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Nonresidential Buildings Energy
Consumption Survey:

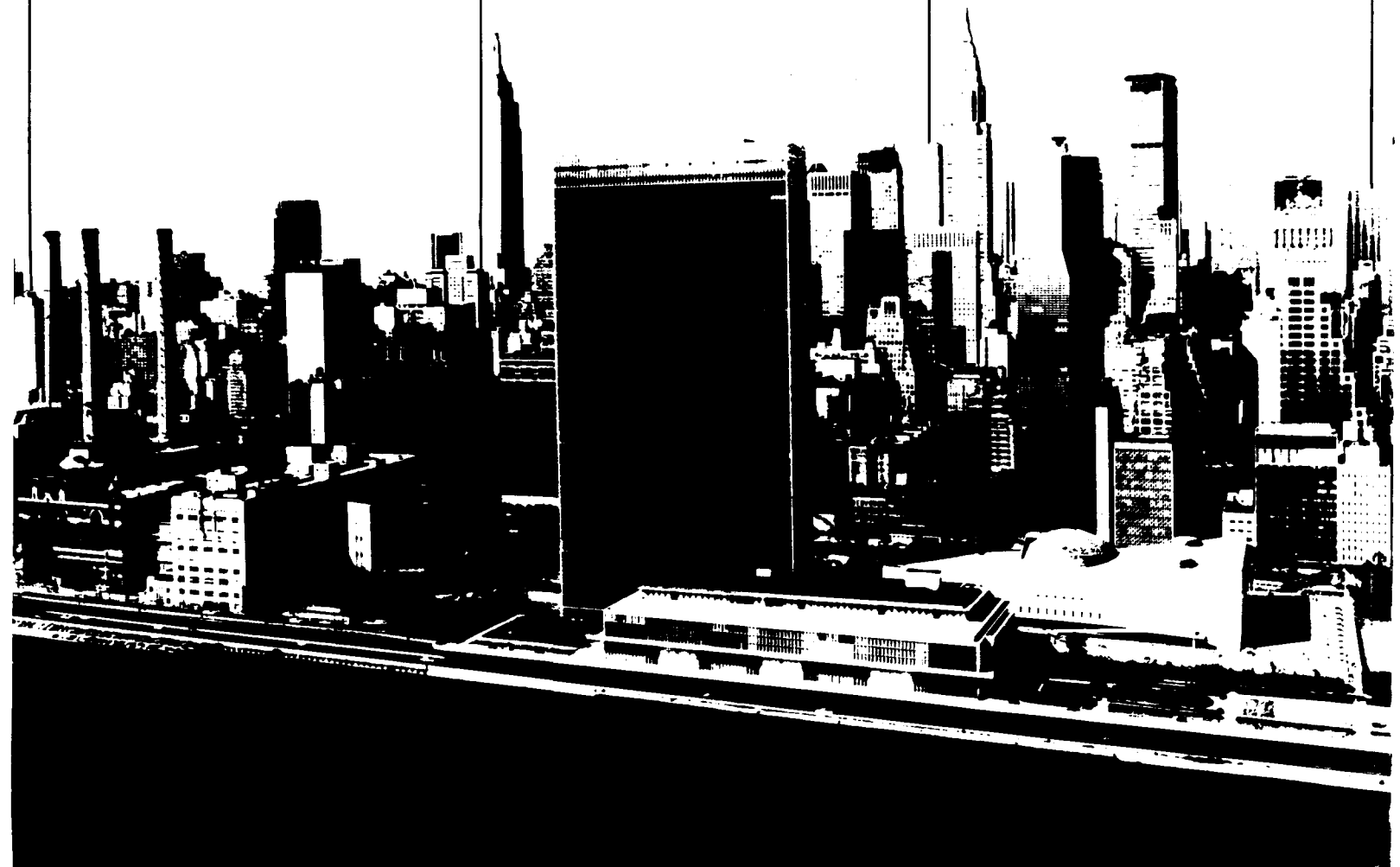
1979 Consumption and Expenditures



Part 1: Natural Gas and Electricity

March 1983

Energy Information Administration
Washington, D.C.



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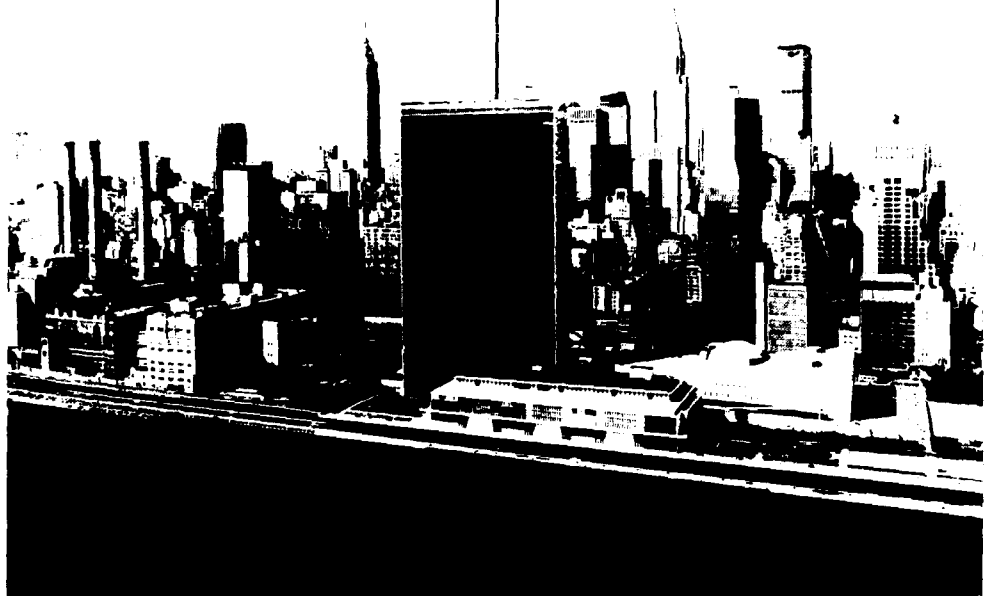
Part 1: Natural Gas and Electricity

March 1983

Energy Information Administration
Office of Energy Markets and End Use
U.S. Department of Energy
Washington, D.C. 20585

DOE/EIA-0318/1
Dist. Category UC-98

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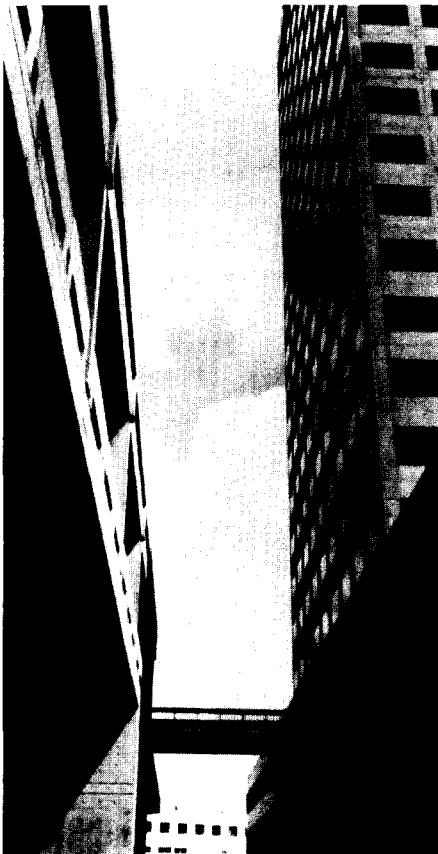
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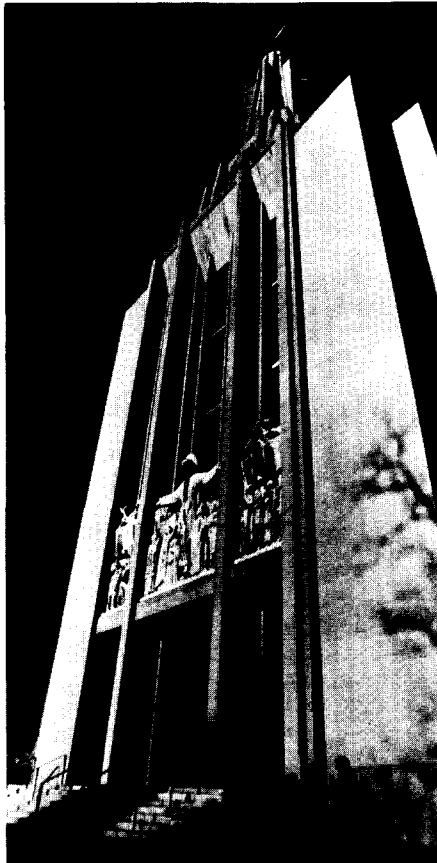
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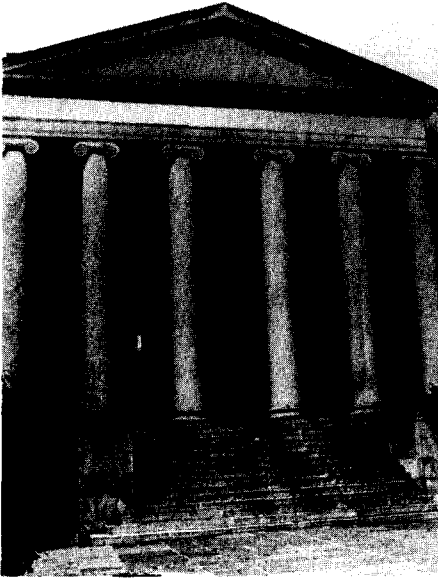
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Introduction



This is the third in a series of reports from the Office of Energy Markets and End Use (EMEU) presenting data from the Nonresidential Buildings Energy Consumption Survey (NBECS). The first two reports were: Nonresidential Buildings Energy Consumption Survey: Building Characteristics (DOE/EIA-0246) and Nonresidential Buildings Energy Consumption Survey: Fuel Characteristics and Conservation Practices (DOE/EIA-0278). The NBECS was designed and developed and is now being analyzed by the EMEU. This is the first time that either the public or private sector has developed a method of collecting data on a statistical sample of nonresidential buildings across the country. Subsequent reports will cover energy consumption and expenditures for other fuels (fuel oil, LPG, steam, and coal) and for all fuels and methodological issues.¹

This report presents data on square footage and on consumption and expenditures for natural gas and electricity for commercial buildings in the contiguous United States.² "Commercial buildings" includes all nonresidential buildings with the exception of those where industrial activities occupy more of the total square footage than any other type of activity. "Nonresidential buildings" has been defined as roofed and walled structures which house some kind of commercial or industrial activity (see Glossary). Buildings which were primarily residential but showed evidence of commercial or industrial activities were also within the scope of the survey. Information on building characteristics was collected through personal interviews with building representatives between October 1979 and January 1980. Energy consumption and expenditure data for calendar year 1979 were collected from the buildings' energy suppliers using self-administered forms. A summary of the survey design, data collection procedures, and techniques used to convert the sample data to national estimates is found in Appendix A (How the Survey was Conducted).³

¹The Energy Information Administration's NBECS II survey will revisit the NBECS buildings to determine what, if any, changes have occurred in the buildings' structural or operational characteristics since January 1980. In addition, energy consumption and expenditure information for 1982 and 1983 will be collected from the buildings' energy suppliers. NBECS II will also update the original building sample with a sample of buildings constructed since mid-1979 when the original NBECS sample was drawn. The field work for NBECS II is scheduled for February through May 1983. The entire series of NBECS reports will be repeated beginning with an updated Building Characteristics report which should be available in 1984.

²Data are presented on total square footage for the commercial and nonresidential building sectors (as of January 1, 1980) and on consumption and expenditures for natural gas and electricity (for calendar year 1979). The tables present data from the final interview and consumption files, both of which contain imputations for missing data (see the section on the Limitations of the Data for a description of the imputation procedures utilized).

³Because the data came from a sample of nonresidential buildings rather than the entire population, the estimates in this report are subject to sampling as well as nonsampling errors and biases. These issues are discussed in Appendix B (Limitations of the Data). Estimates of the sampling error component have been produced for statistics in this report. They are given in Appendix C for the detailed tables, and in parentheses after specific estimates quoted in the text. Sampling errors can be used to test statistical inferences made in the text. Testing procedures are also discussed in Appendix B.



Introduction (Continued)



The data are presented in three basic sets of tables. The first set (Tables 1 and 2) displays average, median, and total square footage by selected building characteristics. These building characteristics include: end use, location, structural features, use and occupancy characteristics, types of heating and cooling systems, and conservation practices. The second set (Tables 3-10) presents total and average consumption and expenditures for natural gas and electricity by the same building characteristics. The final set (Tables 11-19) gives the consumption and expenditure information separately for each of three size classes of buildings: 5,000 square feet or less, 5,001-10,000 square feet, and over 10,000 square feet. Also included in this report are: a summary of findings, a description of how the survey was conducted, a section on data limitations, relative standard error tables, copies of the questionnaire and utility forms, and a glossary.

The sample size for this report is 5,585 buildings. A series of weights was applied to each of the sample units to allow estimates to be made of the universe. After weighting, the universe, as of January 1, 1980, was estimated to be 3,995,000 commercial buildings in the contiguous United States. The Btu conversion factors used for this survey were 3,412 Btu/kilowatt-hour for electricity and 1,019 Btu/cubic foot for natural gas.

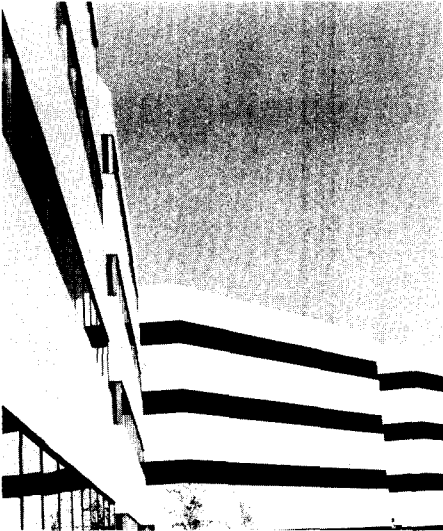
The procedures and definitions used in this survey may make it difficult to compare NBECS square footage estimates to estimates of square footage from other sources. First, the question used to elicit square footage from the respondent was worded as follows: "What is the total square footage of all the space enclosed within the exterior walls of this building? Again, please include indoor parking facilities and basements, and all space such as hallways, lobbies, stairways, and elevator shafts." This definition would not be comparable to one based on the concept of "rentable floorspace," or "usable floorspace." Second, as mentioned above, any building which showed evidence of commercial or industrial activity was eligible for inclusion in the survey, including buildings which were primarily residential. Square footage was obtained and reported for the entire building, not just for the commercial portion. Buildings which were totally or primarily industrial, while eligible for inclusion in the survey, were not included in this report (except for Table 2).

Caution should be exercised when comparing the NBECS consumption data for buildings to consumption estimates for the commercial sector (see Limitations of the Data for comparisons with other data sources). The population of commercial buildings is not equivalent to the commercial sector. The commercial sector includes a sizable population of non-buildings which are consumers of energy. Some examples of these non-buildings would be: street lights, pumps, bridges, swimming pools, construction sites, etc. The NBECS, which sampled buildings, cannot estimate the total consumption of the commercial sector, as it does not measure the consumption of nonbuildings.



Summary of Findings

Square Footage



Tables 1 and 2 present the same square footage information for two different populations, commercial and nonresidential buildings, respectively. The difference between the two tables is that Table 2 includes industrial buildings while Table 1 does not. The consumption and expenditure tables in this report (Tables 3-19) are given for commercial buildings only. Industrial buildings, which were included in the first two reports of this series (Building Characteristics and Fuel Characteristics and Conservation Practices - see inside cover for complete citation), were excluded from the consumption and expenditure section of this report. These buildings were excluded due to poor coverage of industrial buildings and extreme variability in their consumption estimates. Therefore, the discussion section of this report will be limited to commercial buildings.

The approximately 4 million commercial buildings in the contiguous United States contain a total of 47.7 (+ 5.7)⁴ billion square feet (see Glossary for definitions of terms used). Due to the skewed distribution of these buildings (over half contained 5,000 square feet or less), two commonly used summary measures, the average and the median, present very different pictures. As of January 1, 1980, the average commercial building contained nearly 12,000 square feet (11,900 + 1,000) while the median commercial building had only a third of the average at slightly under 4,000 square feet (3,900 + 400). The average is heavily influenced by large buildings, while the median is not. The median probably gives a more accurate picture of what the "typical" building is like, while the average may be more useful for looking at consumption data.

Figure 1 compares average and median square footage for various types of heating fuels. Steam buildings are by far the largest with an average of 82,300 square feet (+ 23,400) and a median square footage of 30,100 (+ 7,800). Buildings which are heated with natural gas or fuel oil tend to be slightly larger than average while buildings heated with LPG or wood tend to be smaller than the average.

The average number of square feet per building by region ranges from 16,100 (+ 2,600) in the Northeast to 9,600 (+ 1,300) in the South. Figure 2 shows that buildings in the Northeast account for 17 percent (+ 4) of all commercial buildings and 24 percent (+ 4) of the total square footage. On the other hand, buildings in the South comprise 37 percent (+ 6) of all buildings and 30 percent (+ 6) of total floor-space. In other words, buildings in the Northeast tend to be larger than average, while buildings in the South tend to be smaller than average.

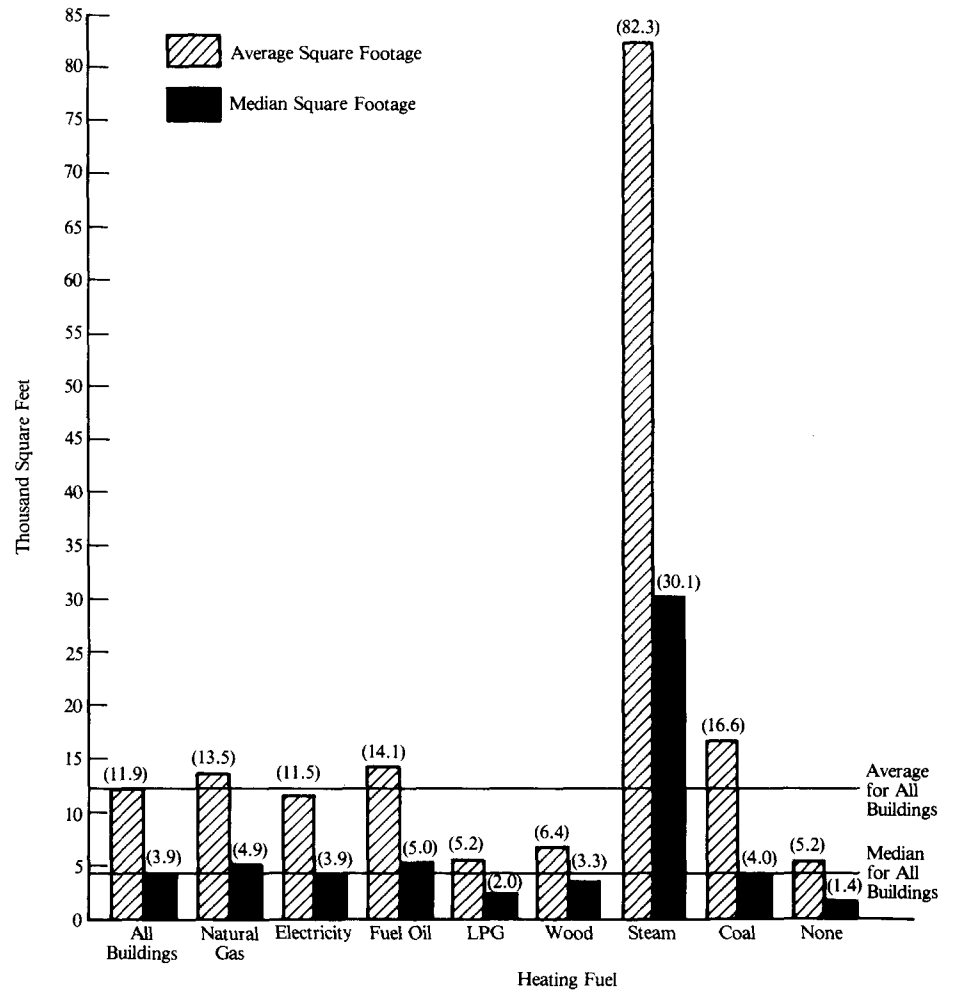
Figure 3 gives the average and median square footage by type of building. Health care and education buildings tend to be the largest while food sales and automotive sales and service buildings are the smallest. The average and median square footage for health care buildings differ by a factor of approximately 7, indicating that while some health care buildings are extremely large, most are quite small. An estimated 69 percent (+ 6) of the total square footage of commercial buildings is concentrated among five building types: assembly, education, office, retail sales and service, and warehouse and storage.

⁴The values shown after estimates given in the text represent two standard errors of the estimate. An explanation of measures of variability and their uses is given in Appendix B (Limitations of the Data).



Summary of Findings (Continued)

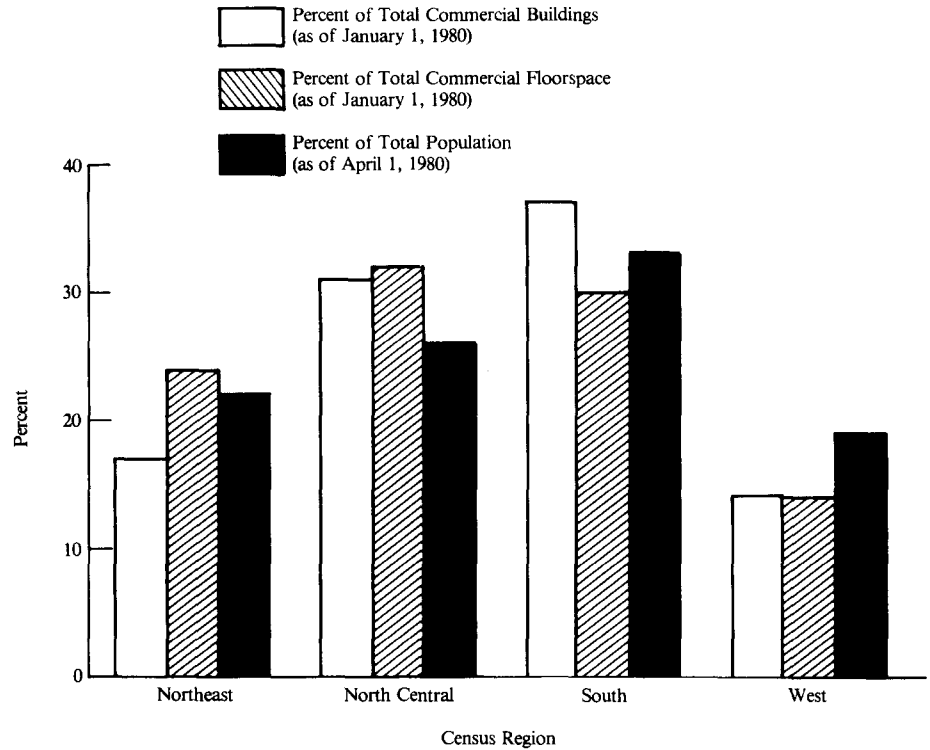
Figure 1. Average and Median Square Footage by Heating Fuel for Commercial Buildings as of January 1, 1980 (Thousand Square Feet)





Summary of Findings (Continued)

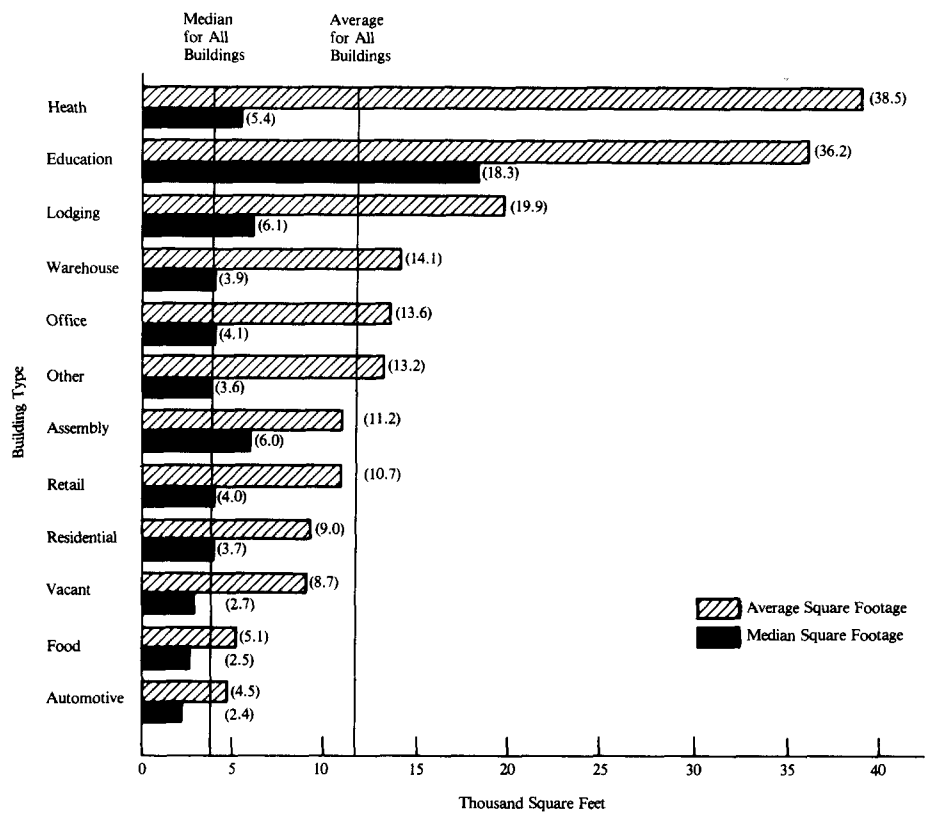
Figure 2. Percent of Total Commercial Buildings, Percent of Commercial Floor Space, and Percent of Total Population by Census Region





Summary of Findings (Continued)

Figure 3. Average and Median Square Footage by Building Type for Commerical Buildings as of January 1, 1980 (Thousand Square Feet)





Summary of Findings (Continued)

Generally speaking, the greater the number of different fuels used in a building, the larger the building. For example, in 20 percent (+ 6) of the buildings, electricity is the only fuel used, but these buildings account for only 12 percent (+ 2) of the total commercial square footage. In other words, smaller buildings are more likely to use a single energy source. Eleven percent (+ 2) of the buildings use three fuels; however, these buildings contain 26 percent (+ 4) of the total square footage.

Buildings that are partially heated or cooled have larger than average square footage, while unheated and uncooled buildings have smaller than average square footage. Also, the more complex heating and cooling systems tend to be found in larger-than-average buildings. As might be expected, the average square footage of multiple establishment buildings is larger than that of single establishment buildings. Both the number of employees and the number of hours a building is open are positively associated with average building size. Buildings that had weatherstripping and/or caulking installed since 1974 had larger average square footage than those that did not, but for the most part, undertaking conservation efforts does not seem to be related to building size. Reducing heating and cooling were the most popular conservation practices. Heating was reduced during "off" hours in 83 percent (+ 3) of heated buildings, which contained 81 percent (+ 3) of the square footage in heated buildings. Reduced cooling took place in 58 percent of cooled buildings, which contained 67 percent (+ 4) of the square footage in cooled buildings.

Natural Gas and Electricity

Table 3 gives the combined consumption and expenditures for natural gas and electricity for commercial buildings which use one or both of these fuels. Total natural gas and electricity consumption for commercial buildings in 1979 was an estimated 4.449 quadrillion Btu (+ 0.543). Overall consumption by region varied from 1.722 quadrillion Btu (+ 0.351) in the North Central region to 0.545 quadrillion Btu (+ 0.159) in the West.

Combined natural gas and electricity consumption and its component parts by building type are given in Figures 4 and 5. The highest overall consumers were office buildings (0.841 quadrillion Btu + 0.135), retail sales and service buildings (0.595 quadrillion Btu + 0.162) and warehouse and storage buildings (0.563 quads + 0.229).

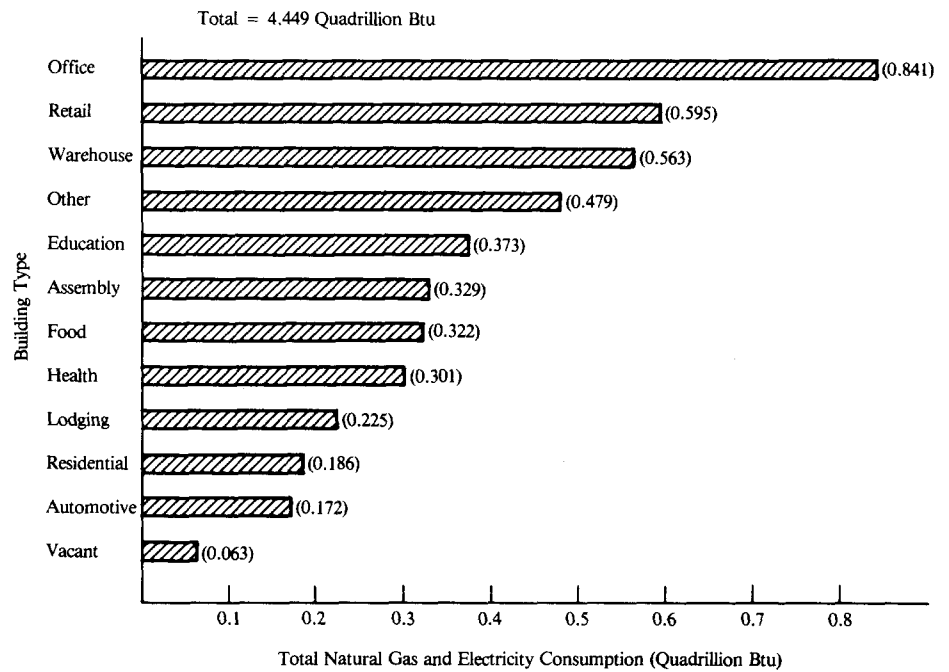
Approximately 45 percent (+ 3) of the total commercial consumption of natural gas and electricity was concentrated in these three building types. The lowest consumption estimates were for lodgings (0.225 quadrillion Btu + 0.072), primarily residential (.186 quadrillion Btu + 0.061) and automotive sales and service buildings (0.172 quadrillion Btu + 0.044).

Buildings that used natural gas for any of the end uses listed (with the exception of cooking) consumed substantially more (of natural gas and electricity combined) per square foot than buildings using electricity. Buildings in the North Central region consumed significantly more per square foot (113,000 Btu + 19,000) than buildings in any other region. Overall consumption per employee was also highest in the North Central region at 88 million Btu (+ 14 million) per employee. Regional variations in the average expenditures per building were considerable, ranging from \$12,700 (+ \$3,800) for buildings in the Northeast to \$6,300 (+ \$2,500) for buildings in the West.



Summary of Findings (Continued)

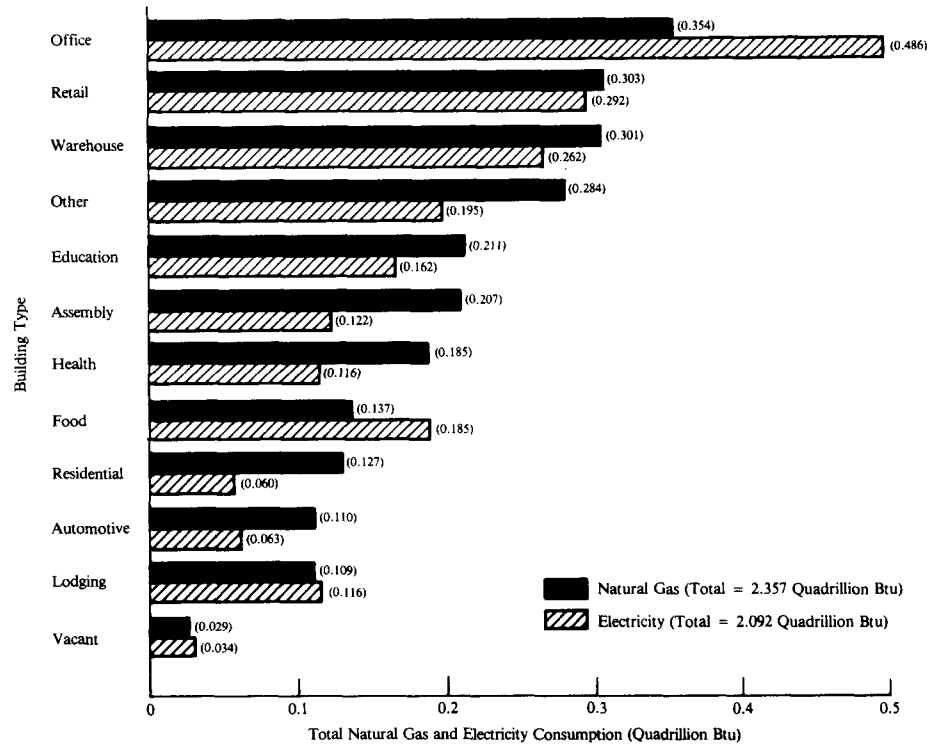
Figure 4. 1979 Combined Natural Gas and Electricity Consumption for Commercial Buildings Using Natural Gas and/or Electricity by Building Type (Quadrillion Btu)





Summary of Findings (Continued)

Figure 5. 1979 Total Natural Gas and Electricity Consumption for Commercial Buildings Using Gas or Electricity by Building Type (Quadrillion Btu)





Summary of Findings (Continued)

Figures 6 and 7 present two summary measures, consumption per square foot and consumption per employee, ranked by building type. These two measures show very different pictures. Health care and food sales buildings have the highest overall consumption (of natural gas and electricity combined) per square foot with 179,000 (+ 40,000) and 173,000 Btu (+ 25,000), respectively. At the other end of the spectrum are assembly, education, vacant and primarily residential buildings. Building types that tend to be large, but have relatively few employees, such as warehouses, assembly, and lodging buildings have high levels of consumption per employee. Office buildings have by far the lowest consumption per employee at 36 million Btu (+ 7 million) followed by retail sales and service buildings. Both of these latter building types are relatively dense in terms of the ratio of employees to space.⁵

Building size is negatively associated with consumption per square foot. Figure 9 shows that, for the most part, as building size increases, consumption per square foot decreases, from 285,000 Btu (+ 50,000) for buildings of 1,000 square feet or less to 84,000 Btu (+ 8,000) for buildings over 50,000 square feet.⁶ It is interesting to note that the other summary measure of consumption, average amount consumed per employee, does not appear to be related to building size.

Figure 11 gives consumption per square foot by year built for natural gas and electricity, both overall and disaggregated. Overall consumption per square foot ranged from 120,000 Btu (+ 24,000) in buildings constructed between 1971 - 1973 to 67,000 (+ 14,000) in buildings constructed between 1901 - 1920. Consumption of natural gas per square foot does not display any discernible pattern in terms of year constructed. On the other hand, electricity consumption per square foot displays a definite age effect; for the most part, average consumption decreases as building age increases.

Both consumption per square foot and consumption per employee tend to be higher for single establishment buildings than for multiple establishment buildings. This finding, however, may be due to the relative sizes of single and multiple establishment buildings, i.e., multiple establishment buildings tend to be larger. The previously noted association between building size and consumption per square foot is reversed when we look at hours of operation (compare Figures 12 and 13 with Figure 9). Both building size and consumption per square foot tend to increase with the number of hours a building is open.

Average natural gas and electricity consumption does not appear to be related to most of the conservation measures listed with the exception of reduced cooling. Buildings where cooling was reduced when the building was not in full operation consumed significantly less for each of the summary measures (average amount per building, per square foot, and per employee) than buildings where the level of cooling was not reduced.

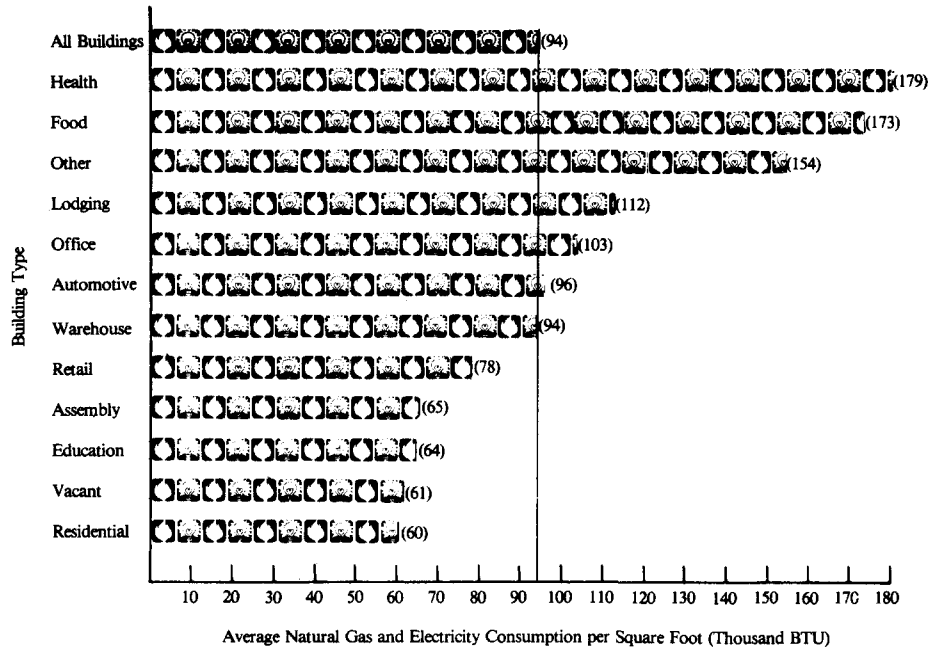
⁵The relative contributions of natural gas and electricity to overall consumption per square foot may be estimated by deleting the contribution of electricity (see Figure 8 or Table 7) from the totals given in Figure 6. The remainder will approximate the contribution of natural gas, since virtually all buildings supplied with natural gas are also supplied with electricity.

⁶The relative contributions of natural gas and electricity may be estimated using Figure 10 in the same way as discussed above.



