE CONTINUE ON PAGE 4 IF NECESSARY.

*Please include state and local sales taxes, where applicable. Exclude merchandise, repairs, or service charges.

Appendix D (Continued)

FUEL OIL AND KEROSENE

1. If "Other" has been circled for type of fuel in Column 2 (page 2 or page 4), please specify what fuel was sold: _____

   [] NOT APPLICABLE

2. What is the capacity of this household's storage tank?

   CAPACITY: _____ GALLONS

3. Was this household your customer as of January 1, 1982?

   [] YES [] NO

   ↘IF "NO," approximately when did this household become a customer of your company?

   APPROXIMATE DATE: _____

   [] DON'T KNOW

   [] NEVER A CUSTOMER

4. Is this household presently your customer?

   [] YES [] NO

   ↘IF "NO," approximately when did this household stop being a customer of your company?

   APPROXIMATE DATE: _____

   [] DON'T KNOW

   [] NEVER A CUSTOMER

5. The information presented here is from:

   [] COMPANY RECORDS

   [] AN ESTIMATE MADE BY A COMPANY REPRESENTATIVE

   [] INFORMATION SECURED FROM THE CUSTOMER

6. This information has been supplied by:

(Name)	(Company)	(Telephone)	(Date)

Appendix D (Continued)

FUEL OIL AND KEROSENE

Del. #	Column 1 Date of Delivery	Column 2 Fuel Sold Was: Fuel oil #1 (1) Fuel oil #2 (2) Kerosene (K) Other (0) (Circle one)	Column 3 Gallons Delivered	Column 4 Price per Gallon	Column 5 Total Dollar Amount*	Column 6 Was tank completely filled? Yes No Don't Know (DK) (Circle one)
19		1 2 K 0				YES NO DK
20		1 2 K 0				YES NO DK
21		1 2 K 0				YES NO DK
22		1 2 K 0				YES NO DK
23		1 2 K 0				YES NO DK
24		1 2 K 0				YES NO DK
25		1 2 K 0				YES NO DK
26		1 2 K 0				YES NO DK
27		1 2 K 0				YES NO DK
28		1 2 K 0				YES NO DK
29		1 2 K 0				YES NO DK
30		1 2 K 0				YES NO DK

*Please include state and local sales taxes, where applicable. Exclude merchandise, repairs, or service charges.

PLEASE USE THIS SPACE FOR ANY ADDITIONAL NOTES THAT YOU WISH TO MAKE TO EXPLAIN ENTRIES ON THIS FORM.

PLEASE CHECK THAT THE QUESTIONS ON PAGE THREE HAVE BEEN ANSWERED.

Appendix D (Continued)

OMB NO. 1905-0092
(Expires 8/31/83)
EIA-457H F-4152

U.S. DEPARTMENT OF ENERGY

1982 - 1983 RESIDENTIAL ENERGY CONSUMPTION SURVEY

Conducted by
RESPONSE ANALYSIS CORPORATION
Research Park, Route 206
P. O. Box 158
Princeton, New Jersey 08540

LIQUEFIED PETROLEUM GAS (LP-GAS)

HOUSEHOLD

These data will be combined with similar data throughout the country to show the use of LP-Gas in U.S. homes.

This research is being conducted by Response Analysis Corporation under U.S. Department of Energy Contract Number DE-AC01-82EI-11557. This survey is mandatory as authorized by the Federal Energy Administration Act of 1974 (Public Law 93-275), as amended by the Energy Conservation and Production Act (Public Law 94-385).

Information about specific households will be kept strictly confidential. The data will be summarized within large groupings for statistical purposes.

Appendix D (Continued)

HOUSEHOLD:

If you have any questions, please call collect to Luci Raaum at (609) 921-3333.

LIQUEFIED PETROLEUM GAS USAGE

Please provide information on all deliveries to this household from January 1, 1982 to the present date. If information is available only for a shorter period, just report deliveries for that shorter period.

Del. #	Column 1 Date of Delivery	Column 2 Fuel Sold Was: Propane P Butane B Other O (Circle one)	Column 3 Quantity Delivered	Column 4 Price per Unit	Column 5 Total Dollar Amount*	Column 6 Was tank/cylinder completely filled? Yes No Don't Know (DK) (Circle one)
1		P B O				YES NO DK
2		P B O				YES NO DK
3		P B O				YES NO DK
4		P B O				YES NO DK
5		P B O				YES NO DK
6		P B O				YES NO DK
7		P B O				YES NO DK
8		P B O				YES NO DK
9		P B O				YES NO DK
10		P B O				YES NO DK
11		P B O				YES NO DK
12		P B O				YES NO DK
13		P B O				YES NO DK
14		P B O				YES NO DK
15		P B O				YES NO DK
16		P B O				YES NO DK
17		P B O				YES NO DK
18		P B O				YES NO DK

PLEASE CONTINUE ON PAGE 4 IF NECESSARY.

*Please include state and local taxes, where applicable. Exclude merchandise, repairs, or service charges.

Appendix D (Continued)

LIQUEFIED PETROLEUM GAS (LPG)

1. If "Other" has been circled for type of fuel in Column 2 (page 2 or page 4), please specify what fuel was sold?

   _____

   [] NOT APPLICABLE

2. Please mark unit of measure for deliveries reported on page 2.

   [] POUNDS
   [] GALLONS
   [] CUBIC FEET
   [] CUBIC METERS
   [] DECITHERMS
   [] OTHER (Please specify):

   _____

3. What is the capacity of this household's storage tank(s)?

   Capacity is _____ and is measured in number of:

   [] POUNDS
   [] GALLONS
   [] OTHER UNIT (Please specify): _____

4. Were you supplying this household on January 1, 1982?

   [] YES
   [] NO

   ↘ IF "NO," approximately when did this household become a customer of your company?

   APPROXIMATE DATE _____

   [] DON'T KNOW
   [] NEVER A CUSTOMER

5. Is this household presently your customer?

   [] YES
   [] NO

   ↘ IF "NO," approximately when did this household stop being a customer of your company?

   APPROXIMATE DATE _____

   [] DON'T KNOW
   [] NEVER A CUSTOMER

6. The information reported here is from:

   [] COMPANY RECORDS
   [] AN ESTIMATE MADE BY A COMPANY REPRESENTATIVE
   [] INFORMATION SECURED FROM THE CUSTOMER

7. This information has been supplied by:

   _____ (Name) _____ (Company) _____ (Telephone) _____ (Date)

Appendix D (Continued)

LIQUEFIED PETROLEUM GAS (LPG)

Del. #	Column 1 Date of Delivery	Column 2 Fuel Sold Was: Propane P Butane B Other O (Circle one)	Column 3 Quantity Delivered	Column 4 Price per Unit	Column 5 Total Dollar Amount*	Column 6 Was tank/cylinder completely filled? Yes No Don't Know (DK) (Circle one)
19		P B O				YES NO DK
20		P B O				YES NO DK
21		P B O				YES NO DK
22		P B O				YES NO DK
23		P B O				YES NO DK
24		P B O				YES NO DK
25		P B O				YES NO DK
26		P B O				YES NO DK
27		P B O				YES NO DK
28		P B O				YES NO DK
29		P B O				YES NO DK
30		P B O				YES NO DK

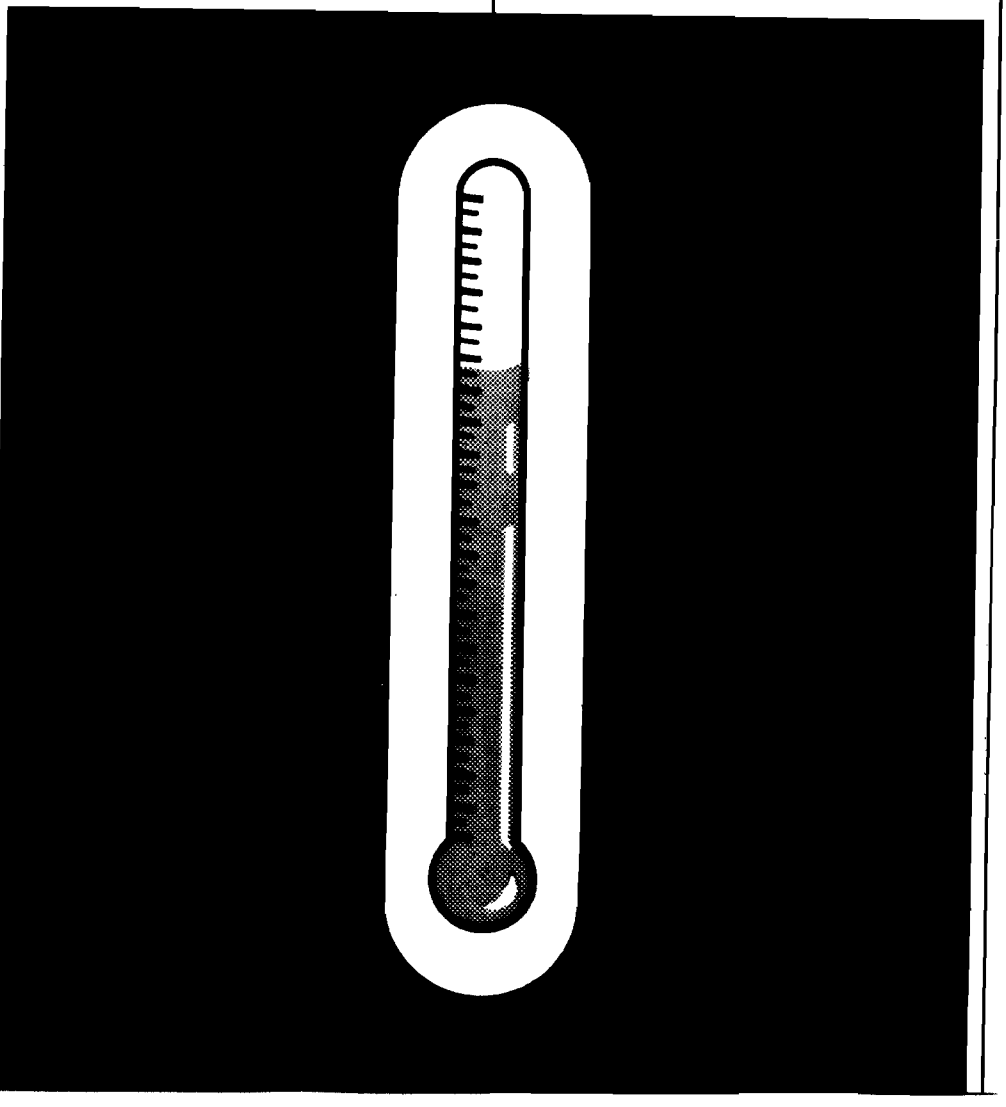
*Please include state and local sales taxes, where applicable. Exclude merchandise, repairs, or service charges.

PLEASE USE THIS SPACE FOR ANY ADDITIONAL NOTES THAT YOU WISH TO MAKE TO EXPLAIN ENTRIES ON THIS FORM.

PLEASE CHECK THAT THE QUESTIONS ON PAGE THREE HAVE BEEN ANSWERED.

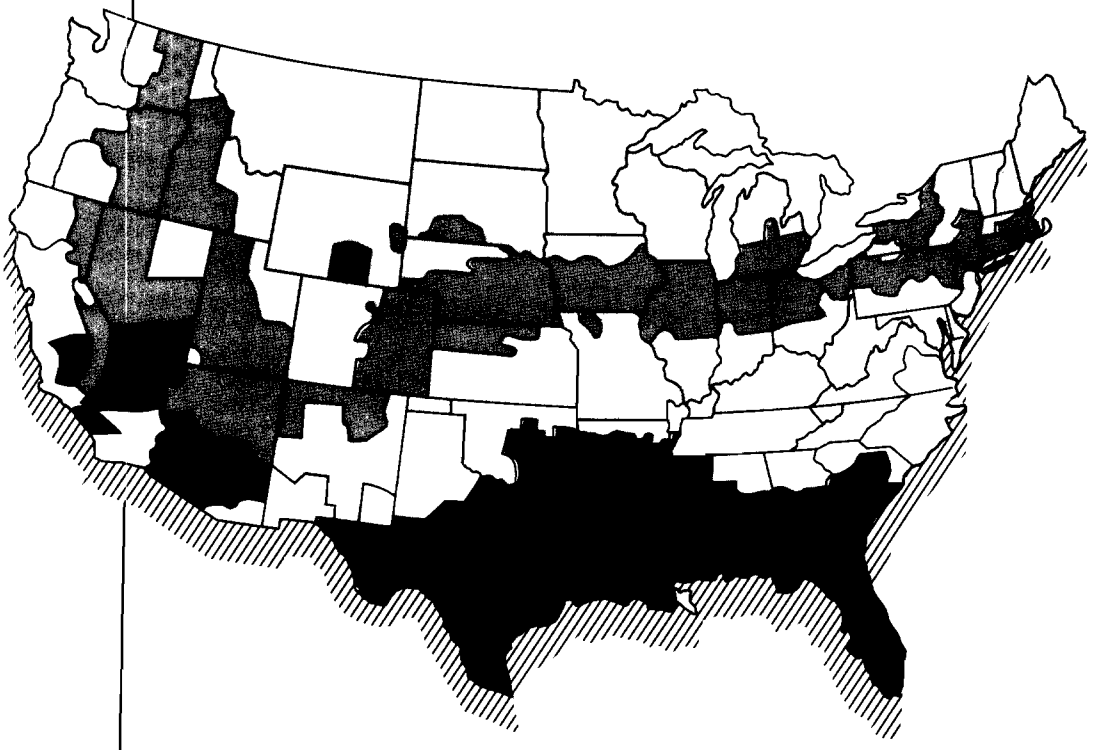
Appendix E

U.S.
Weather Zone
Map



Appendix E

U.S. Weather Zone Map of Heating Degree-Days (HDD) and Cooling Degree-Days (CDD)

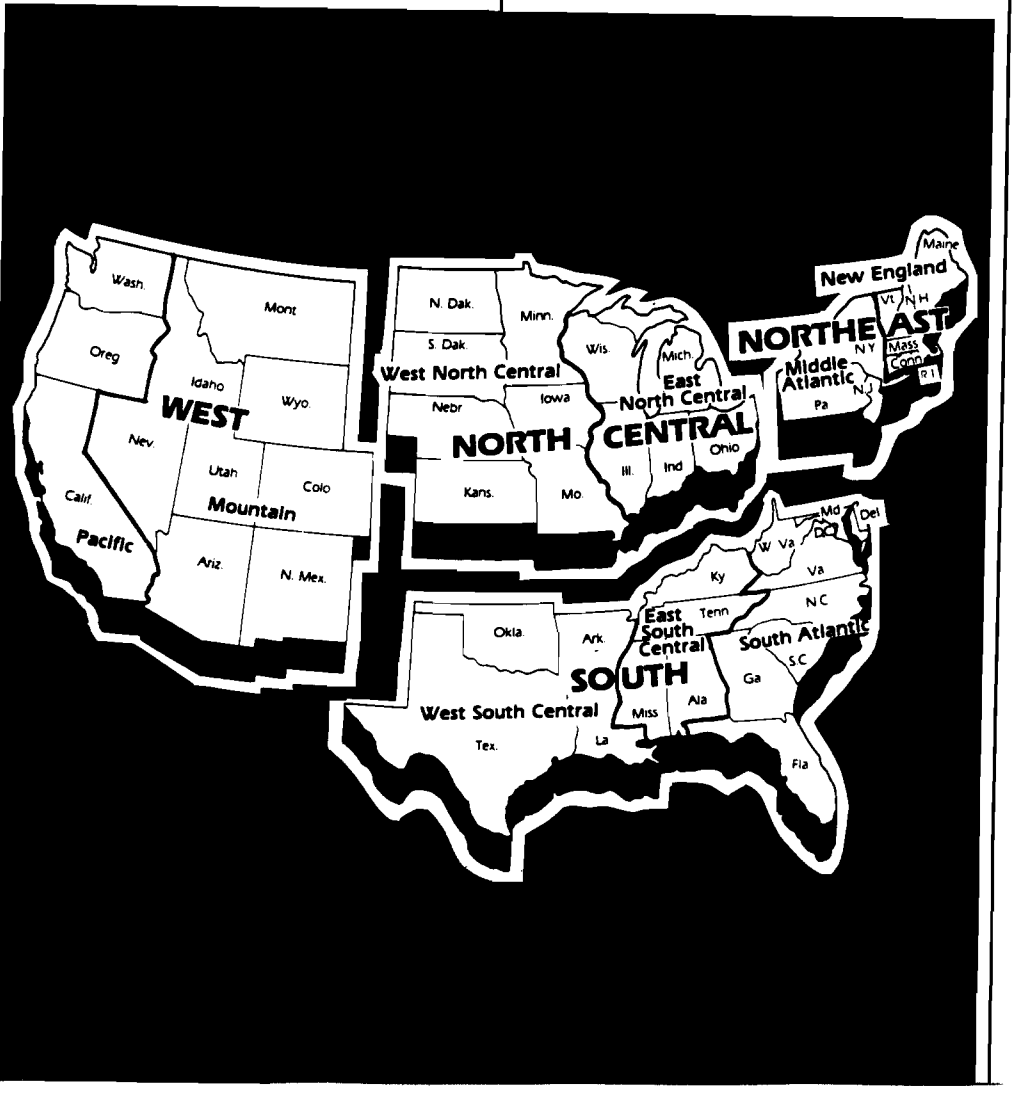


Weather Zones

- Zone 1 is less than 2,000 CDD and greater than 7,000 HDD.
- Zone 2 is less than 2,000 CDD and 5,500-7,000 HDD.
- Zone 3 is less than 2,000 CDD and 4,000-5,499 HDD.
- Zone 4 is less than 2,000 CDD and less than 4,000 HDD.
- Zone 5 is greater than 2,000 CDD and less than 4,000 HDD.