Summary of Findings (Continued)

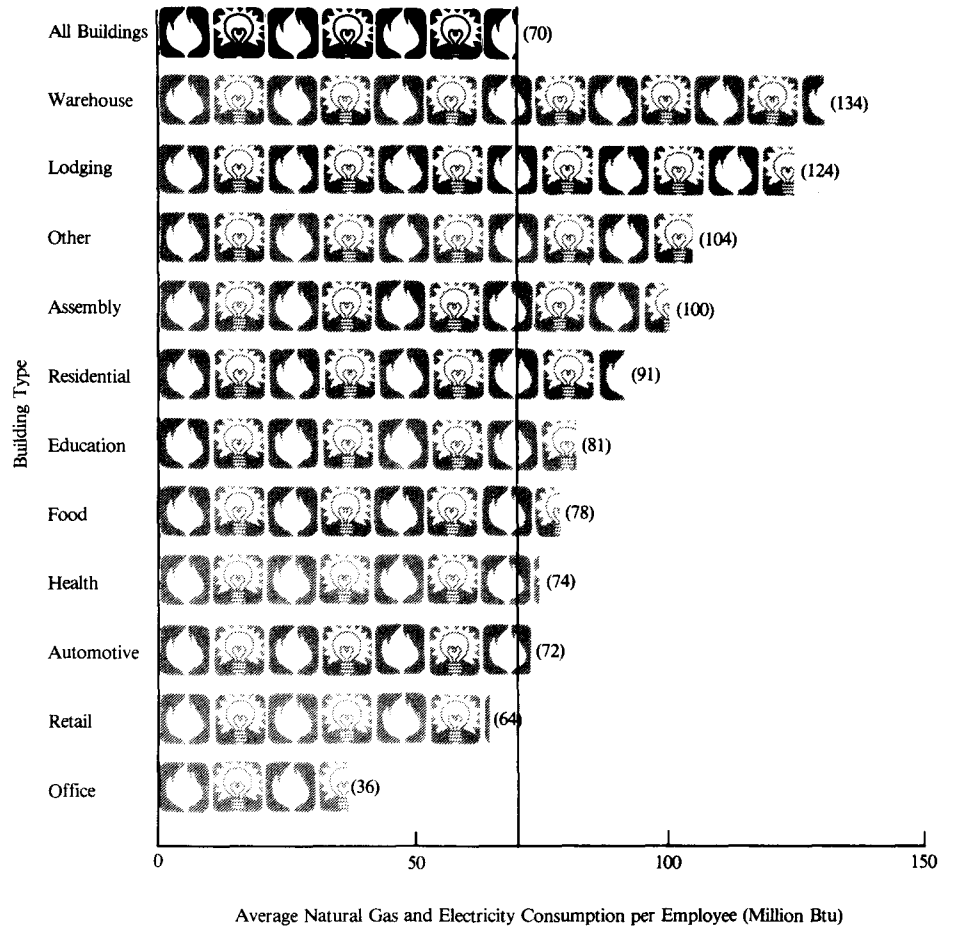
Figure 6. 1979 Average Natural Gas and Electricity Consumption Per Square Foot for Commercial Buildings Using Natural Gas and/or Electricity by Building Type (Thousand Btu)





Summary of Findings (Continued)

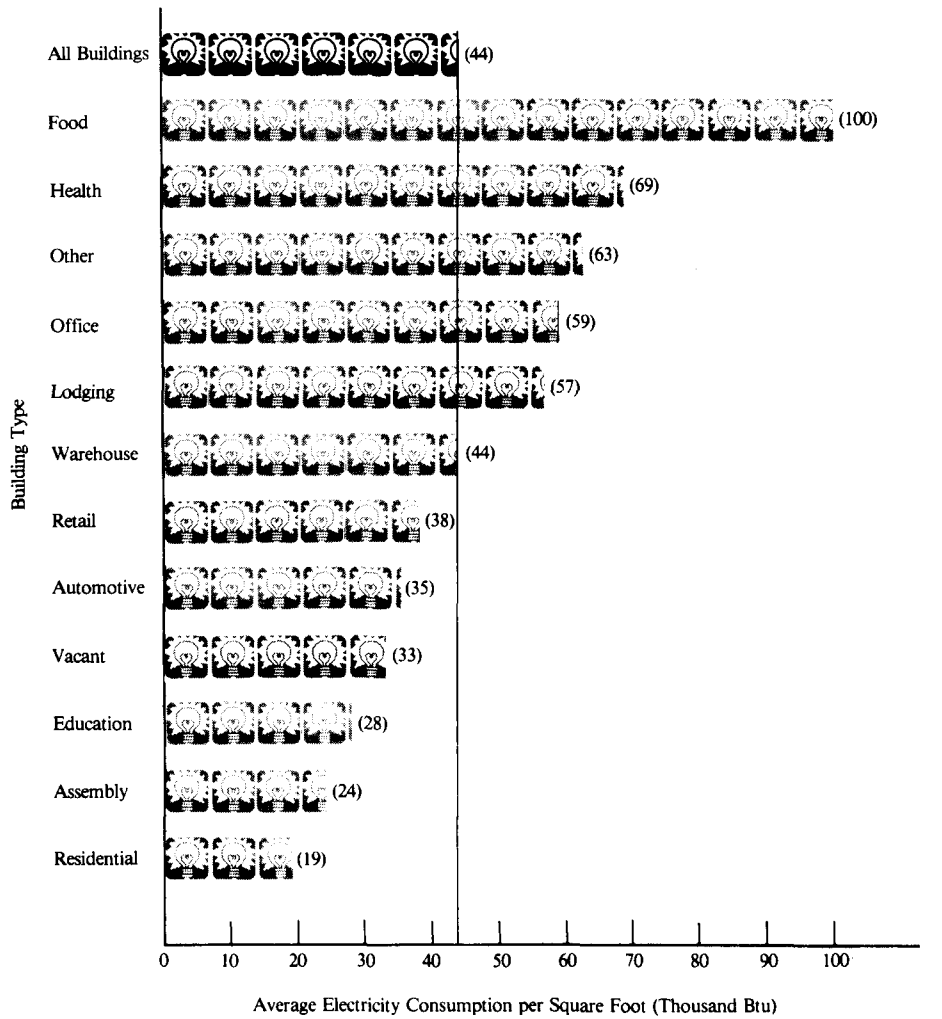
Figure 7. 1979 Average Natural Gas and Electricity Consumption Per Employee for Occupied Commercial Buildings Using Natural Gas and/or Electricity by Building Type (Million Btu)





Summary of Findings (Continued)

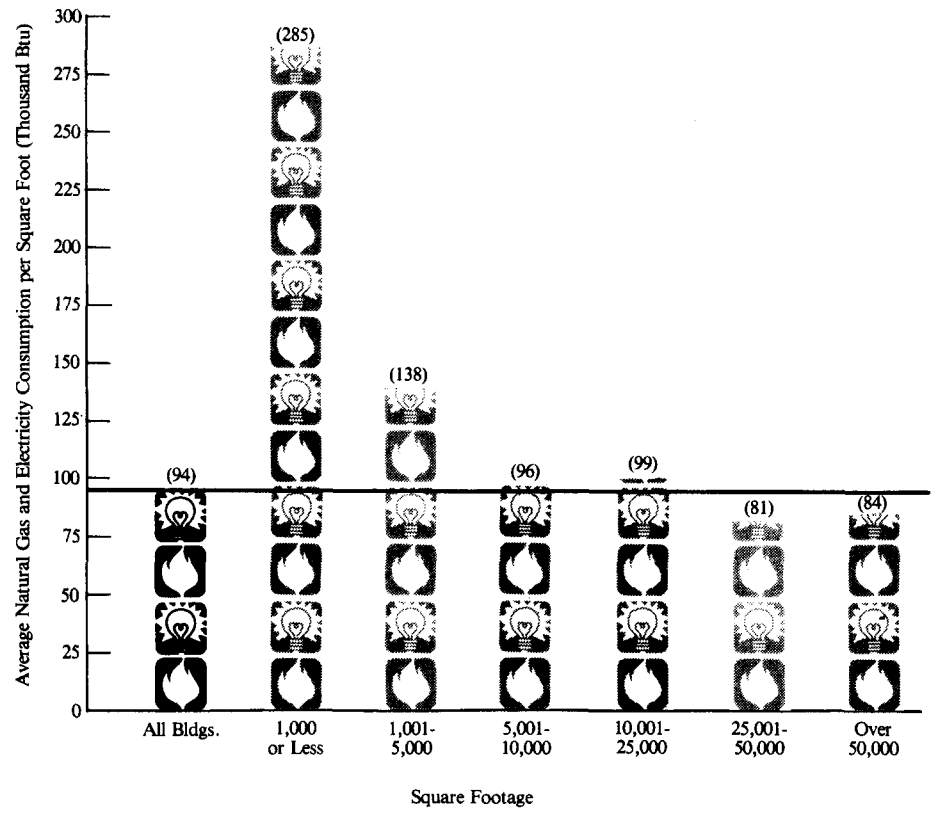
Figure 8. Average Electricity Consumption Per Square Foot for Commercial Buildings Using Electricity by Building Type (Thousand Btu)





Summary of Findings (Continued)

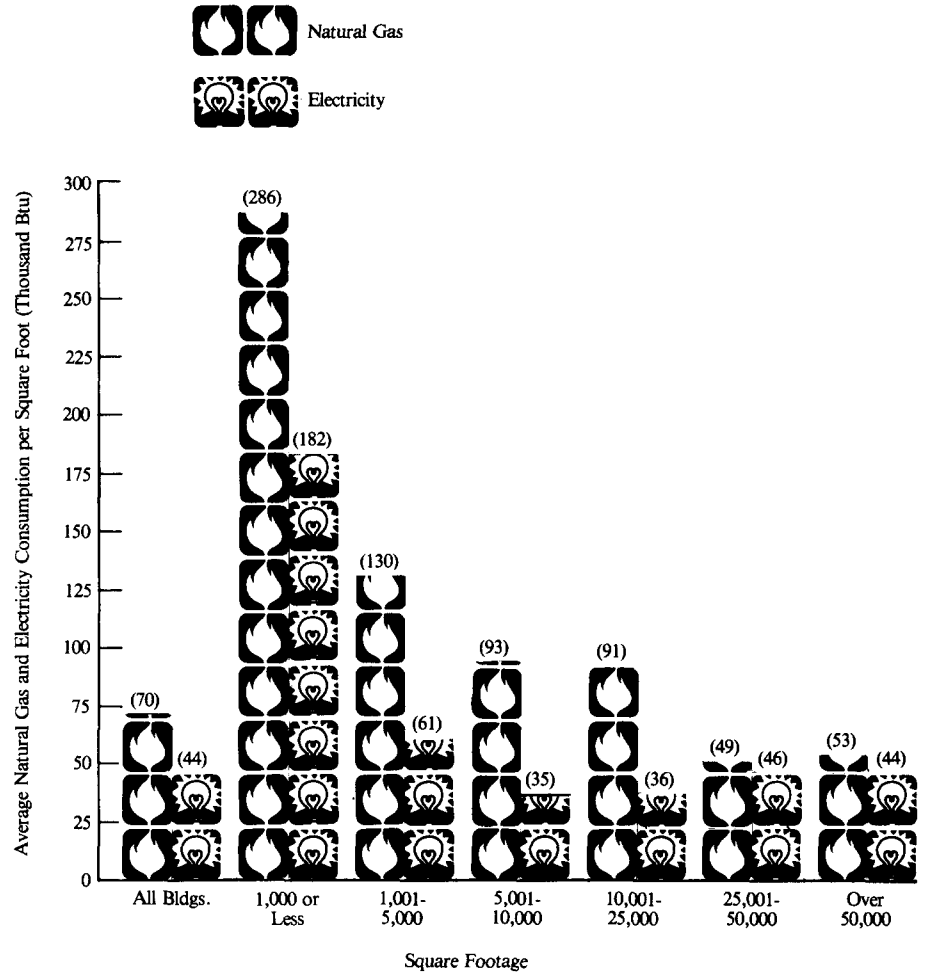
Figure 9. 1979 Combined Natural Gas and Electricity Per Square Foot for Commercial Buildings Using Natural Gas and/or Electricity by Building Size (Thousand Btu)





Summary of Findings (Continued)

Figure 10. 1979 Average Natural Gas and Electricity Consumption Per Square Foot for Commercial Buildings Using Natural Gas or Electricity by Building Size (Thousand Btu)





Summary of Findings (Continued)

Figure 11. 1979 Average Natural Gas and Electricity Consumption Per Square Foot for Commercial Buildings Using Natural Gas and/or Electricity by Year Built (Thousand Btu)

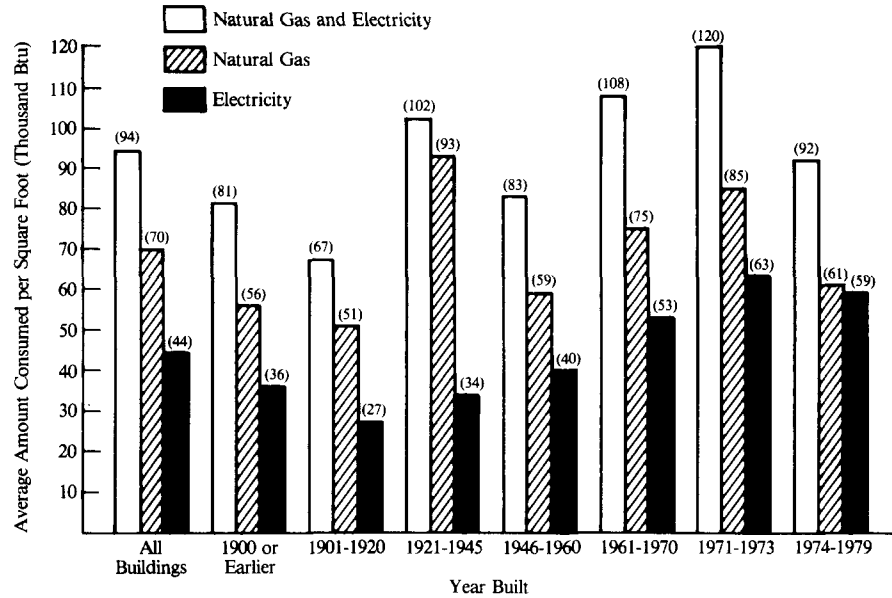


Figure 12. Average Square Footage for Commercial Buildings by Hours of Operation as of January 1, 1980 (Thousands of Square Feet)

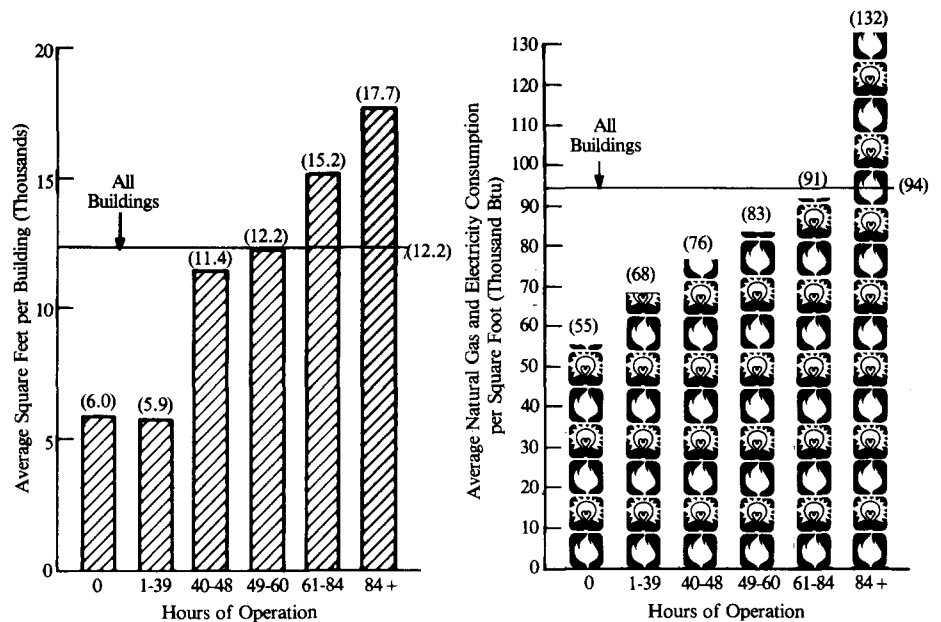


Figure 13. 1979 Average Natural Gas and Electricity Consumption Per Square Foot for Commercial Buildings Using Natural Gas and/or Electricity by Hours of Operation (Thousand Btu)



Summary of Findings (Continued)

Natural Gas

Table 5 presents 1979 natural gas consumption and expenditure data for commercial buildings which used natural gas (approximately 56 percent (+ 6) of the commercial building stock). An estimated 90 percent (+ 3) of the total natural gas consumption of 2.357 quadrillion Btu (+ 0.372) was consumed in buildings that used natural gas for heating. Natural gas buildings tended to be slightly larger than the average commercial building at 14,900 square feet (+ 1,500). The average natural gas building consumed 1,046 million Btu (+ 188 million) overall and 70,000 Btu (+ 9,000) per square foot. Commercial buildings spent an estimated 6.4 billion dollars (+ 0.9 billion) for natural gas in 1979, an average expenditure of \$2,800 (+ \$400) per building or \$2.70 (+ \$0.13) per million Btu.

Nearly half of the total commercial natural gas consumption (1.062 quadrillion Btu + 0.280) took place in buildings in the North Central region. Average consumption per square foot and per employee tended to be higher for the North Central region than for any other region; however, not all differences were significant at the 5 percent level (see Appendix B: Limitations of the Data). The average expenditure per building ranged from \$3,400 (+ \$600) for the Northeast to \$2,300 (+ \$600) for the South.

Figure 5 gives total natural gas consumption by building type. Consumption ranged from 0.354 quadrillion Btu (+ 0.076) for office buildings to .109 quadrillion Btu (+ 0.031) for lodgings and 0.110 quadrillion Btu (+ 0.032) for automotive sales and service buildings.

The largest estimate of consumption per square foot (137,000 Btu + 55,000) was for buildings classified as "other" (see Figure 14). This category is made up of a number of different building classes (e.g., parking garages, mixed-use buildings, laboratories, police and fire stations, etc. - see Glossary for a complete listing), none of which appeared often enough in the sample to stand alone. Health care and food sales buildings also had high levels of consumption per square foot (125,000 Btu + 44,000 and 119,000 Btu + 22,000, respectively).

Average natural gas consumption per square foot varied enormously by building size (see Figure 10) ranging from 286,000 Btu (+ 79,000) for buildings of 1,000 square feet or fewer to 52,000 Btu (+ 9,000) for buildings over 25,000 square feet. Average natural gas consumption per building ranged from 185 million Btu (+ 51 million) for the smallest buildings to 7,116 million Btu (+ 1,053 million) for buildings over 50,000 square feet.

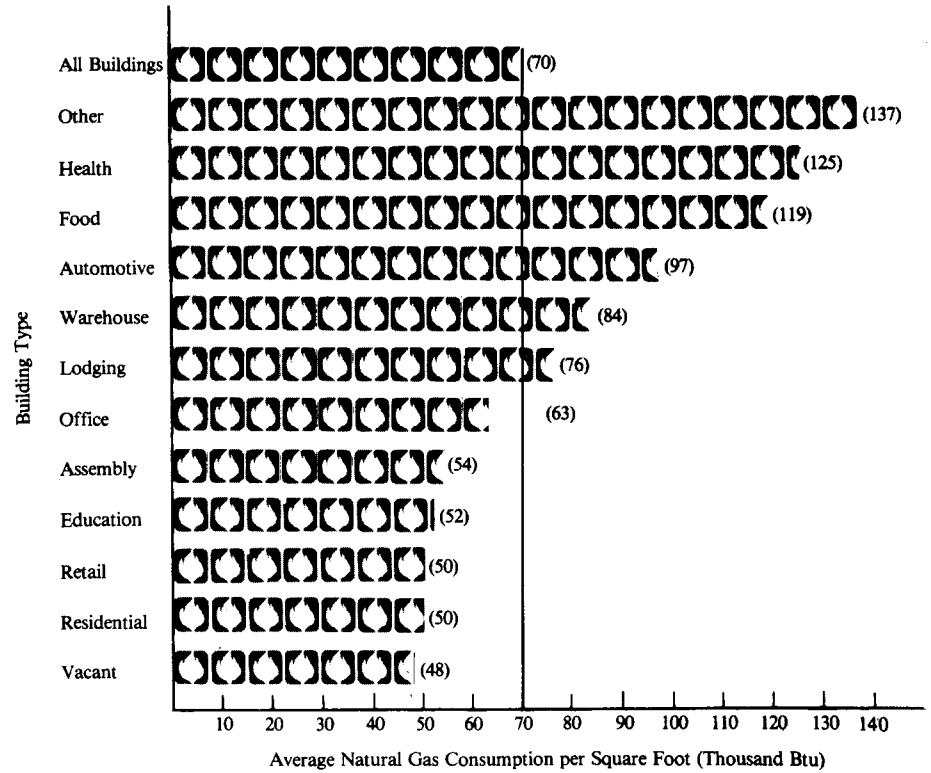
For single establishment buildings, the presence or absence of the owner was not related to natural gas consumption per square foot or per employee. For multiple establishment buildings, both measures were somewhat lower when the building owner was present, but the differences were not significant at the 5 percent level. Multiple establishment buildings consumed considerably less for both of these summary measures than did single establishment buildings.

Buildings where weatherstripping and/or caulking had been installed consumed significantly less per square foot than buildings where this conservation measure was not taken. Surprisingly, average consumption per square foot did not appear to be affected by the addition of insulation.



Summary of Findings (Continued)

Figure 14. 1979 Average Natural Gas Consumption Per Square Foot for Commercial Buildings Using Natural Gas by Building Type (Thousand Btu)





Summary of Findings (Continued)

Electricity

Table 7 gives 1979 electricity consumption and expenditures data for commercial buildings that used electricity (approximately 97 percent (+ 3) of all commercial buildings). The estimated total commercial consumption of electricity for 1979 was 2.092 quadrillion Btu (+ 0.293) or 613 billion kWh (+ 86 billion). The average commercial building consumed 541 million Btu (+ 71 million) or 44,000 Btu (+ 5,000) per square foot. Average expenditures for electricity in 1979 were \$6,800 (+ \$1,000) per building or \$12.48 (+ \$0.92) per million Btu.

The South and North Central regions accounted for approximately two-thirds of the total commercial electricity consumption for 1979 (these regions also had approximately two-thirds of the total number of commercial buildings). Average consumption per square foot ranged from 51,000 Btu (+ 11,000) for the South to 38,000 Btu (+ 9,000) for the West; however, the difference between the two regions was not significant at the 5 percent level. Once again, buildings in the Northeast paid substantially more than did buildings in the other regions. The average expenditure per building for electricity ranged from \$10,500 (+ \$3,300) for the Northeast to \$4,900 (+ \$2,400) for buildings in the West. Average expenditures per million Btu ranged from \$15.43 (+ \$1.94) for the Northeast to \$10.78 (+ \$2.26) for the West.

Figure 5 gives total electricity consumption by building type. Office buildings had the highest estimate of total consumption (0.486 quadrillion Btu + 0.111), followed by retail sales and service buildings (0.292 quadrillion Btu + 0.109) and warehouse and storage buildings (0.262 quadrillion Btu + 0.068). The lowest electricity consumers were automotive sales and service buildings (0.063 quadrillion Btu + 0.018) and primarily residential buildings (0.063 quadrillion Btu + 0.019). Consumption per square foot estimates were highest for food sales buildings at 100,000 Btu (+ 21,000) followed by health care buildings (69,000 Btu + 16,000--see Figure 8). Assembly and primarily residential buildings had the lowest estimates of average consumption per square foot (24,000 Btu + 9,000 and 19,000 Btu + 4,000, respectively).

Once again, average consumption per square foot was highest for buildings of 1,000 square feet or less (182,000 Btu + 55,000--see Figure 10). Unlike natural gas, however, there is no discernible pattern relating building size to consumption per square foot for buildings over 5,000 square feet.

Average electricity consumption per square foot is positively related to the percentage of the building cooled, ranging from 25,000 Btu (+ 6,000) for buildings with no air conditioning to 65,000 Btu (+ 8,000) for buildings entirely air conditioned. The type and complexity of the air conditioning system used is also related to electricity consumption per square foot. Buildings with window units or no air conditioning consumed an average of 25,000 Btu per square foot (+ 4,000), while buildings with combination systems used an average of 65,000 Btu per square foot (+ 15,000).

Average electricity consumption per square foot was remarkably stable across all occupancy types. There were no significant differences between single and multiple establishment buildings or between buildings where the owner was or was not an occupant. Generally speaking, the greater the number of employees, the higher the consumption per square foot. The average ranged from 29,000 Btu (+ 5,000) for buildings with fewer than 10 employees to 62,000 Btu (+ 10,000) for buildings with 100 or more employees.



Summary of Findings (Continued)

Undertaking any of the conservation practices did not result in an appreciable difference in average electricity consumption per square foot. Although buildings that adopted each measure did consume less than buildings that did not, none of the differences were significant.



Summary of Findings (Continued)

Table 1. Total Square Footage
for Commercial Buildings
as of January 1, 1980

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| COMMERCIAL BUILDINGS..... | 3,995 | 11.9 | 3.9 | 47,685 | 365 | 4,538 | 5,356 | 8,656 | 7,278 | 21,492 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 3,565 | 12.8 | 4.3 | 45,457 | 285 | 4,094 | 5,109 | 8,245 | 6,918 | 20,805 |
| NATURAL GAS..... | 1,922 | 13.5 | 4.9 | 25,886 | 111 | 2,250 | 3,055 | 5,063 | 3,888 | 11,518 |
| ELECTRICITY..... | 985 | 11.5 | 3.9 | 11,313 | 83 | 1,069 | 1,295 | 2,442 | 1,635 | 4,790 |
| FUEL OIL/KEROSENE..... | 762 | 14.1 | 5.0 | 10,724 | 54 | 829 | 1,231 | 1,896 | 1,607 | 5,106 |
| LIQUID PETROLEUM GAS..... | 208 | 5.2 | 2.0 | 1,075 | 38 | 219 | 240 | 243 | 187 | 149 |
| WOOD..... | 96 | 6.4 | 3.3 | 612 | 14 | 125 | 0 | 0 | 0 | 0 |
| STEAM..... | 45 | 82.3 | 30.1 | 3,675 | - | 0 | 41 | 168 | 349 | 3,109 |
| COAL..... | 44 | 16.6 | 4.0 | 735 | 0 | 74 | 0 | 105 | 77 | 448 |
| OTHER..... | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 430 | 5.2 | 1.4 | 2,229 | 79 | 444 | 247 | 412 | 360 | 687 |
| AIR CONDITIONING FUEL USED.. | 2,543 | 14.7 | 4.7 | 37,465 | 181 | 2,840 | 3,535 | 6,650 | 5,629 | 18,631 |
| ELECTRICITY..... | 2,415 | 14.6 | 4.8 | 35,172 | 178 | 2,649 | 3,372 | 6,373 | 5,443 | 17,158 |
| NATURAL GAS..... | 147 | 18.7 | 4.9 | 2,750 | 3 | 189 | 169 | 508 | 289 | 1,593 |
| OTHER..... | 26 | 51.9 | 5.6 | 1,346 | 0 | 32 | 0 | 0 | 71 | 1,177 |
| NO AIR CONDITIONING FUEL.... | 1,452 | 7.0 | 2.7 | 10,221 | 184 | 1,698 | 1,821 | 2,007 | 1,650 | 2,861 |
| WATER-HEATING FUEL USED..... | 2,663 | 14.8 | 4.9 | 39,507 | 174 | 3,064 | 3,951 | 7,029 | 6,139 | 19,150 |
| NATURAL GAS..... | 1,252 | 16.6 | 5.1 | 20,794 | 61 | 1,481 | 1,821 | 3,616 | 3,171 | 10,645 |
| ELECTRICITY..... | 1,223 | 11.9 | 4.6 | 14,600 | 98 | 1,396 | 1,844 | 3,014 | 2,461 | 5,787 |
| FUEL OIL/KEROSENE..... | 169 | 26.8 | 7.9 | 4,538 | 4 | 141 | 256 | 603 | 771 | 2,763 |
| OTHER..... | 109 | 28.6 | 4.6 | 3,120 | 14 | 114 | 138 | 246 | 184 | 2,424 |
| NO WATER-HEATING FUEL..... | 1,333 | 6.1 | 2.4 | 8,179 | 191 | 1,474 | 1,405 | 1,627 | 1,140 | 2,342 |
| MANUFACTURING FUEL USED..... | 318 | 17.1 | 4.6 | 5,431 | 23 | 402 | 360 | 811 | 860 | 2,967 |
| ELECTRICITY..... | 267 | 17.1 | 5.0 | 4,580 | 21 | 296 | 315 | 748 | 787 | 2,413 |
| NATURAL GAS..... | 49 | 24.9 | 0 | 1,224 | - | 88 | 48 | 177 | 86 | 826 |
| OTHER..... | 39 | 25.1 | 0 | 987 | 0 | 52 | 0 | 161 | 84 | 651 |
| NO MANUFACTURING DONE..... | 3,678 | 11.5 | 3.8 | 42,254 | 342 | 4,136 | 4,988 | 7,845 | 6,418 | 18,524 |
| COOKING FUEL USED..... | 1,324 | 18.1 | 5.1 | 23,923 | 72 | 1,508 | 1,909 | 3,711 | 3,426 | 13,296 |
| ELECTRICITY..... | 741 | 17.9 | 5.0 | 13,253 | 37 | 874 | 1,008 | 2,034 | 1,880 | 7,420 |
| NATURAL GAS..... | 610 | 22.4 | 6.6 | 13,681 | 28 | 700 | 901 | 1,749 | 1,862 | 8,441 |
| LIQUID PETROLEUM GAS..... | 108 | 11.0 | 4.1 | 1,185 | 14 | 104 | 174 | 229 | 172 | 491 |
| OTHER..... | 20 | 0 | 0 | 885 | 0 | 26 | 0 | 87 | 0 | 746 |
| NO COOKING FUEL..... | 2,671 | 8.9 | 3.3 | 23,763 | 293 | 3,030 | 3,447 | 4,945 | 3,852 | 8,196 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 699 | 16.1 | 5.5 | 11,286 | 30 | 779 | 1,043 | 2,038 | 1,816 | 5,581 |
| NORTH CENTRAL..... | 1,246 | 12.3 | 4.0 | 15,291 | 117 | 1,479 | 1,781 | 2,486 | 2,256 | 7,172 |
| SOUTH..... | 1,480 | 9.6 | 3.0 | 14,280 | 171 | 1,681 | 1,643 | 2,732 | 2,170 | 5,884 |
| WEST..... | 571 | 12.0 | 4.1 | 6,828 | 48 | 600 | 889 | 1,401 | 1,037 | 2,854 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 2,261 | 15.1 | 4.6 | 34,045 | 153 | 2,503 | 3,084 | 5,661 | 5,217 | 17,427 |
| NONSMSA..... | 1,735 | 7.9 | 3.2 | 13,640 | 212 | 2,035 | 2,272 | 2,996 | 2,061 | 4,064 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 444 | 12.4 | 4.8 | 5,512 | 2 | 512 | 783 | 903 | 820 | 2,462 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 1,167 | 13.8 | 4.7 | 16,135 | 88 | 1,323 | 1,747 | 2,848 | 2,273 | 7,856 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 1,075 | 11.9 | 3.6 | 12,787 | 91 | 1,236 | 1,314 | 2,492 | 2,004 | 5,650 |
| <2,000 CDD AND <4,000 HDD... | 657 | 10.8 | 3.1 | 7,096 | 69 | 751 | 835 | 1,089 | 1,208 | 3,145 |
| >2,000 CDD AND <4,000 HDD... | 652 | 9.4 | 3.0 | 6,156 | 2 | 716 | 2 | 1,325 | 973 | 2,379 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 448 | 11.2 | 6.0 | 5,028 | 27 | 432 | 968 | 1,211 | 889 | 1,501 |
| AUTOMOTIVE SALES & SERVICE... | 401 | 4.5 | 2.4 | 1,821 | 49 | 497 | 530 | 418 | 169 | 158 |
| EDUCATION..... | 161 | 36.2 | 18.3 | 5,851 | 6 | 98 | 152 | 522 | 1,097 | 3,976 |
| FOOD SALES..... | 366 | 5.1 | 2.5 | 1,864 | 47 | 526 | 355 | 509 | 176 | 251 |
| HEALTH CARE..... | 44 | 38.5 | 5.4 | 1,687 | 3 | 39 | 56 | 95 | 74 | 1,419 |
| LODGING..... | 101 | 19.9 | 6.1 | 2,012 | 6 | 84 | 162 | 256 | 439 | 1,066 |
| OFFICE..... | 600 | 13.6 | 4.1 | 8,184 | 52 | 725 | 829 | 1,310 | 991 | 4,275 |
| RESIDENTIAL..... | 347 | 9.0 | 3.7 | 3,115 | 28 | 501 | 340 | 962 | 408 | 877 |
| RETAIL/SERVICES..... | 714 | 10.7 | 4.0 | 7,652 | 71 | 845 | 1,111 | 1,501 | 1,068 | 3,056 |
| WAREHOUSE AND STORAGE..... | 430 | 14.1 | 3.9 | 6,070 | 32 | 438 | 413 | 1,074 | 1,147 | 2,965 |
| OTHER..... | 237 | 13.2 | 3.6 | 3,129 | 20 | 198 | 277 | 620 | 528 | 1,484 |
| VACANT..... | 146 | 8.7 | 2.7 | 1,273 | 23 | 155 | 162 | 178 | 291 | 464 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 655 | .6 | .6 | 365 | 365 | - | - | - | - | - |
| 1,001 TO 5,000..... | 1,672 | 2.7 | 2.5 | 4,538 | - | 4,538 | - | - | - | - |
| 5,001 TO 10,000..... | 745 | 7.2 | 7.1 | 5,356 | - | - | 5,356 | - | - | - |
| 10,001 TO 25,000..... | 551 | 15.7 | 15.0 | 8,656 | - | - | - | 8,656 | - | - |
| 25,001 TO 50,000..... | 207 | 35.2 | 34.9 | 7,278 | - | - | - | - | 7,278 | - |
| OVER 50,000..... | 166 | 129.8 | 82.7 | 21,492 | - | - | - | - | - | 21,492 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 2,322 | 6.1 | 2.5 | 14,164 | 316 | 2,870 | 2,303 | 3,081 | 2,214 | 3,379 |
| TWO FLOORS..... | 912 | 12.7 | 5.8 | 11,628 | 36 | 1,038 | 1,881 | 2,536 | 1,548 | 4,589 |
| THREE FLOORS..... | 483 | 16.9 | 7.4 | 8,170 | 2 | 490 | 850 | 1,858 | 1,702 | 3,261 |
| MORE THAN THREE..... | 279 | 49.3 | 17.3 | 13,724 | 4 | 140 | 322 | 1,182 | 1,814 | 10,263 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 321 | 10.9 | 4.8 | 3,500 | 19 | 412 | 475 | 958 | 666 | 970 |
| 1901 TO 1920..... | 408 | 13.3 | 5.1 | 5,425 | 18 | 479 | 728 | 948 | 1,036 | 2,216 |
| 1921 TO 1945..... | 783 | 11.5 | 3.7 | 9,016 | 90 | 826 | 984 | 1,901 | 1,608 | 3,607 |
| 1946 TO 1960..... | 1,008 | 9.6 | 3.0 | 9,680 | 119 | 1,148 | 1,241 | 1,685 | 1,132 | 4,354 |
| 1961 TO 1970..... | 744 | 13.5 | 3.6 | 10,079 | 61 | 837 | 952 | 1,371 | 1,396 | 5,462 |
| 1971 TO 1973..... | 205 | 17.9 | 4.9 | 3,667 | 10 | 223 | 260 | 577 | 643 | 1,954 |
| 1974 TO 1979..... | 525 | 12.0 | 3.9 | 6,319 | 48 | 613 | 715 | 1,216 | 797 | 2,929 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| NO FUEL USED..... | 115 | 3.0 | 1.0 | 348 | 23 | 110 | 0 | 0 | 0 | 0 |
| ONE FUEL USED..... | 799 | 7.3 | 2.4 | 5,856 | 118 | 869 | 631 | 1,248 | 954 | 2,035 |
| ELECTRICITY..... | 788 | 7.4 | 2.4 | 5,809 | 117 | 851 | 620 | 1,237 | 954 | 2,031 |
| OTHER..... | 0 | 4.5 | 3.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 2,595 | 10.8 | 4.2 | 27,905 | 207 | 3,120 | 3,880 | 5,787 | 4,649 | 10,262 |
| ELEC., NATURAL GAS..... | 1,889 | 11.7 | 4.7 | 22,104 | 113 | 2,311 | 2,903 | 4,682 | 3,733 | 8,362 |
| ELEC., FUEL OIL/KEROSENE..... | 441 | 7.8 | 3.5 | 3,433 | 45 | 544 | 664 | 729 | 584 | 867 |
| ELEC., LPG..... | 178 | 4.3 | 1.8 | 771 | 35 | 177 | 198 | 194 | 0 | 0 |
| OTHER..... | 87 | 18.3 | 4.5 | 1,598 | 13 | 89 | 0 | 183 | 222 | 976 |
| THREE FUELS USED..... | 448 | 27.4 | 7.2 | 12,301 | 17 | 390 | 726 | 1,389 | 1,521 | 8,258 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 250 | 30.0 | 9.1 | 7,497 | 0 | 212 | 436 | 861 | 1,090 | 4,894 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 75 | 13.7 | 5.0 | 1,031 | 0 | 73 | 140 | 182 | 132 | 499 |
| ELEC., GAS, OTHER..... | 80 | 37.2 | 9.1 | 2,967 | 0 | 58 | 102 | 268 | 218 | 2,316 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 20 | 12.3 | 0 | 245 | 0 | 24 | 0 | 0 | 0 | 132 |
| OTHER..... | 23 | 24.2 | 0 | 561 | 0 | 24 | 0 | 0 | 77 | 417 |
| FOUR OR MORE FUELS USED..... | 39 | 32.9 | 9.9 | 1,276 | - | 48 | 43 | 216 | 0 | 893 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 3,867 | 12.2 | 4.0 | 47,267 | 341 | 4,395 | 5,270 | 8,626 | 7,201 | 21,435 |
| NATURAL GAS..... | 2,252 | 14.9 | 5.0 | 33,635 | 124 | 2,622 | 3,469 | 5,964 | 5,117 | 16,339 |
| FUEL OIL/KEROSENE..... | 815 | 16.3 | 5.0 | 13,317 | 56 | 871 | 1,289 | 2,047 | 1,855 | 7,198 |
| LIQUID PETROLEUM GAS..... | 313 | 9.9 | 3.2 | 3,102 | 45 | 322 | 408 | 567 | 348 | 1,412 |
| WOOD..... | 118 | 6.4 | 3.0 | 753 | 15 | 153 | 0 | 249 | 0 | 0 |
| COAL..... | 55 | 14.6 | 4.0 | 810 | 0 | 95 | 0 | 139 | 77 | 458 |
| STEAM..... | 49 | 78.9 | 29.1 | 3,831 | 0 | 0 | 50 | 187 | 352 | 3,233 |
| OTHER..... | 20 | 48.7 | 0 | 970 | - | 0 | 37 | 61 | 0 | 731 |
| NONE..... | 115 | 3.0 | 1.0 | 348 | 23 | 110 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-----------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 1,114 | 9.3 | 3.9 | 10,386 | 92 | 1,310 | 1,602 | 2,533 | 1,661 | 3,188 |
| RADIANT..... | 160 | 6.7 | 2.4 | 1,078 | 25 | 164 | 196 | 257 | 106 | 331 |
| COMBINATION/OTHER..... | 345 | 7.4 | 2.5 | 2,554 | 49 | 444 | 232 | 596 | 642 | 591 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 937 | 11.9 | 3.7 | 11,147 | 68 | 1,155 | 1,452 | 1,674 | 1,356 | 5,442 |
| RADIANT..... | 508 | 18.1 | 7.0 | 9,177 | 19 | 552 | 787 | 1,547 | 1,845 | 4,426 |
| COMBINATION/OTHER..... | 205 | 31.5 | 7.7 | 6,459 | 6 | 214 | 294 | 686 | 751 | 4,508 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 133 | 12.7 | 5.1 | 1,691 | 14 | 146 | 223 | 390 | 182 | 737 |
| RADIANT..... | 31 | 16.0 | 8.3 | 488 | 3 | 20 | 2 | 146 | 125 | 147 |
| COMBINATION/OTHER..... | 135 | 18.4 | 6.6 | 2,483 | 9 | 91 | 275 | 415 | 251 | 1,441 |
| NONE..... | 429 | 5.2 | 1.4 | 2,221 | 79 | 442 | 247 | 412 | 360 | 681 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 225 | 15.0 | 6.9 | 3,368 | 13 | 172 | 486 | 780 | 613 | 1,304 |
| 26 TO 50..... | 335 | 8.0 | 4.0 | 2,675 | 27 | 429 | 495 | 725 | 430 | 570 |
| 51 TO 75..... | 302 | 11.3 | 4.7 | 3,407 | 17 | 371 | 502 | 675 | 581 | 1,260 |
| 76 TO 99..... | 229 | 18.5 | 4.6 | 4,241 | 16 | 297 | 338 | 504 | 489 | 2,598 |
| 100..... | 2,476 | 12.8 | 4.1 | 31,773 | 212 | 2,827 | 3,288 | 5,561 | 4,806 | 15,079 |
| NONE..... | 429 | 5.2 | 1.4 | 2,221 | 79 | 442 | 247 | 412 | 360 | 681 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 511 | 20.6 | 8.7 | 10,511 | 14 | 398 | 813 | 2,129 | 2,159 | 4,999 |
| 26 TO 50..... | 524 | 9.9 | 4.7 | 5,195 | 30 | 718 | 832 | 1,226 | 591 | 1,797 |
| 51 TO 75..... | 272 | 15.3 | 4.2 | 4,168 | 18 | 332 | 384 | 649 | 637 | 2,148 |
| 76 TO 99..... | 182 | 26.7 | 6.7 | 4,859 | 2 | 185 | 279 | 558 | 372 | 3,457 |
| 100..... | 1,054 | 12.1 | 3.3 | 12,734 | 110 | 1,207 | 1,227 | 2,088 | 1,869 | 6,232 |
| NONE..... | 1,452 | 7.0 | 2.7 | 10,218 | 184 | 1,698 | 1,821 | 2,007 | 1,650 | 2,858 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 812 | 8.6 | 3.1 | 7,005 | 103 | 928 | 823 | 1,559 | 1,365 | 2,228 |
| PACKAGE UNITS..... | 744 | 15.3 | 6.0 | 11,410 | 32 | 825 | 1,241 | 2,299 | 2,070 | 4,943 |
| CENTRAL SYSTEM..... | 709 | 16.7 | 5.0 | 11,855 | 35 | 832 | 1,068 | 1,895 | 1,352 | 6,672 |
| COMBINATION/OTHER..... | 278 | 25.9 | 6.9 | 7,198 | 11 | 254 | 403 | 897 | 842 | 4,791 |
| NO AIR CONDITIONING..... | 1,452 | 7.0 | 2.7 | 10,218 | 184 | 1,698 | 1,821 | 2,007 | 1,650 | 2,858 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,895 | 9.9 | 3.5 | 18,671 | 197 | 2,192 | 2,583 | 3,673 | 2,929 | 7,096 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 1,145 | 8.1 | 3.0 | 9,331 | 120 | 1,452 | 1,245 | 2,120 | 1,264 | 3,131 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 382 | 18.9 | 6.0 | 7,208 | 15 | 404 | 620 | 1,291 | 1,006 | 3,872 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 257 | 19.0 | 7.4 | 4,880 | 5 | 236 | 503 | 930 | 803 | 2,403 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 249 | 26.5 | 6.7 | 6,592 | 24 | 176 | 316 | 544 | 1,009 | 4,524 |
| NOT REPORTED..... | 67 | 15.0 | 4.9 | 1,003 | 0 | 79 | 90 | 0 | 267 | 467 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 2,931 | 5.4 | 2.7 | 15,941 | 350 | 3,793 | 3,574 | 3,838 | 2,166 | 2,219 |
| 10 TO 19..... | 477 | 11.5 | 6.6 | 5,500 | 0 | 502 | 1,053 | 1,709 | 1,004 | 1,220 |
| 20 TO 49..... | 375 | 23.5 | 15.7 | 8,817 | 0 | 186 | 586 | 2,281 | 2,510 | 3,253 |
| 50 TO 99..... | 120 | 44.7 | 25.4 | 5,369 | - | 50 | 124 | 526 | 896 | 3,773 |
| 100 OR MORE..... | 92 | 131.3 | 65.8 | 12,058 | - | 0 | 0 | 303 | 702 | 11,028 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 265 | 5.3 | 1.3 | 1,390 | 56 | 251 | 151 | 221 | 338 | 374 |
| 39 OR FEWER HOURS..... | 575 | 5.8 | 3.3 | 3,362 | 72 | 694 | 912 | 781 | 509 | 392 |
| 40 TO 48 HOURS..... | 960 | 11.2 | 4.1 | 10,800 | 81 | 1,139 | 1,350 | 2,134 | 1,580 | 4,516 |
| 49 TO 60 HOURS..... | 898 | 12.1 | 4.6 | 10,866 | 60 | 1,096 | 1,283 | 2,229 | 1,948 | 4,250 |
| 61 TO 84 HOURS..... | 600 | 15.0 | 4.7 | 9,034 | 44 | 572 | 851 | 1,703 | 1,192 | 4,672 |
| MORE THAN 84 HOURS..... | 697 | 17.5 | 4.1 | 12,235 | 52 | 786 | 809 | 1,588 | 1,711 | 7,289 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 1,444 | 14.2 | 4.8 | 20,449 | 112 | 1,577 | 2,110 | 3,754 | 3,143 | 9,754 |
| NO..... | 2,348 | 10.6 | 3.3 | 24,896 | 237 | 2,720 | 3,035 | 4,359 | 3,684 | 10,862 |
| DON'T KNOW/NOT REPORTED..... | 203 | 11.5 | 4.3 | 2,340 | 16 | 241 | 211 | 544 | 452 | 876 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|---|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 1,082 | 11.7 | 4.2 | 12,661 | 90 | 1,308 | 1,696 | 2,275 | 1,999 | 5,344 |
| NO..... | 2,655 | 12.1 | 3.7 | 32,119 | 256 | 2,936 | 3,320 | 5,697 | 4,936 | 14,973 |
| DON'T KNOW/NOT REPORTED..... | 258 | 11.3 | 4.3 | 2,906 | 19 | 294 | 390 | 684 | 343 | 1,175 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 686 | 12.3 | 4.3 | 8,470 | 62 | 778 | 1,084 | 1,411 | 1,473 | 3,663 |
| NO..... | 3,089 | 11.9 | 3.7 | 36,692 | 287 | 3,504 | 3,977 | 6,620 | 5,445 | 16,858 |
| DON'T KNOW/NOT REPORTED..... | 220 | 11.5 | 4.6 | 2,524 | 16 | 256 | 296 | 625 | 360 | 971 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 2,956 | 12.4 | 4.1 | 36,651 | 250 | 3,472 | 4,122 | 6,562 | 5,484 | 16,760 |
| NO..... | 567 | 14.2 | 5.1 | 8,068 | 32 | 596 | 937 | 1,511 | 1,226 | 3,766 |
| NOT REPORTED/ NOT APPLICABLE..... | 473 | 6.3 | 1.5 | 2,966 | 82 | 470 | 296 | 584 | 568 | 965 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 1,482 | 16.9 | 5.1 | 25,077 | 73 | 1,679 | 2,318 | 4,201 | 3,397 | 13,409 |
| NO..... | 225 | 21.6 | 7.7 | 4,881 | 5 | 206 | 380 | 830 | 792 | 2,668 |
| NOT REPORTED/ NOT APPLICABLE..... | 2,288 | 7.7 | 2.9 | 17,727 | 287 | 2,654 | 2,658 | 3,625 | 3,089 | 5,414 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 3,076 | 12.6 | 4.2 | 38,655 | 259 | 3,581 | 4,331 | 6,942 | 5,871 | 17,671 |
| NO..... | 473 | 13.5 | 4.9 | 6,375 | 28 | 505 | 762 | 1,248 | 942 | 2,890 |
| NOT REPORTED..... | 39 | 16.5 | 0 | 652 | 3 | 36 | 23 | 123 | 125 | 344 |
| NOT APPLICABLE..... | 407 | 4.9 | 1.4 | 2,003 | 75 | 416 | 240 | 344 | 340 | 588 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 2. Total Square Footage for Nonresidential Buildings as of January 1, 1980