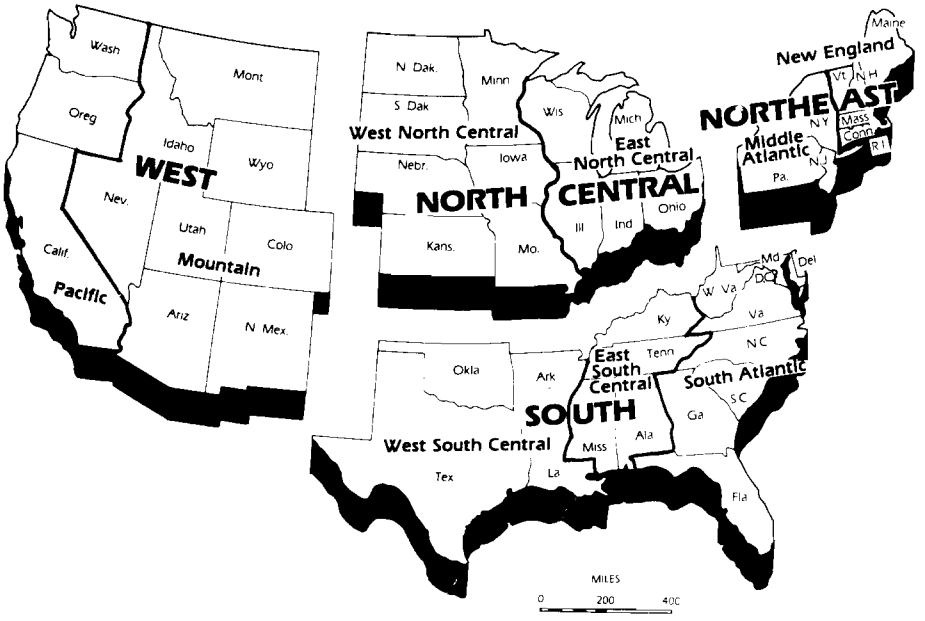
Appendix F

U.S. Census Regions and Divisions

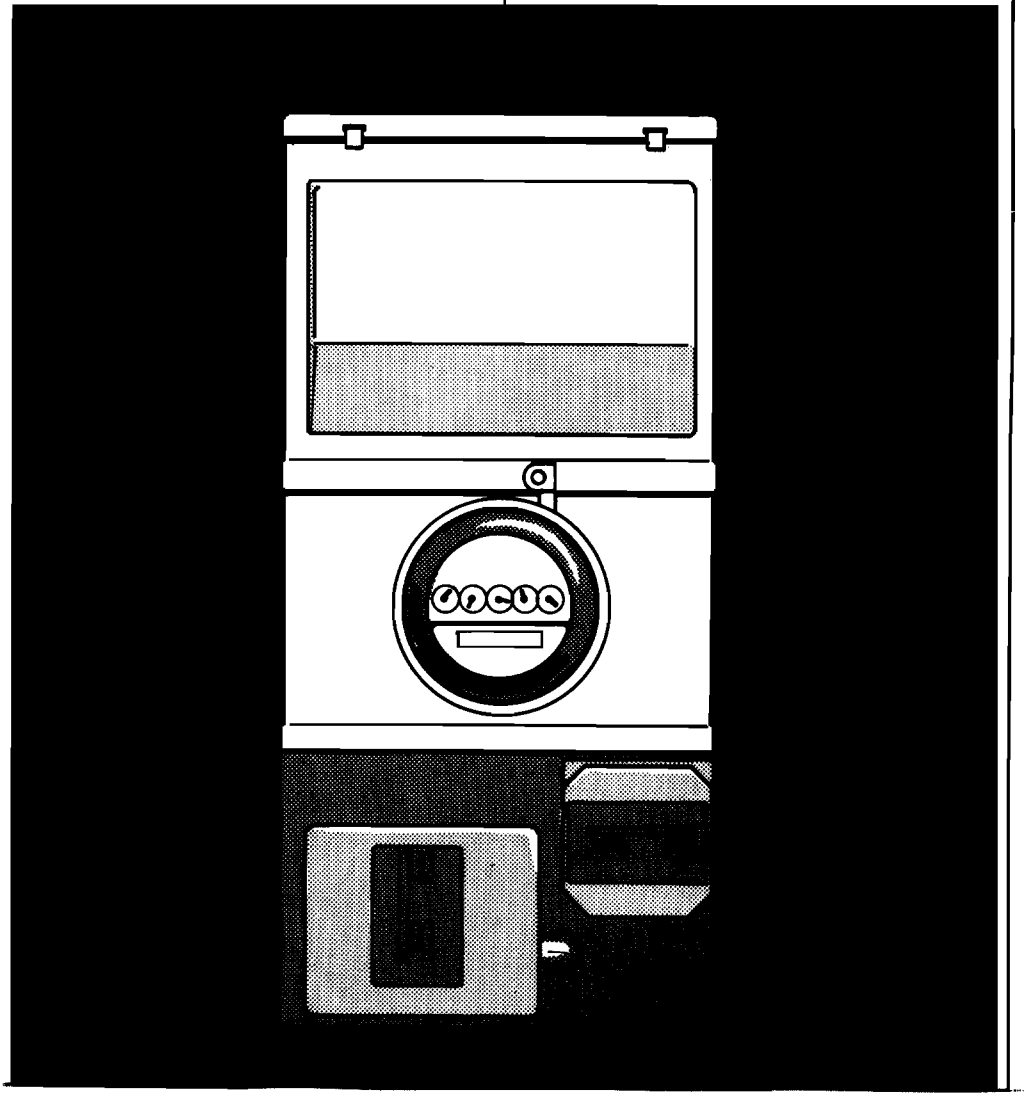


Appendix F

U.S. Census Regions and Divisions



Glossary



Glossary

Air Conditioning: Cooling of air by a refrigeration unit. This does not include fans, blowers, or evaporative cooling systems or "swamp coolers" that are not connected to a refrigeration unit. Air-conditioning units that are not currently in working condition or are not used, but are in place in the housing unit, are included in this survey.

"Number of rooms that can be air conditioned" refers to the number of rooms the air-conditioning equipment is capable of cooling when the equipment is used. The question "How many rooms in your house (apartment) can be cooled by your air conditioning?" refers to rooms that could be cooled if the air-conditioning equipment were used. There are, therefore, no cases in the data set of a household with air-conditioning equipment that cooled zero rooms.

"All rooms air conditioned" means that 100 percent of the rooms are air conditioned. "Some rooms air conditioned" means that fewer than 100 percent are air conditioned.

"Central air-conditioning system" refers to a system that air-conditions a number of rooms in a home. See also Central System for the Building. For a definition of rooms, see Number of Rooms.

All-Electric Home: Uses electricity for space heating, water heating, and cooking. Other fuels may be used for supplementary heating or other purposes.

Appliances Used: Appliances possessed and used by the household during the year. Appliances possessed by the household but not used are not counted. Air-conditioning units are an exception. Air conditioning is counted as present whether or not it is used. (See Air Conditioning.) Appliances loaned to the household for their regular use are included. Appliances temporarily not in working condition but generally used by the household are included only if a repair person has been called or the appliance has been taken to a repair shop. "Swimming pool heater" applies only to swimming pools that are for the exclusive use of the housing unit. Swimming pools in apartment buildings, condominiums, or cooperatives that are for the use of many resident households are not included. Ponds, hot tubs, jacuzzis, or childrens wading pools are not swimming pools. "Oven" includes microwave and convection ovens, but does not include toaster ovens. "An evaporative cooler (swamp cooler)" is an air-cooling unit that turns air into moist, cool air by saturating the air with water vapor. (See also Refrigerators.)

Availability of Natural Gas in the Neighborhood: Respondents who did not use natural gas answered "yes," "no," or "don't know" to the question, "Is gas from underground pipes available in this neighborhood?" Respondents were not provided with a definition of "available" or "neighborhood," so some variation is expected in what these concepts mean to each respondent. The intent of this question is to determine whether a household could hook up to a gas line. This question was asked only of households living in single-family or mobile homes in the 1980 RECS.

Basement: An enclosed space in which a person can walk upright under all or part of the building. A "crawl space" is the space between the ground and the floor of a house. An "enclosed" crawl space is one not accessible from the outside of the house because the walls of the space

protect it from the weather. A crawl space "open to the outside" is accessible from outside the house even though it may be covered by a trellis or lathwork, or some kind of brickwork that leaves space for circulation of air.

Bathroom: A "complete" bathroom has a flush toilet, a bathtub or shower, and a sink or washbasin with running water. A "half-bath" has a flush toilet or a bathtub or shower but does not have all the facilities for a complete bathroom.

Billing Period: The time between meter readings. It does not refer to the time the bill was sent or when the payment was to have been received. In some cases, the billing period is the same as the billing cycle that corresponds closely (within several days) to meter-reading dates. For fuel oil and LPG, the billing period is the number of days between fuel deliveries.

Btu (British Thermal Units): A Btu is the amount of energy required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near 39.2 degrees Fahrenheit and 1 atmosphere of pressure. One Btu is about equal to the heat given off by a blue-tip match.

Btu conversion factors for this survey are

Electricity	3,412 Btu/kilowatt-hour
Natural Gas	1,027 Btu/cubic foot
Fuel Oil No. 1	135,000 Btu/gallon
Kerosene	135,000 Btu/gallon
Fuel Oil No. 2	138,690 Btu/gallon
LPG (propane)	21,540 Btu/pound
	91,330 Btu/gallon
	2,510 Btu/cubic foot
	88,640 Btu/cubic meter
Wood	20 million Btu/cord

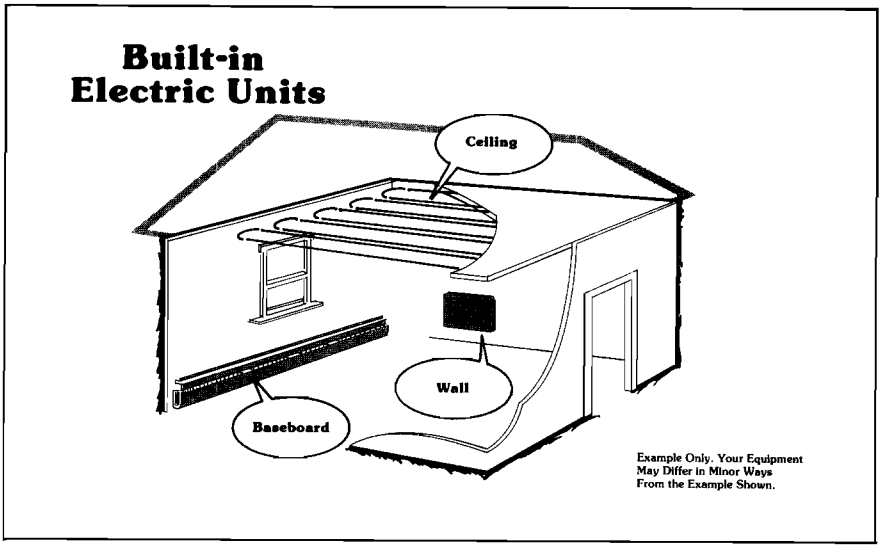
Other conversion factors used include:

1 therm = 100,000 Btu
1 barrel = 42 gallons

Almost all LPG reported by the fuel suppliers was propane. Hence, the LPG conversion factors are those for propane. See Wood Burned for discussion of the Btu value of wood.