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| NONRESIDENTIAL BUILDINGS..... | 4,238 | 12.9 | 4.1 | 54,825 | 381 | 4,689 | 5,773 | 9,352 | 8,302 | 26,328 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 3,788 | 13.8 | 4.5 | 52,423 | 298 | 4,230 | 5,501 | 8,910 | 7,867 | 25,617 |
| NATURAL GAS..... | 2,069 | 14.8 | 5.1 | 30,640 | 118 | 2,337 | 3,331 | 5,506 | 4,489 | 14,861 |
| ELECTRICITY..... | 1,033 | 12.2 | 4.1 | 12,619 | 85 | 1,103 | 1,371 | 2,602 | 1,899 | 5,609 |
| FUEL OIL/KEROSENE..... | 808 | 15.5 | 5.1 | 12,565 | 55 | 852 | 1,324 | 2,097 | 1,767 | 6,469 |
| LIQUID PETROLEUM GAS..... | 223 | 6.7 | 2.0 | 1,494 | 40 | 225 | 276 | 275 | 222 | 456 |
| WOOD..... | 102 | 8.8 | 3.5 | 890 | 14 | 138 | 0 | 0 | 0 | 391 |
| STEAM..... | 51 | 79.8 | 30.1 | 4,065 | - | 14 | 44 | 173 | 397 | 3,437 |
| COAL..... | 50 | 22.6 | 4.0 | 1,136 | 0 | 79 | 44 | 112 | 77 | 820 |
| OTHER..... | 10 | 41.7 | 0 | 415 | - | 0 | 0 | 30 | 0 | 286 |
| NO HEATING FUEL USED..... | 450 | 5.3 | 1.4 | 2,402 | 84 | 459 | 272 | 442 | 434 | 711 |
| AIR CONDITIONING FUEL USED.. | 2,706 | 16.1 | 4.9 | 43,523 | 187 | 2,912 | 3,823 | 7,281 | 6,352 | 22,967 |
| ELECTRICITY..... | 2,567 | 15.9 | 4.9 | 40,802 | 184 | 2,718 | 3,642 | 6,949 | 6,127 | 21,182 |
| NATURAL GAS..... | 161 | 20.6 | 6.0 | 3,320 | 3 | 191 | 193 | 602 | 328 | 2,002 |
| OTHER..... | 28 | 55.0 | 5.6 | 1,540 | 0 | 32 | 37 | 0 | 71 | 1,361 |
| NO AIR CONDITIONING FUEL.... | 1,532 | 7.4 | 2.8 | 11,303 | 194 | 1,777 | 1,950 | 2,071 | 1,949 | 3,361 |
| WATER-HEATING FUEL USED..... | 2,823 | 16.2 | 5.1 | 45,669 | 178 | 3,131 | 4,225 | 7,597 | 7,022 | 23,517 |
| NATURAL GAS..... | 1,321 | 18.0 | 5.6 | 23,798 | 64 | 1,493 | 1,937 | 3,869 | 3,555 | 12,831 |
| ELECTRICITY..... | 1,306 | 13.7 | 4.8 | 17,833 | 99 | 1,442 | 1,977 | 3,290 | 2,950 | 8,075 |
| FUEL OIL/KEROSENE..... | 180 | 29.1 | 8.6 | 5,243 | 4 | 148 | 265 | 637 | 876 | 3,314 |
| OTHER..... | 118 | 31.1 | 4.8 | 3,666 | 14 | 117 | 162 | 263 | 212 | 2,898 |
| NO WATER-HEATING FUEL..... | 1,415 | 6.5 | 2.4 | 9,157 | 204 | 1,558 | 1,549 | 1,756 | 1,280 | 2,812 |
| MANUFACTURING FUEL USED..... | 492 | 22.7 | 5.9 | 11,171 | 31 | 502 | 694 | 1,374 | 1,673 | 6,897 |
| ELECTRICITY..... | 427 | 22.3 | 6.2 | 9,528 | 28 | 386 | 623 | 1,288 | 1,501 | 5,702 |
| NATURAL GAS..... | 81 | 43.9 | 9.9 | 3,581 | 0 | 95 | 87 | 285 | 255 | 2,859 |
| OTHER..... | 59 | 46.6 | 10.2 | 2,751 | 0 | 60 | 0 | 193 | 239 | 2,218 |
| NO MANUFACTURING FUEL..... | 3,746 | 11.7 | 3.8 | 43,654 | 350 | 4,186 | 5,080 | 7,978 | 6,629 | 19,431 |
| COOKING FUEL USED..... | 1,358 | 18.9 | 5.5 | 25,626 | 74 | 1,518 | 1,956 | 3,858 | 3,579 | 14,640 |
| ELECTRICITY..... | 765 | 18.9 | 5.0 | 14,424 | 38 | 884 | 1,034 | 2,163 | 1,937 | 8,369 |
| NATURAL GAS..... | 619 | 23.1 | 6.6 | 14,300 | 28 | 700 | 919 | 1,783 | 1,944 | 8,927 |
| LIQUID PETROLEUM GAS..... | 108 | 11.5 | 4.2 | 1,239 | 14 | 104 | 174 | 229 | 186 | 531 |
| OTHER..... | 25 | 0 | 0 | 1,087 | 0 | 26 | 0 | 87 | 0 | 881 |
| NO COOKING FUEL..... | 2,880 | 10.1 | 3.5 | 29,200 | 307 | 3,171 | 3,817 | 5,494 | 4,722 | 11,688 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 735 | 17.3 | 5.7 | 12,756 | 30 | 799 | 1,105 | 2,203 | 2,003 | 6,618 |
| NORTH CENTRAL..... | 1,326 | 13.5 | 4.2 | 17,835 | 122 | 1,518 | 1,952 | 2,715 | 2,610 | 8,919 |
| SOUTH..... | 1,566 | 10.7 | 3.1 | 16,716 | 180 | 1,748 | 1,756 | 2,903 | 2,393 | 7,735 |
| WEST..... | 612 | 12.3 | 4.2 | 7,517 | 50 | 623 | 960 | 1,531 | 1,296 | 3,056 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|--|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 | |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 2,419 | 15.9 | 4.9 | 38,471 | 159 | 2,598 | 3,374 | 6,163 | 5,992 | 20,184 | |
| NONSMSA..... | 1,819 | 9.0 | 3.3 | 16,355 | 222 | 2,091 | 2,399 | 3,190 | 2,309 | 6,144 | |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 470 | 14.0 | 4.9 | 6,586 | 2 | 524 | 804 | 996 | 990 | 3,238 | |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 1,242 | 15.0 | 4.9 | 18,609 | 92 | 1,359 | 1,916 | 3,092 | 2,689 | 9,462 | |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 1,132 | 13.0 | 3.9 | 14,673 | 95 | 1,263 | 1,413 | 2,666 | 2,239 | 6,998 | |
| <2,000 CDD AND <4,000 HDD... | 704 | 11.7 | 3.3 | 8,275 | 69 | 796 | 909 | 1,210 | 1,338 | 3,953 | |
| >2,000 CDD AND <4,000 HDD... | 689 | 9.7 | 3.1 | 6,682 | 2 | 746 | 2 | 1,389 | 1,045 | 2,678 | |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 448 | 11.2 | 6.0 | 5,028 | 27 | 432 | 968 | 1,211 | 889 | 1,501 | |
| AUTOMOTIVE SALES & SERVICE... | 401 | 4.5 | 2.4 | 1,821 | 49 | 497 | 530 | 418 | 169 | 158 | |
| EDUCATION..... | 161 | 36.2 | 18.3 | 5,851 | 6 | 98 | 152 | 522 | 1,097 | 3,976 | |
| FOOD SALES..... | 366 | 5.1 | 2.5 | 1,864 | 47 | 526 | 355 | 509 | 176 | 251 | |
| HEALTH CARE..... | 44 | 38.5 | 5.4 | 1,687 | 3 | 39 | 56 | 95 | 74 | 1,419 | |
| INDUSTRIAL..... | 243 | 29.4 | 9.1 | 7,140 | 17 | 151 | 417 | 696 | 1,023 | 4,836 | |
| LODGING..... | 101 | 19.9 | 6.1 | 2,012 | 6 | 84 | 162 | 256 | 439 | 1,066 | |
| OFFICE..... | 600 | 13.6 | 4.1 | 8,184 | 52 | 725 | 829 | 1,310 | 991 | 4,275 | |
| RESIDENTIAL..... | 347 | 9.0 | 3.7 | 3,115 | 28 | 501 | 340 | 962 | 408 | 877 | |
| RETAIL/SERVICES..... | 714 | 10.7 | 4.0 | 7,652 | 71 | 845 | 1,111 | 1,501 | 1,068 | 3,056 | |
| WAREHOUSE AND STORAGE..... | 430 | 14.1 | 3.9 | 6,070 | 32 | 438 | 413 | 1,074 | 1,147 | 2,965 | |
| OTHER..... | 237 | 13.2 | 3.6 | 3,129 | 20 | 198 | 277 | 620 | 528 | 1,484 | |
| VACANT..... | 146 | 8.7 | 2.7 | 1,273 | 23 | 155 | 162 | 178 | 291 | 464 | |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 677 | .6 | .6 | 381 | 381 | - | - | - | - | - | |
| 1,001 TO 5,000..... | 1,729 | 2.7 | 2.5 | 4,689 | - | 4,689 | - | - | - | - | |
| 5,001 TO 10,000..... | 801 | 7.2 | 7.1 | 5,773 | - | - | 5,773 | - | - | - | |
| 10,001 TO 25,000..... | 596 | 15.7 | 14.9 | 9,352 | - | - | - | 9,352 | - | - | |
| 25,001 TO 50,000..... | 237 | 35.1 | 34.5 | 8,302 | - | - | - | - | 8,302 | - | |
| OVER 50,000..... | 199 | 132.6 | 81.7 | 26,328 | - | - | - | - | - | 26,328 | |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 2,467 | 6.7 | 2.5 | 16,461 | 333 | 2,987 | 2,538 | 3,423 | 2,655 | 4,524 | |
| TWO FLOORS..... | 980 | 14.3 | 6.1 | 14,000 | 36 | 1,069 | 2,029 | 2,799 | 1,892 | 6,176 | |
| THREE FLOORS..... | 501 | 18.3 | 7.7 | 9,188 | 9 | 493 | 883 | 1,924 | 1,776 | 4,103 | |
| MORE THAN THREE..... | 290 | 52.4 | 18.2 | 15,177 | 4 | 140 | 323 | 1,206 | 1,978 | 11,525 | |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 329 | 12.1 | 4.9 | 3,982 | 20 | 412 | 487 | 968 | 686 | 1,409 |
| 1901 TO 1920..... | 432 | 14.3 | 5.4 | 6,172 | 19 | 490 | 760 | 1,065 | 1,177 | 2,668 |
| 1921 TO 1945..... | 829 | 12.4 | 4.0 | 10,289 | 94 | 846 | 1,091 | 2,020 | 1,850 | 4,389 |
| 1946 TO 1960..... | 1,064 | 10.6 | 3.1 | 11,260 | 120 | 1,189 | 1,361 | 1,832 | 1,237 | 5,521 |
| 1961 TO 1970..... | 789 | 14.9 | 3.8 | 11,784 | 64 | 858 | 1,019 | 1,513 | 1,591 | 6,739 |
| 1971 TO 1973..... | 235 | 18.5 | 5.1 | 4,344 | 11 | 254 | 298 | 618 | 892 | 2,270 |
| 1974 TO 1979..... | 561 | 12.5 | 4.0 | 6,995 | 54 | 639 | 758 | 1,337 | 875 | 3,332 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| NO FUEL USED..... | 115 | 3.0 | 1.0 | 348 | 23 | 110 | 0 | 0 | 0 | 0 |
| ONE FUEL USED..... | 829 | 7.6 | 2.4 | 6,319 | 121 | 892 | 680 | 1,302 | 1,080 | 2,245 |
| ELECTRICITY..... | 819 | 7.6 | 2.4 | 6,250 | 120 | 873 | 669 | 1,290 | 1,080 | 2,218 |
| OTHER..... | 10 | 0 | 3.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 2,758 | 11.2 | 4.3 | 30,914 | 220 | 3,235 | 4,157 | 6,231 | 5,353 | 11,718 |
| ELEC., NATURAL GAS..... | 2,016 | 12.2 | 4.8 | 24,522 | 120 | 2,395 | 3,146 | 5,024 | 4,285 | 9,554 |
| ELEC., FUEL OIL/KEROSENE..... | 459 | 8.1 | 3.5 | 3,719 | 49 | 554 | 686 | 806 | 658 | 966 |
| ELEC., LPG..... | 188 | 4.7 | 1.8 | 876 | 37 | 183 | 210 | 207 | 159 | 81 |
| OTHER..... | 96 | 18.8 | 4.2 | 1,797 | 14 | 103 | 0 | 195 | 252 | 1,118 |
| THREE FUELS USED..... | 485 | 30.7 | 8.1 | 14,861 | 17 | 391 | 818 | 1,552 | 1,687 | 10,396 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 273 | 32.7 | 9.8 | 8,919 | 0 | 212 | 486 | 974 | 1,211 | 6,032 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 79 | 14.5 | 5.0 | 1,143 | 0 | 74 | 164 | 182 | 137 | 581 |
| ELEC., GAS, OTHER..... | 86 | 42.9 | 9.9 | 3,708 | 0 | 58 | 102 | 317 | 258 | 2,968 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 22 | 0 | 0 | 477 | 0 | 24 | 0 | 0 | 0 | 348 |
| OTHER..... | 24 | 25.8 | 0 | 615 | 0 | 24 | 0 | 0 | 78 | 467 |
| FOUR OR MORE FUELS USED..... | 51 | 46.3 | 12.2 | 2,383 | - | 61 | 43 | 250 | 104 | 1,925 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 4,109 | 13.2 | 4.1 | 54,382 | 357 | 4,546 | 5,687 | 9,322 | 8,224 | 26,246 |
| NATURAL GAS..... | 2,417 | 16.2 | 5.1 | 39,181 | 130 | 2,715 | 3,761 | 6,496 | 5,857 | 20,222 |
| FUEL OIL/KEROSENE..... | 874 | 18.8 | 5.1 | 16,404 | 59 | 895 | 1,400 | 2,273 | 2,083 | 9,694 |
| LIQUID PETROLEUM GAS..... | 336 | 13.4 | 3.3 | 4,504 | 47 | 329 | 445 | 621 | 451 | 2,612 |
| WOOD..... | 124 | 8.4 | 3.0 | 1,041 | 15 | 165 | 0 | 262 | 0 | 406 |
| COAL..... | 62 | 20.4 | 4.0 | 1,271 | 0 | 100 | 53 | 153 | 78 | 884 |
| STEAM..... | 56 | 78.6 | 29.2 | 4,380 | 0 | 14 | 53 | 196 | 400 | 3,717 |
| OTHER..... | 27 | 42.8 | 0 | 1,139 | - | 0 | 37 | 89 | 0 | 849 |
| NONE..... | 115 | 3.0 | 1.0 | 348 | 23 | 110 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-----------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 1,194 | 10.1 | 4.0 | 12,079 | 98 | 1,386 | 1,715 | 2,692 | 2,013 | 4,176 |
| RADIANT..... | 168 | 8.0 | 2.5 | 1,343 | 25 | 174 | 207 | 263 | 0 | 445 |
| COMBINATION/OTHER..... | 376 | 8.0 | 2.5 | 3,018 | 53 | 454 | 292 | 675 | 713 | 832 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 988 | 12.7 | 4.0 | 12,578 | 71 | 1,174 | 1,575 | 1,882 | 1,586 | 6,289 |
| RADIANT..... | 521 | 19.6 | 7.1 | 10,225 | 19 | 557 | 799 | 1,594 | 1,893 | 5,363 |
| COMBINATION/OTHER..... | 220 | 34.1 | 8.2 | 7,508 | 6 | 216 | 313 | 781 | 802 | 5,389 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 141 | 14.7 | 5.4 | 2,075 | 14 | 155 | 243 | 401 | 197 | 1,066 |
| RADIANT..... | 32 | 19.2 | 9.2 | 619 | 3 | 20 | 0 | 160 | 125 | 264 |
| COMBINATION/OTHER..... | 148 | 20.2 | 6.6 | 2,997 | 9 | 95 | 309 | 461 | 323 | 1,799 |
| NONE..... | 448 | 5.3 | 1.4 | 2,383 | 84 | 457 | 272 | 442 | 423 | 705 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 266 | 16.7 | 7.6 | 4,456 | 15 | 205 | 539 | 930 | 761 | 2,008 |
| 26 TO 50..... | 347 | 8.5 | 4.0 | 2,941 | 27 | 437 | 535 | 746 | 460 | 736 |
| 51 TO 75..... | 313 | 12.1 | 4.8 | 3,804 | 17 | 377 | 538 | 705 | 608 | 1,559 |
| 76 TO 99..... | 242 | 19.8 | 4.6 | 4,806 | 16 | 300 | 358 | 588 | 509 | 3,035 |
| 100..... | 2,620 | 13.9 | 4.2 | 36,435 | 224 | 2,913 | 3,531 | 5,941 | 5,541 | 18,285 |
| NONE..... | 448 | 5.3 | 1.4 | 2,383 | 84 | 457 | 272 | 442 | 423 | 705 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 609 | 24.6 | 10.0 | 14,987 | 15 | 426 | 956 | 2,593 | 2,727 | 8,270 |
| 26 TO 50..... | 542 | 10.5 | 4.8 | 5,718 | 30 | 726 | 899 | 1,286 | 633 | 2,144 |
| 51 TO 75..... | 283 | 15.3 | 4.3 | 4,350 | 18 | 349 | 399 | 678 | 653 | 2,253 |
| 76 TO 99..... | 190 | 27.4 | 6.9 | 5,226 | 0 | 185 | 305 | 599 | 386 | 3,743 |
| 100..... | 1,081 | 12.2 | 3.3 | 13,244 | 115 | 1,226 | 1,264 | 2,126 | 1,953 | 6,560 |
| NONE..... | 1,532 | 7.4 | 2.8 | 11,300 | 194 | 1,777 | 1,950 | 2,071 | 1,949 | 3,358 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 855 | 9.1 | 3.3 | 7,783 | 106 | 957 | 901 | 1,727 | 1,435 | 2,656 |
| PACKAGE UNITS..... | 799 | 16.9 | 6.3 | 13,478 | 32 | 853 | 1,335 | 2,561 | 2,407 | 6,291 |
| CENTRAL SYSTEM..... | 750 | 18.3 | 5.1 | 13,706 | 38 | 848 | 1,121 | 2,041 | 1,500 | 8,158 |
| COMBINATION/OTHER..... | 302 | 28.3 | 7.3 | 8,559 | 11 | 254 | 467 | 952 | 1,010 | 5,865 |
| NO AIR CONDITIONING..... | 1,532 | 7.4 | 2.8 | 11,300 | 194 | 1,777 | 1,950 | 2,071 | 1,949 | 3,358 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 2,047 | 11.6 | 3.7 | 23,642 | 207 | 2,296 | 2,859 | 4,043 | 3,557 | 10,679 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 1,198 | 8.6 | 3.1 | 10,349 | 126 | 1,476 | 1,295 | 2,345 | 1,391 | 3,717 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 393 | 19.2 | 6.1 | 7,535 | 15 | 414 | 651 | 1,300 | 1,109 | 4,047 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 272 | 18.8 | 7.4 | 5,112 | 6 | 240 | 546 | 983 | 878 | 2,459 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 260 | 27.6 | 7.3 | 7,160 | 24 | 182 | 333 | 583 | 1,100 | 4,938 |
| NOT REPORTED..... | 68 | 15.0 | 3.6 | 1,028 | 2 | 81 | 91 | 2 | 267 | 488 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 3,035 | 5.5 | 2.7 | 16,785 | 366 | 3,907 | 3,747 | 3,925 | 2,369 | 2,472 |
| 10 TO 19..... | 516 | 11.4 | 6.8 | 5,882 | 14 | 530 | 1,158 | 1,880 | 1,056 | 1,245 |
| 20 TO 49..... | 427 | 23.2 | 15.7 | 9,891 | 2 | 190 | 723 | 2,586 | 2,924 | 3,467 |
| 50 TO 99..... | 142 | 45.1 | 26.3 | 6,391 | - | 57 | 126 | 606 | 1,076 | 4,526 |
| 100 OR MORE..... | 119 | 133.9 | 68.6 | 15,877 | - | 2 | 2 | 356 | 877 | 14,618 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 274 | 5.8 | 1.3 | 1,597 | 61 | 257 | 151 | 221 | 338 | 569 |
| 39 OR FEWER HOURS..... | 583 | 5.8 | 3.3 | 3,368 | 77 | 696 | 912 | 781 | 509 | 392 |
| 40 TO 48 HOURS..... | 1,047 | 11.6 | 4.4 | 12,150 | 82 | 1,196 | 1,585 | 2,436 | 1,815 | 5,037 |
| 49 TO 60 HOURS..... | 960 | 12.4 | 4.8 | 11,874 | 62 | 1,152 | 1,420 | 2,374 | 2,090 | 4,777 |
| 61 TO 84 HOURS..... | 629 | 15.6 | 4.8 | 9,828 | 46 | 583 | 864 | 1,818 | 1,455 | 5,062 |
| MORE THAN 84 HOURS..... | 746 | 21.5 | 4.6 | 16,008 | 54 | 805 | 841 | 1,722 | 2,095 | 10,492 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 1,519 | 15.6 | 4.9 | 23,712 | 115 | 1,606 | 2,251 | 4,020 | 3,510 | 12,210 |
| NO..... | 2,509 | 11.4 | 3.5 | 28,654 | 248 | 2,840 | 3,306 | 4,752 | 4,338 | 13,171 |
| DON'T KNOW/NOT REPORTED..... | 210 | 11.7 | 4.1 | 2,460 | 19 | 243 | 216 | 581 | 454 | 947 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|---|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 1,139 | 13.3 | 4.4 | 15,121 | 91 | 1,343 | 1,764 | 2,419 | 2,209 | 7,295 |
| NO..... | 2,834 | 12.9 | 3.9 | 36,578 | 272 | 3,048 | 3,614 | 6,206 | 5,747 | 17,691 |
| DON'T KNOW/NOT REPORTED..... | 264 | 11.8 | 4.3 | 3,126 | 19 | 298 | 395 | 727 | 346 | 1,342 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 719 | 14.2 | 4.7 | 10,222 | 63 | 793 | 1,148 | 1,503 | 1,615 | 5,101 |
| NO..... | 3,297 | 12.7 | 3.9 | 41,914 | 303 | 3,639 | 4,325 | 7,208 | 6,324 | 20,116 |
| DON'T KNOW/NOT REPORTED..... | 222 | 12.1 | 4.6 | 2,690 | 16 | 257 | 301 | 641 | 363 | 1,112 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 3,128 | 13.4 | 4.3 | 41,818 | 262 | 3,574 | 4,427 | 7,102 | 6,209 | 20,245 |
| NO..... | 615 | 15.6 | 5.5 | 9,591 | 34 | 628 | 1,019 | 1,634 | 1,425 | 4,847 |
| NOT REPORTED/ NOT APPLICABLE..... | 495 | 6.9 | 1.8 | 3,416 | 86 | 487 | 327 | 616 | 663 | 1,237 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 1,581 | 18.5 | 5.9 | 29,330 | 75 | 1,716 | 2,506 | 4,554 | 3,964 | 16,515 |
| NO..... | 245 | 23.7 | 8.4 | 5,815 | 5 | 212 | 398 | 939 | 859 | 3,402 |
| NOT REPORTED/ NOT APPLICABLE..... | 2,411 | 8.2 | 3.0 | 19,680 | 301 | 2,761 | 2,870 | 3,858 | 3,479 | 6,411 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 3,266 | 13.6 | 4.4 | 44,405 | 270 | 3,687 | 4,687 | 7,552 | 6,634 | 21,575 |
| NO..... | 508 | 14.6 | 5.0 | 7,406 | 29 | 533 | 806 | 1,324 | 1,109 | 3,605 |
| NOT REPORTED..... | 43 | 20.9 | 2 | 892 | 3 | 38 | 28 | 125 | 156 | 542 |
| NOT APPLICABLE..... | 421 | 5.0 | 1.4 | 2,123 | 80 | 430 | 253 | 352 | 403 | 605 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 3. 1979 Natural Gas and Electricity Consumption and Expenditures for Commercial Buildings That Use Natural Gas or Electricity or Both

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 3,875 | 47,305 | 12.2 | 4.449 | 1,148 | 94 | 70 | 32,475 | 8.4 | 7.30 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 3,559 | 45,424 | 12.8 | 4.357 | 1,224 | 96 | 69 | 31,607 | 8.9 | 7.25 |
| ELECTRICITY..... | 985 | 11,313 | 11.5 | .988 | 1,003 | 87 | 55 | 8,882 | 9.0 | 8.99 |
| NATURAL GAS..... | 1,922 | 25,886 | 13.5 | 3.163 | 1,646 | 122 | 93 | 18,056 | 9.4 | 5.71 |
| FUEL OIL/KEROSENE..... | 758 | 10,699 | 14.1 | .847 | 1,117 | 79 | 63 | 7,183 | 9.5 | 8.48 |
| LIQUID PETROLEUM GAS..... | 208 | 1,075 | 5.2 | .067 | 320 | 62 | 38 | 643 | 3.1 | 9.64 |
| WOOD..... | 94 | 604 | 6.4 | .025 | 0 | 41 | 49 | 261 | 0 | 10.67 |
| STEAM..... | 45 | 3,675 | 82.3 | .314 | 7,039 | 86 | 44 | 3,037 | 68.0 | 9.66 |
| COAL..... | 42 | 728 | 17.3 | .019 | 0 | 26 | 25 | 148 | 0 | 7.70 |
| OTHER..... | 8 | 357 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 316 | 1,881 | 6.0 | .092 | 291 | 49 | 92 | 869 | 2.8 | 9.45 |
| AIR CONDITIONING FUEL USED.. | 2,543 | 37,465 | 14.7 | 3.801 | 1,495 | 101 | 67 | 28,300 | 11.1 | 7.44 |
| ELECTRICITY..... | 2,415 | 35,172 | 14.6 | 3.494 | 1,447 | 99 | 67 | 26,046 | 10.8 | 7.46 |
| NATURAL GAS..... | 147 | 2,750 | 18.7 | .450 | 3,064 | 164 | 100 | 2,576 | 17.5 | 5.72 |
| OTHER..... | 26 | 1,346 | 51.9 | .138 | 5,308 | 102 | 34 | 1,480 | 57.1 | 10.76 |
| NO AIR CONDITIONING FUEL.... | 1,331 | 9,840 | 7.4 | .648 | 486 | 66 | 92 | 4,176 | 3.1 | 6.45 |
| WATER-HEATING FUEL USED.... | 2,661 | 39,503 | 14.8 | 3.869 | 1,454 | 98 | 70 | 27,825 | 10.5 | 7.19 |
| NATURAL GAS..... | 1,252 | 20,794 | 16.6 | 2.504 | 2,000 | 120 | 89 | 14,681 | 11.7 | 5.86 |
| ELECTRICITY..... | 1,223 | 14,600 | 11.9 | 1.175 | 961 | 80 | 58 | 9,790 | 8.0 | 8.33 |
| FUEL OIL/KEROSENE..... | 168 | 4,534 | 27.0 | .353 | 2,103 | 78 | 56 | 3,875 | 23.1 | 10.99 |
| OTHER..... | 109 | 3,120 | 28.6 | .227 | 2,081 | 73 | 38 | 2,191 | 20.1 | 9.64 |
| NO WATER-HEATING FUEL..... | 1,213 | 7,802 | 6.4 | .580 | 478 | 74 | 67 | 4,650 | 3.8 | 8.02 |
| MANUFACTURING FUEL USED.... | 318 | 5,431 | 17.1 | .704 | 2,218 | 130 | 112 | 3,913 | 12.3 | 5.56 |
| ELECTRICITY..... | 267 | 4,580 | 17.1 | .579 | 2,167 | 126 | 115 | 3,229 | 12.1 | 5.57 |
| NATURAL GAS..... | 49 | 1,224 | 24.9 | .422 | 8,583 | 345 | 231 | 1,838 | 37.4 | 4.35 |
| OTHER..... | 39 | 987 | 25.1 | .275 | 6,997 | 278 | 186 | 1,185 | 30.2 | 4.31 |
| NO MANUFACTURING DONE..... | 3,557 | 41,874 | 11.8 | 3.745 | 1,053 | 89 | 65 | 28,562 | 8.0 | 7.63 |
| COOKING FUEL USED..... | 1,324 | 23,923 | 18.1 | 2.321 | 1,753 | 97 | 69 | 15,871 | 12.0 | 6.84 |
| ELECTRICITY..... | 741 | 13,253 | 17.9 | 1.294 | 1,746 | 98 | 66 | 9,283 | 12.5 | 7.17 |
| NATURAL GAS..... | 610 | 13,681 | 22.4 | 1.475 | 2,417 | 108 | 76 | 9,338 | 15.3 | 6.33 |
| LIQUID PETROLEUM GAS..... | 108 | 1,185 | 11.0 | .041 | 378 | 34 | 29 | 490 | 4.6 | 12.04 |
| OTHER..... | 20 | 885 | 0 | .213 | 0 | 241 | 87 | 1,181 | 0 | 5.55 |
| NO COOKING FUEL..... | 2,551 | 23,382 | 9.2 | 2.128 | 834 | 91 | 71 | 16,604 | 6.5 | 7.80 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 683 | 11,230 | 16.4 | .977 | 1,430 | 87 | 69 | 8,661 | 12.7 | 8.86 |
| NORTH CENTRAL..... | 1,226 | 15,259 | 12.4 | 1.722 | 1,405 | 113 | 88 | 10,531 | 8.6 | 6.12 |
| SOUTH..... | 1,408 | 14,033 | 10.0 | 1.205 | 856 | 86 | 62 | 9,755 | 6.9 | 8.09 |
| WEST..... | 558 | 6,783 | 12.2 | .545 | 978 | 80 | 51 | 3,528 | 6.3 | 6.47 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| SMSA/NONMSMA | | | | | | | | | | |
| SMSA..... | 2,221 | 33,868 | 15.2 | 3.379 | 1,521 | 100 | 69 | 25,049 | 11.3 | 7.41 |
| NONMSMA..... | 1,654 | 13,437 | 8.1 | 1.071 | 647 | 80 | 73 | 7,426 | 4.5 | 6.94 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 437 | 5,486 | 12.6 | .475 | 1,089 | 87 | 81 | 2,901 | 6.6 | 6.10 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 1,142 | 16,067 | 14.1 | 1.688 | 1,478 | 105 | 83 | 10,923 | 9.6 | 6.47 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 1,046 | 12,743 | 12.2 | 1.060 | 1,013 | 83 | 62 | 9,040 | 8.6 | 8.53 |
| <2,000 CDD AND <4,000 HDD... | 627 | 6,936 | 11.1 | .660 | 1,054 | 95 | 61 | 4,723 | 7.5 | 7.15 |
| >2,000 CDD AND <4,000 HDD... | 623 | 6,073 | 9.7 | .566 | 908 | 93 | 60 | 4,889 | 7.8 | 8.64 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 443 | 5,020 | 11.3 | .329 | 744 | 66 | 100 | 2,161 | 4.9 | 6.57 |
| AUTOMOTIVE SALES & SERVICE.. | 397 | 1,799 | 4.5 | .172 | 434 | 96 | 72 | 1,227 | 3.1 | 7.13 |
| EDUCATION..... | 161 | 5,851 | 36.2 | .373 | 2,308 | 64 | 81 | 2,468 | 15.3 | 6.62 |
| FOOD SALES..... | 365 | 1,860 | 5.1 | .322 | 882 | 173 | 78 | 2,707 | 7.4 | 8.41 |
| HEALTH CARE..... | 44 | 1,687 | 38.5 | .301 | 6,884 | 179 | 74 | 1,693 | 38.7 | 5.62 |
| LODGING..... | 101 | 2,012 | 19.9 | .225 | 2,227 | 112 | 124 | 1,609 | 16.0 | 7.16 |
| OFFICE..... | 599 | 8,183 | 13.7 | .841 | 1,403 | 103 | 36 | 7,537 | 12.6 | 8.97 |
| RESIDENTIAL..... | 347 | 3,115 | 9.0 | .186 | 538 | 60 | 91 | 1,285 | 3.7 | 6.89 |
| RETAIL/SERVICES..... | 714 | 7,652 | 10.7 | .595 | 833 | 78 | 64 | 4,596 | 6.4 | 7.72 |
| WAREHOUSE AND STORAGE..... | 366 | 5,987 | 16.4 | .563 | 1,541 | 94 | 134 | 3,725 | 10.2 | 6.61 |
| OTHER..... | 230 | 3,112 | 13.6 | .479 | 2,087 | 154 | 104 | 2,941 | 12.8 | 6.14 |
| VACANT..... | 108 | 1,026 | 9.5 | .063 | 579 | 61 | 398 | 525 | 4.9 | 8.39 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 600 | 342 | .6 | .097 | 163 | 285 | 67 | 982 | 1.6 | 10.08 |
| 1,001 TO 5,000..... | 1,623 | 4,416 | 2.7 | .609 | 375 | 138 | 68 | 4,753 | 2.9 | 7.81 |
| 5,001 TO 10,000..... | 733 | 5,271 | 7.2 | .505 | 689 | 96 | 70 | 3,390 | 4.6 | 6.71 |
| 10,001 TO 25,000..... | 549 | 8,628 | 15.7 | .850 | 1,549 | 99 | 78 | 5,397 | 9.8 | 6.35 |
| 25,001 TO 50,000..... | 204 | 7,201 | 35.2 | .581 | 2,844 | 81 | 81 | 5,169 | 25.3 | 8.90 |
| OVER 50,000..... | 165 | 21,448 | 129.8 | 1.807 | 10,939 | 84 | 64 | 12,784 | 77.4 | 7.08 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 2,217 | 13,862 | 6.3 | 1.361 | 614 | 98 | 71 | 10,632 | 4.8 | 7.81 |
| TWO FLOORS..... | 900 | 11,601 | 12.9 | 1.032 | 1,147 | 89 | 78 | 7,149 | 7.9 | 6.93 |
| THREE FLOORS..... | 480 | 8,133 | 17.0 | .634 | 1,322 | 78 | 71 | 4,277 | 8.9 | 6.75 |
| MORE THAN THREE..... | 278 | 13,708 | 49.3 | 1.422 | 5,119 | 104 | 64 | 10,418 | 37.5 | 7.33 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|-----------------------------------|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 317 | 3,452 | 10.9 | 0.280 | 881 | 81 | 86 | 2,506 | 7.9 | 8.96 |
| 1901 TO 1920..... | 402 | 5,387 | 13.4 | .362 | 902 | 67 | 71 | 2,570 | 6.4 | 7.10 |
| 1921 TO 1945..... | 753 | 8,954 | 11.9 | .915 | 1,215 | 102 | 88 | 5,347 | 7.1 | 5.84 |
| 1946 TO 1960..... | 975 | 9,593 | 9.8 | .799 | 819 | 83 | 64 | 6,110 | 6.3 | 7.65 |
| 1961 TO 1970..... | 720 | 10,000 | 13.9 | 1.079 | 1,498 | 108 | 71 | 7,706 | 10.7 | 7.14 |
| 1971 TO 1973..... | 201 | 3,656 | 18.2 | .438 | 2,179 | 120 | 66 | 3,140 | 15.6 | 7.17 |
| 1974 TO 1979..... | 506 | 6,262 | 12.4 | .576 | 1,139 | 92 | 54 | 5,096 | 10.1 | 8.84 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | |
| ELECTRICITY..... | 795 | 5,830 | 7.3 | .329 | 415 | 57 | 43 | 4,072 | 5.1 | 12.36 |
| NATURAL GAS..... | 6 | 21 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| TWO FUELS USED | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 2,593 | 27,898 | 10.8 | 2,814 | 1,085 | 101 | 78 | 18,680 | 7.2 | 6.64 |
| ELEC., FUEL OIL/KEROSENE..... | 1,889 | 22,104 | 11.7 | 2,489 | 1,317 | 113 | 90 | 15,062 | 8.0 | 6.05 |
| ELEC., LPG..... | 441 | 3,433 | 7.8 | .117 | 266 | 34 | 29 | 1,617 | 3.7 | 13.78 |
| OTHER..... | 178 | 771 | 4.3 | .046 | 261 | 60 | 36 | 532 | 3.0 | 11.50 |
| THREE FUELS USED | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 85 | 1,590 | 18.7 | .162 | 1,909 | 102 | 54 | 1,469 | 17.3 | 9.05 |
| ELEC., GAS, OTHER..... | 448 | 12,301 | 27.4 | 1.143 | 2,550 | 93 | 64 | 8,645 | 19.3 | 7.56 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 250 | 7,497 | 30.0 | .918 | 3,669 | 122 | 79 | 6,381 | 25.5 | 6.95 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 75 | 1,031 | 13.7 | .032 | 420 | 31 | 33 | 423 | 5.6 | 13.39 |
| ELEC., GAS, OTHER..... | 80 | 2,967 | 37.2 | .160 | 2,006 | 54 | 41 | 1,437 | 18.0 | 8.99 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 20 | 245 | 12.3 | 2 | 2 | 43 | 38 | 146 | 2 | 13.66 |
| OTHER..... | 23 | 561 | 24.2 | .023 | 2 | 42 | 22 | 259 | 2 | 11.07 |
| FOUR OR MORE FUELS USED | | | | | | | | | | |
| OTHER..... | 39 | 1,276 | 32.9 | .162 | 4,179 | 127 | 68 | 1,079 | 27.8 | 6.66 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 3,867 | 47,267 | 12.2 | 4,438 | 1,148 | 94 | 70 | 32,447 | 8.4 | 7.31 |
| NATURAL GAS..... | 2,252 | 33,635 | 14.9 | 3,725 | 1,654 | 111 | 83 | 23,828 | 10.6 | 6.40 |
| FUEL OIL/KEROSENE..... | 811 | 13,292 | 16.4 | 1,217 | 1,501 | 92 | 64 | 9,385 | 11.6 | 7.71 |
| LIQUID PETROLEUM GAS..... | 313 | 3,102 | 9.9 | .205 | 657 | 66 | 55 | 1,734 | 5.5 | 8.44 |
| WOOD..... | 115 | 746 | 6.5 | .031 | 2 | 41 | 44 | 312 | 2 | 10.20 |
| COAL..... | 53 | 802 | 15.1 | .023 | 440 | 29 | 29 | 169 | 3.2 | 7.21 |
| STEAM..... | 49 | 3,831 | 78.9 | .328 | 6,748 | 85 | 43 | 3,116 | 64.2 | 9.51 |
| OTHER..... | 20 | 970 | 48.7 | .061 | 4,073 | 84 | 38 | 732 | 36.7 | 9.01 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 1,114 | 10,386 | 9.3 | 0.959 | 861 | 92 | 62 | 7,570 | 6.8 | 7.89 |
| RADIANT..... | 160 | 1,078 | 6.7 | .067 | 418 | 62 | 58 | 577 | 3.6 | 8.64 |
| COMBINATION/OTHER..... | 343 | 2,547 | 7.4 | .227 | 662 | 89 | 73 | 1,645 | 4.8 | 7.25 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 934 | 11,133 | 11.9 | 1.073 | 1,149 | 96 | 66 | 7,629 | 8.2 | 7.11 |
| RADIANT..... | 507 | 9,165 | 18.1 | .877 | 1,730 | 96 | 83 | 5,382 | 10.6 | 6.14 |
| COMBINATION/OTHER..... | 205 | 6,459 | 31.5 | .610 | 2,979 | 94 | 64 | 4,386 | 21.4 | 7.19 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 133 | 1,691 | 12.7 | .270 | 0 | 159 | 93 | 1,831 | 13.8 | 6.79 |
| RADIANT..... | 31 | 488 | 16.0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.39 |
| COMBINATION/OTHER..... | 135 | 2,483 | 18.4 | .228 | 1,686 | 92 | 75 | 1,564 | 11.6 | 6.87 |
| NONE..... | 314 | 1,873 | 6.0 | .091 | 289 | 48 | 92 | 861 | 2.7 | 9.48 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 225 | 3,368 | 15.0 | .217 | 965 | 65 | 87 | 1,515 | 6.7 | 6.97 |
| 26 TO 50..... | 335 | 2,675 | 8.0 | .270 | 807 | 101 | 109 | 1,639 | 4.9 | 6.07 |
| 51 TO 75..... | 300 | 3,398 | 11.3 | .293 | 977 | 86 | 66 | 2,006 | 6.7 | 6.84 |
| 76 TO 99..... | 227 | 4,234 | 18.7 | .421 | 1,856 | 99 | 53 | 3,403 | 15.0 | 8.09 |
| 100..... | 2,474 | 31,758 | 12.8 | 3.157 | 1,276 | 99 | 69 | 23,052 | 9.3 | 7.30 |
| NONE..... | 314 | 1,873 | 6.0 | .091 | 289 | 48 | 92 | 861 | 2.7 | 9.48 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 511 | 10,511 | 20.6 | 1.027 | 2,008 | 98 | 113 | 6,012 | 11.8 | 5.85 |
| 26 TO 50..... | 524 | 5,195 | 9.9 | .472 | 901 | 91 | 80 | 3,019 | 5.8 | 6.40 |
| 51 TO 75..... | 272 | 4,168 | 15.3 | .431 | 1,585 | 103 | 59 | 4,015 | 14.8 | 9.31 |
| 76 TO 99..... | 182 | 4,859 | 26.7 | .510 | 2,798 | 105 | 50 | 4,158 | 22.8 | 8.16 |
| 100..... | 1,054 | 12,734 | 12.1 | 1.362 | 1,293 | 107 | 56 | 11,098 | 10.5 | 8.15 |
| NONE..... | 1,331 | 9,837 | 7.4 | .647 | 486 | 66 | 92 | 4,174 | 3.1 | 6.45 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS | | | | | | | | | | |
| WINDOW UNITS..... | 812 | 7,005 | 8.6 | .570 | 702 | 81 | 94 | 3,624 | 4.5 | 6.36 |
| PACKAGE UNITS | | | | | | | | | | |
| PACKAGE UNITS..... | 744 | 11,410 | 15.3 | 1.017 | 1,368 | 89 | 59 | 7,979 | 10.7 | 7.84 |
| CENTRAL SYSTEM | | | | | | | | | | |
| CENTRAL SYSTEM..... | 709 | 11,855 | 16.7 | 1.298 | 1,830 | 109 | 60 | 9,601 | 13.5 | 7.40 |
| COMBINATION/OTHER | | | | | | | | | | |
| COMBINATION/OTHER..... | 278 | 7,198 | 25.9 | .917 | 3,300 | 127 | 78 | 7,099 | 25.5 | 7.74 |
| NO AIR CONDITIONING..... | 1,331 | 9,837 | 7.4 | .647 | 486 | 66 | 92 | 4,174 | 3.1 | 6.45 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-MILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,851 | 18,539 | 10.0 | 1.784 | 964 | 96 | 85 | 12,538 | 6.8 | 7.03 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 1,094 | 9,228 | 8.4 | .816 | 746 | 88 | 75 | 6,000 | 5.5 | 7.35 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 382 | 7,204 | 18.9 | .552 | 1,448 | 77 | 40 | 5,199 | 13.6 | 9.41 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 257 | 4,875 | 19.0 | .406 | 1,580 | 83 | 54 | 3,384 | 13.2 | 8.34 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 243 | 6,591 | 27.1 | .750 | 3,081 | 114 | 76 | 4,562 | 18.8 | 6.09 |
| NOT REPORTED..... | 48 | 866 | 17.9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 2,811 | 15,572 | 5.5 | 1.078 | 381 | 69 | 120 | 7,967 | 2.8 | 7.43 |
| 10 TO 19..... | 477 | 5,500 | 11.5 | .461 | 965 | 84 | 74 | 3,438 | 7.2 | 7.46 |
| 20 TO 49..... | 374 | 8,806 | 23.5 | 1.045 | 2,795 | 119 | 93 | 6,786 | 18.1 | 6.49 |
| 50 TO 99..... | 120 | 5,369 | 44.7 | .547 | 4,552 | 102 | 72 | 3,759 | 31.3 | 6.87 |
| 100 OR MORE..... | 92 | 12,058 | 131.3 | 1.324 | 14,423 | 110 | 45 | 10,526 | 114.7 | 7.95 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 185 | 1,107 | 6.0 | .061 | 331 | 55 | 210 | 531 | 2.9 | 8.67 |
| 39 OR FEWER HOURS..... | 566 | 3,346 | 5.9 | .228 | 402 | 68 | 88 | 1,560 | 2.8 | 6.85 |
| 40 TO 48 HOURS..... | 946 | 10,757 | 11.4 | .823 | 870 | 76 | 59 | 6,703 | 7.1 | 8.15 |
| 49 TO 60 HOURS..... | 893 | 10,854 | 12.2 | .899 | 1,007 | 83 | 59 | 6,333 | 7.1 | 7.04 |
| 61 TO 84 HOURS..... | 595 | 9,030 | 15.2 | .825 | 1,387 | 91 | 65 | 6,221 | 10.5 | 7.54 |
| MORE THAN 84 HOURS..... | 689 | 12,209 | 17.7 | 1.613 | 2,342 | 132 | 85 | 11,127 | 16.2 | 6.90 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING SAND (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|--|---|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 1,432 | 20,406 | 14.2 | 1.783 | 1,245 | 87 | 62 | 13,813 | 9.6 | 7.75 |
| NO..... | 2,248 | 24,591 | 10.9 | 2.407 | 1,071 | 98 | 74 | 16,751 | 7.5 | 6.96 |
| DON'T KNOW/NOT REPORTED..... | 194 | 2,309 | 11.9 | .260 | 1,335 | 112 | 103 | 1,912 | 9.8 | 7.36 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 1,077 | 12,650 | 11.7 | 1.194 | 1,109 | 94 | 71 | 8,200 | 7.6 | 6.87 |
| NO..... | 2,546 | 31,775 | 12.5 | 3.028 | 1,189 | 95 | 69 | 22,554 | 8.9 | 7.45 |
| DON'T KNOW/NOT REPORTED..... | 252 | 2,880 | 11.4 | .227 | 903 | 79 | 71 | 1,722 | 6.8 | 7.58 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 683 | 8,460 | 12.4 | .721 | 1,056 | 85 | 63 | 5,448 | 8.0 | 7.55 |
| NO..... | 2,976 | 36,340 | 12.2 | 3.520 | 1,183 | 97 | 71 | 25,410 | 8.5 | 7.22 |
| DON'T KNOW/NOT REPORTED..... | 216 | 2,505 | 11.6 | .208 | 965 | 83 | 74 | 1,617 | 7.5 | 7.76 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 2,952 | 36,635 | 12.4 | 3.406 | 1,154 | 93 | 67 | 24,919 | 8.4 | 7.32 |
| NO..... | 565 | 8,053 | 14.3 | .844 | 1,495 | 105 | 78 | 5,769 | 10.2 | 6.84 |
| NOT REPORTED..... | 44 | 745 | 17.1 | .109 | 2,488 | 146 | 89 | 926 | 21.2 | 8.53 |
| NOT APPLICABLE..... | 314 | 1,873 | 6.0 | .091 | 289 | 48 | 92 | 861 | 2.7 | 9.48 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 1,482 | 25,077 | 16.9 | 2.520 | 1,700 | 100 | 60 | 19,057 | 12.9 | 7.56 |
| NO..... | 225 | 4,881 | 21.6 | .639 | 2,832 | 131 | 83 | 4,965 | 22.0 | 7.77 |
| NOT REPORTED..... | 23 | 504 | 21.7 | .074 | 3,171 | 146 | 92 | 656 | 28.3 | 8.92 |
| NOT APPLICABLE..... | 2,144 | 16,842 | 7.9 | 1.217 | 568 | 72 | 93 | 7,798 | 3.6 | 6.41 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 3,072 | 38,639 | 12.6 | 3.625 | 1,180 | 94 | 67 | 26,492 | 8.6 | 7.31 |
| NO..... | 471 | 6,359 | 13.5 | .678 | 1,442 | 107 | 82 | 4,667 | 9.9 | 6.88 |
| NOT REPORTED..... | 39 | 652 | 16.5 | .087 | 2,215 | 134 | 100 | 771 | 19.5 | 8.81 |
| NOT APPLICABLE..... | 292 | 1,655 | 5.7 | .059 | 201 | 35 | 74 | 546 | 1.9 | 9.32 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 - DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 4. 1979 Total Consumption and Expenditures for Commercial Buildings That Use Only Natural Gas or Electricity or Both