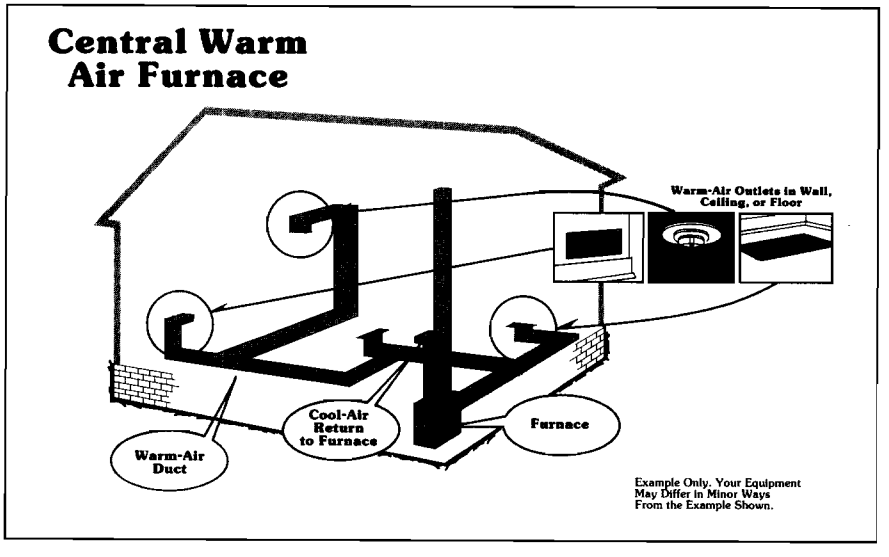
Built-in Electric Units: Individual resistance electric heating units are permanently installed in the floors, walls, ceilings, or baseboards and are part of the electrical installation of the building. Electric heating devices that are plugged into an electric socket or outlet are not considered built in.

Glossary (Continued)



Central System for the Building: A central system serving one or more buildings of two or more housing units each that is used for main heating, water heating, or air conditioning. A system that is for the respondent's living quarters only is not a central system for the building.

Central Warm-Air Furnace: A central furnace providing warm air through ducts leading to the various rooms. Heat pumps are not included in this category. A "forced-air" furnace is one in which a fan is used to force the air through the ducts. In a "gravity" furnace, air is circulated by gravity. The warm air rises through ducts and the cold air falls through ducts that return it to the furnace to be reheated. This completes the circulation cycle.



Glossary (Continued)

Conservation Items Added: Energy-saving items added to the housing unit the household now occupies. Items added to a previous place of residence and changes made by previous occupants of the housing unit are not counted. Changes made by a landlord are counted.

"Automatic or clock thermostat" is a thermostat that can be set to turn the heating system off and on at certain preset times.

"Flame-retention head burner for furnace (fuel oil)" is a device that controls the pattern of flame in the combustion chamber of a boiler or furnace.

"Automatic flue door (vent damper)" automatically closes the flue when the furnace goes off, preventing heat loss up the chimney.

"Electrical or mechanical furnace ignition system (spark ignition)" added to the furnace means that fuel will ignite from an electrically or mechanically produced spark rather than from a pilot light that burns continuously.

"Insulation around heating and/or cooling ducts" is extra insulation around the heating and/or cooling ducts to reduce the loss of hot or cold air as it travels to different parts of the residence.

"Insulation around the hot water and/or cooling pipes" is wrapping hot water and/or cooling pipes with insulation to reduce the heat or cold loss through the pipes.

"Insulation around hot water heater" is blanket insulation wrapped around the hot water heater to reduce heat loss. This is in addition to any insulation provided by the manufacturer.

"Closeable shutters, insulating drapes, reflective film" are counted if any one of these has been added to any door or window in the housing unit. Shutters that close to provide an insulating effect are counted as well as insulated roller shades or "window quilts" whose sidesride in a channel attached to the window frame. Decorative shuttersthat do not close are not counted.

"Plastic sheets" may be used to cover a window or other opening in the housing unit in an attempt to reduce heat loss.

"Caulking around any windows or doors to the outside" usually comes in a tube and is clay-like in that it can be molded into the space being treated. It is used to prevent drafts from coming into the house through cracks around the frames of windows or doors or cracks in other stationary parts of the house. Caulking could have been applied to the inside or outside of the home.

"Weather stripping around any windows or doors to the outside" can be applied on the inside or outside of the home. Weather stripping comes in strips or rolls of metal, vinyl, or foam rubber. It is used to prevent drafts from coming into the house around movable parts of the door or window.

Consumed: Is the amount of electricity or natural gas used by the household during the 365-day period. For fuel oil, kerosene, and LPG, the quantity represents fuel purchased, not fuel consumed. If the level of fuel in the tank was the same at the beginning and end of the annual period, then the quantity consumed would be the same as the quantity purchased. Measurements or reports of the level of fuel in the tank were not included in the data collection.

Glossary (Continued)

Cooling Degree-Days: Refers to the number of degrees per day the daily average temperature is above 65 degrees Fahrenheit. Normally, cooling is not required in a building when the outdoor average daily temperature is below 65 degrees. Cooling degree-days are determined by subtracting the base of 65 from the daily average temperature. For example, a day with an average temperature of 85 degrees has 20 cooling degree-days (85-65 = 20), while one with an average temperature of 65 degrees or lower has none. The average daily temperature is the mean of the maximum and minimum temperatures for a 24-hour period. The cooling degree-days for RECS households in the 48 States and the District of Columbia were assigned according to the NOAA division in which each household was located (See NOAA Division). Cooling degree-day totals for Alaskan and Hawaiian households were assigned by appropriate nearby weather stations.

Doors: (Outside doors) go from a heated area to the outside or to an unheated area, such as a porch or garage. Doors to a heated hallway in an apartment building, doors permanently sealed shut, and doors to an unheated attic or basement were not counted because these doors are not usually fitted with storm doors. The NIECS survey counted doors to an unheated attic or basement, but this rule was not followed in the RECS survey. Double doors were counted as one door. A pair of sliding glass doors was counted as one door in this survey. A pair of sliding glass doors was counted as two doors in the NIECS survey. "Standard" doors include doors with and without glass panels.

Electricity: See Fuels.

Electricity Paid by Household: The household paid directly to the electric utility company for all household uses of electricity, such as for water heating, space heating, air conditioning, cooking, lighting, and operating other appliances. (See Fuels.)

Estimated Bills: Are calculated by the fuel supplier when the meter is not read. The estimate may be based on one or more of the following factors: past usage, usage by similar households, and weather data.

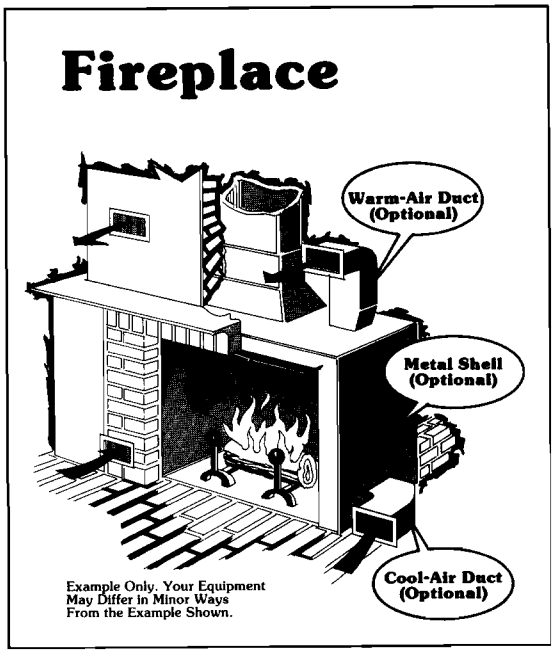
Family Income: Is the total combined income in 1981 of all members of the family from all sources before taxes and deductions. It includes wages, salaries, tips, commissions, and income from Social Security, pensions, interest, dividends, rent, public assistance, and unemployment insurance. This includes the total income for all family members who lived in the household in 1981, regardless of whether they were living there at the time of the interview. Income of nonfamily members of the household is not included. "Family" includes the following types of relationships: mother, father, sister, brother, son, daughter, father-in-law, uncle, aunt, niece, grandchild, foster child, and similar relationships.

Glossary (Continued)

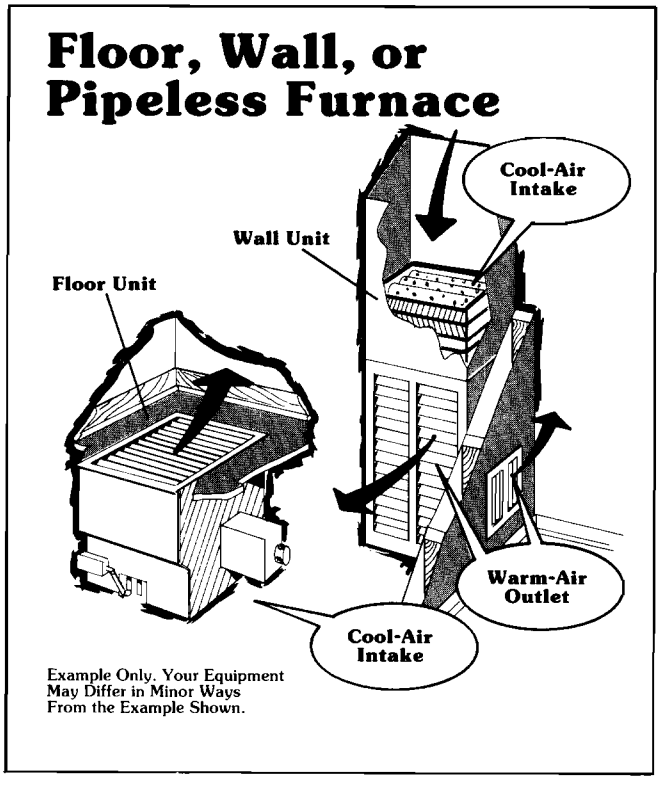
Federal Regions: The States are divided into 10 groups as follows:

Region	States
1	Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut
2	New York, New Jersey
3	Delaware, Pennsylvania, Maryland, Virginia, West Virginia, District of Columbia
4	Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Alabama, Mississippi, Florida
5	Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota
6	Louisiana, Arkansas, Texas, Oklahoma, New Mexico
7	Missouri, Iowa, Nebraska, Kansas
8	Colorado, Utah, North Dakota, South Dakota, Wyoming, Montana
9	Hawaii, Arizona, California, Nevada
10	Alaska, Idaho, Oregon, Washington.

Fireplace: Is usually a masonry unit, built into the wall of a house. Fireplaces in mobile homes are included. A fireplace must have a permanent chimney. A freestanding fireplace that can be detached from its chimney is a heating stove. A fireplace insert is classified as a fireplace.



Floor, Wall, or Pipeless Furnace: A "floor furnace" is located below the floor and delivers heated air to the room immediately above or, if under a partition, to the room on each side. A "wall furnace" is installed in a partition or in an outside wall and delivers heated air to the rooms on one or both sides of the wall. A "pipeless furnace" is installed in a basement and delivers heated air through a large register in the floor of the room or hallway immediately above.



Fuels: Refers to the primary fuel delivered to the residential site. It may be converted at the site to some other energy form. "Electricity" is included in this report as a fuel.

"Coal" includes coke.

"Electricity" refers to metered electric power supplied by a central utility company to a residence via underground or aboveground power lines. It does not refer to electricity generated onsite for the exclusive use of the residence. In this case, the fuel used for the generator will be indicated. The Btu equivalent for electricity is the energy value of electricity as received by the household (3,412 Btu per kilowatt-hours). Electrical energy losses that occur in the generation and transmission of electricity are not included in the conversion of electricity into Btu for this report. If these losses were to be included, in general, the conversion rate would be about 10,353 Btu per kilowatt-hour.

"Fuel Oil" is No. 1, No. 2, or No. 4 grade fuel oil or residual oil that is burned for space- or water-heating purposes. No. 1 distillate fuel oil is a form of heating oil used mostly as a blending stock to

assure that heavier grades of fuel flow under severe cold weather conditions. No. 2 distillate collectively refers to No. 2 heating oil and No. 2 diesel fuel. Although these products are not precisely identical, they are essentially interchangeable in most applications. No. 2 fuel oil is the most common form of heating oil. No. 4 distillate is a blend of No. 2 and No. 5 or No. 6 residual fuel oil used in large stationary diesel engines and boilers equipped with fuel preheating equipment. Residual fuel oil refers to the heavier oils that remain after the distillate fuel oils and lighter hydrocarbons are boiled off in refinery operations.

"Kerosene" refers to a distilled product of oil or coal with the generic name "kerosene." Kerosene is similar to No. 1 distillate fuel oil and is used for space heating or water heating or lighting equipment using wicks. It is sometimes sold under the names "range oil" or "stove oil."

"LPG or liquefied petroleum gas" refers to any fuel gas supplied to a residence in liquid form such as propane or butane. It is usually delivered by tank truck and stored near the residence in a tank or cylinder until used. Propane was the most common liquefied petroleum gas supplied to RECS households. Household use of LPG solely for outdoor gas grills is not considered sufficient use to mark the household as an LPG user.

"Natural gas" is utility gas supplied by underground pipeline to individual housing units by a central utility company. It does not refer to privately owned gas wells operated by the household.

"Solar collector" refers to active, thermal, concentrating collectors using either air or liquid as the working fluid. It does not refer to passive collection of solar thermal energy.

Fuel Oil Paid by Household: The household paid directly to the fuel supplier for all household uses of fuel oil or kerosene such as for space heating or water heating. (See Fuels.)

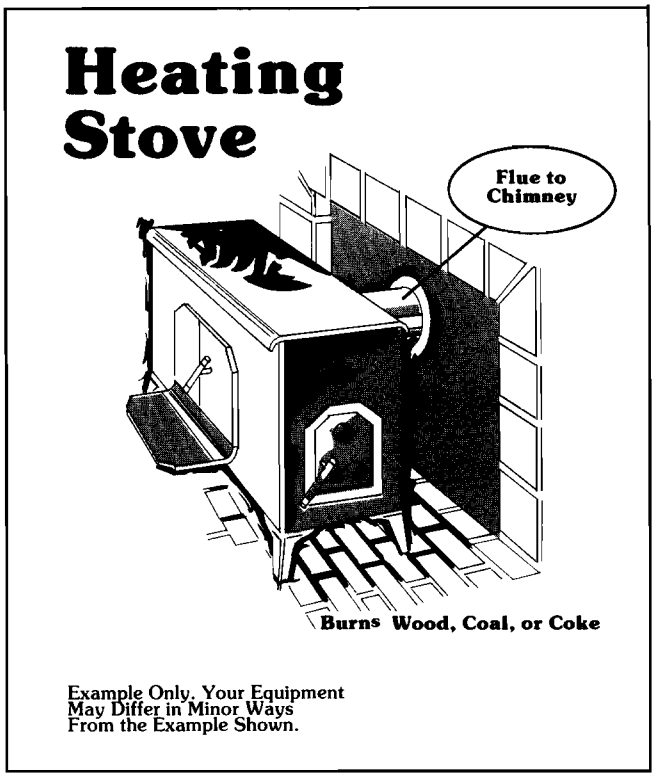
Gas Paid by Household: The household paid directly to the utility company for all household uses of natural gas such as for water heating, space heating, air conditioning, cooking, and operating appliances including outdoor gas lights. (See Fuels.)

Head of Household: If the respondent was married and living with his or her spouse, the male was considered to be the head of the household. Otherwise, the respondent was the head of the household. (See also Householder.)

Heating Degree-Days: The number of degrees per day the daily average temperature is below 65 degrees Fahrenheit. Normally, heating is not required in a building when the outdoor average daily temperature is above 65 degrees. Heating degree-days are determined by subtracting the average daily temperature below 65 degrees from the base 65. For example, a day with an average temperature of 50 degrees has 15 heating degree-days (65 - 50 = 15), while one with an average temperature of 65 or higher has none. The average daily temperature is the mean of the maximum and minimum temperature for a 24-hour period.

The heating degree-days for RECS households in the 48 States and the District of Columbia were assigned according to the NOAA division in which each household is located (See NOAA Division). Heating degree-days for Alaskan and Hawaiian households were assigned by appropriate nearby weather stations.

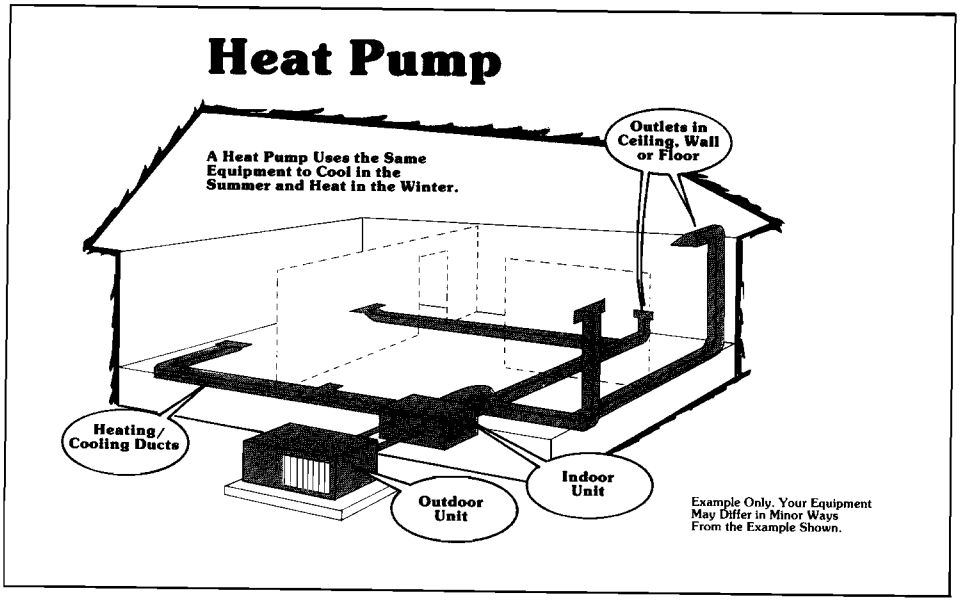
Heating Stove Burning Wood, Coal, and Coke: Any freestanding box or controlled draft stove or stove installed in the fireplace opening and using the chimney of the fireplace. Stoves are made of cast iron, sheet metal, or plate steel. Freestanding fireplaces that can be detached from their chimneys are considered heating stoves. "Airtight" stoves allow one to control the amount of air in the stove in order to regulate the rate of combustion. The doors fit tightly so that air can be controlled. Many air tight stoves have a gasket aroung the door of the stove. "Non-airtight" stoves do not have gaskets around their door openings.