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 2,684 | 27,935 | 10.4 | 2.818 | 1,050 | 101 | 80 | 19,134 | 7.1 | 6.79 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 2,383 | 26,135 | 11.0 | 2.728 | 1,144 | 104 | 80 | 18,290 | 7.7 | 6.71 |
| NATURAL GAS..... | 1,740 | 20,315 | 11.7 | 2.238 | 1,286 | 110 | 91 | 13,164 | 7.6 | 5.88 |
| ELECTRICITY..... | 798 | 8,082 | 10.1 | .784 | 983 | 97 | 60 | 6,824 | 8.6 | 8.70 |
| NO HEATING FUEL USED..... | 300 | 1,800 | 6.0 | .090 | 301 | 50 | 96 | 843 | 2.8 | 9.34 |
| AIR CONDITIONING FUEL USED.. | 1,864 | 22,227 | 11.9 | 2.354 | 1,262 | 106 | 74 | 16,300 | 8.7 | 6.92 |
| ELECTRICITY..... | 1,761 | 21,021 | 11.9 | 2.180 | 1,238 | 104 | 73 | 15,175 | 8.6 | 6.96 |
| NATURAL GAS..... | 135 | 2,018 | 15.0 | .335 | 2,487 | 166 | 112 | 1,977 | 14.7 | 5.90 |
| NO AIR CONDITIONING FUEL.... | 819 | 5,708 | 7.0 | .464 | 566 | 81 | 130 | 2,834 | 3.5 | 6.11 |
| WATER-HEATING FUEL USED..... | 1,846 | 22,669 | 12.3 | 2.411 | 1,306 | 106 | 80 | 15,991 | 8.7 | 6.63 |
| NATURAL GAS..... | 1,082 | 14,718 | 13.6 | 1.648 | 1,523 | 112 | 90 | 9,904 | 9.2 | 6.01 |
| ELECTRICITY..... | 798 | 8,903 | 11.2 | .863 | 1,081 | 97 | 64 | 6,680 | 8.4 | 7.74 |
| NO WATER-HEATING FUEL..... | 838 | 5,266 | 6.3 | .407 | 486 | 77 | 82 | 3,143 | 3.8 | 7.72 |
| MANUFACTURING FUEL USED..... | 203 | 2,925 | 14.4 | .290 | 1,429 | 99 | 99 | 1,664 | 8.2 | 5.74 |
| ELECTRICITY..... | 178 | 2,682 | 15.1 | .249 | 1,398 | 93 | 94 | 1,455 | 8.2 | 5.85 |
| NATURAL GAS..... | 42 | 641 | 15.1 | .138 | 3,258 | 216 | 164 | 666 | 15.7 | 4.81 |
| NO MANUFACTURING DONE..... | 2,481 | 25,009 | 10.1 | 2.528 | 1,019 | 101 | 78 | 17,470 | 7.0 | 6.91 |
| COOKING FUEL USED..... | 840 | 12,323 | 14.7 | 1.335 | 1,590 | 108 | 83 | 8,633 | 10.3 | 6.46 |
| ELECTRICITY..... | 462 | 7,067 | 15.3 | .797 | 1,725 | 113 | 79 | 5,494 | 11.9 | 6.89 |
| NATURAL GAS..... | 456 | 7,135 | 15.6 | .786 | 1,723 | 110 | 88 | 4,782 | 10.5 | 6.08 |
| NO COOKING FUEL..... | 1,844 | 15,612 | 8.5 | 1.483 | 804 | 95 | 78 | 10,501 | 5.7 | 7.08 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 347 | 4,250 | 12.3 | .389 | 1,122 | 92 | 81 | 2,849 | 8.2 | 7.32 |
| NORTH CENTRAL..... | 920 | 9,740 | 10.6 | 1.218 | 1,324 | 125 | 105 | 7,084 | 7.7 | 5.82 |
| SOUTH..... | 992 | 9,327 | 9.4 | .807 | 813 | 87 | 67 | 6,517 | 6.6 | 8.08 |
| WEST..... | 425 | 4,618 | 10.9 | .404 | 951 | 87 | 59 | 2,684 | 6.3 | 6.64 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|----------------------------------|--|--|--|--------------------------|---|--|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA | 1,671 | 20,486 | 12.3 | 2,079 | 1,244 | 101 | 76 | 14,427 | 8.6 | 6.94 |
| NONSMSA | 1,013 | 7,448 | 7.4 | .739 | 730 | 99 | 92 | 4,707 | 4.6 | 6.37 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 248 | 2,495 | 10.1 | .276 | 1,115 | 111 | 96 | 1,498 | 6.0 | 5.42 |
| <2,000 CDD AND 5,500 TO 7,000 HDD | 794 | 9,687 | 12.2 | 1.113 | 1,402 | 115 | 102 | 6,659 | 8.4 | 5.98 |
| <2,000 CDD AND 4,000 TO 5,499 HDD | 645 | 6,082 | 9.4 | .557 | 864 | 92 | 82 | 4,005 | 6.2 | 7.18 |
| <2,000 CDD AND <4,000 HDD... | 526 | 5,200 | 9.9 | .448 | 851 | 86 | 61 | 3,247 | 6.2 | 7.25 |
| >2,000 CDD AND <4,000 HDD... | 471 | 4,472 | 9.5 | .423 | 899 | 95 | 59 | 3,726 | 7.9 | 8.80 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY | 273 | 3,071 | 11.3 | .239 | 874 | 78 | 148 | 1,444 | 5.3 | 6.06 |
| AUTOMOTIVE SALES & SERVICE.. | 223 | 1,079 | 4.8 | .142 | 638 | 132 | 99 | 906 | 4.1 | 6.38 |
| EDUCATION | 95 | 2,788 | 29.5 | .245 | 2,587 | 88 | 112 | 1,420 | 15.0 | 5.81 |
| FOOD SALES | 256 | 1,173 | 4.6 | .258 | 1,008 | 220 | 82 | 2,092 | 8.2 | 8.11 |
| HEALTH CARE | 29 | 449 | 15.7 | .066 | 2,296 | 146 | 90 | 336 | 11.8 | 5.12 |
| LODGING | 65 | 1,067 | 16.5 | .158 | 2,449 | 148 | 167 | 1,020 | 15.8 | 6.45 |
| OFFICE | 461 | 4,588 | 10.0 | .501 | 1,088 | 109 | 41 | 3,801 | 8.2 | 7.58 |
| RESIDENTIAL | 211 | 1,663 | 7.9 | .132 | 626 | 79 | 108 | 759 | 3.6 | 5.76 |
| RETAIL/SERVICES | 543 | 5,607 | 10.3 | .504 | 928 | 90 | 73 | 3,588 | 6.6 | 7.12 |
| WAREHOUSE AND STORAGE | 282 | 4,025 | 14.3 | .393 | 1,393 | 98 | 152 | 2,496 | 8.8 | 6.35 |
| OTHER | 157 | 1,727 | 11.0 | .132 | 841 | 77 | 64 | 870 | 5.5 | 6.59 |
| VACANT | 91 | 696 | 7.7 | .049 | 538 | 70 | 2 | 401 | 4.4 | 8.23 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS | 423 | 231 | .5 | .081 | 191 | 349 | 76 | 783 | 1.8 | 9.20 |
| 1,001 TO 5,000 | 1,166 | 3,176 | 2.7 | .511 | 438 | 161 | 75 | 3,744 | 3.2 | 7.33 |
| 5,001 TO 10,000 | 491 | 3,525 | 7.2 | .405 | 826 | 115 | 83 | 2,639 | 5.4 | 6.51 |
| 10,001 TO 25,000 | 379 | 5,918 | 15.6 | .596 | 1,574 | 101 | 78 | 3,940 | 10.4 | 6.61 |
| 25,001 TO 50,000 | 132 | 4,687 | 35.4 | .391 | 2,954 | 83 | 82 | 2,743 | 20.7 | 7.01 |
| OVER 50,000 | 93 | 10,397 | 111.9 | .834 | 8,978 | 80 | 83 | 5,325 | 57.3 | 6.38 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR | 1,639 | 10,252 | 6.3 | 1.136 | 693 | 111 | 78 | 8,525 | 5.2 | 7.50 |
| TWO FLOORS | 602 | 7,598 | 12.6 | .778 | 1,293 | 102 | 92 | 5,032 | 8.4 | 6.47 |
| THREE FLOORS | 308 | 4,771 | 15.5 | .414 | 1,345 | 87 | 75 | 2,576 | 8.4 | 6.23 |
| MORE THAN THREE | 135 | 5,314 | 39.3 | .490 | 3,621 | 92 | 74 | 3,001 | 22.2 | 6.12 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-MILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE PER BUILDING (THOUSAND DOLLARS) | AVERAGE PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|-----------------------------------|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE | 191 | 1,890 | 9.9 | 0.147 | 770 | 78 | 107 | 712 | 3.7 | 4.85 |
| 1901 TO 1920 | 274 | 2,932 | 10.7 | .243 | 885 | 83 | 86 | 1,397 | 5.1 | 5.76 |
| 1921 TO 1945 | 495 | 4,818 | 9.7 | .475 | 959 | 99 | 97 | 2,822 | 5.7 | 5.94 |
| 1946 TO 1960 | 649 | 5,396 | 8.3 | .489 | 752 | 91 | 80 | 3,301 | 5.1 | 6.76 |
| 1961 TO 1970 | 553 | 6,286 | 11.4 | .787 | 1,424 | 125 | 82 | 5,383 | 9.7 | 6.84 |
| 1971 TO 1973 | 139 | 2,233 | 16.0 | .254 | 1,828 | 114 | 76 | 1,858 | 13.4 | 7.31 |
| 1974 TO 1979 | 383 | 4,380 | 11.4 | .424 | 1,108 | 97 | 60 | 3,661 | 9.6 | 8.64 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | |
| ELECTRICITY | 795 | 5,830 | 7.3 | .329 | 415 | 57 | 43 | 4,072 | 5.1 | 12.36 |
| NATURAL GAS | 6 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | |
| ELEC., NATURAL GAS | 1,889 | 22,104 | 11.7 | 2.489 | 1,317 | 113 | 90 | 15,062 | 8.0 | 6.05 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY | 2,678 | 27,914 | 10.4 | 2.816 | 1,052 | 101 | 80 | 19,127 | 7.1 | 6.79 |
| NATURAL GAS | 1,896 | 22,125 | 11.7 | 2.491 | 1,314 | 113 | 90 | 15,068 | 7.9 | 6.05 |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR | 887 | 8,655 | 9.8 | .817 | 920 | 94 | 62 | 6,384 | 7.2 | 7.82 |
| RADIANT | 128 | 828 | 6.5 | .060 | 469 | 72 | 66 | 488 | 3.8 | 8.15 |
| COMBINATION/OTHER | 216 | 1,819 | 8.4 | .202 | 934 | 111 | 84 | 1,377 | 6.4 | 6.82 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR | 614 | 6,550 | 10.7 | .639 | 1,841 | 98 | 75 | 4,244 | 6.9 | 6.64 |
| RADIANT | 259 | 3,572 | 13.8 | .399 | 1,539 | 112 | 124 | 2,191 | 8.4 | 5.49 |
| COMBINATION/OTHER | 97 | 2,031 | 20.8 | .240 | 2,461 | 118 | 100 | 1,328 | 13.6 | 5.53 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR | 89 | 1,122 | 12.7 | 0 | 0 | 0 | 0 | 1,246 | 14.1 | 5.96 |
| RADIANT | 12 | 133 | 10.9 | .007 | 0 | 56 | 0 | 54 | 0 | 7.34 |
| COMBINATION/OTHER | 82 | 1,430 | 17.5 | .155 | 1,899 | 109 | 87 | 983 | 12.0 | 6.34 |
| NONE | 299 | 1,795 | 6.0 | .089 | 299 | 50 | 95 | 838 | 2.8 | 9.36 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 160 | 2,350 | 14.7 | 0.143 | 895 | 61 | 80 | 997 | 6.2 | 6.98 |
| 26 TO 50..... | 223 | 1,858 | 8.3 | .221 | 2 | 2 | 2 | 1,264 | 5.7 | 5.71 |
| 51 TO 75..... | 207 | 2,066 | 10.0 | .203 | 981 | 98 | 74 | 1,381 | 6.7 | 6.80 |
| 76 TO 99..... | 156 | 2,174 | 13.9 | .242 | 1,551 | 111 | 64 | 1,703 | 10.9 | 7.03 |
| 100..... | 1,639 | 17,692 | 10.8 | 1.919 | 1,171 | 108 | 79 | 12,952 | 7.9 | 6.75 |
| NONE..... | 299 | 1,795 | 6.0 | .089 | 299 | 50 | 95 | 838 | 2.8 | 9.36 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 326 | 6,060 | 18.6 | .613 | 1,880 | 101 | 119 | 3,496 | 10.7 | 5.70 |
| 26 TO 50..... | 390 | 3,549 | 9.1 | .322 | 825 | 91 | 85 | 1,814 | 4.6 | 5.63 |
| 51 TO 75..... | 202 | 2,229 | 11.1 | .241 | 1,193 | 108 | 63 | 1,787 | 8.9 | 7.43 |
| 76 TO 99..... | 129 | 2,339 | 18.2 | .269 | 2,091 | 115 | 62 | 2,103 | 16.3 | 7.82 |
| 100..... | 818 | 8,051 | 9.8 | .910 | 1,112 | 113 | 62 | 7,102 | 8.7 | 7.81 |
| NONE..... | 819 | 5,706 | 7.0 | .464 | 566 | 81 | 130 | 2,832 | 3.5 | 6.11 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 511 | 3,863 | 7.6 | .305 | 597 | 79 | 93 | 2,054 | 4.0 | 6.73 |
| PACKAGE UNITS..... | 593 | 7,766 | 13.1 | .751 | 1,267 | 97 | 61 | 5,736 | 9.7 | 7.64 |
| CENTRAL SYSTEM..... | 563 | 7,168 | 12.7 | .817 | 1,451 | 114 | 73 | 5,671 | 10.1 | 6.94 |
| COMBINATION/OTHER..... | 197 | 3,432 | 17.4 | .481 | 2,436 | 140 | 97 | 2,841 | 14.4 | 5.91 |
| NO AIR CONDITIONING..... | 819 | 5,706 | 7.0 | .464 | 566 | 81 | 130 | 2,832 | 3.5 | 6.11 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,234 | 10,688 | 8.7 | 1.112 | 901 | 104 | 95 | 7,428 | 6.0 | 6.68 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 795 | 6,160 | 7.7 | .629 | 791 | 102 | 86 | 4,295 | 5.4 | 6.83 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 276 | 4,305 | 15.6 | .315 | 1,139 | 73 | 43 | 2,314 | 8.4 | 7.35 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 195 | 3,310 | 17.0 | .297 | 1,521 | 90 | 60 | 2,392 | 12.3 | 8.06 |
| GOVERNMENT-OWNED AND OCCUPIED | | | | | | | | | | |
| OCCUPIED..... | 153 | 3,027 | 19.8 | .331 | 2,168 | 109 | 97 | 1,992 | 13.1 | 6.02 |
| NOT REPORTED..... | 31 | 444 | 14.2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 1,920 | 10,166 | 5.3 | 0.851 | 443 | 84 | 141 | 5,829 | 3.0 | 6.85 |
| 10 TO 19..... | 364 | 4,037 | 11.1 | .349 | 958 | 86 | 74 | 2,469 | 6.8 | 7.08 |
| 20 TO 49..... | 266 | 5,616 | 21.1 | .698 | 2,623 | 124 | 88 | 4,665 | 17.5 | 6.68 |
| 50 TO 99..... | 86 | 3,229 | 37.5 | .366 | 4,254 | 113 | 68 | 2,322 | 27.0 | 6.34 |
| 100 OR MORE..... | 47 | 4,887 | 103.6 | .554 | 11,736 | 113 | 50 | 3,849 | 81.6 | 6.95 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 151 | 753 | 5.0 | .051 | 336 | 2 | 230 | 410 | 2.7 | 8.09 |
| 39 OR FEWER HOURS..... | 372 | 2,284 | 6.1 | .148 | 398 | 65 | 110 | 978 | 2.6 | 6.61 |
| 40 TO 48 HOURS..... | 692 | 6,919 | 10.0 | .564 | 815 | 82 | 67 | 3,747 | 5.4 | 6.64 |
| 49 TO 60 HOURS..... | 599 | 6,447 | 10.8 | .521 | 870 | 81 | 62 | 3,592 | 6.0 | 6.89 |
| 61 TO 84 HOURS..... | 406 | 5,397 | 13.3 | .593 | 1,459 | 110 | 76 | 4,156 | 10.2 | 7.01 |
| MORE THAN 84 HOURS..... | 464 | 6,134 | 13.2 | .941 | 2,029 | 153 | 104 | 6,250 | 13.5 | 6.64 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 901 | 10,961 | 12.2 | 1.011 | 1,121 | 92 | 75 | 6,923 | 7.7 | 6.85 |
| NO..... | 1,630 | 15,364 | 9.4 | 1.618 | 992 | 105 | 80 | 10,817 | 6.6 | 6.69 |
| DON'T KNOW/NOT REPORTED..... | 153 | 1,610 | 10.6 | .190 | 1,243 | 118 | 119 | 1,394 | 9.1 | 7.35 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 649 | 6,629 | 10.2 | .722 | 1,113 | 109 | 87 | 4,448 | 6.9 | 6.16 |
| NO..... | 1,857 | 19,545 | 10.5 | 1.925 | 1,036 | 98 | 77 | 13,478 | 7.3 | 7.00 |
| DON'T KNOW/NOT REPORTED..... | 178 | 1,761 | 9.9 | .171 | 963 | 97 | 86 | 1,208 | 6.8 | 7.05 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 402 | 4,156 | 10.3 | .391 | 970 | 94 | 73 | 2,720 | 6.8 | 6.97 |
| NO..... | 2,122 | 22,175 | 10.5 | 2.274 | 1,072 | 103 | 81 | 15,309 | 7.2 | 6.73 |
| DON'T KNOW/NOT REPORTED..... | 160 | 1,604 | 10.1 | .154 | 962 | 96 | 89 | 1,105 | 6.9 | 7.19 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 1,975 | 21,103 | 10.7 | 2.136 | 1,082 | 101 | 77 | 14,207 | 7.2 | 6.65 |
| NO..... | 382 | 4,623 | 12.1 | .521 | 1,364 | 113 | 87 | 3,458 | 9.1 | 6.64 |
| NOT REPORTED..... | 28 | 413 | 14.7 | .072 | 2,551 | 173 | 106 | 632 | 22.5 | 8.82 |
| NOT APPLICABLE..... | 299 | 1,795 | 6.0 | .089 | 299 | 50 | 95 | 838 | 2.8 | 9.36 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLAR LARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 1,164 | 15,167 | 13.0 | 1.640 | 1,409 | 108 | 68 | 11,282 | 9.7 | 6.88 |
| NO..... | 172 | 2,914 | 16.9 | .359 | 2,087 | 123 | 88 | 2,503 | 14.6 | 6.97 |
| NOT REPORTED..... | 18 | 286 | 16.2 | .050 | 2 | 175 | 2 | 463 | 2 | 9.24 |
| NOT APPLICABLE..... | 1,330 | 9,569 | 7.2 | .769 | 578 | 80 | 113 | 4,886 | 3.7 | 6.35 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 2,071 | 22,218 | 10.7 | 2.289 | 1,105 | 103 | 77 | 15,219 | 7.3 | 6.65 |
| NO..... | 308 | 3,801 | 12.3 | .419 | 1,362 | 110 | 93 | 2,890 | 9.4 | 6.89 |
| NOT REPORTED..... | 27 | 333 | 12.4 | .052 | 1,948 | 157 | 141 | 495 | 18.4 | 9.46 |
| NOT APPLICABLE..... | 278 | 1,583 | 5.7 | .058 | 207 | 36 | 76 | 530 | 1.9 | 9.19 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 5. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings That Use Natural Gas