Heat Pump (Reverse Cycle System): A year-round heating/air-conditioning system in which refrigeration equipment supplies both heating and cooling through ducts leading to individual rooms. It generally consists of a compressor, both indoor and outdoor coils, and a thermostat.

When the heat pump is attached to a central furnace, the heat pump is either the main or secondary heating equipment depending on how often the heat pump operates. If it operates for a short time and then the furnace comes on, the heat pump is secondary (or additional heating equipment). If the heat pump is sufficient to provide the desired warmth, the heat pump is the main heating equipment.

Glossary (Continued)



Hot-Deck Imputation: A procedure by which the household file is sorted by variables related to the missing item. A household is then selected that has the same value on the matching variables, and this "donor" household supplies the value for the missing item. (See Imputation).

Household: Is a family, an individual, or a group of up to nine unrelated persons occupying the same housing unit. "Occupy" means the housing unit was the person's usual or permanent place of residence at the time of the first field contact. The household includes babies, lodgers, boarders, employed persons who live in the housing unit, and persons who usually live in the household, but are away traveling or in a hospital. The household does not include persons who are normally members of the household but who were away from home as college students or members of the armed forces at the time of the contact.

The household does not include persons temporarily visiting with the household if they have a place of residence elsewhere, persons who take their meals with the household but usually lodge or sleep elsewhere, domestic employees or other persons employed by the household who do not sleep in the same housing unit, or persons who are former members of the household, but have since become inmates of correction or penal institutions, mental institutions, homes for the aged or needy, homes or hospitals for the chronically ill or handicapped, nursing homes, convents or monasteries, or other places in which residents may remain for long periods of time. By definition, the count of households is the same as the count of occupied housing units.

Householder: The person (or one of the persons) in whose name the home is owned or rented. If there is no lease or similar agreement or if the person who owns the home or pays the rent does not live in the housing unit, the householder is the person responsible for paying the household bills or generally in charge.

Glossary (Continued)

Housing Structure: One of four structure types used to categorize the building in which the housing unit was located.

A "single-family housing unit" refers to a structure that provides living space for one household or family. The structure may be detached, attached on one side (semidetached), or attached on two sides. Attached houses are considered single-family houses as long as the house itself is not divided into more than one housing unit and has an independent, outside entrance. A single-family house is contained within walls that go from the basement to the roof.

A "house or building with two to four housing units" is divided into living quarters for two, three, or four families or households. This category also includes houses originally intended for occupancy by one family or for some other use that have since been converted to a separate dwelling for two to four families. Typical arrangements in these types of living quarters are separate apartments, downstairs and upstairs, or one apartment on each of three or four floors.

A "building with five or more housing units" refers to a building containing living quarters for five or more separate households or families.

A "mobile home or trailer" refers to a structure that has all the facilities of a dwelling unit, but is built on a movable chassis. It may be placed on a permanent or temporary foundation and contain one or more rooms. If additional rooms are added to the structure, it is still considered a mobile home.

Housing Unit: A structure or part of a structure where a household (family or individual) lives or could live. It has direct access from the outside of the building or through a common hall. Housing units do not include group quarters such as prisons, hospitals, dormitories, nursing homes, fraternity houses, or convents where 10 or more unrelated persons live. Hotel rooms, motel rooms, mobile homes, or trailers are considered housing units if occupied.

Imputation: Is a statistical method used to estimate the response to specific questions for which answers are missing. In general, it is a procedure for filling in missing data values.

Insulation: Refers to any material that, when placed between the interior of the dwelling and the outdoor environment, reduces the rate of heat loss to the environment or heat gain from the environment. The four forms of insulation, illustrated in a drawing shown to respondents, are listed below:

"Blankets or batts"--rolls or pieces of insulation that are nailed or stapled between the rafters or wall joists (beams). It is usually made of fiberglass or rock wool.

"Loose particles or loose fill"--loose insulation comes in a bag and is poured between joists (beams). Loose insulation can also be blown into open spaces. Loose fill can be glass fiber, rock-wool fibers, cellulose fiber, or vermiculite.

"Firm foam or firm plastic"--rigid boards (such as styrofoam) that can be cut to size and either edged, nailed, or glued into place.

"Sprayed-in foam" solidifies after being sprayed on a surface or poured into a cavity to be insulated.

"Floor insulation" is insulation between the bottom floor and the unheated basement or crawl space. Carpeting or carpeting pads are not insulation.

LPG Paid by Household: The household paid directly to the fuel supplier for all household uses of LPG such as for water heating, space heating, air conditioning, cooking (cooking on an outdoor grill is not counted), and operating appliances. (See Fuels.)

Main Cooking Fuel: Is the answer to the question: "Thinking of all the different kinds of cooking done here, including cooking in the oven, on a range, and with small appliances, which fuel is used most?"

Main Heating Equipment: (See description of specific heating equipment.) Main heating equipment, if temporarily out of order, is reported as the main heating equipment. If two types of heating equipment are used, the main equipment is the one used more. If both are used equally, the main equipment is the one that appears first on the list in the question.

Main Heating Fuel: The fuel mentioned by the respondent in response to the question: "What is the main fuel used for heating your home?

Master Metered: The method used by utility companies (e.g., electricity and natural gas) to measure the total volume of energy used by several individual customers collectively.

Metropolitan: A group of households located within Metropolitan Statistical Areas (MSA's) as defined in the 1980 Census. Except in New England, an MSA is a county or group of contiguous counties that contain at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. The contiguous counties are included in an MSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, MSA's consist of towns and cities, rather than counties. "Non-Metropolitan" refers to households not located within MSA's as defined in the 1980 Census.

NIECS: The National Interim Energy Consumption Survey, the first developmental survey in the planned series of Residential Energy Consumption Surveys. The NIECS contacted 4,081 households in October and November 1978. Fuel suppliers provided data on consumption and expenditures for the period April 1978 through March 1979.

NOAA Division: One of the 344 weather divisions designated by the National Oceanic and Atmospheric Administration (NOAA) encompassing the 48 contiguous States. These divisions usually follow county borders to encompass counties with similar weather conditions. The NOAA division does not follow county borders when weather conditions vary considerably within a county such as is likely to happen when the county borders the ocean or contains high mountains. A State contains an average of seven NOAA divisions; a NOAA division contains an average of nine counties.

Glossary (Continued)

Number of Rooms: Whole rooms are rooms such as living rooms, dining rooms, bedrooms, kitchens, lodger's rooms, finished basements or attic rooms, recreation rooms, and permanently enclosed sun porches that are used year-round. Rooms used for offices by a person living in the unit are included in this survey. Finished means that the ceiling and walls are covered with finishing materials.

Bathrooms, halls, foyers or vestibules, balconies, closets, alcoves, pantries, strip or pullman kitchens, laundry or furnace rooms, unfinished attics or basements, open porches, and unfinished space used for storage are not included.

A partially divided room, such as a dinette next to a kitchen or a living room, is a separate room only if there is a partition from floor to ceiling, but not if the partition consists solely of shelves or cabinets. If a room is used by occupants of more than one unit, the room is included with the unit from which it is most easily reached.

Occupied Housing Unit: A unit someone was living in as his or her usual or permanent place of residence at the time of the first field contact.

Origin: Each respondent was asked, "Which of the groups on this exhibit best describes (HOUSEHOLDER)?" The groups included white, black or Negro, American Indian, Alaskan native, Asian, Pacific Islander. The word "race" was not used in either the questionnaire or the instructions.

Owner/Renter: Own/rent refers to the structure itself, not the land on which it is located. The household is classified "renter" even if the rent is paid by someone not living in the unit. "Rent free" means the unit is not owned or being bought and no money is paid or contracted for rent. Such units are usually provided in exchange for services rendered or as an allowance or favor from a relative or friend not living in the unit. "Rent free" also includes occupants who pay only for utilities. Unless shown separately, "rent free" households are grouped together with "renters."

Poverty: "Below 100 Percent of Poverty" defines a group of households with incomes below the poverty level defined by the Bureau of the Census. "Below 125 Percent of Poverty" defines a group of households with incomes below 125 percent of the poverty level. This group of the poor and near poor represents an alternative level for defining poverty. The definitions of poor are based on the number of family members in the household and family income.

Because income data were collected by using categories of income (for example, $3,000 to $3,999), an exact match of Census thresholds could not be made. Furthermore, underreporting of income is a problem in surveys of this type (cf. reference in Table G1). Underreporting may be a greater problem in the RECS survey which measures income by one question. In comparson the Current Population Survey (CPS) collects data on individual household members by source of income. The CPS estimate for households below 100 percent of poverty was 11.677 million for March 1982. The RECS estimate was 12.096 million poor households (below 100 percent of poverty). This difference may be due in part to greater underreporting of income in RECS, but on the other hand, could be accounted for entirely by sampling error.