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|----------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS | 2,252 | 33,635 | 14.9 | 2.357 | 2.311 | 1,046 | 70 | 52 | 6,362 | 2.8 | 2.70 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED | 2,195 | 33,285 | 15.2 | 2.327 | 2.282 | 1,060 | 70 | 52 | 6,271 | 2.9 | 2.70 |
| NATURAL GAS | 1,922 | 25,886 | 13.5 | 2.125 | 2.084 | 1,106 | 82 | 62 | 5,683 | 3.0 | 2.67 |
| ELECTRICITY | 302 | 5,339 | 17.7 | .333 | .326 | 1,102 | 62 | 38 | 893 | 3.0 | 2.68 |
| FUEL OIL/KEROSENE | 234 | 6,210 | 26.6 | .439 | .431 | 1,879 | 71 | 53 | 1,169 | 5.0 | 2.66 |
| LIQUID PETROLEUM GAS | 21 | 212 | 2 | .013 | .012 | 2 | 62 | 36 | 36 | 2 | 2.72 |
| OTHER | 48 | 2,784 | 57.8 | .072 | .070 | 1,490 | 26 | 17 | 199 | 4.1 | 2.78 |
| NO HEATING FUEL USED | 57 | 349 | 6.1 | .030 | .029 | 526 | 86 | 104 | 91 | 1.6 | 3.03 |
| AIR CONDITIONING FUEL USED | 1,592 | 27,471 | 17.3 | 1.951 | 1.914 | 1,225 | 71 | 48 | 5,248 | 3.3 | 2.69 |
| ELECTRICITY | 1,477 | 25,637 | 17.4 | 1.778 | 1.744 | 1,204 | 69 | 48 | 4,774 | 3.2 | 2.69 |
| NATURAL GAS | 147 | 2,750 | 18.7 | .290 | .284 | 1,971 | 105 | 64 | 723 | 4.9 | 2.50 |
| OTHER | 8 | 674 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO AIR CONDITIONING FUEL | 660 | 6,163 | 9.3 | .406 | .398 | 615 | 66 | 94 | 1,114 | 1.7 | 2.74 |
| WATER-HEATING FUEL USED | 1,750 | 29,580 | 16.9 | 2.090 | 2.050 | 1,194 | 71 | 52 | 5,650 | 3.2 | 2.70 |
| NATURAL GAS | 1,252 | 20,794 | 16.6 | 1.672 | 1.640 | 1,335 | 80 | 59 | 4,520 | 3.6 | 2.70 |
| ELECTRICITY | 479 | 7,348 | 15.3 | .454 | .445 | 947 | 62 | 46 | 1,209 | 2.5 | 2.66 |
| FUEL OIL/KEROSENE | 71 | 2,970 | 41.9 | .149 | .146 | 2,102 | 50 | 33 | 423 | 6.0 | 2.84 |
| OTHER | 16 | 1,497 | 94.5 | .041 | .040 | 2,599 | 28 | 16 | 109 | 6.9 | 2.66 |
| NO WATER-HEATING FUEL | 502 | 4,055 | 8.1 | .267 | .261 | 531 | 66 | 57 | 712 | 1.4 | 2.67 |
| MANUFACTURING FUEL USED | 187 | 3,618 | 19.3 | .482 | .472 | 2,574 | 133 | 104 | 1,276 | 6.8 | 2.65 |
| ELECTRICITY | 147 | 2,891 | 19.7 | .393 | .386 | 2,673 | 136 | 111 | 1,025 | 7.0 | 2.61 |
| NATURAL GAS | 49 | 1,224 | 24.9 | .334 | .328 | 6,792 | 273 | 182 | 862 | 17.5 | 2.58 |
| OTHER | 19 | 646 | 33.4 | .220 | .216 | 11,391 | 341 | 205 | 592 | 30.6 | 2.69 |
| NO MANUFACTURING DONE | 2,065 | 30,017 | 14.5 | 1.875 | 1.839 | 908 | 62 | 46 | 5,086 | 2.5 | 2.71 |
| COOKING FUEL USED | 903 | 18,936 | 21.0 | 1.296 | 1.271 | 1,436 | 68 | 49 | 3,504 | 3.9 | 2.70 |
| ELECTRICITY | 394 | 8,990 | 22.8 | .616 | .604 | 1,562 | 69 | 47 | 1,601 | 4.1 | 2.60 |
| NATURAL GAS | 610 | 13,681 | 22.4 | .932 | .915 | 1,528 | 68 | 48 | 2,548 | 4.2 | 2.73 |
| OTHER | 14 | 746 | 2 | .168 | .164 | 2 | 225 | 88 | 458 | 2 | 2.73 |
| NO COOKING FUEL | 1,349 | 14,699 | 10.9 | 1.061 | 1.040 | 786 | 72 | 57 | 2,858 | 2.1 | 2.69 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST | 451 | 8,155 | 18.1 | .516 | .506 | 1,145 | 63 | 49 | 1,555 | 3.4 | 3.01 |
| NORTH CENTRAL | 901 | 12,793 | 14.2 | 1.062 | 1.042 | 1,179 | 83 | 67 | 2,711 | 3.0 | 2.55 |
| SOUTH | 583 | 7,980 | 13.7 | .488 | .478 | 838 | 61 | 46 | 1,317 | 2.3 | 2.70 |
| WEST | 317 | 4,708 | 14.8 | .290 | .284 | 914 | 62 | 37 | 780 | 2.5 | 2.69 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 1,506 | 26,140 | 17.4 | 1.794 | 1.760 | 1,191 | 69 | 48 | 4,967 | 3.3 | 2.77 |
| NONSMSA..... | 746 | 7,499 | 10.0 | .563 | .551 | 755 | 75 | 75 | 1,395 | 1.9 | 2.48 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 244 | 3,916 | 16.0 | .286 | .280 | 1,169 | 73 | 66 | 727 | 3.0 | 2.54 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 836 | 12,857 | 15.4 | .973 | .955 | 1,164 | 76 | 61 | 2,575 | 3.1 | 2.65 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 605 | 8,566 | 14.2 | .577 | .565 | 953 | 67 | 52 | 1,656 | 2.7 | 2.87 |
| <2,000 CDD AND <4,000 HDD... | 368 | 5,059 | 13.8 | .303 | .297 | 825 | 60 | 35 | 852 | 2.3 | 2.81 |
| >2,000 CDD AND <4,000 HDD... | 199 | 3,236 | 16.3 | .218 | .214 | 1,096 | 67 | 44 | 552 | 2.8 | 2.53 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 270 | 3,852 | 14.3 | .207 | .203 | 769 | 54 | 94 | 540 | 2.0 | 2.60 |
| AUTOMOTIVE SALES & SERVICE... | 203 | 1,133 | 5.6 | .110 | .107 | 540 | 97 | 71 | 331 | 1.6 | 3.02 |
| EDUCATION..... | 92 | 4,053 | 43.9 | .211 | .207 | 2,282 | 52 | 66 | 543 | 5.9 | 2.58 |
| FOOD SALES..... | 214 | 1,152 | 5.4 | .137 | .134 | 640 | 119 | 49 | 412 | 1.9 | 3.01 |
| HEALTH CARE..... | 28 | 1,485 | 53.0 | .185 | .182 | 6,595 | 125 | 53 | 474 | 16.9 | 2.56 |
| LODGING..... | 53 | 1,466 | 27.5 | .109 | .107 | 2,043 | 74 | 86 | 275 | 5.2 | 2.52 |
| OFFICE..... | 356 | 5,590 | 15.7 | .354 | .348 | 996 | 63 | 23 | 968 | 2.7 | 2.73 |
| RESIDENTIAL..... | 260 | 2,542 | 9.8 | .127 | .124 | 487 | 50 | 72 | 374 | 1.4 | 2.95 |
| RETAIL/SERVICES..... | 450 | 6,082 | 13.5 | .303 | .298 | 674 | 50 | 41 | 877 | 1.9 | 2.89 |
| WAREHOUSE AND STORAGE..... | 157 | 3,597 | 22.8 | .301 | .295 | 1,910 | 84 | 105 | 696 | 4.4 | 2.31 |
| OTHER..... | 110 | 2,076 | 18.9 | .284 | .279 | 2,589 | 137 | 87 | 782 | 7.1 | 2.75 |
| VACANT..... | 59 | 605 | 10.3 | .029 | .028 | 2 | 48 | 2 | 92 | 2 | 3.17 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 191 | 124 | .6 | .035 | .034 | 185 | 286 | 60 | 108 | .6 | 3.06 |
| 1,001 TO 5,000..... | 938 | 2,622 | 2.8 | .341 | .334 | 364 | 130 | 63 | 988 | 1.1 | 2.89 |
| 5,001 TO 10,000..... | 475 | 3,469 | 7.3 | .323 | .317 | 680 | 93 | 69 | 894 | 1.9 | 2.77 |
| 10,001 TO 25,000..... | 383 | 5,964 | 15.6 | .543 | .533 | 1,416 | 91 | 70 | 1,433 | 3.7 | 2.64 |
| 25,001 TO 50,000..... | 144 | 5,117 | 35.6 | .252 | .247 | 1,753 | 49 | 48 | 694 | 4.8 | 2.75 |
| OVER 50,000..... | 121 | 16,339 | 134.9 | .862 | .846 | 7,116 | 53 | 40 | 2,245 | 18.5 | 2.60 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 1,090 | 8,627 | 7.9 | 0.676 | 0.662 | 620 | 78 | 57 | 1,910 | 1.8 | 2.84 |
| TWO FLOORS..... | 581 | 8,242 | 14.2 | .562 | .552 | 969 | 68 | 61 | 1,485 | 2.6 | 2.64 |
| THREE FLOORS..... | 365 | 6,141 | 16.8 | .372 | .365 | 1,021 | 61 | 52 | 1,019 | 2.8 | 2.74 |
| MORE THAN THREE..... | 217 | 10,625 | 49.0 | .746 | .732 | 3,439 | 70 | 44 | 1,939 | 8.9 | 2.60 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 225 | 2,772 | 12.3 | .156 | .153 | 694 | 56 | 62 | 396 | 1.8 | 2.53 |
| 1901 TO 1920..... | 302 | 4,237 | 14.0 | .217 | .213 | 718 | 51 | 53 | 581 | 1.9 | 2.67 |
| 1921 TO 1945..... | 507 | 6,566 | 12.9 | .608 | .596 | 1,199 | 93 | 78 | 1,603 | 3.2 | 2.64 |
| 1946 TO 1960..... | 524 | 7,050 | 13.5 | .419 | .410 | 799 | 59 | 46 | 1,210 | 2.3 | 2.89 |
| 1961 TO 1970..... | 407 | 7,229 | 17.8 | .544 | .534 | 1,339 | 75 | 50 | 1,490 | 3.7 | 2.74 |
| 1971 TO 1973..... | 101 | 2,422 | 23.9 | .207 | .202 | 2,041 | 85 | 44 | 520 | 5.1 | 2.51 |
| 1974 TO 1979..... | 186 | 3,358 | 18.1 | .206 | .201 | 1,106 | 61 | 35 | 564 | 3.0 | 2.74 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 6 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 1,891 | 22,121 | 11.7 | 1.626 | 1.595 | 860 | 73 | 59 | 4,417 | 2.3 | 2.72 |
| ELEC., NATURAL GAS..... | 1,889 | 22,104 | 11.7 | 1.617 | 1.587 | 856 | 73 | 59 | 4,395 | 2.3 | 2.72 |
| OTHER..... | 2 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED..... | 330 | 10,463 | 31.7 | .648 | .635 | 1,965 | 62 | 42 | 1,739 | 5.3 | 2.68 |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 250 | 7,497 | 30.0 | .577 | .567 | 2,308 | 77 | 50 | 1,545 | 6.2 | 2.68 |
| ELEC., GAS, OTHER..... | 80 | 2,967 | 37.2 | .071 | .068 | 889 | 24 | 18 | 194 | 2.4 | 2.74 |
| FOUR OR MORE FUELS USED..... | 25 | 1,029 | 41.2 | .081 | .079 | 0 | 78 | 44 | 199 | 0 | 2.47 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 2,244 | 33,597 | 15.0 | 2.346 | 2.301 | 1,045 | 70 | 52 | 6,333 | 2.8 | 2.70 |
| NATURAL GAS..... | 2,252 | 33,635 | 14.9 | 2.357 | 2.311 | 1,046 | 70 | 52 | 6,362 | 2.8 | 2.70 |
| FUEL OIL/KEROSENE..... | 267 | 8,372 | 31.4 | .655 | .642 | 2,457 | 78 | 50 | 1,734 | 6.5 | 2.65 |
| LIQUID PETROLEUM GAS..... | 37 | 947 | 25.9 | .066 | .063 | 1,794 | 69 | 65 | 154 | 4.2 | 2.35 |
| WOOD..... | 32 | 301 | 9.3 | .008 | .008 | 250 | 27 | 39 | 22 | .7 | 2.74 |
| COAL..... | 19 | 475 | 0 | .012 | .012 | 0 | 25 | 21 | 30 | 0 | 2.56 |
| STEAM..... | 19 | 2,106 | 110.7 | .063 | .062 | 3,304 | 30 | 17 | 172 | 9.0 | 2.73 |
| OTHER..... | 7 | 402 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 677 | 7,390 | 10.9 | 0.459 | 0.449 | 677 | 62 | 44 | 1,292 | 1.9 | 2.82 |
| RADIANT..... | 62 | 546 | 8.8 | .027 | .027 | 439 | 50 | 39 | 83 | 1.3 | 3.07 |
| COMBINATION/OTHER..... | 155 | 1,579 | 10.2 | .127 | .125 | 821 | 81 | 63 | 371 | 2.4 | 2.91 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 605 | 8,031 | 13.3 | .529 | .519 | 875 | 66 | 46 | 1,436 | 2.4 | 2.71 |
| RADIANT..... | 368 | 6,963 | 18.9 | .598 | .587 | 1,626 | 86 | 77 | 1,589 | 4.3 | 2.66 |
| COMBINATION/OTHER..... | 137 | 5,152 | 37.6 | .313 | .308 | 2,289 | 61 | 42 | 835 | 6.1 | 2.66 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 85 | 1,353 | 15.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.18 |
| RADIANT..... | 20 | 397 | 20.2 | .008 | .008 | 394 | 20 | 14 | 24 | 1.2 | 3.11 |
| COMBINATION/OTHER..... | 88 | 1,882 | 21.4 | .130 | .128 | 1,478 | 69 | 57 | 345 | 3.9 | 2.65 |
| NONE..... | 56 | 341 | 6.1 | .029 | .029 | 530 | 86 | 107 | 90 | 1.6 | 3.04 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 116 | 2,004 | 17.3 | .118 | .116 | 1,017 | 59 | 77 | 308 | 2.6 | 2.60 |
| 26 TO 50..... | 203 | 1,988 | 9.8 | 0 | 0 | 0 | 0 | 0 | 442 | 2.2 | 2.49 |
| 51 TO 75..... | 203 | 2,603 | 12.8 | .171 | .168 | 843 | 66 | 53 | 454 | 2.2 | 2.65 |
| 76 TO 99..... | 148 | 3,117 | 21.0 | .200 | .196 | 1,350 | 64 | 34 | 525 | 3.5 | 2.62 |
| 100..... | 1,526 | 23,580 | 15.5 | 1.660 | 1.628 | 1,088 | 70 | 51 | 4,544 | 3.0 | 2.74 |
| NONE..... | 56 | 341 | 6.1 | .029 | .029 | 530 | 86 | 107 | 90 | 1.6 | 3.04 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 341 | 7,563 | 22.2 | .691 | .679 | 2,026 | 91 | 102 | 1,786 | 5.2 | 2.58 |
| 26 TO 50..... | 383 | 4,118 | 10.8 | .304 | .298 | 794 | 74 | 69 | 835 | 2.2 | 2.75 |
| 51 TO 75..... | 181 | 3,353 | 18.5 | .199 | .195 | 1,097 | 59 | 35 | 560 | 3.1 | 2.81 |
| 76 TO 99..... | 114 | 3,636 | 31.9 | .221 | .216 | 1,936 | 61 | 29 | 573 | 5.0 | 2.60 |
| 100..... | 573 | 8,804 | 15.4 | .536 | .526 | 936 | 61 | 33 | 1,495 | 2.6 | 2.79 |
| NONE..... | 660 | 6,161 | 9.3 | .406 | .397 | 615 | 66 | 94 | 1,113 | 1.7 | 2.74 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 458 | 4,716 | 10.3 | .396 | .389 | 865 | 84 | 103 | 1,099 | 2.4 | 2.77 |
| PACKAGE UNITS..... | 475 | 8,056 | 17.0 | .487 | .478 | 1,026 | 60 | 40 | 1,359 | 2.9 | 2.79 |
| CENTRAL SYSTEM..... | 469 | 8,988 | 19.2 | .619 | .607 | 1,320 | 69 | 40 | 1,645 | 3.5 | 2.66 |
| COMBINATION/OTHER..... | 191 | 5,713 | 29.9 | .449 | .441 | 2,351 | 79 | 49 | 1,147 | 6.0 | 2.55 |
| NO AIR CONDITIONING..... | 660 | 6,161 | 9.3 | .406 | .397 | 615 | 66 | 94 | 1,113 | 1.7 | 2.74 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,037 | 12,840 | 12.4 | 0.941 | 0.923 | 907 | 73 | 63 | 2,516 | 2.4 | 2.67 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 649 | 6,545 | 10.1 | .472 | .463 | 727 | 72 | 63 | 1,308 | 2.0 | 2.77 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 252 | 5,738 | 22.8 | .226 | .222 | 898 | 39 | 22 | 651 | 2.6 | 2.88 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 177 | 3,631 | 20.5 | .184 | .180 | 1,037 | 51 | 34 | 550 | 3.1 | 3.00 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 118 | 4,226 | 35.7 | .452 | .444 | 3,815 | 107 | 74 | 1,169 | 9.9 | 2.59 |
| NOT REPORTED..... | 19 | 655 | 35.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 1,527 | 9,916 | 6.5 | .618 | .605 | 404 | 62 | 116 | 1,725 | 1.1 | 2.79 |
| 10 TO 19..... | 314 | 3,899 | 12.4 | .270 | .265 | 862 | 69 | 67 | 774 | 2.5 | 2.86 |
| 20 TO 49..... | 255 | 6,266 | 24.6 | .628 | .616 | 2,466 | 100 | 81 | 1,690 | 6.6 | 2.69 |
| 50 TO 99..... | 88 | 4,126 | 46.7 | .269 | .264 | 3,047 | 65 | 48 | 688 | 7.8 | 2.56 |
| 100 OR MORE..... | 69 | 9,426 | 137.5 | .571 | .561 | 8,333 | 61 | 26 | 1,484 | 21.6 | 2.60 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 67 | 544 | 8.1 | .025 | .025 | 0 | 47 | 0 | 84 | 0 | 3.30 |
| 39 OR FEWER HOURS..... | 321 | 2,450 | 7.6 | .135 | .132 | 419 | 55 | 95 | 366 | 1.1 | 2.72 |
| 40 TO 48 HOURS..... | 563 | 7,120 | 12.7 | .419 | .411 | 744 | 59 | 44 | 1,131 | 2.0 | 2.70 |
| 49 TO 60 HOURS..... | 525 | 7,317 | 13.9 | .537 | .526 | 1,023 | 73 | 57 | 1,506 | 2.9 | 2.81 |
| 61 TO 84 HOURS..... | 368 | 6,817 | 18.5 | .380 | .373 | 1,033 | 56 | 38 | 1,034 | 2.8 | 2.72 |
| MORE THAN 84 HOURS..... | 408 | 9,386 | 23.0 | .861 | .844 | 2,110 | 92 | 59 | 2,241 | 5.5 | 2.60 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 906 | 15,690 | 17.3 | .919 | .901 | 1,015 | 59 | 43 | 2,575 | 2.8 | 2.80 |
| NO..... | 1,219 | 16,260 | 13.3 | 1.298 | 1.272 | 1,065 | 80 | 59 | 3,384 | 2.8 | 2.61 |
| DON'T KNOW/NOT REPORTED..... | 128 | 1,685 | 13.2 | .140 | .138 | 1,097 | 83 | 78 | 403 | 3.2 | 2.88 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 639 | 9,485 | 14.8 | 0.673 | 0.660 | 1,053 | 71 | 56 | 1,744 | 2.7 | 2.59 |
| NO..... | 1,442 | 21,938 | 15.2 | 1.567 | 1.537 | 1,087 | 71 | 51 | 4,281 | 3.0 | 2.73 |
| DON'T KNOW/NOT REPORTED..... | 171 | 2,212 | 12.9 | .117 | .115 | 684 | 53 | 47 | 337 | 2.0 | 2.88 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 403 | 6,413 | 15.9 | .367 | .360 | 911 | 57 | 45 | 1,032 | 2.6 | 2.81 |
| NO..... | 1,698 | 25,351 | 14.9 | 1.885 | 1.849 | 1,110 | 74 | 54 | 5,029 | 3.0 | 2.67 |
| DON'T KNOW/NOT REPORTED..... | 150 | 1,871 | 12.4 | .104 | .102 | 694 | 56 | 49 | 301 | 2.0 | 2.89 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 1,813 | 26,779 | 14.8 | 1.836 | 1.800 | 1,012 | 69 | 51 | 4,965 | 2.7 | 2.70 |
| NO..... | 366 | 6,086 | 16.6 | .460 | .452 | 1,259 | 76 | 57 | 1,230 | 3.4 | 2.67 |
| NOT REPORTED..... | 18 | 428 | 24.4 | .031 | .031 | 1,787 | 73 | 41 | 78 | 4.5 | 2.49 |
| NOT APPLICABLE..... | 56 | 341 | 6.1 | .029 | .029 | 530 | 86 | 107 | 90 | 1.6 | 3.04 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 969 | 18,802 | 19.4 | 1.219 | 1.196 | 1,258 | 65 | 40 | 3,280 | 3.4 | 2.69 |
| NO..... | 153 | 3,626 | 23.7 | .317 | .310 | 2,066 | 87 | 56 | 820 | 5.4 | 2.59 |
| NOT REPORTED..... | 12 | 330 | 2 | .019 | .019 | 2 | 58 | 43 | 50 | 2 | 2.62 |
| NOT APPLICABLE..... | 1,118 | 10,877 | 9.7 | .802 | .786 | 717 | 74 | 98 | 2,212 | 2.0 | 2.76 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 1,891 | 28,352 | 15.0 | 1.951 | 1.913 | 1,031 | 69 | 51 | 5,286 | 2.8 | 2.71 |
| NO..... | 296 | 4,594 | 15.5 | .358 | .351 | 1,208 | 78 | 60 | 941 | 3.2 | 2.63 |
| NOT REPORTED..... | 15 | 372 | 25.2 | .024 | .023 | 1,604 | 64 | 52 | 59 | 4.0 | 2.49 |
| NOT APPLICABLE..... | 50 | 316 | 6.3 | .024 | .024 | 489 | 77 | 2 | 2 | 1.5 | 3.13 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 6. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings That Heat With Natural Gas