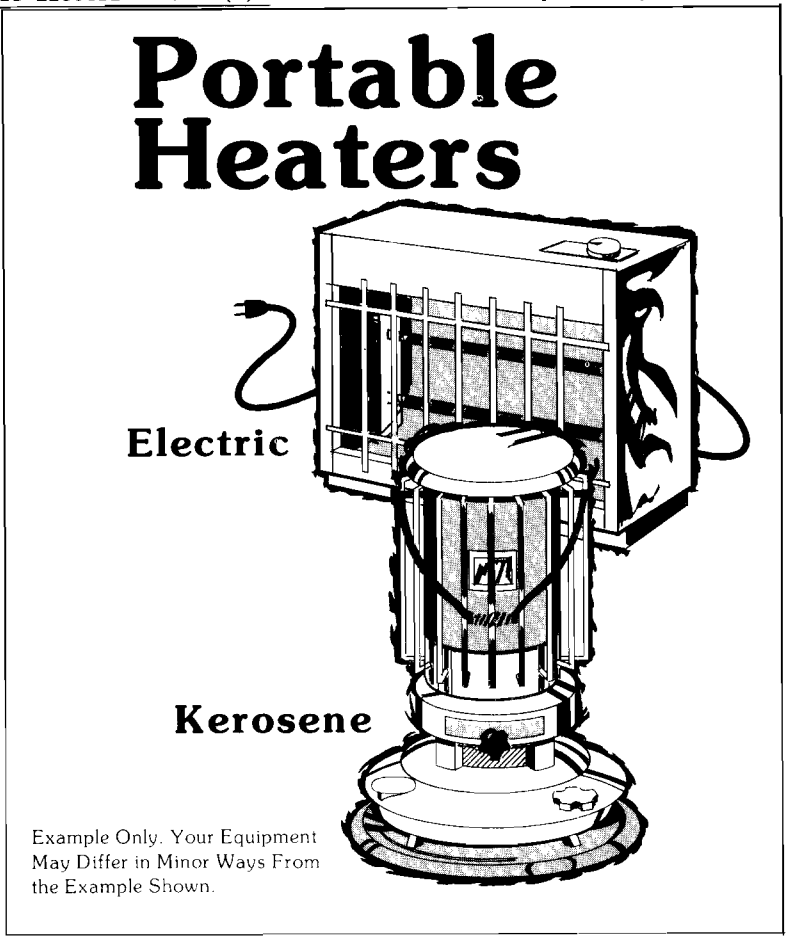
Table G1. Definition of Poverty

Number of Persons per Family	Below 100 Percent of Poverty: 1981 RECS Income Range Less Than:	Below 100 Percent of Poverty: Census Threshold[a]	Below 125 Percent of Poverty: 1981 RECS Income Range Less Than:	Below 125 Percent of Poverty: 125 Percent Threshold
1				
Respondent is under 65	$5,000	$4,729	$6,000	$5,911
Respondent is over 64	$4,000	$4,359	$5,000	$5,449
2				
Householder is under 65	$6,000	$6,111	$8,000	$7,639
Householder is over 64	$5,000	$5,498	$7,000	$6,873
3	$7,000	$7,250	$9,000	$9,063
4	$9,000	$9,287	$12,000	$11,609
5	$11,000	$11,007	$14,000	$13,759
6	$12,000	$12,449	$15,000	$15,561
7	$14,000	$14,110	$17,500	$17,638
8	$15,000	$15,655	$20,000	$19,569
9	$17,500	$18,572	$22,500	$23,215

[a]Figures from the U.S. Bureau of the Census, Money Income and Poverty Status of Families and Persons in the United States: 1981 (Advance Data from the March 1982 Current Population Survey). (Current Population Reports, Series P-60, No. 134) (July 1982, Table A1, 31).

Source: Energy Information Administration, 1982 Residential Energy Consumption Survey.

Portable Electric Heater(s): Heaters that can be picked up and moved.



Portable Kerosene Heater(s): Heaters that can be picked up and moved.

Quadrillion: Equals 1,000,000,000,000,000 or 10^{15}.

Race: See Origin.

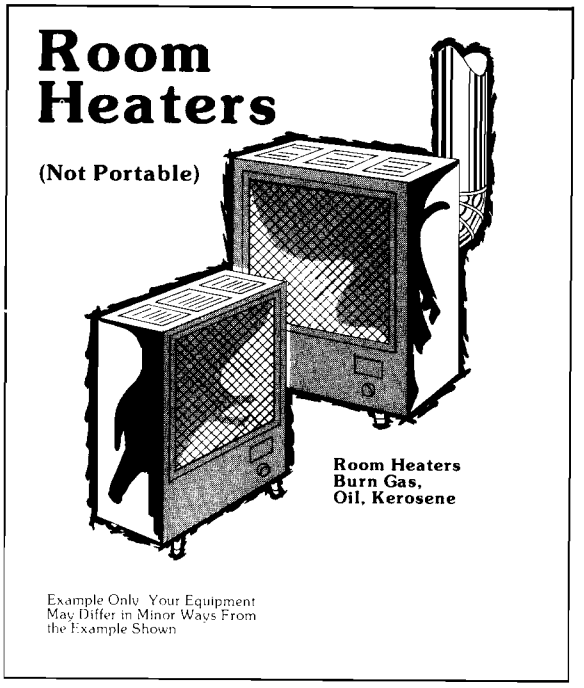
Residential: Refers to occupied housing units including mobile homes, single-family housing units (attached and detached), and apartments. The definition of housing units is the same as that used by the U.S. Bureau of the Census. (See Household and Housing Unit for further definition.)

Rooms: (See Number of Rooms.)

Refrigerators: With no freezer sections are included in the non-frost-free category. "Frost-free" means that frost does not build up on the insides of the freezer section or ice cube section.

Room Heaters Burning Gas, Oil, Kerosene: Are circulating heaters, convectors, radiant gas heaters, space heaters, or other nonportable room heaters that may or may not be connected to a flue, vent, or chimney.

Glossary (Continued)



Screener Survey: The Residential Energy Consumption Survey that contacted 4,033 households in October and November 1979. Fuel suppliers provided data on consumption and expenditures for the period April 1979 through March 1980. This survey was named the Household Screener Survey because it was used to screen households for participation in the Household Transportation Panel.

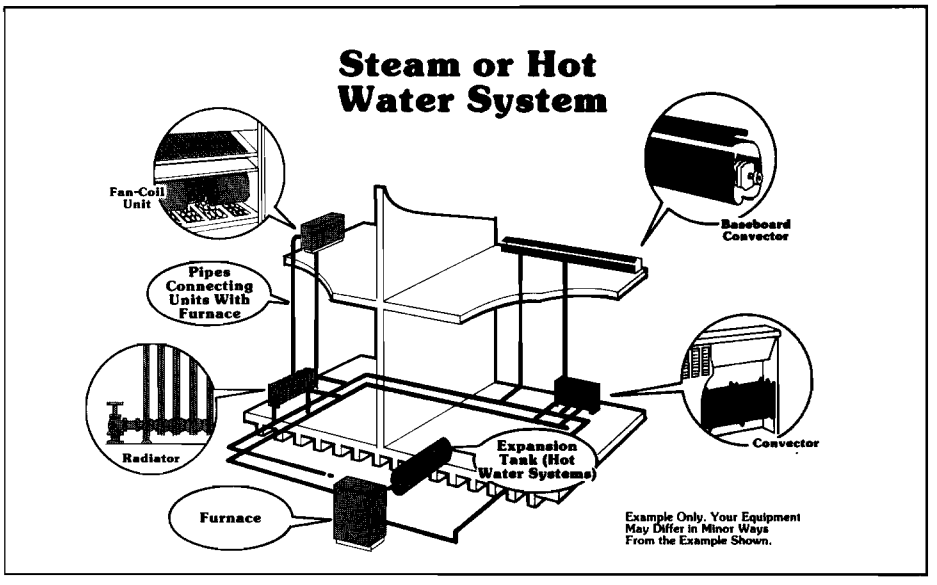
Secondary Heating Equipment: Equipment used in addition to the main equipment. Description of the secondary heating equipment is the same as for the main heating equipment.

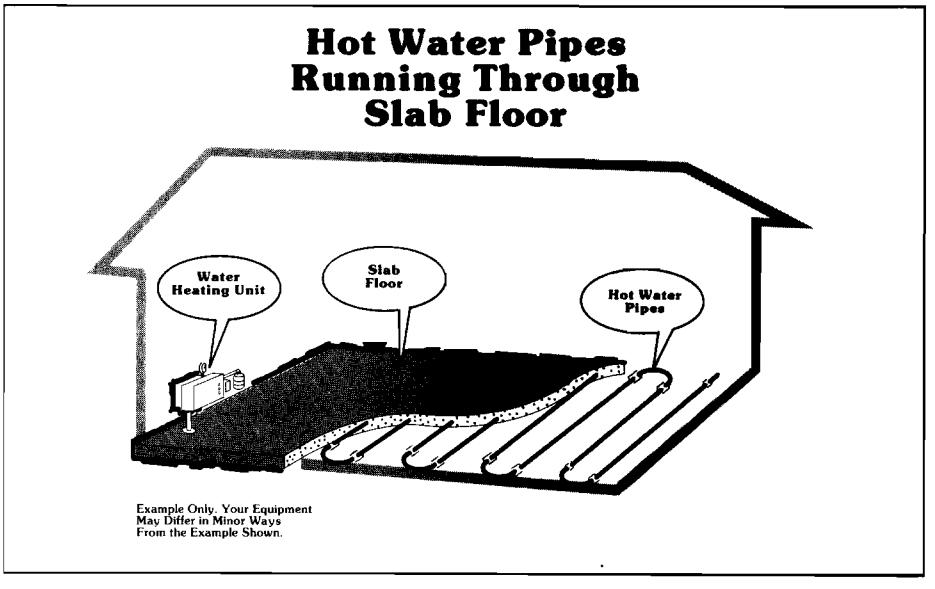
Square Feet: The floor area of the housing unit that is enclosed from the weather. Basements are included whether or not they contain finished space. Garages are included if they have a wall in common with the house. Attics that have finished space and attics that have some heated space are included. Crawl spaces are not included even if they are enclosed from the weather. Sheds and other buildings that are not attached to the house are not included. "Measured" square feet means that the measurement of the dimensions of the home did not rely on the respondent's reports but was an actual measurement by the interviewer using a metallic, retractable, 50-foot tape measure. For details on how the measurement was made and how the data were treated, see Appendix B.