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 1,922 | 25,886 | 13.5 | 2.125 | 2.084 | 1,106 | 82 | 62 | 5,683 | 3.0 | 2.67 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 1,922 | 25,886 | 13.5 | 2.125 | 2.084 | 1,106 | 82 | 62 | 5,683 | 3.0 | 2.67 |
| ELECTRICITY..... | 190 | 3,302 | 17.4 | .227 | .223 | 0 | 0 | 44 | 592 | 3.1 | 2.60 |
| FUEL OIL/KEROSENE..... | 89 | 2,798 | 31.3 | .391 | .383 | 4,371 | 140 | 90 | 1,022 | 11.4 | 2.62 |
| LIQUID PETROLEUM GAS..... | 21 | 209 | 0 | .013 | .012 | 0 | 62 | 36 | 35 | 0 | 2.72 |
| OTHER..... | 18 | 432 | 0 | .020 | .019 | 0 | 46 | 43 | 47 | 0 | 2.37 |
| AIR CONDITIONING FUEL USED.. | | | | | | | | | | | |
| ELECTRICITY..... | 1,371 | 21,178 | 15.5 | 1.776 | 1.743 | 1,296 | 84 | 57 | 4,736 | 3.5 | 2.67 |
| NATURAL GAS..... | 1,283 | 19,781 | 15.4 | 1.635 | 1.604 | 1,275 | 83 | 57 | 4,359 | 3.4 | 2.67 |
| OTHER..... | 119 | 2,511 | 21.0 | .265 | .260 | 2,221 | 106 | 66 | 648 | 5.4 | 2.44 |
| NO AIR CONDITIONING FUEL..... | 5 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 551 | 4,708 | 8.5 | .349 | .342 | 633 | 74 | 110 | 947 | 1.7 | 2.72 | |
| WATER-HEATING FUEL USED..... | | | | | | | | | | | |
| NATURAL GAS..... | 1,478 | 22,553 | 15.3 | 1.885 | 1.849 | 1,276 | 84 | 62 | 5,058 | 3.4 | 2.68 |
| ELECTRICITY..... | 1,080 | 17,873 | 16.5 | 1.554 | 1.524 | 1,438 | 87 | 64 | 4,175 | 3.9 | 2.69 |
| FUEL OIL/KEROSENE..... | 423 | 5,647 | 13.3 | .397 | .390 | 939 | 70 | 53 | 1,047 | 2.5 | 2.63 |
| OTHER..... | 17 | 1,095 | 62.8 | .111 | .109 | 6,368 | 101 | 54 | 321 | 18.4 | 2.89 |
| 9 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 444 | 3,332 | 7.5 | .240 | .235 | 541 | 72 | 65 | 625 | 1.4 | 2.60 | |
| MANUFACTURING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 164 | 3,046 | 18.5 | .452 | .444 | 2,751 | 149 | 131 | 1,188 | 7.2 | 2.63 |
| NATURAL GAS..... | 130 | 2,454 | 18.8 | .376 | .368 | 2,883 | 153 | 137 | 974 | 7.5 | 2.59 |
| OTHER..... | 40 | 938 | 23.7 | .322 | .316 | 8,120 | 343 | 263 | 827 | 20.9 | 2.57 |
| 17 | 425 | 25.7 | .209 | .205 | 0 | 492 | 411 | 556 | 0 | 2.66 | |
| 1,758 | 22,840 | 13.0 | 1.673 | 1.640 | 952 | 73 | 54 | 4,495 | 2.6 | 2.69 | |
| COOKING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 716 | 13,329 | 18.6 | 1.149 | 1.127 | 1,605 | 86 | 62 | 3,080 | 4.3 | 2.68 |
| NATURAL GAS..... | 329 | 7,028 | 21.3 | .547 | .536 | 1,660 | 78 | 56 | 1,414 | 4.3 | 2.59 |
| OTHER..... | 466 | 8,941 | 19.2 | .817 | .801 | 1,751 | 91 | 62 | 2,214 | 4.7 | 2.71 |
| 10 | 476 | 0 | .166 | .162 | 0 | 0 | 0 | 452 | 0 | 2.73 | |
| 1,206 | 12,557 | 10.4 | .976 | .957 | 809 | 78 | 62 | 2,603 | 2.2 | 2.67 | |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 315 | 4,489 | 14.2 | .463 | .454 | 1,466 | 103 | 77 | 1,383 | 4.4 | 2.99 |
| NORTH CENTRAL..... | 841 | 11,175 | 13.3 | .999 | .980 | 1,188 | 89 | 72 | 2,532 | 3.0 | 2.53 |
| SOUTH..... | 488 | 6,156 | 12.6 | .415 | .406 | 849 | 67 | 54 | 1,102 | 2.3 | 2.66 |
| WEST..... | 278 | 4,066 | 14.6 | .249 | .244 | 897 | 61 | 37 | 666 | 2.4 | 2.68 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 1,251 | 19,381 | 15.5 | 1.602 | 1.572 | 1,281 | 83 | 58 | 4,411 | 3.5 | 2.75 |
| NONSMSA..... | 671 | 6,505 | 9.7 | .523 | .512 | 779 | 80 | 79 | 1,272 | 1.9 | 2.43 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 222 | 3,288 | 14.8 | .270 | .265 | 1,219 | 82 | 74 | 682 | 3.1 | 2.53 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 744 | 10,456 | 14.1 | .893 | .876 | 1,200 | 85 | 71 | 2,358 | 3.2 | 2.64 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 498 | 5,617 | 11.3 | .534 | .524 | 1,074 | 95 | 73 | 1,504 | 3.0 | 2.81 |
| <2,000 CDD AND <4,000 HDD... | 318 | 4,240 | 13.3 | .257 | .252 | 808 | 61 | 37 | 729 | 2.3 | 2.83 |
| >2,000 CDD AND <4,000 HDD... | 141 | 2,285 | 16.2 | .171 | .167 | 1,212 | 75 | 48 | 410 | 2.9 | 2.40 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 243 | 3,088 | 12.7 | .198 | .194 | 816 | 64 | 117 | 509 | 2.1 | 2.57 |
| AUTOMOTIVE SALES & SERVICE.. | 189 | 1,053 | 5.6 | .104 | .102 | 552 | 99 | 77 | 315 | 1.7 | 3.01 |
| EDUCATION..... | 68 | 2,849 | 41.6 | .205 | .201 | 2,993 | 72 | 96 | 521 | 7.6 | 2.54 |
| FOOD SALES..... | 183 | 987 | 5.4 | .113 | .110 | 613 | 114 | 50 | 342 | 1.9 | 3.04 |
| HEALTH CARE..... | 25 | 1,202 | 48.6 | .176 | .173 | 7,119 | 147 | 66 | 451 | 18.2 | 2.56 |
| LODGING..... | 34 | 712 | 20.9 | .081 | .079 | 2,377 | 114 | 131 | 203 | 6.0 | 2.51 |
| OFFICE..... | 312 | 4,298 | 13.8 | .317 | .311 | 1,015 | 74 | 27 | 858 | 2.7 | 2.70 |
| RESIDENTIAL..... | 201 | 1,637 | 8.1 | .109 | .107 | 540 | 66 | 97 | 319 | 1.6 | 2.93 |
| RETAIL/SERVICES..... | 398 | 5,063 | 12.7 | .262 | .257 | 659 | 52 | 84 | 758 | 1.9 | 2.89 |
| WAREHOUSE AND STORAGE..... | 144 | 3,196 | 22.2 | .289 | .284 | 2,015 | 91 | 121 | 664 | 4.6 | 2.29 |
| OTHER..... | 93 | 1,509 | 16.2 | .251 | .246 | 2,700 | 166 | 106 | 683 | 7.3 | 2.72 |
| VACANT..... | 32 | 294 | 9.3 | .020 | .019 | 0 | 68 | 0 | 61 | 0 | 3.07 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 172 | 111 | .6 | .032 | .031 | 186 | 288 | 57 | 98 | .6 | 3.06 |
| 1,001 TO 5,000..... | 806 | 2,250 | 2.8 | .302 | .296 | 375 | 134 | 69 | 860 | 1.1 | 2.85 |
| 5,001 TO 10,000..... | 418 | 3,055 | 7.3 | .292 | .287 | 698 | 96 | 72 | 807 | 1.9 | 2.76 |
| 10,001 TO 25,000..... | 327 | 5,063 | 15.5 | .504 | .495 | 1,541 | 100 | 80 | 1,317 | 4.0 | 2.61 |
| 25,001 TO 50,000..... | 110 | 3,888 | 35.4 | .219 | .215 | 1,995 | 56 | 58 | 604 | 5.5 | 2.76 |
| OVER 50,000..... | 89 | 11,518 | 129.6 | .775 | .761 | 8,722 | 67 | 51 | 1,997 | 22.5 | 2.58 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 960 | 7,466 | 7.8 | .601 | .588 | 626 | 80 | 60 | 1,692 | 1.8 | 2.82 |
| TWO FLOORS..... | 519 | 7,055 | 13.6 | .515 | .505 | 992 | 73 | 67 | 1,350 | 2.6 | 2.62 |
| THREE FLOORS..... | 304 | 5,009 | 16.5 | .339 | .333 | 1,115 | 68 | 60 | 916 | 3.0 | 2.70 |
| MORE THAN THREE..... | 139 | 6,356 | 45.8 | .670 | .658 | 4,832 | 105 | 62 | 1,725 | 12.4 | 2.57 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE | 182 | 1,888 | 10.4 | 0.127 | 0.125 | 700 | 67 | 71 | 320 | 1.8 | 2.52 |
| 1901 TO 1920 | 257 | 2,961 | 11.5 | .192 | .188 | 747 | 65 | 63 | 510 | 2.0 | 2.66 |
| 1921 TO 1945 | 448 | 4,960 | 11.1 | .576 | .565 | 1,287 | 116 | 102 | 1,499 | 3.3 | 2.60 |
| 1946 TO 1960 | 452 | 5,518 | 12.2 | .372 | .364 | 823 | 67 | 55 | 1,062 | 2.3 | 2.86 |
| 1961 TO 1970 | 346 | 5,767 | 16.7 | .490 | .481 | 1,417 | 85 | 57 | 1,332 | 3.8 | 2.72 |
| 1971 TO 1973 | 84 | 2,023 | 24.2 | .196 | .192 | 2,341 | 97 | 52 | 491 | 5.9 | 2.51 |
| 1974 TO 1979 | 154 | 2,770 | 18.0 | .172 | .168 | 1,114 | 62 | 38 | 469 | 3.0 | 2.73 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS | 3 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS | 1,739 | 20,316 | 11.7 | 1.496 | 1.468 | 860 | 74 | 61 | 4,042 | 2.3 | 2.70 |
| ELEC., GAS, OTHER | 1,737 | 20,300 | 11.7 | 1.487 | 1.459 | 856 | 73 | 61 | 4,020 | 2.3 | 2.70 |
| OTHER | 2 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE | 167 | 5,110 | 30.6 | .576 | .564 | 3,454 | 113 | 64 | 1,524 | 9.1 | 2.64 |
| ELEC., GAS, OTHER | 115 | 4,219 | 36.8 | .533 | .523 | 4,653 | 126 | 69 | 1,410 | 12.3 | 2.65 |
| OTHER | 52 | 892 | 17.1 | .043 | .041 | 827 | 48 | 36 | 112 | 2.1 | 2.59 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| OTHER | 13 | 444 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.22 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY | 1,917 | 25,854 | 13.5 | 2.114 | 2.073 | 1,103 | 82 | 62 | 5,655 | 2.9 | 2.67 |
| NATURAL GAS | 1,922 | 25,886 | 13.5 | 2.125 | 2.084 | 1,106 | 82 | 62 | 5,683 | 3.0 | 2.67 |
| FUEL OIL/KEROSENE | 121 | 4,614 | 38.3 | .587 | .576 | 4,865 | 127 | 71 | 1,529 | 12.7 | 2.61 |
| LIQUID PETROLEUM GAS | 31 | 676 | 22.1 | .061 | .059 | 2,003 | 91 | 71 | 142 | 4.6 | 2.31 |
| OTHER | 37 | 678 | 18.4 | .038 | .037 | 0 | 56 | 38 | 94 | 0 | 2.48 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR | 631 | 6,422 | 10.2 | .417 | .409 | 661 | 65 | 47 | 1,172 | 1.9 | 2.81 |
| RADIANT | 38 | 313 | 8.3 | .023 | .023 | 614 | 74 | 64 | 68 | 1.8 | 2.92 |
| COMBINATION/OTHER | 145 | 1,428 | 9.9 | .118 | .116 | 816 | 83 | 74 | 344 | 2.4 | 2.92 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR | 552 | 6,784 | 12.3 | .486 | .477 | 881 | 72 | 52 | 1,317 | 2.4 | 2.71 |
| RADIANT | 270 | 4,465 | 16.5 | .534 | .524 | 1,980 | 120 | 104 | 1,406 | 5.2 | 2.63 |
| COMBINATION/OTHER | 109 | 3,328 | 30.5 | .286 | .281 | 2,621 | 86 | 61 | 749 | 6.9 | 2.62 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR | 81 | 1,261 | 15.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.14 |
| RADIANT | 15 | 235 | 15.6 | .006 | .006 | 397 | 25 | 0 | 19 | 1.3 | 3.25 |
| COMBINATION/OTHER | 81 | 1,649 | 20.2 | .127 | .124 | 1,554 | 77 | 64 | 335 | 4.1 | 2.65 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 106 | 1,699 | 16.0 | 0.092 | 0.090 | 865 | 54 | 73 | 235 | 2.2 | 2.57 |
| 26 TO 50..... | 194 | 1,798 | 9.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.47 |
| 51 TO 75..... | 178 | 1,861 | 10.5 | .153 | .150 | 858 | 82 | 72 | 400 | 2.2 | 2.62 |
| 76 TO 99..... | 122 | 2,203 | 18.0 | .189 | .185 | 1,544 | 86 | 46 | 490 | 4.0 | 2.59 |
| 100..... | 1,321 | 18,324 | 13.9 | 1.523 | 1.494 | 1,153 | 83 | 60 | 4,142 | 3.1 | 2.72 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 286 | 6,124 | 21.4 | .657 | .645 | 2,299 | 107 | 119 | 1,688 | 5.9 | 2.57 |
| 26 TO 50..... | 347 | 3,442 | 9.9 | .268 | .263 | 773 | 78 | 78 | 730 | 2.1 | 2.72 |
| 51 TO 75..... | 151 | 2,310 | 15.3 | .182 | .179 | 1,212 | 79 | 48 | 513 | 3.4 | 2.81 |
| 76 TO 99..... | 98 | 2,600 | 26.5 | .199 | .196 | 2,036 | 77 | 37 | 509 | 5.2 | 2.55 |
| 100..... | 490 | 6,701 | 13.7 | .469 | .460 | 958 | 70 | 37 | 1,296 | 2.6 | 2.76 |
| NONE..... | 551 | 4,708 | 8.5 | .349 | .342 | 633 | 74 | 110 | 947 | 1.7 | 2.72 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 378 | 3,492 | 9.2 | .371 | .364 | 983 | 106 | 131 | 1,025 | 2.7 | 2.76 |
| PACKAGE UNITS..... | 414 | 6,395 | 15.4 | .441 | .432 | 1,063 | 69 | 46 | 1,218 | 2.9 | 2.77 |
| CENTRAL SYSTEM..... | 418 | 7,301 | 17.4 | .571 | .561 | 1,365 | 78 | 46 | 1,509 | 3.6 | 2.64 |
| COMBINATION/OTHER..... | 160 | 3,989 | 24.9 | .393 | .386 | 2,456 | 99 | 62 | 984 | 6.1 | 2.50 |
| NO AIR CONDITIONING..... | 551 | 4,708 | 8.5 | .349 | .342 | 633 | 74 | 110 | 947 | 1.7 | 2.72 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 895 | 10,056 | 11.2 | .819 | .803 | 915 | 81 | 71 | 2,171 | 2.4 | 2.65 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 550 | 5,106 | 9.3 | .435 | .426 | 791 | 85 | 73 | 1,194 | 2.2 | 2.75 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 216 | 4,493 | 20.8 | .211 | .207 | 973 | 47 | 26 | 600 | 2.8 | 2.85 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 148 | 2,780 | 18.8 | .153 | .150 | 1,037 | 55 | 39 | 461 | 3.1 | 3.01 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 101 | 3,211 | 31.8 | .431 | .423 | 4,271 | 134 | 98 | 1,105 | 11.0 | 2.57 |
| NOT REPORTED..... | 12 | 239 | 20.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING SAND (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|--|---|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 1,325 | 8,082 | 6.1 | 0.552 | 0.541 | 417 | 68 | 117 | 1,527 | 1.2 | 2.77 |
| 10 TO 19..... | 275 | 3,364 | 12.2 | .255 | .250 | 928 | 76 | 72 | 726 | 2.6 | 2.84 |
| 20 TO 49..... | 206 | 4,968 | 24.1 | .566 | .555 | 2,746 | 114 | 90 | 1,510 | 7.3 | 2.67 |
| 50 TO 99..... | 69 | 3,040 | 44.1 | .244 | .239 | 3,539 | 80 | 56 | 617 | 9.0 | 2.53 |
| 100 OR MORE..... | 47 | 6,432 | 135.7 | .508 | .499 | 10,727 | 79 | 33 | 1,303 | 27.5 | 2.56 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 37 | 255 | 6.9 | .021 | .020 | 0 | 81 | 0 | 64 | 0 | 3.10 |
| 39 OR FEWER HOURS..... | 284 | 2,082 | 7.3 | .129 | .126 | 453 | 62 | 107 | 346 | 1.2 | 2.69 |
| 40 TO 48 HOURS..... | 505 | 5,773 | 11.4 | .391 | .383 | 774 | 68 | 56 | 1,062 | 2.1 | 2.72 |
| 49 TO 60 HOURS..... | 452 | 5,695 | 12.6 | .474 | .465 | 1,050 | 83 | 65 | 1,318 | 2.9 | 2.78 |
| 61 TO 84 HOURS..... | 323 | 5,383 | 16.6 | .349 | .343 | 1,080 | 65 | 43 | 941 | 2.9 | 2.69 |
| MORE THAN 84 HOURS..... | 321 | 6,697 | 20.9 | .761 | .746 | 2,373 | 114 | 73 | 1,953 | 6.1 | 2.56 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 787 | 12,297 | 15.6 | .827 | .811 | 1,051 | 67 | 52 | 2,297 | 2.9 | 2.78 |
| NO..... | 1,035 | 12,167 | 11.8 | 1.177 | 1.154 | 1,138 | 97 | 70 | 3,040 | 2.9 | 2.58 |
| DON'T KNOW/NOT REPORTED..... | 100 | 1,421 | 14.2 | .121 | .118 | 1,202 | 85 | 82 | 346 | 3.4 | 2.87 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 550 | 7,366 | 13.4 | .626 | .614 | 1,139 | 85 | 68 | 1,597 | 2.9 | 2.55 |
| NO..... | 1,226 | 16,791 | 13.7 | 1.399 | 1.372 | 1,141 | 83 | 61 | 3,797 | 3.1 | 2.71 |
| DON'T KNOW/NOT REPORTED..... | 146 | 1,729 | 11.8 | .100 | .098 | 685 | 58 | 52 | 289 | 2.0 | 2.89 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 349 | 5,015 | 14.4 | .341 | .335 | 979 | 68 | 54 | 948 | 2.7 | 2.78 |
| NO..... | 1,449 | 19,341 | 13.3 | 1.696 | 1.664 | 1,170 | 88 | 65 | 4,482 | 3.1 | 2.64 |
| DON'T KNOW/NOT REPORTED..... | 124 | 1,529 | 12.3 | .087 | .086 | 705 | 57 | 53 | 253 | 2.0 | 2.90 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 1,615 | 20,883 | 12.9 | 1.685 | 1.652 | 1,043 | 81 | 61 | 4,529 | 2.8 | 2.69 |
| NO..... | 294 | 4,680 | 15.9 | .410 | .402 | 1,393 | 88 | 69 | 1,079 | 3.7 | 2.63 |
| NOT REPORTED..... | 13 | 323 | 25.5 | .030 | .030 | 2,404 | 94 | 67 | 75 | 5.9 | 2.47 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 854 | 14,559 | 17.0 | 1.107 | 1.086 | 1.296 | 76 | 47 | 2,950 | 3.5 | 2.67 |
| NO..... | 129 | 2,935 | 22.8 | .281 | .276 | 2.183 | 96 | 64 | 718 | 5.6 | 2.56 |
| NOT REPORTED..... | 10 | 192 | 0 | .017 | .017 | 0 | 89 | 48 | 43 | 0 | 2.53 |
| NOT APPLICABLE..... | 929 | 8,200 | 8.8 | .720 | .706 | 775 | 88 | 120 | 1,972 | 2.1 | 2.74 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 1,673 | 21,961 | 13.1 | 1.789 | 1.754 | 1.069 | 81 | 61 | 4,818 | 2.9 | 2.69 |
| NO..... | 237 | 3,653 | 15.4 | .314 | .308 | 1.324 | 86 | 70 | 811 | 3.4 | 2.59 |
| NOT REPORTED..... | 12 | 271 | 22.3 | .023 | .022 | 1.864 | 83 | 61 | 55 | 4.5 | 2.42 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 7. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Use Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 3,867 | 47,267 | 12.2 | 2.092 | 613 | 541 | 44 | 33 | 26,114 | 6.8 | 12.48 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 3,554 | 45,393 | 12.8 | 2.030 | 595 | 571 | 45 | 32 | 25,336 | 7.1 | 12.48 |
| NATURAL GAS..... | 1,917 | 25,854 | 13.5 | 1.038 | 304 | 542 | 40 | 30 | 12,373 | 6.5 | 11.92 |
| ELECTRICITY..... | 985 | 11,313 | 11.5 | .656 | 192 | 665 | 58 | 36 | 7,989 | 8.1 | 12.18 |
| FUEL OIL/KEROSENE..... | 756 | 10,692 | 14.1 | .407 | 119 | 539 | 38 | 30 | 6,014 | 8.0 | 14.76 |
| LIQUID PETROLEUM GAS..... | 208 | 1,073 | 5.1 | .054 | 16 | 257 | 50 | 30 | 608 | 2.9 | 11.33 |
| WOOD..... | 94 | 604 | 6.4 | 0 | 0 | 0 | 33 | 40 | 250 | 0 | 12.51 |
| STEAM..... | 45 | 3,675 | 82.3 | .259 | 76 | 5,798 | 70 | 36 | 2,882 | 64.5 | 11.13 |
| COAL..... | 42 | 728 | 17.3 | .011 | 3 | 0 | 0 | 14 | 126 | 0 | 11.94 |
| OTHER..... | 8 | 357 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 313 | 1,875 | 6.0 | .062 | 18 | 198 | 33 | 62 | 778 | 2.5 | 12.55 |
| AIR CONDITIONING FUEL USED.. | 2,541 | 37,442 | 14.7 | 1.851 | 542 | 728 | 49 | 33 | 23,052 | 9.1 | 12.46 |
| ELECTRICITY..... | 2,415 | 35,172 | 14.6 | 1.716 | 503 | 711 | 49 | 33 | 21,272 | 8.8 | 12.40 |
| NATURAL GAS..... | 145 | 2,728 | 18.8 | .161 | 47 | 1,107 | 59 | 36 | 1,853 | 12.8 | 11.54 |
| OTHER..... | 26 | 1,344 | 51.9 | .106 | 31 | 4,100 | 79 | 27 | 1,396 | 53.9 | 13.14 |
| NO AIR CONDITIONING FUEL.... | 1,325 | 9,825 | 7.4 | .242 | 71 | 182 | 25 | 34 | 3,062 | 2.3 | 12.68 |
| WATER-HEATING FUEL USED..... | 2,661 | 39,488 | 14.8 | 1.779 | 521 | 668 | 45 | 32 | 22,175 | 8.3 | 12.47 |
| NATURAL GAS..... | 1,252 | 20,781 | 16.6 | .833 | 244 | 665 | 40 | 30 | 10,161 | 8.1 | 12.20 |
| ELECTRICITY..... | 1,223 | 14,600 | 11.9 | .721 | 211 | 589 | 49 | 36 | 8,581 | 7.0 | 11.90 |
| FUEL OIL/KEROSENE..... | 168 | 4,532 | 27.0 | .204 | 60 | 1,214 | 45 | 32 | 3,451 | 20.6 | 16.95 |
| OTHER..... | 109 | 3,117 | 28.6 | .186 | 55 | 1,704 | 60 | 31 | 2,082 | 19.1 | 11.19 |
| NO WATER-HEATING FUEL..... | 1,205 | 7,779 | 6.5 | .313 | 92 | 260 | 40 | 36 | 3,938 | 3.3 | 12.57 |
| MANUFACTURING FUEL USED..... | 318 | 5,431 | 17.1 | .223 | 65 | 701 | 41 | 36 | 2,637 | 8.3 | 11.84 |
| ELECTRICITY..... | 267 | 4,580 | 17.1 | .186 | 55 | 696 | 41 | 37 | 2,204 | 8.2 | 11.85 |
| NATURAL GAS..... | 49 | 1,224 | 24.9 | .088 | 26 | 1,792 | 72 | 48 | 976 | 19.8 | 11.07 |
| OTHER..... | 39 | 987 | 25.1 | .055 | 16 | 1,392 | 55 | 37 | 593 | 15.1 | 10.85 |
| NO MANUFACTURING DONE..... | 3,549 | 41,836 | 11.8 | 1.870 | 548 | 527 | 45 | 33 | 23,477 | 6.6 | 12.56 |
| COOKING FUEL USED..... | 1,322 | 23,907 | 18.1 | 1.025 | 300 | 775 | 43 | 31 | 12,367 | 9.4 | 12.07 |
| ELECTRICITY..... | 741 | 13,253 | 17.9 | .678 | 199 | 915 | 51 | 35 | 7,682 | 10.4 | 11.33 |
| NATURAL GAS..... | 609 | 13,665 | 22.5 | .543 | 159 | 891 | 40 | 28 | 6,791 | 11.2 | 12.52 |
| LIQUID PETROLEUM GAS..... | 108 | 1,183 | 11.0 | .036 | 10 | 330 | 30 | 26 | 477 | 4.4 | 13.40 |
| OTHER..... | 20 | 885 | 0 | .050 | 15 | 0 | 57 | 21 | 737 | 0 | 14.72 |
| NO COOKING FUEL..... | 2,544 | 23,360 | 9.2 | 1.068 | 313 | 420 | 46 | 35 | 13,746 | 5.4 | 12.88 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 678 | 11,208 | 16.5 | 0.461 | 135 | 679 | 41 | 33 | 7,106 | 10.5 | 15.43 |
| NORTH CENTRAL..... | 1,222 | 15,250 | 12.5 | .660 | 193 | 540 | 43 | 34 | 7,820 | 6.4 | 11.85 |
| SOUTH..... | 1,408 | 14,026 | 10.0 | .717 | 210 | 509 | 51 | 37 | 8,438 | 6.0 | 11.77 |
| WEST..... | 558 | 6,783 | 12.2 | .255 | 75 | 457 | 38 | 24 | 2,749 | 4.9 | 10.78 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 2,216 | 33,837 | 15.3 | 1.585 | 464 | 715 | 47 | 32 | 20,082 | 9.1 | 12.67 |
| NONSMSA..... | 1,651 | 13,430 | 8.1 | .508 | 149 | 308 | 38 | 34 | 6,032 | 3.7 | 11.88 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 437 | 5,486 | 12.6 | .190 | 56 | 434 | 35 | 32 | 2,174 | 5.0 | 11.46 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 1,139 | 16,050 | 14.1 | .715 | 209 | 627 | 45 | 35 | 8,348 | 7.3 | 11.68 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 1,041 | 12,729 | 12.2 | .483 | 142 | 464 | 38 | 28 | 7,384 | 7.1 | 15.28 |
| <2,000 CDD AND <4,000 HDD... | 627 | 6,929 | 11.1 | .357 | 105 | 570 | 52 | 33 | 3,871 | 6.2 | 10.84 |
| >2,000 CDD AND <4,000 HDD... | 623 | 6,073 | 9.7 | .348 | 102 | 558 | 57 | 37 | 4,337 | 7.0 | 12.48 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 443 | 5,020 | 11.3 | .122 | 36 | 275 | 24 | 37 | 1,621 | 3.7 | 13.33 |
| AUTOMOTIVE SALES & SERVICE.. | 395 | 1,793 | 4.5 | .063 | 18 | 158 | 35 | 26 | 896 | 2.3 | 14.31 |
| EDUCATION..... | 161 | 5,847 | 36.2 | .162 | 48 | 1,004 | 28 | 35 | 1,925 | 11.9 | 11.88 |
| FOOD SALES..... | 365 | 1,860 | 5.1 | .185 | 54 | 507 | 100 | 45 | 2,295 | 6.3 | 12.40 |
| HEALTH CARE..... | 44 | 1,685 | 38.5 | .116 | 34 | 2,660 | 69 | 29 | 1,219 | 27.9 | 10.47 |
| LODGING..... | 101 | 2,012 | 19.9 | .116 | 34 | 1,146 | 57 | 64 | 1,334 | 13.2 | 11.54 |
| OFFICE..... | 599 | 8,176 | 13.6 | .486 | 143 | 811 | 59 | 21 | 6,569 | 11.0 | 13.51 |
| RESIDENTIAL..... | 345 | 3,113 | 9.0 | .060 | 18 | 173 | 19 | 29 | 912 | 2.6 | 15.25 |
| RETAIL/SERVICES..... | 712 | 7,642 | 10.7 | .292 | 85 | 409 | 38 | 31 | 3,720 | 5.2 | 12.76 |
| WAREHOUSE AND STORAGE..... | 366 | 5,987 | 16.4 | .262 | 77 | 718 | 44 | 62 | 3,030 | 8.3 | 11.55 |
| OTHER..... | 230 | 3,112 | 13.6 | .195 | 57 | 850 | 63 | 42 | 2,159 | 9.4 | 11.07 |
| VACANT..... | 105 | 1,019 | 9.7 | .034 | 10 | 320 | 33 | 0 | 434 | 4.1 | 12.89 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 598 | 341 | .6 | .062 | 18 | 104 | 182 | 43 | 874 | 1.5 | 14.08 |
| 1,001 TO 5,000..... | 1,617 | 4,395 | 2.7 | .268 | 78 | 165 | 61 | 30 | 3,765 | 2.3 | 14.07 |
| 5,001 TO 10,000..... | 733 | 5,270 | 7.2 | .182 | 53 | 248 | 35 | 25 | 2,496 | 3.4 | 13.71 |
| 10,001 TO 25,000..... | 549 | 8,626 | 15.7 | .307 | 90 | 560 | 36 | 28 | 3,964 | 7.2 | 12.91 |
| 25,001 TO 50,000..... | 204 | 7,201 | 35.2 | .329 | 96 | 1,608 | 46 | 46 | 4,475 | 21.9 | 13.62 |
| OVER 50,000..... | 165 | 21,435 | 129.8 | .945 | 277 | 5,721 | 44 | 34 | 10,539 | 63.8 | 11.15 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|--|------------------------------------|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 2,213 | 13,850 | 6.3 | 0.685 | 201 | 310 | 49 | 36 | 8,713 | 3.9 | 12.72 |
| TWO FLOORS..... | 900 | 11,601 | 12.9 | .470 | 138 | 522 | 41 | 35 | 5,663 | 6.3 | 12.05 |
| THREE FLOORS..... | 478 | 8,128 | 17.0 | .262 | 77 | 547 | 32 | 29 | 3,258 | 6.8 | 12.45 |
| MORE THAN THREE..... | 276 | 13,688 | 49.6 | .676 | 198 | 2,450 | 49 | 30 | 8,479 | 30.7 | 12.55 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 316 | 3,444 | 10.9 | .123 | 36 | 390 | 36 | 38 | 0 | 0 | 17.13 |
| 1901 TO 1920..... | 398 | 5,379 | 13.5 | .145 | 42 | 364 | 27 | 28 | 1,989 | 5.0 | 13.72 |
| 1921 TO 1945..... | 750 | 8,945 | 11.9 | .307 | 90 | 409 | 34 | 30 | 3,744 | 5.0 | 12.19 |
| 1946 TO 1960..... | 975 | 9,593 | 9.8 | .381 | 112 | 390 | 40 | 30 | 4,901 | 5.0 | 12.88 |
| 1961 TO 1970..... | 720 | 9,996 | 13.9 | .534 | 157 | 742 | 53 | 35 | 6,217 | 8.6 | 11.64 |
| 1971 TO 1973..... | 201 | 3,647 | 18.1 | .232 | 68 | 1,152 | 63 | 35 | 2,621 | 13.0 | 11.32 |
| 1974 TO 1979..... | 506 | 6,262 | 12.4 | .371 | 109 | 733 | 59 | 35 | 4,532 | 9.0 | 12.22 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 788 | 5,809 | 7.4 | .327 | 96 | 415 | 56 | 43 | 4,066 | 5.2 | 12.42 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 2,591 | 27,881 | 10.8 | 1.189 | 348 | 459 | 43 | 33 | 14,263 | 5.5 | 12.00 |
| ELEC., FUEL OIL/KEROSENE..... | 1,889 | 22,104 | 11.7 | .872 | 255 | 461 | 39 | 32 | 10,667 | 5.6 | 12.24 |
| ELEC., LPG..... | 441 | 3,433 | 7.8 | .117 | 34 | 266 | 34 | 29 | 1,617 | 3.7 | 13.78 |
| ELEC., GAS..... | 178 | 771 | 4.3 | .046 | 14 | 261 | 60 | 36 | 532 | 3.0 | 11.50 |
| OTHER..... | 83 | 1,573 | 18.9 | .154 | 45 | 1,845 | 98 | 52 | 1,447 | 17.4 | 9.43 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 250 | 7,497 | 30.0 | .340 | 100 | 1,361 | 45 | 29 | 4,835 | 19.3 | 14.20 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 75 | 1,031 | 13.7 | .032 | 9 | 420 | 31 | 33 | 423 | 5.6 | 13.39 |
| ELEC., GAS, OTHER..... | 80 | 2,967 | 37.2 | .089 | 26 | 1,117 | 30 | 23 | 1,240 | 15.6 | 13.96 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 20 | 245 | 12.3 | 0 | 0 | 0 | 43 | 38 | 146 | 0 | 13.66 |
| OTHER..... | 23 | 561 | 24.2 | .023 | 7 | 0 | 42 | 22 | 259 | 0 | 11.07 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| OTHER..... | 39 | 1,276 | 32.9 | .081 | 24 | 2,099 | 64 | 34 | 879 | 22.7 | 10.82 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 3,867 | 47,267 | 12.2 | 2.092 | 613 | 541 | 44 | 33 | 26,114 | 6.8 | 12.48 |
| NATURAL GAS..... | 2,244 | 33,597 | 15.0 | 1.368 | 401 | 610 | 41 | 30 | 17,466 | 7.8 | 12.76 |
| FUEL OIL/KEROSENE..... | 809 | 13,277 | 16.4 | .562 | 165 | 695 | 42 | 30 | 7,651 | 9.5 | 13.61 |
| LIQUID PETROLEUM GAS..... | 313 | 3,100 | 9.9 | .140 | 41 | 447 | 45 | 38 | 1,580 | 5.1 | 11.30 |
| WOOD..... | 115 | 746 | 6.5 | .022 | 7 | 0 | 30 | 32 | 290 | 0 | 12.90 |
| COAL..... | 53 | 802 | 15.1 | .012 | 3 | 0 | 0 | 14 | 139 | 0 | 11.92 |
| STEAM..... | 49 | 3,831 | 78.9 | .265 | 78 | 5,453 | 69 | 35 | 2,944 | 60.7 | 11.13 |
| OTHER..... | 20 | 970 | 48.7 | .056 | 16 | 2,803 | 58 | 26 | 659 | 33.1 | 11.80 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 1,113 | 10,385 | 9.3 | 0.500 | 147 | 449 | 48 | 32 | 6,278 | 5.6 | 12.55 |
| RADIANT..... | 160 | 1,078 | 6.7 | .040 | 12 | 248 | 37 | 35 | 494 | 3.1 | 12.45 |
| COMBINATION/OTHER..... | 341 | 2,541 | 7.4 | .100 | 29 | 292 | 39 | 32 | 1,275 | 3.7 | 12.79 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 934 | 11,129 | 11.9 | .544 | 159 | 583 | 49 | 33 | 6,193 | 6.6 | 11.38 |
| RADIANT..... | 504 | 9,154 | 18.2 | .279 | 82 | 554 | 30 | 26 | 3,793 | 7.5 | 13.60 |
| COMBINATION/OTHER..... | 205 | 6,457 | 31.5 | .297 | 87 | 1,449 | 46 | 31 | 3,551 | 17.3 | 11.97 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 133 | 1,691 | 12.7 | .134 | 39 | 1,006 | 79 | 46 | 1,535 | 11.5 | 11.47 |
| RADIANT..... | 31 | 488 | 16.0 | .2 | 2 | 2 | 2 | 2 | 2 | 2 | 24.89 |
| COMBINATION/OTHER..... | 135 | 2,476 | 18.3 | .097 | 29 | 721 | 39 | 32 | 1,218 | 9.0 | 12.52 |
| NONE..... | 311 | 1,867 | 6.0 | .061 | 18 | 197 | 33 | 62 | 771 | 2.5 | 12.58 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 225 | 3,366 | 15.0 | .099 | 29 | 441 | 29 | 40 | 1,204 | 5.4 | 12.17 |
| 26 TO 50..... | 333 | 2,667 | 8.0 | .092 | 27 | 277 | 35 | 37 | 1,196 | 3.6 | 12.98 |
| 51 TO 75..... | 300 | 3,398 | 11.3 | .122 | 36 | 407 | 36 | 28 | 1,552 | 5.2 | 12.71 |
| 76 TO 99..... | 225 | 4,226 | 18.8 | .220 | 65 | 978 | 52 | 28 | 2,879 | 12.8 | 13.06 |
| 100..... | 2,472 | 31,744 | 12.8 | 1.497 | 439 | 606 | 47 | 33 | 18,508 | 7.5 | 12.36 |
| NONE..... | 311 | 1,867 | 6.0 | .061 | 18 | 197 | 33 | 62 | 771 | 2.5 | 12.58 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 510 | 10,502 | 20.6 | .335 | 98 | 658 | 32 | 37 | 4,226 | 8.3 | 12.60 |
| 26 TO 50..... | 524 | 5,195 | 9.9 | .168 | 49 | 320 | 32 | 28 | 2,183 | 4.2 | 13.01 |
| 51 TO 75..... | 272 | 4,168 | 15.3 | .232 | 68 | 853 | 56 | 32 | 3,455 | 12.7 | 14.89 |
| 76 TO 99..... | 182 | 4,852 | 26.6 | .289 | 85 | 1,587 | 60 | 28 | 3,585 | 19.7 | 12.41 |
| 100..... | 1,054 | 12,728 | 12.1 | .827 | 242 | 785 | 65 | 34 | 9,603 | 9.1 | 11.62 |
| NONE..... | 1,325 | 9,822 | 7.4 | .241 | 71 | 182 | 25 | 34 | 3,061 | 2.3 | 12.68 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 812 | 7,005 | 8.6 | .174 | 51 | 214 | 25 | 29 | 2,525 | 3.1 | 14.55 |
| PACKAGE UNITS..... | 744 | 11,410 | 15.3 | .530 | 155 | 713 | 46 | 31 | 6,620 | 8.9 | 12.48 |
| CENTRAL SYSTEM..... | 708 | 11,845 | 16.7 | .679 | 199 | 960 | 57 | 31 | 7,956 | 11.2 | 11.71 |
| COMBINATION/OTHER..... | 278 | 7,185 | 25.9 | .468 | 137 | 1,683 | 65 | 40 | 5,952 | 21.4 | 12.73 |
| NO AIR CONDITIONING..... | 1,325 | 9,822 | 7.4 | .241 | 71 | 182 | 25 | 34 | 3,061 | 2.3 | 12.68 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,849 | 18,534 | 10.0 | 0.843 | 247 | 456 | 46 | 40 | 10,022 | 5.4 | 11.88 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 1,087 | 9,206 | 8.5 | .344 | 101 | 316 | 37 | 32 | 4,692 | 4.3 | 13.64 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 382 | 7,198 | 18.9 | .326 | 96 | 855 | 45 | 24 | 4,549 | 11.9 | 13.94 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 257 | 4,875 | 19.0 | .222 | 65 | 864 | 46 | 29 | 2,834 | 11.0 | 12.77 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 243 | 6,587 | 27.1 | .297 | 87 | 1,223 | 45 | 30 | 3,393 | 13.9 | 11.40 |
| NOT REPORTED..... | 48 | 866 | 17.9 | .059 | 17 | 2 | 2 | 2 | 625 | 2 | 10.56 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 2,803 | 15,549 | 5.5 | .454 | 133 | 162 | 29 | 51 | 6,242 | 2.2 | 13.74 |
| 10 TO 19..... | 477 | 5,499 | 11.5 | .190 | 56 | 399 | 35 | 31 | 2,663 | 5.6 | 14.00 |
| 20 TO 49..... | 374 | 8,806 | 23.5 | .417 | 122 | 1,115 | 47 | 37 | 5,096 | 13.6 | 12.22 |
| 50 TO 99..... | 120 | 5,369 | 44.7 | .278 | 81 | 2,312 | 52 | 36 | 3,071 | 25.6 | 11.06 |
| 100 OR MORE..... | 92 | 12,045 | 131.2 | .753 | 221 | 8,203 | 62 | 25 | 9,042 | 98.5 | 12.01 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 182 | 1,101 | 6.1 | .036 | 11 | 197 | 33 | 123 | 447 | 2.5 | 12.48 |
| 39 OR FEWER HOURS..... | 565 | 3,345 | 5.9 | .093 | 27 | 165 | 28 | 36 | 1,194 | 2.1 | 12.80 |
| 40 TO 48 HOURS..... | 946 | 10,757 | 11.4 | .404 | 118 | 427 | 38 | 29 | 5,571 | 5.9 | 13.79 |
| 49 TO 60 HOURS..... | 890 | 10,837 | 12.2 | .363 | 106 | 408 | 33 | 24 | 4,827 | 5.4 | 13.31 |
| 61 TO 84 HOURS..... | 595 | 9,030 | 15.2 | .445 | 130 | 748 | 49 | 35 | 5,188 | 8.7 | 11.65 |
| MORE THAN 84 HOURS..... | 689 | 12,196 | 17.7 | .751 | 220 | 1,091 | 62 | 40 | 8,887 | 12.9 | 11.83 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLI-DOLLARS) | AVERAGE EXPEND. PER BUILDING SAND (DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|-------------------------------|---|---|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 1,425 | 20,376 | 14.3 | 0.864 | 253 | 607 | 42 | 30 | 11,238 | 7.9 | 13.01 |
| NO..... | 2,248 | 24,583 | 10.9 | 1.109 | 325 | 493 | 45 | 34 | 13,367 | 5.9 | 12.05 |
| DON'T KNOW/NOT REPORTED..... | 194 | 2,309 | 11.9 | .119 | 35 | 614 | 52 | 48 | 1,509 | 7.8 | 12.64 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 1,077 | 12,648 | 11.7 | .521 | 153 | 484 | 41 | 31 | 6,455 | 6.0 | 12.38 |
| NO..... | 2,538 | 31,739 | 12.5 | 1.461 | 428 | 575 | 46 | 33 | 18,273 | 7.2 | 12.51 |
| DON'T KNOW/NOT REPORTED..... | 252 | 2,880 | 11.4 | .110 | 32 | 438 | 38 | 34 | 1,385 | 5.5 | 12.57 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 683 | 8,460 | 12.4 | .354 | 104 | 518 | 42 | 31 | 4,416 | 6.5 | 12.48 |
| NO..... | 2,968 | 36,302 | 12.2 | 1.634 | 479 | 551 | 45 | 33 | 20,381 | 6.9 | 12.47 |
| DON'T KNOW/NOT REPORTED..... | 216 | 2,505 | 11.6 | .104 | 30 | 482 | 42 | 37 | 1,316 | 6.1 | 12.66 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 2,949 | 36,609 | 12.4 | 1.570 | 460 | 532 | 43 | 31 | 19,955 | 6.8 | 12.71 |
| NO..... | 563 | 8,047 | 14.3 | .384 | 112 | 682 | 48 | 35 | 4,540 | 8.1 | 11.83 |
| NOT REPORTED..... | 44 | 745 | 17.1 | .077 | 23 | 1,770 | 104 | 64 | 848 | 19.4 | 10.97 |
| NOT APPLICABLE..... | 311 | 1,867 | 6.0 | .061 | 18 | 197 | 33 | 62 | 771 | 2.5 | 12.58 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 1,480 | 25,054 | 16.9 | 1.301 | 381 | 879 | 52 | 31 | 15,777 | 10.7 | 12.13 |
| NO..... | 225 | 4,881 | 21.6 | .322 | 94 | 1,429 | 66 | 42 | 4,145 | 18.4 | 12.87 |
| NOT REPORTED..... | 23 | 504 | 21.7 | .054 | 16 | 2,345 | 108 | 68 | 606 | 26.1 | 11.13 |
| NOT APPLICABLE..... | 2,137 | 16,827 | 7.9 | .415 | 122 | 194 | 25 | 32 | 5,586 | 2.6 | 13.46 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 3,069 | 38,613 | 12.6 | 1.674 | 491 | 545 | 43 | 31 | 21,206 | 6.9 | 12.67 |
| NO..... | 469 | 6,353 | 13.5 | .321 | 94 | 684 | 50 | 39 | 3,726 | 7.9 | 11.63 |
| NOT REPORTED..... | 39 | 652 | 16.5 | .064 | 19 | 1,614 | 98 | 73 | 712 | 18.0 | 11.17 |
| NOT APPLICABLE..... | 289 | 1,649 | 5.7 | .034 | 10 | 118 | 21 | 43 | 470 | 1.6 | 13.73 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 8. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Heat With Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 985 | 11,313 | 11.5 | 0.656 | 192 | 665 | 58 | 36 | 7,989 | 8.1 | 12.18 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 190 | 3,302 | 17.4 | .179 | 53 | 945 | 54 | 34 | 2,087 | 11.0 | 11.63 |
| ELECTRICITY..... | 985 | 11,313 | 11.5 | .656 | 192 | 665 | 58 | 36 | 7,989 | 8.1 | 12.18 |
| FUEL OIL/KEROSENE..... | 83 | 1,352 | 16.3 | .069 | 20 | 839 | 51 | 31 | 930 | 11.2 | 13.41 |
| LIQUID PETROLEUM GAS..... | 50 | 392 | 7.8 | .013 | 4 | 251 | 32 | 21 | 171 | 3.4 | 13.54 |
| WOOD..... | 25 | 229 | 9 | 9 | 9 | 9 | 40 | 43 | 9 | 9 | 10.86 |
| OTHER..... | 7 | 380 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| AIR CONDITIONING FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 762 | 9,544 | 12.5 | .587 | 172 | 770 | 62 | 36 | 7,121 | 9.3 | 12.13 |
| OTHER..... | 43 | 868 | 20.6 | .069 | 20 | 1,589 | 77 | 41 | 815 | 18.9 | 11.88 |
| NO AIR CONDITIONING FUEL..... | 196 | 1,495 | 7.6 | .044 | 13 | 226 | 30 | 33 | 507 | 2.6 | 11.45 |
| WATER-HEATING FUEL USED..... | | | | | | | | | | | |
| NATURAL GAS..... | 696 | 9,730 | 14.0 | .585 | 171 | 840 | 60 | 37 | 6,985 | 10.0 | 11.94 |
| ELECTRICITY..... | 143 | 2,667 | 18.7 | .160 | 47 | 1,116 | 60 | 34 | 1,953 | 13.7 | 12.23 |
| FUEL OIL/KEROSENE..... | 546 | 7,104 | 13.0 | .429 | 126 | 786 | 60 | 39 | 5,030 | 9.2 | 11.72 |
| OTHER..... | 17 | 620 | 9 | 9 | 9 | 9 | 51 | 25 | 9 | 9 | 15.80 |
| NO WATER-HEATING FUEL..... | 20 | 465 | 9 | .023 | 7 | 9 | 49 | 21 | 277 | 9 | 12.19 |
| NO WATER-HEATING FUEL..... | 289 | 1,584 | 5.5 | .071 | 21 | 245 | 45 | 30 | 1,005 | 3.5 | 14.20 |
| MANUFACTURING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 69 | 1,429 | 20.7 | .086 | 25 | 1,251 | 60 | 44 | 942 | 13.7 | 10.91 |
| OTHER..... | 66 | 1,289 | 19.5 | .078 | 23 | 1,189 | 61 | 45 | 860 | 13.1 | 10.98 |
| NO MANUFACTURING FUEL..... | 13 | 488 | 37.5 | .051 | 15 | 9 | 105 | 74 | 538 | 9 | 10.51 |
| NO MANUFACTURING FUEL..... | 916 | 9,884 | 10.8 | .569 | 167 | 621 | 58 | 35 | 7,047 | 7.7 | 12.38 |
| COOKING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 329 | 5,668 | 17.2 | .351 | 103 | 1,068 | 62 | 37 | 4,137 | 12.6 | 11.77 |
| NATURAL GAS..... | 268 | 4,277 | 16.0 | .283 | 83 | 1,057 | 66 | 39 | 3,173 | 11.9 | 11.21 |
| OTHER..... | 73 | 2,123 | 29.1 | .125 | 37 | 1,709 | 59 | 32 | 1,564 | 21.4 | 12.52 |
| NO COOKING FUEL..... | 34 | 741 | 21.8 | .037 | 11 | 1,083 | 50 | 23 | 9 | 16.7 | 15.46 |
| NO COOKING FUEL..... | 656 | 5,645 | 8.6 | .304 | 89 | 464 | 54 | 36 | 3,852 | 5.9 | 12.66 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 87 | 1,751 | 20.2 | .099 | 29 | 1,145 | 57 | 36 | 1,405 | 16.2 | 14.16 |
| NORTH CENTRAL..... | 150 | 2,028 | 13.5 | .163 | 48 | 1,091 | 81 | 55 | 1,802 | 12.0 | 11.02 |
| SOUTH..... | 559 | 5,186 | 9.3 | .278 | 81 | 497 | 54 | 32 | 3,575 | 6.4 | 12.88 |
| WEST..... | 190 | 2,348 | 12.3 | .116 | 34 | 607 | 49 | 30 | 1,208 | 6.4 | 10.46 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 532 | 7,374 | 13.9 | 0.449 | 132 | 844 | 61 | 34 | 5,538 | 10.4 | 12.34 |
| NONSMSA..... | 454 | 3,990 | 8.7 | .207 | 61 | 456 | 52 | 41 | 2,451 | 5.4 | 11.85 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 65 | 682 | 2 | .040 | 12 | 2 | 58 | 41 | 2 | 2 | 9.83 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 173 | 2,677 | 15.5 | .181 | 53 | 1,047 | 68 | 47 | 2,066 | 11.9 | 11.39 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 243 | 3,089 | 12.7 | .159 | 46 | 653 | 51 | 34 | 2,043 | 8.4 | 12.88 |
| <2,000 CDD AND <4,000 HDD... | 194 | 1,907 | 9.8 | .098 | 29 | 502 | 51 | 30 | 1,165 | 6.0 | 11.95 |
| >2,000 CDD AND <4,000 HDD... | 310 | 2,959 | 9.5 | .179 | 52 | 575 | 60 | 33 | 2 | 7.5 | 13.03 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 97 | 899 | 9.3 | .029 | 9 | 2 | 32 | 44 | 424 | 2 | 14.58 |
| AUTOMOTIVE SALES & SERVICE.. | 77 | 377 | 4.9 | 2 | 2 | 127 | 26 | 19 | 2 | 1.8 | 14.24 |
| EDUCATION..... | 45 | 1,212 | 26.9 | .043 | 13 | 953 | 35 | 48 | 463 | 10.3 | 10.78 |
| FOOD SALES..... | 101 | 539 | 5.3 | .065 | 19 | 648 | 121 | 44 | 829 | 8.2 | 12.70 |
| HEALTH CARE..... | 13 | 289 | 21.5 | .018 | 5 | 2 | 61 | 27 | 190 | 2 | 10.72 |
| LODGING..... | 49 | 713 | 14.5 | .062 | 18 | 1,273 | 88 | 84 | 688 | 14.0 | 11.02 |
| OFFICE..... | 212 | 2,345 | 11.1 | .140 | 41 | 663 | 60 | 20 | 1,793 | 8.5 | 12.77 |
| RESIDENTIAL..... | 58 | 366 | 6.3 | .010 | 3 | 173 | 27 | 26 | 145 | 2.5 | 14.51 |
| RETAIL/SERVICES..... | 161 | 2,094 | 13.0 | .129 | 38 | 803 | 62 | 38 | 1,650 | 10.2 | 12.75 |
| WAREHOUSE AND STORAGE..... | 80 | 1,565 | 19.5 | .089 | 26 | 1,104 | 57 | 62 | 971 | 12.1 | 10.95 |
| OTHER..... | 70 | 784 | 11.1 | .053 | 15 | 749 | 67 | 61 | 599 | 8.5 | 11.37 |
| VACANT..... | 22 | 131 | 5.9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 13.41 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 175 | 83 | .5 | .016 | 5 | 91 | 192 | 40 | 242 | 1.4 | 15.23 |
| 1,001 TO 5,000..... | 393 | 1,069 | 2.7 | .087 | 26 | 222 | 82 | 31 | 1,287 | 3.3 | 14.74 |
| 5,001 TO 10,000..... | 187 | 1,295 | 6.9 | .055 | 16 | 295 | 43 | 26 | 689 | 3.7 | 12.47 |
| 10,001 TO 25,000..... | 147 | 2,442 | 16.6 | .135 | 39 | 915 | 55 | 37 | 1,691 | 11.5 | 12.54 |
| 25,001 TO 50,000..... | 46 | 1,635 | 35.5 | .118 | 35 | 2,554 | 72 | 55 | 1,296 | 28.1 | 11.01 |
| OVER 50,000..... | 38 | 4,790 | 127.4 | .245 | 72 | 6,511 | 51 | 35 | 2,784 | 74.1 | 11.38 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 668 | 4,636 | 6.9 | 0.262 | 77 | 393 | 57 | 37 | 3,390 | 5.1 | 12.92 |
| TWO FLOORS..... | 216 | 2,842 | 13.2 | .174 | 51 | 809 | 61 | 43 | 2,020 | 9.4 | 11.58 |
| THREE FLOORS..... | 75 | 1,633 | 21.9 | .080 | 23 | 1,067 | 49 | 36 | 914 | 12.3 | 11.49 |
| MORE THAN THREE..... | 27 | 2,203 | 81.1 | .139 | 41 | 5,132 | 63 | 29 | 1,665 | 61.4 | 11.95 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 22 | 367 | 16.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11.04 |
| 1901 TO 1920..... | 52 | 608 | 11.7 | .013 | 4 | 255 | 22 | 23 | 157 | 3.0 | 11.87 |
| 1921 TO 1945..... | 120 | 1,297 | 10.8 | .068 | 20 | 568 | 53 | 34 | 785 | 6.5 | 11.49 |
| 1946 TO 1960..... | 228 | 2,025 | 8.9 | .080 | 24 | 353 | 40 | 27 | 1,200 | 5.3 | 14.95 |
| 1961 TO 1970..... | 230 | 2,654 | 11.5 | .175 | 51 | 761 | 66 | 37 | 1,975 | 8.6 | 11.26 |
| 1971 TO 1973..... | 76 | 1,325 | 17.5 | .077 | 23 | 1,017 | 58 | 36 | 917 | 12.1 | 11.93 |
| 1974 TO 1979..... | 257 | 3,037 | 11.8 | .212 | 62 | 825 | 70 | 40 | 2,633 | 10.2 | 12.40 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 545 | 4,348 | 8.0 | .275 | 81 | 506 | 63 | 40 | 3,453 | 6.3 | 12.54 |
| TWO FUELS USED..... | 360 | 4,752 | 13.2 | .269 | 79 | 748 | 57 | 37 | 3,166 | 8.8 | 11.75 |
| ELEC., NATURAL GAS..... | 253 | 3,734 | 14.8 | .225 | 66 | 889 | 60 | 37 | 2,611 | 10.3 | 11.60 |
| ELEC., FUEL OIL/KEROSENE.. | 40 | 495 | 12.2 | .023 | 7 | 575 | 47 | 37 | 276 | 6.8 | 11.87 |
| ELEC., LPG..... | 49 | 382 | 7.8 | 0 | 0 | 328 | 42 | 37 | 0 | 4.5 | 13.62 |
| OTHER..... | 17 | 141 | 8.2 | 0 | 0 | 289 | 35 | 0 | 0 | 0 | 11.89 |
| THREE FUELS USED..... | 73 | 1,935 | 26.6 | .093 | 27 | 1,278 | 48 | 30 | 1,167 | 16.0 | 12.53 |
| ELEC., GAS, FUEL OIL/ | | | | | | | | | | | |
| KEROSENE..... | 26 | 1,008 | 38.2 | .067 | 20 | 0 | 66 | 35 | 863 | 0 | 12.87 |
| ELEC., GAS, OTHER..... | 20 | 501 | 0 | .014 | 4 | 703 | 28 | 26 | 156 | 7.9 | 11.24 |
| ELEC., FUEL OIL/KEROSENE, | | | | | | | | | | | |
| LPG..... | 21 | 218 | 10.6 | 0 | 0 | 337 | 32 | 0 | 0 | 3.9 | 11.54 |
| OTHER..... | 6 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOUR OR MORE FUELS USED..... | 8 | 278 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 985 | 11,313 | 11.5 | .656 | 192 | 665 | 58 | 36 | 7,989 | 8.1 | 12.18 |
| NATURAL GAS..... | 302 | 5,339 | 17.7 | .312 | 91 | 1,034 | 58 | 36 | 3,700 | 12.3 | 11.85 |
| FUEL OIL/KEROSENE..... | 95 | 2,042 | 21.6 | .114 | 33 | 1,200 | 56 | 34 | 1,400 | 14.8 | 12.33 |
| LIQUID PETROLEUM GAS..... | 87 | 1,141 | 13.0 | .043 | 12 | 487 | 37 | 32 | 510 | 5.8 | 11.98 |
| WOOD..... | 33 | 292 | 0 | 0 | 0 | 0 | 36 | 27 | 0 | 0 | 11.47 |
| OTHER..... | 12 | 486 | 41.1 | .022 | 6 | 1,827 | 44 | 17 | 265 | 22.4 | 12.27 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 388 | 4,302 | 11.1 | 0.250 | 73 | 645 | 58 | 36 | 3,158 | 8.1 | 12.63 |
| RADIANT..... | 101 | 588 | 5.8 | .027 | 8 | 271 | 47 | 44 | 306 | 3.0 | 11.17 |
| COMBINATION/OTHER..... | 136 | 1,104 | 8.1 | .057 | 17 | 418 | 51 | 36 | 658 | 4.8 | 11.56 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 176 | 2,128 | 12.1 | .087 | 25 | 495 | 41 | 24 | 1,058 | 6.0 | 12.17 |
| RADIANT..... | 31 | 414 | 13.6 | .025 | 7 | 809 | 60 | 38 | 372 | 12.2 | 15.06 |
| COMBINATION/OTHER..... | 34 | 741 | 22.0 | .053 | 16 | 1,588 | 72 | 42 | 590 | 17.5 | 11.05 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 46 | 707 | 15.3 | .095 | 28 | 2 | 134 | 58 | 1,087 | 2 | 11.45 |
| RADIANT..... | 14 | 140 | 10.2 | .007 | 2 | 502 | 49 | 2 | 91 | 6.6 | 13.24 |
| COMBINATION/OTHER..... | 60 | 1,189 | 19.7 | .055 | 16 | 903 | 46 | 33 | 670 | 11.1 | 12.29 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 107 | 1,663 | 15.6 | .047 | 14 | 443 | 28 | 33 | 577 | 5.4 | 12.20 |
| 26 TO 50..... | 65 | 582 | 9.0 | .045 | 13 | 696 | 78 | 62 | 473 | 7.3 | 10.45 |
| 51 TO 75..... | 69 | 809 | 11.8 | .042 | 12 | 616 | 52 | 28 | 543 | 7.9 | 12.86 |
| 76 TO 99..... | 65 | 1,350 | 20.7 | .076 | 22 | 1,157 | 56 | 30 | 1,066 | 16.3 | 14.11 |
| 100..... | 680 | 6,910 | 10.2 | .445 | 131 | 655 | 64 | 37 | 5,330 | 7.8 | 11.97 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 118 | 1,992 | 16.9 | .098 | 29 | 831 | 49 | 52 | 1,164 | 9.9 | 11.91 |
| 26 TO 50..... | 95 | 927 | 9.7 | .057 | 17 | 597 | 61 | 45 | 708 | 7.4 | 12.43 |
| 51 TO 75..... | 80 | 956 | 11.9 | .063 | 18 | 784 | 66 | 31 | 758 | 9.4 | 12.04 |
| 76 TO 99..... | 63 | 1,499 | 23.8 | .094 | 27 | 1,484 | 62 | 31 | 1,250 | 19.8 | 13.35 |
| 100..... | 433 | 4,445 | 10.3 | .300 | 88 | 693 | 68 | 35 | 3,604 | 8.3 | 12.00 |
| NONE..... | 196 | 1,495 | 7.6 | .044 | 13 | 226 | 30 | 33 | 507 | 2.6 | 11.45 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 203 | 1,124 | 5.5 | .049 | 14 | 241 | 44 | 49 | 670 | 3.3 | 13.70 |
| PACKAGE UNITS..... | 259 | 3,974 | 15.3 | .232 | 68 | 893 | 58 | 34 | 2,819 | 10.9 | 12.17 |
| CENTRAL SYSTEM..... | 228 | 2,742 | 12.0 | .165 | 48 | 722 | 60 | 30 | 2,021 | 8.9 | 12.28 |
| COMBINATION/OTHER..... | 99 | 1,979 | 20.0 | .166 | 49 | 1,682 | 84 | 48 | 1,973 | 19.9 | 11.85 |
| NO AIR CONDITIONING..... | 196 | 1,495 | 7.6 | .044 | 13 | 226 | 30 | 33 | 507 | 2.6 | 11.45 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT | | | | | | | | | | | |
| BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 453 | 4,002 | 8.8 | 0.228 | 67 | 504 | 57 | 44 | 2,773 | 6.1 | 12.14 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 248 | 2,084 | 8.4 | .115 | 34 | 462 | 55 | 36 | 1,498 | 6.0 | 13.06 |
| MULTIPLE ESTABLISHMENT | | | | | | | | | | | |
| BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 106 | 2,063 | 19.5 | .124 | 36 | 1,167 | 60 | 27 | 1,563 | 14.8 | 12.65 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 87 | 1,537 | 17.7 | .093 | 27 | 1,068 | 60 | 32 | 1,121 | 12.9 | 12.12 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 71 | 1,375 | 19.3 | .062 | 18 | 869 | 45 | 32 | 693 | 9.7 | 11.21 |
| NOT REPORTED..... | 20 | 254 | 12.7 | .035 | 10 | 0 | 0 | 0 | 340 | 0 | 9.84 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 647 | 3,021 | 4.7 | .121 | 36 | 187 | 40 | 56 | 1,637 | 2.5 | 13.51 |
| 10 TO 19..... | 146 | 1,266 | 8.7 | .057 | 17 | 393 | 45 | 29 | 798 | 5.4 | 13.87 |
| 20 TO 49..... | 133 | 2,797 | 21.1 | .182 | 53 | 1,375 | 65 | 46 | 2,158 | 16.3 | 11.84 |
| 50 TO 99..... | 34 | 1,106 | 32.4 | .077 | 22 | 2,241 | 69 | 35 | 859 | 25.1 | 11.22 |
| 100 OR MORE..... | 25 | 3,122 | 125.0 | .218 | 64 | 8,731 | 70 | 28 | 2,538 | 101.6 | 11.63 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 34 | 114 | 3.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.83 |
| 39 OR FEWER HOURS..... | 127 | 600 | 4.7 | .017 | 5 | 134 | 28 | 38 | 241 | 1.9 | 14.16 |
| 40 TO 48 HOURS..... | 254 | 2,610 | 10.3 | .114 | 33 | 449 | 44 | 31 | 1,382 | 5.4 | 12.11 |
| 49 TO 60 HOURS..... | 224 | 2,584 | 11.5 | .114 | 33 | 507 | 44 | 23 | 1,474 | 6.6 | 12.97 |
| 61 TO 84 HOURS..... | 151 | 2,707 | 17.9 | .152 | 45 | 1,006 | 56 | 38 | 1,941 | 12.9 | 12.77 |
| MORE THAN 84 HOURS..... | 195 | 2,700 | 13.9 | .255 | 75 | 1,310 | 94 | 53 | 2,901 | 14.9 | 11.38 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL- LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD- BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL- LION DOL- LARS) | AVERAGE EXPEND. PER BUILDING (THOU- SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL- LARS) |
|---|-----------------------------|--------------------------------|--|---|-------------------------------------|--|--|--|-------------------------------------|---|---|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 346 | 4,449 | 12.9 | 0.256 | 75 | 739 | 57 | 33 | 3,185 | 9.2 | 12.45 |
| NO..... | 592 | 6,484 | 10.9 | .368 | 108 | 621 | 57 | 38 | 4,387 | 7.4 | 11.93 |
| DON'T KNOW/NOT REPORTED..... | 47 | 380 | 8.1 | .032 | 9 | 688 | 85 | 52 | 417 | 8.9 | 12.89 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 270 | 3,208 | 11.9 | .195 | 57 | 720 | 61 | 37 | 2,334 | 8.6 | 11.99 |
| NO..... | 669 | 7,727 | 11.5 | .440 | 129 | 658 | 57 | 36 | 5,412 | 8.1 | 12.29 |
| DON'T KNOW/NOT REPORTED..... | 46 | 379 | 8.3 | .021 | 6 | 452 | 55 | 32 | 244 | 5.3 | 11.80 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 174 | 2,026 | 11.7 | .132 | 39 | 761 | 65 | 34 | 1,636 | 9.4 | 12.37 |
| NO..... | 766 | 8,943 | 11.7 | .505 | 148 | 659 | 56 | 37 | 6,134 | 8.0 | 12.15 |
| DON'T KNOW/NOT REPORTED..... | 45 | 345 | 7.6 | .019 | 5 | 411 | 54 | 30 | 220 | 4.8 | 11.78 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 801 | 9,229 | 11.5 | .513 | 150 | 641 | 56 | 35 | 6,299 | 7.9 | 12.27 |
| NO..... | 165 | 1,830 | 11.1 | .116 | 34 | 701 | 63 | 37 | 1,380 | 8.4 | 11.92 |
| NOT REPORTED/ NOT APPLICABLE..... | 20 | 254 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 11.66 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 493 | 7,126 | 14.4 | .459 | 135 | 930 | 64 | 34 | 5,567 | 11.3 | 12.13 |
| NO..... | 85 | 1,385 | 16.3 | .091 | 27 | 1,076 | 66 | 40 | 1,084 | 12.8 | 11.89 |
| NOT REPORTED/ NOT APPLICABLE..... | 407 | 2,803 | 6.9 | .106 | 31 | 259 | 38 | 42 | 1,338 | 3.3 | 12.68 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 835 | 9,585 | 11.5 | .542 | 159 | 649 | 57 | 35 | 6,625 | 7.9 | 12.23 |
| NO..... | 135 | 1,569 | 11.6 | .100 | 29 | 741 | 64 | 41 | 1,182 | 8.8 | 11.82 |
| NOT REPORTED..... | 16 | 160 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 12.83 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 9. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Do Not Heat With Electricity but Air Condition With Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---------------------------------------|
| COMMERCIAL BUILDINGS..... | 1,652 | 25,628 | 15.5 | 1,128 | 331 | 683 | 44 | 32 | 14,151 | 8.6 | 12.54 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 1,599 | 25,170 | 15.7 | 1,098 | 322 | 687 | 44 | 31 | 13,793 | 8.6 | 12.56 |
| NATURAL GAS..... | 1,144 | 16,992 | 14.8 | .690 | 202 | 603 | 41 | 29 | 8,196 | 7.2 | 11.88 |
| FUEL OIL/KEROSENE..... | 371 | 6,871 | 18.5 | .276 | 81 | 744 | 40 | 32 | 4,155 | 11.2 | 15.04 |
| LIQUID PETROLEUM GAS..... | 88 | 477 | 5.4 | .035 | 10 | 394 | 73 | 37 | 350 | 4.0 | 10.06 |
| STEAM..... | 31 | 2,630 | 86.2 | .192 | 56 | 6,294 | 73 | 45 | 2,102 | 68.9 | 10.94 |
| COAL..... | 16 | 264 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 11.68 |
| OTHER..... | 29 | 362 | 12.5 | .011 | 3 | 2 | 32 | 41 | 130 | 2 | 11.31 |
| NO HEATING FUEL USED..... | 54 | 457 | 8.5 | .031 | 9 | 571 | 67 | 83 | 358 | 6.7 | 11.73 |
| AIR CONDITIONING FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 1,652 | 25,628 | 15.5 | 1,128 | 331 | 683 | 44 | 32 | 14,151 | 8.6 | 12.54 |
| OTHER..... | 26 | 1,049 | 40.6 | .083 | 24 | 3,198 | 79 | 39 | 955 | 36.9 | 11.55 |
| WATER-HEATING FUEL USED..... | | | | | | | | | | | |
| NATURAL GAS..... | 1,292 | 22,393 | 17.3 | .969 | 284 | 750 | 43 | 31 | 12,235 | 9.5 | 12.63 |
| ELECTRICITY..... | 751 | 13,953 | 18.5 | .551 | 161 | 733 | 39 | 28 | 6,656 | 8.9 | 12.09 |
| FUEL OIL/KEROSENE..... | 428 | 5,556 | 13.0 | .250 | 73 | 584 | 45 | 33 | 2,985 | 7.0 | 11.95 |
| OTHER..... | 106 | 2,917 | 27.5 | .142 | 42 | 1,339 | 49 | 36 | 2,475 | 23.3 | 17.41 |
| NO WATER-HEATING FUEL..... | 50 | 1,898 | 37.6 | .120 | 35 | 2,371 | 63 | 37 | 1,291 | 25.6 | 10.80 |
| MANUFACTURING FUEL USED..... | 360 | 3,234 | 9.0 | .160 | 47 | 444 | 49 | 38 | 1,916 | 5.3 | 11.98 |
| MANUFACTURING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 113 | 2,605 | 23.0 | .106 | 31 | 934 | 41 | 33 | 1,311 | 11.6 | 12.42 |
| NATURAL GAS..... | 90 | 2,075 | 23.1 | .082 | 24 | 912 | 40 | 34 | 1,031 | 11.5 | 12.56 |
| OTHER..... | 26 | 826 | 32.3 | .049 | 14 | 1,919 | 59 | 39 | 532 | 20.8 | 10.84 |
| NO MANUFACTURING DONE..... | 13 | 558 | 43.0 | .033 | 10 | 2,534 | 59 | 37 | 365 | 28.2 | 11.11 |
| COOKING FUEL USED..... | 1,539 | 23,023 | 15.0 | 1,023 | 300 | 665 | 44 | 32 | 12,840 | 8.3 | 12.55 |
| COOKING FUEL USED..... | | | | | | | | | | | |
| ELECTRICITY..... | 663 | 13,555 | 20.4 | .539 | 158 | 812 | 40 | 29 | 6,545 | 9.9 | 12.15 |
| NATURAL GAS..... | 319 | 6,795 | 21.3 | .318 | 93 | 997 | 47 | 33 | 3,617 | 11.3 | 11.37 |
| OTHER..... | 373 | 8,628 | 23.1 | .340 | 100 | 910 | 39 | 28 | 4,212 | 11.3 | 12.41 |
| NO COOKING FUEL..... | 48 | 870 | 18.0 | .037 | 11 | 770 | 43 | 21 | 482 | 10.0 | 12.95 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 989 | 12,073 | 12.2 | .590 | 173 | 596 | 49 | 35 | 7,606 | 7.7 | 12.89 |
| NORTH CENTRAL..... | 346 | 6,850 | 19.8 | .285 | 83 | 822 | 42 | 34 | 4,516 | 13.0 | 15.86 |
| SOUTH..... | 639 | 9,546 | 14.9 | .378 | 111 | 591 | 40 | 28 | 4,537 | 7.1 | 12.01 |
| WEST..... | 540 | 7,086 | 13.1 | .370 | 108 | 685 | 52 | 41 | 4,056 | 7.5 | 10.96 |
| WEST..... | 127 | 2,136 | 16.9 | .096 | 28 | 759 | 45 | 21 | 1,043 | 8.2 | 10.85 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 1,027 | 19,548 | 19.0 | 0.915 | 268 | 891 | 47 | 32 | 11,663 | 11.4 | 12.74 |
| NONSMSA..... | 625 | 6,080 | 9.7 | .213 | 62 | 341 | 35 | 29 | 2,488 | 4.0 | 11.67 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD.... | 184 | 3,147 | 17.1 | .099 | 29 | 541 | 32 | 29 | 1,161 | 6.3 | 11.68 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 514 | 9,038 | 17.6 | .415 | 122 | 809 | 46 | 33 | 4,808 | 9.4 | 11.58 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 498 | 7,117 | 14.3 | .249 | 73 | 501 | 35 | 26 | 4,230 | 8.5 | 16.96 |
| <2,000 CDD AND <4,000 HDD.... | 260 | 3,724 | 14.3 | .215 | 63 | 826 | 58 | 34 | 2,222 | 8.5 | 10.34 |
| >2,000 CDD AND <4,000 HDD.... | 197 | 2,602 | 13.2 | .149 | 44 | 759 | 57 | 42 | 1,730 | 8.8 | 11.59 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 192 | 2,650 | 13.8 | .058 | 17 | 304 | 22 | 30 | 836 | 4.3 | 14.31 |
| AUTOMOTIVE SALES & SERVICE.. | 103 | 738 | 7.2 | .033 | 10 | 322 | 45 | 30 | 455 | 4.4 | 13.78 |
| EDUCATION..... | 63 | 2,797 | 44.6 | .090 | 26 | 1,438 | 32 | 40 | 1,081 | 17.2 | 11.99 |
| FOOD SALES..... | 191 | 1,060 | 5.5 | .097 | 29 | 509 | 92 | 46 | 1,191 | 6.2 | 12.23 |
| HEALTH CARE..... | 22 | 1,178 | 0 | .084 | 25 | 0 | 72 | 30 | 851 | 0 | 10.09 |
| LODGING..... | 30 | 866 | 28.8 | .039 | 11 | 1,292 | 45 | 62 | 481 | 16.0 | 12.36 |
| OFFICE..... | 322 | 5,010 | 15.6 | .290 | 85 | 901 | 58 | 21 | 4,069 | 12.6 | 14.01 |
| RESIDENTIAL..... | 178 | 2,034 | 11.4 | .035 | 10 | 198 | 17 | 33 | 551 | 3.1 | 15.59 |
| RETAIL/SERVICES..... | 348 | 4,378 | 12.6 | .139 | 41 | 399 | 32 | 29 | 1,703 | 4.9 | 12.25 |
| WAREHOUSE AND STORAGE..... | 89 | 2,721 | 30.5 | .122 | 36 | 1,369 | 45 | 57 | 1,399 | 15.7 | 11.47 |
| OTHER..... | 95 | 1,851 | 19.4 | .128 | 38 | 1,348 | 69 | 41 | 1,390 | 14.6 | 10.82 |
| VACANT..... | 18 | 344 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.10 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 173 | 112 | .6 | .033 | 10 | 188 | 290 | 64 | 446 | 2.6 | 13.71 |
| 1,001 TO 5,000..... | 656 | 1,831 | 2.8 | .114 | 33 | 174 | 62 | 27 | 1,571 | 2.4 | 13.77 |
| 5,001 TO 10,000..... | 328 | 2,395 | 7.3 | .074 | 22 | 227 | 31 | 19 | 1,109 | 3.4 | 14.89 |
| 10,001 TO 25,000..... | 285 | 4,451 | 15.6 | .139 | 41 | 487 | 31 | 24 | 1,820 | 6.4 | 13.13 |
| 25,001 TO 50,000..... | 115 | 4,022 | 35.1 | .185 | 54 | 1,614 | 46 | 45 | 2,855 | 24.9 | 15.43 |
| OVER 50,000..... | 96 | 12,816 | 134.0 | .584 | 171 | 6,102 | 46 | 34 | 6,350 | 66.4 | 10.88 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 780 | 6,053 | 7.8 | .306 | 90 | 393 | 51 | 34 | 3,789 | 4.9 | 12.36 |
| TWO FLOORS..... | 430 | 6,133 | 14.3 | .230 | 67 | 535 | 38 | 32 | 2,814 | 6.5 | 12.22 |
| THREE FLOORS..... | 258 | 4,513 | 17.5 | .143 | 42 | 556 | 32 | 27 | 1,869 | 7.3 | 13.06 |
| MORE THAN THREE..... | 184 | 8,928 | 48.5 | .449 | 131 | 2,436 | 50 | 32 | 5,679 | 30.8 | 12.66 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE | 169 | 2,116 | 12.5 | 0.076 | 22 | 450 | 36 | 32 | 1,526 | 9.0 | 20.02 |
| 1901 TO 1920 | 194 | 3,097 | 16.0 | .096 | 28 | 498 | 31 | 27 | 1,378 | 7.1 | 14.29 |
| 1921 TO 1945 | 363 | 5,319 | 14.6 | .190 | 56 | 524 | 36 | 28 | 2,317 | 6.4 | 12.18 |
| 1946 TO 1960 | 433 | 5,458 | 12.6 | .238 | 70 | 551 | 44 | 33 | 2,920 | 6.7 | 12.25 |
| 1961 TO 1970 | 284 | 5,543 | 19.5 | .276 | 81 | 972 | 50 | 35 | 3,216 | 11.3 | 11.65 |
| 1971 TO 1973 | 75 | 1,762 | 23.5 | .129 | 38 | 1,726 | 73 | 36 | 1,396 | 18.6 | 10.80 |
| 1974 TO 1979 | 134 | 2,334 | 17.4 | .122 | 36 | 908 | 52 | 28 | 1,398 | 10.4 | 11.48 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY | 40 | 382 | 9 | .028 | 8 | 9 | 9 | 99 | 9 | 7.8 | 11.42 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS | 1,376 | 16,862 | 12.3 | .721 | 211 | 524 | 43 | 32 | 8,515 | 6.2 | 11.82 |
| ELEC., FUEL OIL/KEROSENE | 1,076 | 13,655 | 12.7 | .507 | 149 | 471 | 37 | 29 | 6,243 | 5.8 | 12.32 |
| ELEC., LPG | 197 | 1,921 | 9.7 | .072 | 21 | 364 | 37 | 28 | 970 | 4.9 | 13.50 |
| OTHER | 71 | 269 | 3.8 | .027 | 8 | 384 | 102 | 40 | 270 | 3.8 | 9.85 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE | 31 | 1,018 | 32.3 | .114 | 34 | 3,631 | 112 | 62 | 1,031 | 32.7 | 9.02 |
| ELEC., GAS, FUEL OIL/KEROSENE, LPG | 223 | 7,737 | 34.6 | .338 | 99 | 1,511 | 44 | 29 | 4,857 | 21.7 | 14.39 |
| ELEC., FUEL OIL/KEROSENE, LPG | 151 | 5,040 | 33.4 | .243 | 71 | 1,613 | 48 | 31 | 3,554 | 23.6 | 14.60 |
| ELEC., GAS, OTHER | 29 | 619 | 21.6 | .020 | 6 | 697 | 32 | 32 | 269 | 9.4 | 13.48 |
| OTHER | 32 | 1,822 | 57.4 | .060 | 18 | 1,891 | 33 | 23 | 881 | 27.7 | 14.68 |
| OTHER | 12 | 256 | 9 | .014 | 4 | 9 | 56 | 37 | 153 | 9 | 10.78 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| OTHER | 12 | 646 | 52.3 | .043 | 12 | 9 | 66 | 43 | 463 | 9 | 10.88 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY | 1,652 | 25,628 | 15.5 | 1.128 | 331 | 683 | 44 | 32 | 14,151 | 8.6 | 12.54 |
| NATURAL GAS | 1,267 | 21,135 | 16.7 | .852 | 250 | 673 | 40 | 29 | 11,132 | 8.8 | 13.06 |
| FUEL OIL/KEROSENE | 389 | 8,297 | 21.3 | .370 | 109 | 952 | 45 | 30 | 5,147 | 13.2 | 13.90 |
| LIQUID PETROLEUM GAS | 121 | 1,327 | 11.0 | .073 | 21 | 607 | 55 | 40 | 797 | 6.6 | 10.87 |
| WOOD | 28 | 237 | 8.3 | .003 | 1 | 110 | 13 | 16 | 43 | 1.5 | 13.91 |
| COAL | 16 | 276 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 11.87 |
| STEAM | 31 | 2,699 | 85.7 | .195 | 57 | 6,181 | 72 | 41 | 2,130 | 67.7 | 10.95 |
| OTHER | 7 | 335 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 441 | 4,437 | 10.1 | 0.199 | 58 | 452 | 45 | 29 | 2,411 | 5.5 | 12.10 |
| RADIANT..... | 33 | 279 | 8.5 | .006 | 2 | 193 | 23 | 18 | 111 | 3.4 | 17.57 |
| COMBINATION/OTHER..... | 108 | 1,022 | 9.4 | .033 | 10 | 303 | 32 | 27 | 485 | 4.5 | 14.78 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 500 | 6,910 | 13.8 | .380 | 112 | 760 | 55 | 38 | 4,173 | 8.3 | 10.97 |
| RADIANT..... | 296 | 6,319 | 21.4 | .195 | 57 | 661 | 31 | 25 | 2,674 | 9.0 | 13.68 |
| COMBINATION/OTHER..... | 118 | 4,226 | 35.8 | .183 | 54 | 1,547 | 43 | 29 | 2,214 | 18.8 | 12.13 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 48 | 659 | 13.7 | .029 | 9 | 610 | 44 | 27 | 327 | 6.8 | 11.16 |
| RADIANT..... | 11 | 304 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27.41 |
| COMBINATION/OTHER..... | 45 | 1,020 | 22.6 | .039 | 11 | 866 | 38 | 34 | 495 | 10.9 | 12.64 |
| NONE..... | 52 | 452 | 8.7 | .030 | 9 | 574 | 66 | 83 | 353 | 6.8 | 11.76 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 64 | 1,176 | 18.3 | .040 | 12 | 629 | 34 | 49 | 476 | 7.4 | 11.80 |
| 26 TO 50..... | 149 | 1,539 | 10.3 | .026 | 8 | 178 | 17 | 20 | 399 | 2.7 | 15.07 |
| 51 TO 75..... | 160 | 1,942 | 12.1 | .069 | 20 | 432 | 36 | 30 | 860 | 5.4 | 12.42 |
| 76 TO 99..... | 111 | 2,313 | 20.8 | .127 | 37 | 1,147 | 55 | 30 | 1,526 | 13.7 | 11.98 |
| 100..... | 1,115 | 18,206 | 16.3 | .835 | 245 | 749 | 46 | 31 | 10,538 | 9.4 | 12.62 |
| NONE..... | 52 | 452 | 8.7 | .030 | 9 | 574 | 66 | 83 | 353 | 6.8 | 11.76 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 379 | 8,191 | 21.6 | .229 | 67 | 604 | 28 | 33 | 2,956 | 7.8 | 12.92 |
| 26 TO 50..... | 416 | 4,114 | 9.9 | .103 | 30 | 247 | 25 | 24 | 1,345 | 3.2 | 13.07 |
| 51 TO 75..... | 176 | 2,974 | 16.9 | .160 | 47 | 907 | 54 | 33 | 2,563 | 14.5 | 16.02 |
| 76 TO 99..... | 113 | 3,101 | 27.4 | .181 | 53 | 1,602 | 58 | 29 | 2,124 | 18.8 | 11.73 |
| 100..... | 567 | 7,248 | 12.8 | .456 | 134 | 803 | 63 | 34 | 5,162 | 9.1 | 11.33 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 605 | 5,859 | 9.7 | .123 | 36 | 204 | 21 | 25 | 1,836 | 3.0 | 14.88 |
| PACKAGE UNITS..... | 452 | 6,961 | 15.4 | .282 | 83 | 623 | 40 | 29 | 3,531 | 7.8 | 12.53 |
| CENTRAL SYSTEM..... | 424 | 7,915 | 18.7 | .437 | 128 | 1,029 | 55 | 32 | 5,015 | 11.8 | 11.48 |
| COMBINATION/OTHER..... | 171 | 4,893 | 28.6 | .286 | 84 | 1,675 | 59 | 38 | 3,768 | 22.0 | 13.16 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 816 | 10,312 | 12.6 | 0.488 | 143 | 599 | 47 | 38 | 5,676 | 7.0 | 11.63 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 407 | 4,422 | 10.9 | .151 | 44 | 371 | 34 | 27 | 2,087 | 5.1 | 13.84 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 204 | 4,209 | 20.6 | .183 | 54 | 897 | 43 | 24 | 2,673 | 13.1 | 14.61 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 123 | 2,679 | 21.8 | .112 | 33 | 911 | 42 | 31 | 1,457 | 11.8 | 12.98 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 89 | 3,488 | 39.1 | .171 | 50 | 1,912 | 49 | 31 | 1,989 | 22.3 | 11.65 |
| NOT REPORTED..... | 13 | 517 | 38.3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 11.47 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 1,086 | 7,130 | 6.6 | .192 | 56 | 177 | 27 | 47 | 2,713 | 2.5 | 14.11 |
| 10 TO 19..... | 249 | 3,220 | 12.9 | .101 | 30 | 405 | 31 | 31 | 1,466 | 5.9 | 14.53 |
| 20 TO 49..... | 190 | 4,415 | 23.3 | .199 | 58 | 1,049 | 45 | 34 | 2,488 | 13.1 | 12.52 |
| 50 TO 99..... | 70 | 3,443 | 48.9 | .182 | 53 | 2,591 | 53 | 41 | 1,968 | 28.0 | 10.80 |
| 100 OR MORE..... | 57 | 7,421 | 130.4 | .454 | 133 | 7,981 | 61 | 25 | 5,515 | 96.9 | 12.14 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 20 | 342 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 11.31 |
| 39 OR FEWER HOURS..... | 212 | 1,485 | 7.0 | .047 | 14 | 223 | 32 | 32 | 571 | 2.7 | 12.03 |
| 40 TO 48 HOURS..... | 422 | 5,684 | 13.5 | .228 | 67 | 539 | 40 | 28 | 3,416 | 8.1 | 15.01 |
| 49 TO 60 HOURS..... | 421 | 5,985 | 14.2 | .176 | 51 | 418 | 29 | 23 | 2,376 | 5.6 | 13.53 |
| 61 TO 84 HOURS..... | 268 | 4,886 | 18.2 | .261 | 77 | 974 | 53 | 36 | 2,809 | 10.5 | 10.75 |
| MORE THAN 84 HOURS..... | 309 | 7,247 | 23.5 | .395 | 116 | 1,278 | 54 | 35 | 4,735 | 15.3 | 12.00 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 655 | 11,635 | 17.8 | 0.478 | 140 | 730 | 41 | 29 | 6,383 | 9.7 | 13.35 |
| NO..... | 905 | 12,662 | 14.0 | .583 | 171 | 644 | 46 | 33 | 6,912 | 7.6 | 11.86 |
| DON'T KNOW/NOT REPORTED..... | 92 | 1,330 | 14.5 | .067 | 20 | 733 | 51 | 45 | 856 | 9.3 | 12.69 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 487 | 6,918 | 14.2 | .251 | 74 | 516 | 36 | 28 | 3,140 | 6.4 | 12.50 |
| NO..... | 1,030 | 16,925 | 16.4 | .803 | 235 | 780 | 47 | 33 | 10,101 | 9.8 | 12.58 |
| DON'T KNOW/NOT REPORTED..... | 135 | 1,784 | 13.2 | .074 | 22 | 548 | 42 | 35 | 910 | 6.7 | 12.26 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 300 | 4,662 | 15.5 | .167 | 49 | 555 | 36 | 28 | 2,104 | 7.0 | 12.61 |
| NO..... | 1,239 | 19,425 | 15.7 | .890 | 261 | 718 | 46 | 32 | 11,144 | 9.0 | 12.53 |
| DON'T KNOW/NOT REPORTED..... | 113 | 1,540 | 13.6 | .072 | 21 | 636 | 47 | 38 | 903 | 8.0 | 12.55 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 1,327 | 20,190 | 15.2 | .832 | 244 | 627 | 41 | 29 | 10,747 | 8.1 | 12.91 |
| NO..... | 253 | 4,615 | 18.3 | .220 | 65 | 873 | 48 | 37 | 2,573 | 10.2 | 11.68 |
| NOT REPORTED..... | 20 | 371 | 18.5 | .046 | 13 | 0 | 0 | 0 | 479 | 23.9 | 10.46 |
| NOT APPLICABLE..... | 52 | 452 | 8.7 | .030 | 9 | 574 | 66 | 83 | 353 | 6.8 | 11.76 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 907 | 16,500 | 18.2 | .760 | 223 | 838 | 46 | 30 | 9,164 | 10.1 | 12.06 |
| NO..... | 127 | 3,005 | 23.7 | .207 | 61 | 1,634 | 69 | 46 | 2,768 | 21.8 | 13.34 |
| NOT REPORTED..... | 14 | 264 | 0 | .038 | 11 | 0 | 142 | 72 | 384 | 0 | 10.20 |
| NOT APPLICABLE..... | 605 | 5,859 | 9.7 | .123 | 36 | 204 | 21 | 25 | 1,836 | 3.0 | 14.88 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 1,406 | 21,762 | 15.5 | .901 | 264 | 641 | 41 | 29 | 11,588 | 8.2 | 12.86 |
| NO..... | 196 | 3,266 | 16.6 | .180 | 53 | 917 | 55 | 41 | 2,046 | 10.4 | 11.37 |
| NOT REPORTED..... | 20 | 365 | 18.4 | .044 | 13 | 2,236 | 121 | 79 | 466 | 23.5 | 10.53 |
| NOT APPLICABLE..... | 30 | 234 | 0 | 0 | 0 | 95 | 0 | 17 | 0 | 1.7 | 17.87 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 10. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Do Not Heat or Air Condition with Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 1,229 | 10,326 | 8.4 | 0.308 | 90 | 251 | 30 | 31 | 3,973 | 3.2 | 12.89 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 970 | 8,909 | 9.2 | .277 | 81 | 285 | 31 | 30 | 3,553 | 3.7 | 12.84 |
| NATURAL GAS..... | 583 | 5,560 | 9.5 | .169 | 49 | 290 | 30 | 34 | 2,091 | 3.6 | 12.39 |
| FUEL OIL/KEROSENE..... | 302 | 2,469 | 8.2 | .062 | 18 | 204 | 25 | 24 | 929 | 3.1 | 15.04 |
| LIQUID PETROLEUM GAS..... | 70 | 204 | 2.9 | .006 | 2 | 2 | 30 | 29 | 87 | 2 | 14.01 |
| STEAM..... | 12 | 826 | 2 | .054 | 16 | 2 | 66 | 26 | 610 | 2 | 11.21 |
| COAL..... | 25 | 402 | 16.3 | .004 | 1 | 171 | 2 | 2 | 53 | 2.2 | 12.65 |
| OTHER..... | 45 | 271 | 6.0 | .010 | 3 | 231 | 38 | 48 | 141 | 3.1 | 13.56 |
| NO HEATING FUEL USED..... | 259 | 1,417 | 5.5 | .031 | 9 | 121 | 22 | 50 | 420 | 1.6 | 13.34 |
| AIR CONDITIONING FUEL USED.. | 100 | 1,995 | 20.0 | .111 | 32 | 1,109 | 56 | 26 | 1,418 | 14.2 | 12.79 |
| NATURAL GAS..... | 83 | 1,305 | 15.6 | .053 | 16 | 639 | 41 | 26 | 670 | 8.0 | 12.57 |
| OTHER..... | 18 | 784 | 42.4 | .060 | 18 | 2 | 76 | 25 | 776 | 2 | 12.94 |
| NO AIR CONDITIONING FUEL.... | 1,129 | 8,331 | 7.4 | .197 | 58 | 175 | 24 | 35 | 2,555 | 2.3 | 12.95 |
| WATER-HEATING FUEL USED..... | 673 | 7,365 | 10.9 | .226 | 66 | 335 | 31 | 29 | 2,956 | 4.4 | 13.11 |
| NATURAL GAS..... | 358 | 4,161 | 11.6 | .123 | 36 | 342 | 29 | 32 | 1,552 | 4.3 | 12.66 |
| ELECTRICITY..... | 249 | 1,940 | 7.8 | .042 | 12 | 169 | 22 | 24 | 565 | 2.3 | 13.45 |
| FUEL OIL/KEROSENE..... | 44 | 995 | 22.5 | .030 | 9 | 670 | 30 | 27 | 474 | 10.7 | 16.00 |
| OTHER..... | 39 | 755 | 19.3 | .044 | 13 | 2 | 58 | 27 | 513 | 2 | 11.73 |
| NO WATER-HEATING FUEL..... | 556 | 2,961 | 5.3 | .083 | 24 | 149 | 28 | 39 | 1,017 | 1.8 | 12.31 |
| MANUFACTURING FUEL USED..... | 135 | 1,397 | 10.3 | .031 | 9 | 227 | 22 | 29 | 384 | 2.8 | 12.48 |
| ELECTRICITY..... | 111 | 1,216 | 10.9 | .026 | 8 | 230 | 21 | 31 | 313 | 2.8 | 12.21 |
| NATURAL GAS..... | 19 | 186 | 9.9 | .006 | 2 | 2 | 35 | 27 | 88 | 4.7 | 13.72 |
| OTHER..... | 18 | 146 | 2 | .003 | 1 | 2 | 19 | 14 | 38 | 2 | 13.90 |
| NO MANUFACTURING DONE..... | 1,094 | 8,928 | 8.2 | .277 | 81 | 254 | 31 | 31 | 3,589 | 3.3 | 12.94 |
| COOKING FUEL USED..... | 331 | 4,684 | 14.2 | .135 | 40 | 408 | 29 | 26 | 1,685 | 5.1 | 12.50 |
| ELECTRICITY..... | 154 | 2,180 | 14.2 | .077 | 23 | 500 | 35 | 30 | 892 | 5.8 | 11.57 |
| NATURAL GAS..... | 162 | 2,914 | 17.9 | .078 | 23 | 481 | 27 | 24 | 1,015 | 6.3 | 12.99 |
| LIQUID PETROLEUM GAS..... | 33 | 266 | 8.1 | .004 | 1 | 114 | 14 | 20 | 49 | 1.5 | 13.05 |
| OTHER..... | 10 | 179 | 2 | .008 | 2 | 2 | 42 | 26 | 109 | 2 | 14.46 |
| NO COOKING FUEL..... | 898 | 5,642 | 6.3 | .173 | 51 | 193 | 31 | 36 | 2,288 | 2.5 | 13.20 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 246 | 2,598 | 10.6 | .077 | 22 | 313 | 30 | 26 | 1,185 | 4.8 | 15.45 |
| NORTH CENTRAL..... | 434 | 3,676 | 8.5 | .119 | 35 | 274 | 32 | 39 | 1,482 | 3.4 | 12.48 |
| SOUTH..... | 309 | 1,755 | 5.7 | .069 | 20 | 224 | 39 | 40 | 807 | 2.6 | 11.65 |
| WEST..... | 241 | 2,297 | 9.5 | .043 | 13 | 180 | 19 | 20 | 498 | 2.1 | 11.48 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 657 | 6,915 | 10.5 | 0.220 | 65 | 335 | 32 | 29 | 2,881 | 4.4 | 13.07 |
| NONSMSA..... | 572 | 3,411 | 6.0 | .088 | 26 | 153 | 26 | 36 | 1,092 | 1.9 | 12.44 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 188 | 1,657 | 8.8 | .051 | 15 | 269 | 30 | 35 | 623 | 3.3 | 12.32 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 452 | 4,335 | 9.6 | .118 | 35 | 261 | 27 | 31 | 1,474 | 3.3 | 12.51 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 301 | 2,523 | 8.4 | .075 | 22 | 250 | 30 | 26 | 1,111 | 3.7 | 14.78 |
| <2,000 CDD AND <4,000 HDD... | 172 | 1,298 | 7.5 | .045 | 13 | 260 | 34 | 34 | 484 | 2.8 | 10.81 |
| >2,000 CDD AND <4,000 HDD... | 116 | 512 | 4.4 | .020 | 6 | 171 | 39 | 42 | 281 | 2.4 | 14.21 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 154 | 1,471 | 9.6 | .034 | 10 | 223 | 23 | 51 | 362 | 2.4 | 10.59 |
| AUTOMOTIVE SALES & SERVICE.. | 216 | 679 | 3.1 | .020 | 6 | 92 | 29 | 26 | 302 | 1.4 | 15.23 |
| EDUCATION..... | 54 | 1,837 | 34.2 | .029 | 9 | 540 | 16 | 20 | 382 | 7.1 | 13.15 |
| FOOD SALES..... | 73 | 261 | 3.6 | .022 | 7 | 307 | 86 | 41 | 275 | 3.8 | 12.25 |
| HEALTH CARE..... | 8 | 218 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 22 | 432 | 20.0 | .014 | 4 | 657 | 33 | 0 | 165 | 7.6 | 11.59 |
| OFFICE..... | 66 | 822 | 12.5 | .056 | 16 | 847 | 68 | 22 | 706 | 10.8 | 12.70 |
| RESIDENTIAL..... | 109 | 712 | 6.5 | .014 | 4 | 132 | 20 | 0 | 216 | 2.0 | 14.91 |
| RETAIL/SERVICES..... | 203 | 1,171 | 5.8 | .023 | 7 | 114 | 20 | 21 | 366 | 1.8 | 15.86 |
| WAREHOUSE AND STORAGE..... | 196 | 1,701 | 8.7 | .052 | 15 | 264 | 30 | 80 | 660 | 3.4 | 12.76 |
| OTHER..... | 64 | 477 | 7.5 | .014 | 4 | 218 | 29 | 23 | 170 | 2.7 | 12.20 |
| VACANT..... | 65 | 545 | 8.3 | .015 | 5 | 236 | 28 | 0 | 192 | 2.9 | 12.49 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 251 | 146 | .6 | .014 | 4 | 55 | 94 | 25 | 187 | .7 | 13.61 |
| 1,001 TO 5,000..... | 568 | 1,496 | 2.6 | .066 | 19 | 117 | 44 | 36 | 907 | 1.6 | 13.71 |
| 5,001 TO 10,000..... | 218 | 1,580 | 7.2 | .052 | 15 | 240 | 33 | 45 | 698 | 3.2 | 13.34 |
| 10,001 TO 25,000..... | 117 | 1,733 | 14.9 | .034 | 10 | 290 | 19 | 24 | 454 | 3.9 | 13.44 |
| 25,001 TO 50,000..... | 44 | 1,543 | 35.4 | .026 | 8 | 593 | 17 | 27 | 323 | 7.4 | 12.52 |
| OVER 50,000..... | 32 | 3,829 | 120.1 | .116 | 34 | 3,651 | 30 | 29 | 1,404 | 44.1 | 12.07 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 764 | 3,161 | 4.1 | .116 | 34 | 152 | 37 | 37 | 1,534 | 2.0 | 13.20 |
| TWO FLOORS..... | 254 | 2,626 | 10.3 | .065 | 19 | 257 | 25 | 34 | 829 | 3.3 | 12.71 |
| THREE FLOORS..... | 146 | 1,982 | 13.6 | .039 | 11 | 266 | 20 | 29 | 475 | 3.2 | 12.22 |
| MORE THAN THREE..... | 65 | 2,557 | 39.6 | .088 | 26 | 1,361 | 34 | 25 | 1,134 | 17.6 | 12.92 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIAR) | AVERAGE EXPEND. PER BUILDING SAND (THOU-DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|--------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 124 | 961 | 7.8 | 0.018 | 5 | 143 | 18 | 36 | 261 | 2.1 | 14.77 |
| 1901 TO 1920..... | 153 | 1,674 | 11.0 | .035 | 10 | 231 | 21 | 37 | 454 | 3.0 | 12.88 |
| 1921 TO 1945..... | 267 | 2,329 | 8.7 | .049 | 14 | 182 | 21 | 29 | 643 | 2.4 | 13.21 |
| 1946 TO 1960..... | 315 | 2,110 | 6.7 | .062 | 18 | 196 | 29 | 26 | 781 | 2.5 | 12.63 |
| 1961 TO 1970..... | 205 | 1,799 | 8.8 | .083 | 24 | 403 | 46 | 32 | 1,026 | 5.0 | 12.40 |
| 1971 TO 1973..... | 51 | 560 | 11.1 | .025 | 7 | 502 | 45 | 29 | 307 | 6.1 | 12.11 |
| 1974 TO 1979..... | 115 | 892 | 7.8 | .037 | 11 | 320 | 41 | 36 | 501 | 4.4 | 13.68 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 203 | 1,080 | 5.3 | .024 | 7 | 119 | 22 | 63 | 295 | 1.5 | 12.25 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 855 | 6,267 | 7.3 | .199 | 58 | 232 | 32 | 34 | 2,582 | 3.0 | 12.99 |
| ELEC., NATURAL GAS..... | 561 | 4,715 | 8.4 | .140 | 41 | 249 | 30 | 36 | 1,812 | 3.2 | 12.98 |
| ELEC., FUEL OIL/KEROSENE.. | 203 | 1,017 | 5.0 | .022 | 7 | 109 | 22 | 25 | 371 | 1.8 | 16.68 |
| ELEC., LPG..... | 57 | 119 | 2.1 | .003 | 1 | 2 | 22 | 17 | 42 | 2 | 15.73 |
| OTHER..... | 35 | 415 | 12.0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10.43 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 73 | 1,448 | 19.9 | .030 | 9 | 412 | 21 | 17 | 419 | 5.7 | 13.96 |
| ELEC., FUEL OIL/KEROSENE..... | 26 | 194 | 7.4 | .005 | 1 | 181 | 24 | 42 | 75 | 2.9 | 15.74 |
| LPG..... | 28 | 643 | 2 | .015 | 4 | 2 | 24 | 21 | 206 | 2 | 13.60 |
| ELEC., GAS, OTHER..... | 25 | 343 | 13.9 | .015 | 4 | 587 | 42 | 31 | 183 | 7.4 | 12.58 |
| OTHER..... | 18 | 351 | 2 | .021 | 6 | 2 | 60 | 2 | 214 | 2 | 10.20 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 1,229 | 10,326 | 8.4 | .308 | 90 | 251 | 30 | 31 | 3,973 | 3.2 | 12.89 |
| NATURAL GAS..... | 675 | 7,123 | 10.5 | .204 | 60 | 302 | 29 | 29 | 2,634 | 3.9 | 12.92 |
| FUEL OIL/KEROSENE..... | 325 | 2,938 | 9.0 | .078 | 23 | 240 | 27 | 24 | 1,103 | 3.4 | 14.12 |
| LIQUID PETROLEUM GAS..... | 104 | 632 | 6.0 | .024 | 7 | 2 | 38 | 46 | 273 | 2.6 | 11.41 |
| WOOD..... | 54 | 217 | 4.0 | .009 | 3 | 2 | 41 | 78 | 126 | 2 | 14.23 |
| COAL..... | 34 | 454 | 13.5 | .005 | 1 | 144 | 11 | 2 | 60 | 1.8 | 12.30 |
| STEAM..... | 14 | 870 | 2 | .056 | 16 | 2 | 64 | 27 | 627 | 2 | 11.24 |
| OTHER..... | 7 | 337 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 285 | 1,646 | 5.8 | 0.051 | 15 | 179 | 31 | 31 | 709 | 2.5 | 13.88 |
| RADIANT..... | 26 | 211 | 8.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 97 | 415 | 4.3 | .010 | 3 | 103 | 24 | 31 | 132 | 1.4 | 13.28 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 258 | 2,092 | 8.1 | .077 | 23 | 298 | 37 | 27 | 962 | 3.7 | 12.53 |
| RADIANT..... | 178 | 2,421 | 13.6 | .059 | 17 | 330 | 24 | 28 | 747 | 4.2 | 12.74 |
| COMBINATION/OTHER..... | 53 | 1,490 | 28.0 | .061 | 18 | 1,143 | 41 | 32 | 747 | 14.0 | 12.28 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 39 | 325 | 8.4 | .010 | 3 | 0 | 0 | 56 | 121 | 0 | 12.54 |
| RADIANT..... | 6 | 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 29 | 267 | 9.1 | .004 | 1 | 123 | 14 | 17 | 53 | 1.8 | 14.72 |
| NONE..... | 259 | 1,414 | 5.5 | .031 | 9 | 121 | 22 | 50 | 419 | 1.6 | 13.36 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 54 | 528 | 9.7 | .012 | 3 | 214 | 22 | 49 | 155 | 2.9 | 13.33 |
| 26 TO 50..... | 119 | 546 | 4.6 | .020 | 6 | 172 | 37 | 49 | 324 | 2.7 | 15.85 |
| 51 TO 75..... | 71 | 647 | 9.1 | .011 | 3 | 150 | 16 | 18 | 149 | 2.1 | 13.95 |
| 76 TO 99..... | 49 | 563 | 11.5 | .018 | 5 | 358 | 31 | 16 | 287 | 5.9 | 16.37 |
| 100..... | 677 | 6,628 | 9.8 | .217 | 63 | 320 | 33 | 31 | 2,639 | 3.9 | 12.19 |
| NONE..... | 259 | 1,414 | 5.5 | .031 | 9 | 121 | 22 | 50 | 419 | 1.6 | 13.36 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 50..... | 25 | 473 | 18.7 | .017 | 5 | 0 | 36 | 25 | 237 | 0 | 14.07 |
| 51 TO 99..... | 21 | 490 | 22.9 | .023 | 7 | 1,092 | 48 | 17 | 344 | 16.1 | 14.73 |
| 100..... | 53 | 1,035 | 19.4 | .071 | 21 | 1,329 | 68 | 32 | 837 | 15.7 | 11.83 |
| NONE..... | 1,129 | 8,328 | 7.4 | .197 | 58 | 175 | 24 | 35 | 2,554 | 2.3 | 12.95 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 4 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PACKAGE UNITS..... | 32 | 475 | 14.7 | .017 | 5 | 527 | 0 | 20 | 270 | 8.3 | 15.83 |
| CENTRAL SYSTEM..... | 55 | 1,189 | 21.5 | .078 | 23 | 1,408 | 66 | 30 | 920 | 16.6 | 11.79 |
| COMBINATION/OTHER..... | 8 | 312 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING..... | 1,129 | 8,328 | 7.4 | .197 | 58 | 175 | 24 | 35 | 2,554 | 2.3 | 12.95 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 580 | 4,221 | 7.3 | 0.127 | 37 | 218 | 30 | 41 | 1,572 | 2.7 | 12.40 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 432 | 2,700 | 6.2 | .078 | 23 | 181 | 29 | 39 | 1,107 | 2.6 | 14.12 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 72 | 926 | 12.9 | .020 | 6 | 276 | 21 | 14 | 312 | 4.4 | 15.77 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 47 | 660 | 14.0 | .017 | 5 | 366 | 26 | 17 | 256 | 5.5 | 14.91 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 83 | 1,724 | 20.8 | .065 | 19 | 784 | 38 | 28 | 711 | 8.6 | 10.94 |
| NOT REPORTED..... | 15 | 95 | 2 | .001 | - | 2 | 2 | 2 | 15 | 2 | 14.14 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 1,070 | 5,398 | 5.0 | .141 | 41 | 132 | 26 | 53 | 1,891 | 1.8 | 13.42 |
| 10 TO 19..... | 82 | 1,013 | 12.4 | .032 | 9 | 390 | 32 | 30 | 400 | 4.9 | 12.52 |
| 20 TO 49..... | 52 | 1,594 | 30.6 | .036 | 11 | 693 | 23 | 24 | 449 | 8.6 | 12.47 |
| 50 TO 99..... | 16 | 820 | 52.6 | .019 | 6 | 1,211 | 23 | 19 | 244 | 15.6 | 12.91 |
| 100 OR MORE..... | 10 | 1,502 | 152.1 | .080 | 24 | 8,146 | 54 | 22 | 989 | 100.2 | 12.30 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 128 | 646 | 5.1 | .010 | 3 | 81 | 16 | 2 | 153 | 1.2 | 14.78 |
| 39 OR FEWER HOURS..... | 226 | 1,261 | 5.6 | .029 | 8 | 127 | 23 | 46 | 382 | 1.7 | 13.27 |
| 40 TO 48 HOURS..... | 270 | 2,464 | 9.1 | .062 | 18 | 231 | 25 | 28 | 773 | 2.9 | 12.41 |
| 49 TO 60 HOURS..... | 245 | 2,268 | 9.3 | .073 | 21 | 299 | 32 | 29 | 976 | 4.0 | 13.33 |
| 61 TO 84 HOURS..... | 176 | 1,437 | 8.2 | .032 | 9 | 181 | 22 | 22 | 438 | 2.5 | 13.79 |
| MORE THAN 84 HOURS..... | 185 | 2,250 | 12.1 | .102 | 30 | 549 | 45 | 35 | 1,250 | 6.8 | 12.29 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 423 | 4,291 | 10.1 | .130 | 38 | 307 | 30 | 28 | 1,669 | 3.9 | 12.83 |
| NO..... | 750 | 5,437 | 7.2 | .159 | 46 | 211 | 29 | 32 | 2,068 | 2.8 | 13.05 |
| DON'T KNOW/NOT REPORTED..... | 55 | 598 | 10.8 | .020 | 6 | 354 | 33 | 49 | 236 | 4.3 | 12.03 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 319 | 2,523 | 7.9 | .076 | 22 | 237 | 30 | 30 | 982 | 3.1 | 12.97 |
| NO..... | 839 | 7,086 | 8.4 | .217 | 64 | 259 | 31 | 31 | 2,760 | 3.3 | 12.71 |
| DON'T KNOW/NOT REPORTED..... | 71 | 717 | 10.1 | .015 | 4 | 216 | 21 | 35 | 231 | 3.3 | 15.10 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 209 | 1,772 | 8.5 | 0.055 | 16 | 262 | 31 | 31 | 676 | 3.2 | 12.35 |
| NO..... | 963 | 7,934 | 8.2 | .240 | 70 | 249 | 30 | 31 | 3,103 | 3.2 | 12.93 |
| DON'T KNOW/NOT REPORTED..... | 57 | 620 | 10.8 | .013 | 4 | 2 | 22 | 2 | 193 | 3.4 | 14.46 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 821 | 7,190 | 8.8 | .224 | 66 | 273 | 31 | 30 | 2,908 | 3.5 | 12.96 |
| NO..... | 145 | 1,602 | 11.0 | .048 | 14 | 327 | 30 | 28 | 586 | 4.0 | 12.33 |
| NOT REPORTED/ NOT APPLICABLE..... | 263 | 1,534 | 5.8 | .036 | 11 | 138 | 24 | 48 | 478 | 1.8 | 13.18 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 80 | 1,429 | 17.8 | .082 | 24 | 1,021 | 57 | 27 | 1,046 | 13.0 | 12.79 |
| NO..... | 14 | 491 | 35.5 | .024 | 7 | 1,704 | 48 | 25 | 294 | 21.2 | 12.46 |
| NOT REPORTED/ NOT APPLICABLE..... | 1,135 | 8,406 | 7.4 | .203 | 59 | 179 | 24 | 34 | 2,634 | 2.3 | 12.98 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 828 | 7,267 | 8.8 | .231 | 68 | 279 | 32 | 30 | 2,992 | 3.6 | 12.95 |
| NO..... | 138 | 1,518 | 11.0 | .041 | 12 | 295 | 27 | 27 | 498 | 3.6 | 12.28 |
| NOT REPORTED/ NOT APPLICABLE..... | 263 | 1,542 | 5.9 | .037 | 11 | 139 | 24 | 48 | 482 | 1.8 | 13.17 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 11. 1979 Natural Gas and Electricity Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Natural Gas or Electricity or Both

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 2,223 | 4,758 | 2.1 | 0.706 | 318 | 148 | 68 | 5,735 | 2.6 | 8.12 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 1,973 | 4,367 | 2.2 | .658 | 333 | 151 | 67 | 5,270 | 2.7 | 8.01 |
| ELECTRICITY..... | 567 | 1,151 | 2.0 | .151 | 267 | 132 | 47 | 1,685 | 3.0 | 11.13 |
| NATURAL GAS..... | 978 | 2,361 | 2.4 | .466 | 476 | 197 | 95 | 2,818 | 2.9 | 6.05 |
| FUEL OIL/KEROSENE..... | 382 | 879 | 2.3 | .069 | 181 | 79 | 43 | 837 | 2.2 | 12.11 |
| LIQUID PETROLEUM GAS..... | 152 | 256 | 1.7 | .027 | 180 | 106 | 48 | 266 | 1.8 | 9.75 |
| WOOD..... | 63 | 132 | 2.1 | .010 | 159 | 75 | 60 | 131 | 2.1 | 13.17 |
| COAL..... | 26 | 70 | 2.7 | .001 | 2 | 2 | 2 | 20 | 2 | 13.53 |
| OTHER..... | 4 | 12 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO HEATING FUEL USED..... | 250 | 390 | 1.6 | .048 | 194 | 124 | 85 | 466 | 1.9 | 9.61 |
| AIR CONDITIONING FUEL USED.. | 1,335 | 3,020 | 2.3 | .496 | 372 | 164 | 62 | 4,301 | 3.2 | 8.67 |
| ELECTRICITY..... | 1,262 | 2,826 | 2.2 | .449 | 356 | 159 | 61 | 3,941 | 3.1 | 8.78 |
| NATURAL GAS..... | 75 | 192 | 2.6 | .042 | 570 | 221 | 79 | 295 | 4.0 | 6.94 |
| OTHER..... | 12 | 32 | 2.6 | 2 | 2 | 2 | 2 | 2 | 2 | 11.15 |
| NO AIR CONDITIONING FUEL.... | 888 | 1,737 | 2.0 | .210 | 236 | 121 | 88 | 1,435 | 1.6 | 6.83 |
| WATER-HEATING FUEL USED..... | 1,358 | 3,233 | 2.4 | .559 | 412 | 173 | 72 | 4,252 | 3.1 | 7.60 |
| NATURAL GAS..... | 608 | 1,541 | 2.5 | .362 | 595 | 235 | 100 | 2,211 | 3.6 | 6.12 |
| ELECTRICITY..... | 662 | 1,494 | 2.3 | .191 | 288 | 128 | 51 | 1,885 | 2.8 | 9.87 |
| FUEL OIL/KEROSENE..... | 55 | 141 | 2.5 | 2 | 2 | 2 | 2 | 2 | 2 | 12.80 |
| OTHER..... | 59 | 128 | 2.2 | .005 | 88 | 40 | 22 | 75 | 1.3 | 14.60 |
| NO WATER-HEATING FUEL..... | 865 | 1,524 | 1.8 | .147 | 170 | 96 | 56 | 1,484 | 1.7 | 10.09 |
| MANUFACTURING FUEL USED..... | 167 | 424 | 2.5 | .064 | 383 | 151 | 90 | 439 | 2.6 | 6.86 |
| ELECTRICITY..... | 134 | 317 | 2.4 | .041 | 304 | 128 | 71 | 304 | 2.3 | 7.47 |
| NATURAL GAS..... | 26 | 88 | 3.4 | .027 | 1,016 | 302 | 174 | 158 | 6.0 | 5.94 |
| OTHER..... | 17 | 53 | 3.1 | .004 | 2 | 2 | 2 | 35 | 2.0 | 2 |
| NO MANUFACTURING DONE..... | 2,056 | 4,333 | 2.1 | .642 | 312 | 148 | 67 | 5,296 | 2.6 | 8.25 |
| COOKING FUEL USED..... | 636 | 1,580 | 2.5 | .293 | 460 | 185 | 76 | 2,191 | 3.4 | 7.49 |
| ELECTRICITY..... | 366 | 911 | 2.5 | .145 | 397 | 160 | 66 | 1,223 | 3.3 | 8.41 |
| NATURAL GAS..... | 271 | 728 | 2.7 | .198 | 731 | 272 | 100 | 1,346 | 5.0 | 6.79 |
| LIQUID PETROLEUM GAS..... | 61 | 118 | 1.9 | .006 | 96 | 49 | 20 | 88 | 1.4 | 15.08 |
| OTHER..... | 12 | 27 | 2.3 | .001 | 101 | 44 | 42 | 12 | 1.0 | 10.36 |
| NO COOKING FUEL..... | 1,587 | 3,177 | 2.0 | .414 | 261 | 130 | 64 | 3,544 | 2.2 | 8.57 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 313 | 786 | 2.5 | .103 | 329 | 131 | 69 | 1,010 | 3.2 | 9.80 |
| NORTH CENTRAL..... | 703 | 1,563 | 2.2 | .239 | 339 | 153 | 78 | 1,580 | 2.2 | 6.62 |
| SOUTH..... | 905 | 1,770 | 2.0 | .280 | 309 | 158 | 74 | 2,537 | 2.8 | 9.06 |
| WEST..... | 302 | 638 | 2.1 | .085 | 280 | 133 | 42 | 608 | 2.0 | 7.19 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 1,178 | 2,628 | 2.2 | 0.433 | 368 | 165 | 69 | 3,493 | 3.0 | 8.06 |
| NONSMSA..... | 1,045 | 2,129 | 2.0 | .273 | 261 | 128 | 68 | 2,243 | 2.1 | 8.22 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 221 | 522 | 2.4 | .063 | 283 | 120 | 84 | 397 | 1.8 | 6.34 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 601 | 1,387 | 2.3 | .220 | 365 | 158 | 74 | 1,541 | 2.6 | 7.02 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 605 | 1,289 | 2.1 | .167 | 277 | 130 | 63 | 1,461 | 2.4 | 8.73 |
| <2,000 CDD AND <4,000 HDD... | 397 | 781 | 2.0 | .143 | 361 | 183 | 73 | 1,083 | 2.7 | 7.56 |
| >2,000 CDD AND <4,000 HDD... | 398 | 779 | 2.0 | .113 | 284 | 145 | 56 | 2 | 3.1 | 11.07 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 194 | 451 | 2.3 | .048 | 249 | 107 | 105 | 341 | 1.8 | 7.06 |
| AUTOMOTIVE SALES & SERVICE.. | 287 | 545 | 1.9 | .057 | 197 | 104 | 60 | 458 | 1.6 | 8.10 |
| EDUCATION..... | 43 | 104 | 2.4 | .015 | 339 | 140 | 81 | 138 | 3.2 | 9.43 |
| FOOD SALES..... | 276 | 569 | 2.1 | .158 | 573 | 278 | 78 | 1,372 | 5.0 | 8.67 |
| HEALTH CARE..... | 19 | 42 | 2.2 | .003 | 179 | 81 | 35 | 31 | 1.6 | 9.02 |
| LODGING..... | 43 | 90 | 2.1 | .014 | 336 | 160 | 98 | 141 | 3.3 | 9.80 |
| OFFICE..... | 346 | 777 | 2.2 | .118 | 342 | 152 | 43 | 1,016 | 2.9 | 8.58 |
| RESIDENTIAL..... | 218 | 529 | 2.4 | .067 | 309 | 127 | 102 | 467 | 2.1 | 6.96 |
| RETAIL/SERVICES..... | 414 | 916 | 2.2 | .117 | 283 | 128 | 63 | 868 | 2.1 | 7.39 |
| WAREHOUSE AND STORAGE..... | 184 | 391 | 2.1 | .062 | 337 | 158 | 152 | 510 | 2.8 | 8.23 |
| OTHER..... | 127 | 216 | 1.7 | .025 | 195 | 115 | 2 | 237 | 1.9 | 9.55 |
| VACANT..... | 72 | 127 | 1.8 | .021 | 293 | 2 | 2 | 157 | 2 | 7.46 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 600 | 342 | .6 | .097 | 163 | 285 | 67 | 982 | 1.6 | 10.08 |
| 1,001 TO 5,000..... | 1,623 | 4,416 | 2.7 | .609 | 375 | 138 | 68 | 4,753 | 2.9 | 7.81 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 1,602 | 3,054 | 1.9 | .490 | 306 | 160 | 66 | 4,164 | 2.6 | 8.50 |
| TWO FLOORS..... | 398 | 1,060 | 2.7 | .144 | 362 | 136 | 73 | 1,008 | 2.5 | 6.98 |
| THREE FLOORS..... | 171 | 499 | 2.9 | .047 | 273 | 93 | 69 | 296 | 1.7 | 6.35 |
| MORE THAN THREE..... | 52 | 144 | 2.8 | .025 | 483 | 174 | 90 | 268 | 5.2 | 10.71 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 166 | 430 | 2.6 | 0.042 | 255 | 99 | 71 | 364 | 2.2 | 8.57 |
| 1901 TO 1920..... | 191 | 487 | 2.5 | .066 | 348 | 137 | 96 | 425 | 2.2 | 6.39 |
| 1921 TO 1945..... | 426 | 881 | 2.1 | .124 | 291 | 141 | 72 | 861 | 2.0 | 6.96 |
| 1946 TO 1960..... | 626 | 1,226 | 2.0 | .153 | 245 | 125 | 64 | 1,278 | 2.0 | 8.33 |
| 1961 TO 1970..... | 420 | 879 | 2.1 | .169 | 403 | 193 | 88 | 1,340 | 3.2 | 7.91 |
| 1971 TO 1973..... | 102 | 231 | 2.3 | .033 | 327 | 144 | 45 | 314 | 3.1 | 9.43 |
| 1974 TO 1979..... | 291 | 623 | 2.1 | .118 | 404 | 189 | 51 | 1,154 | 4.0 | 9.82 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | 581 | 983 | 1.7 | .102 | 176 | 104 | 42 | 1,416 | 2.4 | 13.86 |
| ELECTRICITY..... | 575 | 968 | 1.7 | .101 | 176 | 104 | 42 | 1,412 | 2.5 | 14.00 |
| NATURAL GAS..... | 6 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 1,462 | 3,320 | 2.3 | .548 | 375 | 165 | 76 | 3,809 | 2.6 | 6.95 |
| ELEC., NATURAL GAS..... | 1,008 | 2,424 | 2.4 | .489 | 485 | 202 | 89 | 3,071 | 3.0 | 6.28 |
| ELEC., FUEL OIL/KEROSENE..... | 275 | 589 | 2.1 | .031 | 113 | 53 | 30 | 461 | 1.7 | 14.88 |
| ELEC., LPG..... | 134 | 213 | 1.6 | .024 | 177 | 111 | 0 | 234 | 1.8 | 9.91 |
| OTHER..... | 45 | 94 | 2.1 | .004 | 95 | 45 | 28 | 43 | .9 | 9.98 |
| THREE FUELS USED..... | 166 | 407 | 2.4 | .054 | 324 | 132 | 73 | 486 | 2.9 | 9.03 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 76 | 216 | 2.9 | .038 | 509 | 178 | 103 | 307 | 4.1 | 8.00 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 35 | 78 | 2.2 | .003 | 79 | 35 | 0 | 44 | 1.3 | 16.05 |
| ELEC., GAS, OTHER..... | 30 | 63 | 2.1 | .008 | 267 | 128 | 89 | 53 | 1.8 | 6.64 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 12 | 25 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER..... | 14 | 25 | 1.9 | .001 | 54 | 29 | 22 | 9 | .7 | 12.13 |
| FOUR OR MORE FUELS USED..... | 14 | 48 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 2,215 | 4,736 | 2.1 | .705 | 318 | 149 | 68 | 5,730 | 2.6 | 8.13 |
| NATURAL GAS..... | 1,129 | 2,746 | 2.4 | .539 | 477 | 196 | 90 | 3,457 | 3.1 | 6.42 |
| FUEL OIL/KEROSENE..... | 402 | 922 | 2.3 | .076 | 190 | 83 | 46 | 887 | 2.2 | 11.61 |
| LIQUID PETROLEUM GAS..... | 199 | 367 | 1.8 | .032 | 160 | 87 | 39 | 328 | 1.6 | 10.29 |
| WOOD..... | 77 | 160 | 2.1 | .013 | 170 | 81 | 68 | 152 | 2.0 | 11.63 |
| COAL..... | 33 | 91 | 2.8 | .003 | 82 | 0 | 0 | 27 | 0 | 10.15 |
| OTHER..... | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 646 | 1,402 | 2.2 | 0.253 | 392 | 181 | 61 | 2,162 | 3.3 | 8.53 |
| RADIANT..... | 112 | 188 | 1.7 | .013 | 117 | 69 | 40 | 139 | 1.2 | 10.67 |
| COMBINATION/OTHER..... | 253 | 486 | 1.9 | .067 | 267 | 139 | 82 | 557 | 2.2 | 8.26 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 551 | 1,219 | 2.2 | .154 | 280 | 126 | 60 | 1,222 | 2.2 | 7.93 |
| RADIANT..... | 206 | 570 | 2.8 | .089 | 435 | 157 | 82 | 669 | 3.3 | 7.49 |
| COMBINATION/OTHER..... | 77 | 220 | 2.8 | .032 | 414 | 146 | 87 | 209 | 2.7 | 6.53 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 66 | 160 | 2.4 | .031 | 477 | 196 | 111 | 152 | 2.3 | 4.86 |
| RADIANT..... | 12 | 23 | 1.9 | 0 | 132 | 70 | 0 | 0 | 2.1 | 16.08 |
| COMBINATION/OTHER..... | 52 | 100 | 1.9 | .016 | 299 | 156 | 101 | 136 | 2.6 | 8.70 |
| NONE..... | 248 | 389 | 1.6 | .048 | 194 | 124 | 85 | 462 | 1.9 | 9.60 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 83 | 185 | 2.2 | .014 | 172 | 77 | 39 | 150 | 1.8 | 10.50 |
| 26 TO 50..... | 201 | 456 | 2.3 | .053 | 262 | 115 | 64 | 435 | 2.2 | 8.26 |
| 51 TO 75..... | 160 | 388 | 2.4 | .050 | 309 | 128 | 48 | 386 | 2.4 | 7.79 |
| 76 TO 99..... | 120 | 305 | 2.5 | .043 | 357 | 140 | 52 | 339 | 2.8 | 7.94 |
| 100..... | 1,411 | 3,035 | 2.2 | .499 | 353 | 164 | 74 | 3,963 | 2.8 | 7.95 |
| NONE..... | 248 | 389 | 1.6 | .048 | 194 | 124 | 85 | 462 | 1.9 | 9.60 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 158 | 412 | 2.6 | .059 | 374 | 144 | 66 | 474 | 3.0 | 8.02 |
| 26 TO 50..... | 292 | 749 | 2.6 | .103 | 354 | 138 | 63 | 643 | 2.2 | 6.23 |
| 51 TO 75..... | 149 | 350 | 2.3 | .059 | 393 | 168 | 52 | 488 | 3.3 | 8.32 |
| 76 TO 99..... | 82 | 193 | 2.4 | .032 | 395 | 168 | 61 | 327 | 4.0 | 10.12 |
| 100..... | 654 | 1,317 | 2.0 | .243 | 371 | 184 | 64 | 2,368 | 3.6 | 9.75 |
| NONE..... | 888 | 1,737 | 2.0 | .210 | 236 | 121 | 88 | 1,435 | 1.6 | 6.83 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 533 | 1,031 | 1.9 | .125 | 235 | 121 | 60 | 1,127 | 2.1 | 9.01 |
| PACKAGE UNITS..... | 335 | 857 | 2.6 | .157 | 467 | 183 | 56 | 1,436 | 4.3 | 9.17 |
| CENTRAL SYSTEM..... | 358 | 867 | 2.4 | .175 | 487 | 201 | 70 | 1,414 | 3.9 | 8.10 |
| COMBINATION/OTHER..... | 109 | 265 | 2.4 | .040 | 366 | 151 | 70 | 324 | 3.0 | 8.10 |
| NO AIR CONDITIONING..... | 888 | 1,737 | 2.0 | .210 | 236 | 121 | 88 | 1,435 | 1.6 | 6.83 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,123 | 2,332 | 2.1 | 0.363 | 324 | 156 | 81 | 2,848 | 2.5 | 7.84 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 724 | 1,508 | 2.1 | .211 | 292 | 140 | 63 | 1,804 | 2.5 | 8.55 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 161 | 419 | 2.6 | .043 | 267 | 103 | 40 | 363 | 2.3 | 8.45 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 82 | 241 | 2.9 | .037 | 451 | 154 | 52 | 357 | 4.3 | 9.60 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | |
| | 106 | 199 | 1.9 | .047 | 442 | 235 | 81 | 316 | 3.0 | 6.74 |
| NOT REPORTED..... | 28 | 58 | 2.1 | 0 | 0 | 0 | 0 | 0 | 0 | 10.04 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 1,973 | 3,998 | 2.0 | .533 | 270 | 133 | 93 | 4,244 | 2.2 | 7.96 |
| 10 TO 19..... | 183 | 515 | 2.8 | .108 | 589 | 209 | 46 | 897 | 4.9 | 8.33 |
| 20 TO 49..... | 55 | 188 | 3.4 | .054 | 979 | 285 | 36 | 500 | 9.1 | 9.33 |
| 50 OR MORE..... | 12 | 56 | 4.7 | .012 | 0 | 0 | 0 | 0 | 0 | 8.16 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 148 | 222 | 1.5 | .037 | 251 | 168 | 0 | 319 | 2.1 | 8.55 |
| 39 OR FEWER HOURS..... | 371 | 751 | 2.0 | .097 | 261 | 129 | 114 | 698 | 1.9 | 7.20 |
| 40 TO 48 HOURS..... | 533 | 1,203 | 2.3 | .135 | 253 | 112 | 54 | 1,050 | 2.0 | 7.79 |
| 49 TO 60 HOURS..... | 480 | 1,145 | 2.4 | .124 | 258 | 108 | 49 | 1,107 | 2.3 | 8.96 |
| 61 TO 84 HOURS..... | 307 | 612 | 2.0 | .113 | 368 | 185 | 75 | 823 | 2.7 | 7.27 |
| MORE THAN 84 HOURS..... | 382 | 825 | 2.2 | .200 | 524 | 243 | 71 | 1,738 | 4.5 | 8.68 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|-----------------------------------|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 743 | 1,680 | 2.3 | 0.224 | 301 | 133 | 61 | 1,718 | 2.3 | 7.67 |
| NO..... | 1,369 | 2,827 | 2.1 | .449 | 328 | 159 | 72 | 3,707 | 2.7 | 8.25 |
| DON'T KNOW/NOT REPORTED..... | 110 | 250 | 2.3 | .033 | 298 | 132 | 77 | 310 | 2.8 | 9.45 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 608 | 1,394 | 2.3 | .167 | 275 | 120 | 58 | 1,359 | 2.2 | 8.14 |
| NO..... | 1,478 | 3,061 | 2.1 | .496 | 335 | 162 | 72 | 4,037 | 2.7 | 8.14 |
| DON'T KNOW/NOT REPORTED..... | 136 | 302 | 2.2 | .043 | 318 | 144 | 69 | 340 | 2.5 | 7.82 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 373 | 837 | 2.2 | .101 | 271 | 121 | 52 | 812 | 2.2 | 8.03 |
| NO..... | 1,734 | 3,652 | 2.1 | .569 | 328 | 156 | 72 | 4,652 | 2.7 | 8.17 |
| DON'T KNOW/NOT REPORTED..... | 116 | 268 | 2.3 | .036 | 308 | 134 | 71 | 271 | 2.3 | 7.57 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 1,677 | 3,715 | 2.2 | .535 | 319 | 144 | 67 | 4,261 | 2.5 | 7.97 |
| NO..... | 279 | 624 | 2.2 | .118 | 423 | 189 | 67 | 949 | 3.4 | 8.04 |
| NOT REPORTED..... | 18 | 30 | 1.7 | 0 | 0 | 0 | 0 | 0 | 0 | 12.30 |
| NOT APPLICABLE..... | 248 | 389 | 1.6 | .048 | 194 | 124 | 85 | 462 | 1.9 | 9.60 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 710 | 1,752 | 2.5 | .308 | 434 | 176 | 60 | 2,630 | 3.7 | 8.55 |
| NO..... | 81 | 211 | 2.6 | .052 | 646 | 249 | 73 | 427 | 5.3 | 8.14 |
| NOT REPORTED..... | 12 | 28 | 2.3 | 0 | 0 | 0 | 0 | 0 | 0 | 10.56 |
| NOT APPLICABLE..... | 1,420 | 2,768 | 1.9 | .335 | 236 | 121 | 75 | 2,562 | 1.8 | 7.65 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 1,730 | 3,833 | 2.2 | .565 | 326 | 147 | 67 | 4,568 | 2.6 | 8.09 |
| NO..... | 239 | 529 | 2.2 | .103 | 433 | 195 | 81 | 815 | 3.4 | 7.88 |
| NOT REPORTED..... | 21 | 36 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 11.77 |
| NOT APPLICABLE..... | 233 | 356 | 1.5 | .032 | 136 | 68 | 62 | 276 | 1.2 | 8.75 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 12. 1979 Natural Gas and Electricity Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Natural Gas or Electricity or Both