"Heated square feet" are that portion of the measured square feet that is heated during most of the season. Rooms that are shut off during the heating season to save on fuel use are not counted as heated square footage. Attached garages that are unheated and unheated areas in basements and attics are not counted as heated square feet.

Steam or Hot Water System with Radiators or Convectors: A central heating system supplying steam or hot water to conventional radiators, baseboard radiators, heating pipes embedded in the walls or ceilings, or heating coils or equipment that are part of a combined heating/

ventilating or heating/air-conditioning system. This category also includes radiant heating through hot water pipes inlaid in a concrete, slab floor.





Glossary (Continued)

Storm Doors and Windows: Storm doors made of double or insulating glass such as thermopane. Glass or plexiglass placed over a sliding glass door on either the exterior or interior is counted as a storm door. A plastic sheet covering the door is not counted as a storm door.

Storm windows are made of double or insulating glass, such as thermopane. Glass or plexiglass placed over windows on either the interior or exterior side are counted as storm windows. Plastic sheets covering windows are not counted only if they can be used year after year.

Note: Responses of "don't know" for storm doors, windows, and/or attic insulation were treated the same as "do not have." For example, a respondent who indicated that his or her house had storm windows (some or all) and storm doors (some or all), but who did not know if it had attic insulation, was counted in the "have one or two of these" category.

Utilities Paid by Household: Fuel suppliers or utility companies paid directly for all electricity, natural gas, fuel oil, kerosene, or liquefied petroleum gas used by the household. Households paying directly to the utility company were classified in this survey as "all paid." Households that paid directly for at least one but not all their fuels used and had at least one fuel charge included in their rent were classified as "some paid, some included in rent." Households in which all fuels used were included in their rent were classified as "all included in rent." Some households were classified as "other" if they did not fall into any of those three categories. Included are households for which fuel bills were paid by a department of social services or a relative and households that paid for some of their fuels used but paid for other fuels through some other arrangement.

Vacant Housing Unit: A housing unit not occupied at the time of the first field contact. An occupied seasonal or migratory housing unit is classified as vacant at the time of the first field contact when all persons had a usual place of residence elsewhere.

Water-Heating Fuel: The answer to the question, "Which fuel is used most for heating water?" The phrase "other than just for cooking purposes" was added to the question in the 1982 RECS to clarify that the use for hot water is for bathing and washing. Households that did not have running water in their home were also asked this question. The hot water may have been available anywhere in the same building as the respondent's living quarters. This may have been in a hallway, in a room used by several units in the building, in the basement, or in an enclosed porch, provided the respondent's household had access to it.

Windows: All windows in the year-round living space. Windows in the basement, attic, garage, and porch are counted only if these areas are heated. Windows in doors are not counted. Each window that opens separately is counted as one window. Windows fixed in place are also counted. Panes of glass in a large window are not counted individually unless they open separately. Skylights and stained-glass windows are counted as windows.

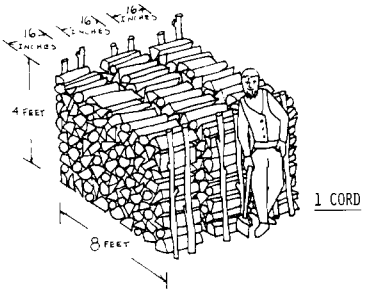
Wood Burned: Amount of wood burned in the home at any time in the past 12 months in a fireplace, stove, or furnace as reported by the respondent at the time of the interview. The figures for wood burned cover the major part of the 1981-1982 heating season and the first part of the 1982-1983 heating season.

Glossary (Continued)

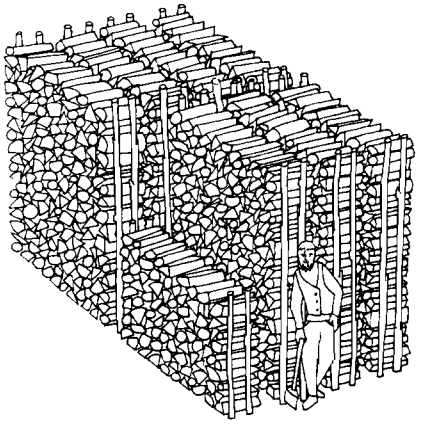
A "cord" measures 4 feet by 4 feet by 8 feet and is approximately 128 cubic feet. A third of a cord measures 16 inches by 4 feet by 8 feet.

More detailed and accurate drawings were used for the first time in the 1982 RECS. The drawings were more correct in perspective, contained a person and holding an ax as a point of reference, and showed wood piles containing 5 and 10 cords. The purpose of these improvements was to enable respondents to be more accurate in reporting the amount of wood they burned especially those households burning more than 5 cords of wood. A copy of the drawings for 1, 5, and 10 cords is reproduced below.

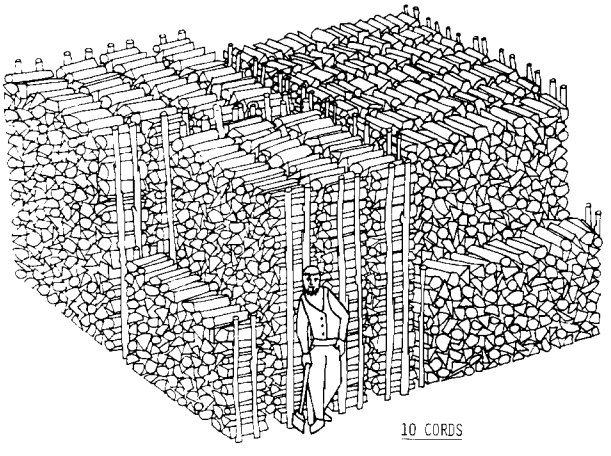
Figure G1. Sketches of Woodpiles Used in the 1982 RECS (Reduced from Actual Size Used)



1 CORD



5 CORDS



10 CORDS

Glossary (Continued)

Converting cords of wood into a Btu equivalent is an imprecise exercise. The number of cords burned by each household is imprecise, as the estimate requires the respondent to sum up the use of wood over a 12-month period during which time wood may have been added to the supply as well as removed. In addition to the recall errors inherent in this task, the estimates are subject to problems in definition and perception of what a cord is. The nominal cord as delivered to a suburban residential buyer may differ from the dimensions of the standard cord. This can occur because wood is most often cut between the length that makes a third of a cord (16 inches) and a half a cord (24 inches).

In other cases, wood is bought or cut in unusual units (e.g., pickup truck load or trunk load). Finally, volume estimates are difficult to make when the wood is not stacked up but is left in a pile.

Other factors that make it difficult to estimate the Btu value of the wood burned is that the amount of empty space between the stacked logs may vary from 12 to 40 percent of the volume. The moisture content may vary from 20 percent in dried wood to 50 percent in green wood. Moisture reduces the useful Btu output because energy is used to drive off the moisture. Finally, some tree species contain twice the Btu content of species with the lowest Btu value. Generally, hardwoods have greater Btu value than softwoods. Wood was converted to Btu at the rate of 20 million Btu per cord, which is a rough average taking all these factors into account.

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Materials on the Residential Energy Consumption Survey

Housing Characteristics

Residential Energy Consumption Survey: Housing Characteristics, 1981; August 1983, DOE/EIA-0314 (81) (Annual), GPO Stock No. 061-003-00330-3, $6.50.

Consumption and Expenditures

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982. Part I: National Data; September 1983, DOE/EIA-0321/1 (81) (Annual), GPO Stock No. 061-003-00340-1, $6.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982. Part II: Regional Data; November 1983, DOE/EIA-0321/2 (81) (Annual), GPO Stock No. 061-003-00357-5, $8.00.

Consumption by End Use (Space Heating, Space Cooling, Water Heating, and Miscellaneous Uses)

Residential Energy Consumption Survey: Regression Analysis of Energy Consumption by End Use; October 1983, DOE/EIA-0431, GPO Stock No. 061-003-0347-8, $5.00.

Consumption Patterns of Household Vehicles

Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, Supplement: January 1981 to September 1981; February 1983, DOE/EIA-0328, GPO Stock No. 061-003-00297-8, $4.75.

Copies of the above reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 and the National Energy Information Center, 1F-048, Forrestal Building, Energy Information Administration, Washington, D.C. 20585.

Public Use Data Files

Copies of the household data files on magnetic tape with name, address, and other potentially identifying data removed, are available from the National Technical Information Service, Computer Products Division, 5285 Port Royal Road, Springfield, VA 22161. Telephone: 703-487-4908.

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