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 733 | 5,271 | 7.2 | 0.505 | 689 | 96 | 70 | 3,390 | 4.6 | 6.71 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 707 | 5,100 | 7.2 | .496 | 701 | 97 | 70 | 3,299 | 4.7 | 6.66 |
| ELECTRICITY..... | 187 | 1,295 | 6.9 | .083 | 445 | 64 | 40 | 766 | 4.1 | 9.21 |
| NATURAL GAS..... | 418 | 3,055 | 7.3 | .397 | 950 | 130 | 97 | 2,268 | 5.5 | 5.76 |
| FUEL OIL/KEROSENE..... | 171 | 1,222 | 7.1 | .058 | 341 | 48 | 35 | 458 | 2.7 | 7.84 |
| LIQUID PETROLEUM GAS..... | 37 | 240 | 6.5 | .009 | 241 | 37 | 20 | 110 | 3.0 | 12.32 |
| WOOD..... | 21 | 168 | 7.9 | 0 | 178 | 23 | 0 | 0 | 1.6 | 9.21 |
| OTHER..... | 10 | 82 | 8.1 | .010 | 1,015 | 126 | 0 | 53 | 5.2 | 5.13 |
| NO HEATING FUEL USED..... | 27 | 171 | 6.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AIR CONDITIONING FUEL USED.. | 490 | 3,535 | 7.2 | .389 | 793 | 110 | 66 | 2,526 | 5.2 | 6.50 |
| ELECTRICITY..... | 468 | 3,372 | 7.2 | .360 | 768 | 107 | 64 | 2,360 | 5.0 | 6.56 |
| NATURAL GAS..... | 22 | 169 | 7.7 | .030 | 1,367 | 179 | 93 | 176 | 8.0 | 5.83 |
| OTHER..... | 5 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL..... | 243 | 1,736 | 7.1 | .116 | 479 | 67 | 87 | 863 | 3.6 | 7.41 |
| WATER-HEATING FUEL USED..... | 539 | 3,951 | 7.3 | .410 | 761 | 104 | 73 | 2,823 | 5.2 | 6.88 |
| NATURAL GAS..... | 247 | 1,821 | 7.4 | .249 | 1,011 | 137 | 94 | 1,568 | 6.4 | 6.29 |
| ELECTRICITY..... | 252 | 1,844 | 7.3 | .154 | 612 | 84 | 61 | 1,117 | 4.4 | 7.24 |
| FUEL OIL/KEROSENE..... | 36 | 256 | 7.1 | .012 | 336 | 48 | 42 | 137 | 3.8 | 11.21 |
| OTHER..... | 18 | 138 | 7.6 | 0 | 0 | 0 | 0 | 0 | 0 | 14.16 |
| NO WATER-HEATING FUEL..... | 194 | 1,320 | 6.8 | .095 | 488 | 72 | 58 | 567 | 2.9 | 5.97 |
| MANUFACTURING FUEL USED..... | 55 | 368 | 6.7 | 0 | 1,008 | 150 | 90 | 270 | 4.9 | 4.91 |
| ELECTRICITY..... | 47 | 315 | 6.7 | 0 | 1,113 | 167 | 95 | 256 | 5.4 | 4.86 |
| OTHER..... | 11 | 85 | 7.4 | 0 | 0 | 0 | 0 | 0 | 0 | 3.60 |
| NO MANUFACTURING DONE..... | 679 | 4,903 | 7.2 | .450 | 663 | 92 | 68 | 3,119 | 4.6 | 6.93 |
| COOKING FUEL USED..... | 265 | 1,909 | 7.2 | .169 | 636 | 88 | 69 | 1,209 | 4.6 | 7.16 |
| ELECTRICITY..... | 143 | 1,008 | 7.1 | .087 | 612 | 87 | 62 | 617 | 4.3 | 7.06 |
| NATURAL GAS..... | 120 | 901 | 7.5 | .107 | 886 | 118 | 81 | 705 | 5.9 | 6.62 |
| LIQUID PETROLEUM GAS..... | 24 | 174 | 7.4 | 0 | 0 | 0 | 0 | 0 | 0 | 14.19 |
| OTHER..... | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 468 | 3,362 | 7.2 | .336 | 718 | 100 | 70 | 2,181 | 4.7 | 6.48 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 145 | 1,028 | 7.1 | .090 | 624 | 88 | 75 | 701 | 4.9 | 7.77 |
| NORTH CENTRAL..... | 247 | 1,781 | 7.2 | .236 | 955 | 132 | 96 | 1,424 | 5.8 | 6.04 |
| SOUTH..... | 223 | 1,578 | 7.1 | .095 | 428 | 60 | 42 | 808 | 3.6 | 8.47 |
| WEST..... | 119 | 883 | 7.4 | .084 | 703 | 95 | 64 | 457 | 3.8 | 5.45 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT ((THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|---|--|----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA | 419 | 3,040 | 7.3 | 0.348 | 831 | 114 | 85 | 2,290 | 5.5 | 6.59 |
| NONSMSA | 315 | 2,231 | 7.1 | .158 | 500 | 71 | 50 | 1,100 | 3.5 | 6.98 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 109 | 779 | 7.2 | .058 | 528 | 74 | 60 | 397 | 3.6 | 6.90 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 241 | 1,731 | 7.2 | .235 | 974 | 136 | 104 | 1,260 | 5.2 | 5.37 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 182 | 1,314 | 7.2 | .111 | 612 | 85 | 53 | 922 | 5.1 | 8.31 |
| <2,000 CDD AND <4,000 HDD... | 105 | 792 | 7.5 | .067 | 2 | 2 | 70 | 460 | 4.4 | 6.84 |
| >2,000 CDD AND <4,000 HDD... | 97 | 656 | 6.8 | .035 | 357 | 53 | 36 | 2 | 3.6 | 10.12 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 131 | 968 | 7.4 | .100 | 767 | 104 | 2 | 455 | 3.5 | 4.54 |
| AUTOMOTIVE SALES & SERVICE.. | 76 | 520 | 6.8 | .055 | 718 | 105 | 97 | 329 | 4.3 | 6.03 |
| EDUCATION..... | 21 | 152 | 7.3 | .010 | 499 | 67 | 57 | 90 | 4.4 | 8.84 |
| FOOD SALES..... | 51 | 355 | 7.0 | .059 | 1,152 | 165 | 73 | 422 | 8.3 | 7.19 |
| HEALTH CARE..... | 9 | 56 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| LODGING..... | 22 | 162 | 7.2 | .030 | 1,340 | 185 | 2 | 156 | 6.9 | 5.18 |
| OFFICE..... | 115 | 829 | 7.2 | .082 | 714 | 99 | 40 | 588 | 5.1 | 7.14 |
| RESIDENTIAL..... | 45 | 340 | 7.5 | .026 | 578 | 77 | 2 | 215 | 4.7 | 8.18 |
| RETAIL/SERVICES..... | 152 | 1,111 | 7.3 | .078 | 511 | 70 | 65 | 536 | 3.5 | 6.88 |
| WAREHOUSE AND STORAGE..... | 58 | 409 | 7.0 | .028 | 485 | 69 | 72 | 298 | 5.1 | 10.52 |
| OTHER..... | 38 | 277 | 7.3 | 2 | 701 | 96 | 61 | 195 | 5.2 | 7.36 |
| VACANT..... | 14 | 90 | 6.3 | .007 | 454 | 72 | 2 | 2 | 2 | 10.93 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 5,001 TO 10,000..... | 733 | 5,271 | 7.2 | .505 | 689 | 96 | 70 | 3,390 | 4.6 | 6.71 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 321 | 2,257 | 7.0 | .194 | 603 | 86 | 57 | 1,516 | 4.7 | 7.81 |
| TWO FLOORS..... | 250 | 1,868 | 7.5 | .199 | 797 | 107 | 80 | 1,212 | 4.8 | 6.09 |
| THREE FLOORS..... | 119 | 827 | 7.0 | .068 | 570 | 82 | 67 | 409 | 3.5 | 6.06 |
| MORE THAN THREE..... | 43 | 320 | 7.4 | .044 | 1,022 | 138 | 119 | 252 | 5.8 | 5.69 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 65 | 475 | 7.3 | 0.040 | 614 | 84 | 103 | 234 | 3.6 | 5.86 |
| 1901 TO 1920..... | 101 | 718 | 7.1 | .068 | 675 | 95 | 70 | 483 | 4.8 | 7.12 |
| 1921 TO 1945..... | 130 | 961 | 7.4 | .111 | 855 | 116 | 94 | 592 | 4.6 | 5.32 |
| 1946 TO 1960..... | 173 | 1,237 | 7.1 | .092 | 529 | 74 | 58 | 654 | 3.8 | 7.14 |
| 1961 TO 1970..... | 134 | 914 | 6.8 | .099 | 740 | 108 | 78 | 650 | 4.9 | 6.56 |
| 1971 TO 1973..... | 34 | 251 | 7.4 | .032 | 939 | 127 | 75 | 252 | 7.4 | 7.89 |
| 1974 TO 1979..... | 97 | 715 | 7.4 | .063 | 656 | 89 | 44 | 524 | 5.4 | 8.27 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | | | | | | | | | | |
| ELECTRICITY..... | 91 | 622 | 6.8 | .031 | 341 | 50 | 34 | 383 | 4.2 | 12.27 |
| NATURAL GAS..... | 91 | 620 | 6.8 | .031 | 341 | 50 | 34 | 383 | 4.2 | 12.29 |
| NATURAL GAS..... | - | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 534 | 3,880 | 7.3 | .398 | 746 | 103 | 75 | 2,592 | 4.8 | 6.50 |
| ELEC., FUEL OIL/KEROSENE..... | 399 | 2,903 | 7.3 | .374 | 937 | 129 | 95 | 2,256 | 5.6 | 6.03 |
| ELEC., LPG..... | 90 | 664 | 7.3 | .014 | 151 | 21 | 0 | 199 | 2.2 | 14.56 |
| OTHER..... | 29 | 198 | 6.7 | .008 | 272 | 40 | 25 | 111 | 3.8 | 13.98 |
| THREE FUELS USED..... | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 15 | 115 | 7.5 | 0 | 171 | 23 | 0 | 0 | 1.7 | 0 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 101 | 726 | 7.2 | .073 | 715 | 100 | 77 | 401 | 4.0 | 5.53 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 59 | 436 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 5.09 |
| ELEC., LPG..... | 22 | 140 | 6.3 | 0 | 136 | 0 | 17 | 0 | 1.9 | 13.60 |
| ELEC., GAS, OTHER..... | 13 | 102 | 7.8 | .013 | 1,021 | 130 | 77 | 69 | 5.3 | 5.16 |
| OTHER..... | 7 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOUR OR MORE FUELS USED..... | | | | | | | | | | |
| OTHER..... | 6 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 733 | 5,270 | 7.2 | .505 | 689 | 96 | 70 | 3,389 | 4.6 | 6.71 |
| NATURAL GAS..... | 475 | 3,469 | 7.3 | .446 | 938 | 128 | 95 | 2,617 | 5.5 | 5.87 |
| FUEL OIL/KEROSENE..... | 179 | 1,280 | 7.1 | .072 | 404 | 57 | 41 | 528 | 2.9 | 7.29 |
| LIQUID PETROLEUM GAS..... | 60 | 408 | 6.8 | .014 | 232 | 34 | 24 | 178 | 2.9 | 12.68 |
| WOOD..... | 23 | 176 | 7.7 | 0 | 169 | 22 | 0 | 0 | 1.6 | 9.41 |
| OTHER..... | 18 | 126 | 7.2 | 0 | 0 | 0 | 0 | 70 | 4.0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 227 | 1,602 | 7.1 | 0.142 | 625 | 89 | 52 | 1,111 | 4.9 | 7.83 |
| RADIANT..... | 28 | 196 | 7.1 | .019 | 689 | 97 | 2 | 133 | 4.8 | 6.98 |
| COMBINATION/OTHER..... | 31 | 232 | 7.5 | .032 | 1,023 | 137 | 105 | 178 | 5.7 | 5.60 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 197 | 1,443 | 7.3 | .133 | 676 | 92 | 68 | 832 | 4.2 | 6.25 |
| RADIANT..... | 110 | 787 | 7.1 | .105 | 956 | 134 | 97 | 584 | 5.3 | 5.54 |
| COMBINATION/OTHER..... | 39 | 294 | 7.4 | .027 | 681 | 92 | 94 | 219 | 5.5 | 8.14 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 30 | 223 | 7.4 | .012 | 411 | 56 | 48 | 2 | 3.9 | 9.59 |
| RADIANT..... | 6 | 47 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| COMBINATION/OTHER..... | 38 | 275 | 7.2 | .023 | 596 | 83 | 90 | 114 | 3.0 | 4.96 |
| NONE..... | 27 | 171 | 6.4 | 2 | 2 | 2 | 74 | 91 | 3.4 | 2 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 66 | 486 | 7.4 | 2 | 2 | 2 | 2 | 240 | 3.6 | 2 |
| 26 TO 50..... | 71 | 495 | 6.9 | .038 | 531 | 77 | 86 | 298 | 4.2 | 7.85 |
| 51 TO 75..... | 71 | 493 | 6.9 | .078 | 1,095 | 158 | 150 | 341 | 4.8 | 4.36 |
| 76 TO 99..... | 47 | 338 | 7.3 | .023 | 503 | 69 | 39 | 215 | 4.6 | 9.16 |
| 100..... | 451 | 3,288 | 7.3 | .316 | 700 | 96 | 62 | 2,207 | 4.9 | 6.99 |
| NONE..... | 27 | 171 | 6.4 | 2 | 2 | 2 | 74 | 91 | 3.4 | 2 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 116 | 813 | 7.0 | .092 | 797 | 114 | 80 | 524 | 4.5 | 5.67 |
| 26 TO 50..... | 115 | 832 | 7.2 | .087 | 756 | 105 | 94 | 470 | 4.1 | 5.39 |
| 51 TO 75..... | 55 | 384 | 7.0 | .040 | 722 | 103 | 67 | 266 | 4.8 | 6.70 |
| 76 TO 99..... | 37 | 279 | 7.5 | .026 | 708 | 94 | 42 | 235 | 6.3 | 8.96 |
| 100..... | 167 | 1,227 | 7.3 | .143 | 857 | 117 | 55 | 1,031 | 6.2 | 7.21 |
| NONE..... | 243 | 1,736 | 7.1 | .116 | 479 | 67 | 87 | 863 | 3.6 | 7.41 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 120 | 823 | 6.9 | .071 | 593 | 86 | 73 | 397 | 3.3 | 5.59 |
| PACKAGE UNITS..... | 169 | 1,241 | 7.3 | .142 | 841 | 114 | 63 | 1,049 | 6.2 | 7.39 |
| CENTRAL SYSTEM..... | 145 | 1,066 | 7.4 | .127 | 878 | 119 | 60 | 763 | 5.4 | 6.13 |
| COMBINATION/OTHER..... | 57 | 403 | 7.1 | .048 | 850 | 119 | 81 | 296 | 5.2 | 6.16 |
| NO AIR CONDITIONING..... | 243 | 1,736 | 7.1 | .116 | 479 | 67 | 87 | 863 | 3.6 | 7.41 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILL-DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|-------------------------------------|--|--|--|------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 352 | 2,574 | 7.3 | 0.247 | 700 | 96 | 82 | 1,552 | 4.4 | 6.29 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 169 | 1,208 | 7.1 | .110 | 650 | 91 | 62 | 803 | 4.8 | 7.31 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 89 | 616 | 6.9 | .046 | 515 | 75 | 46 | 298 | 3.3 | 6.47 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 72 | 503 | 6.9 | .049 | 679 | 98 | 64 | 375 | 5.2 | 7.63 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | |
| | 42 | 316 | 7.5 | 0 | 0 | 107 | 52 | 263 | 6.3 | 7.78 |
| NOT REPORTED..... | 8 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 496 | 3,489 | 7.0 | .237 | 478 | 68 | 125 | 1,581 | 3.2 | 6.67 |
| 10 TO 19..... | 143 | 1,053 | 7.4 | .129 | 905 | 123 | 69 | 908 | 6.3 | 7.02 |
| 20 TO 49..... | 77 | 586 | 7.6 | .117 | 1,517 | 199 | 53 | 725 | 9.4 | 6.22 |
| 50 OR MORE..... | 18 | 144 | 8.0 | .022 | 1,232 | 154 | 17 | 176 | 9.8 | 7.92 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 11 | 75 | 6.7 | .002 | 0 | 0 | 0 | 16 | 0 | 6.87 |
| 39 OR FEWER HOURS..... | 123 | 912 | 7.4 | .065 | 526 | 71 | 0 | 322 | 2.6 | 4.97 |
| 40 TO 48 HOURS..... | 194 | 1,340 | 6.9 | .119 | 616 | 89 | 62 | 846 | 4.4 | 7.10 |
| 49 TO 60 HOURS..... | 180 | 1,283 | 7.1 | .104 | 582 | 81 | 62 | 713 | 4.0 | 6.63 |
| 61 TO 84 HOURS..... | 116 | 851 | 7.3 | .070 | 604 | 82 | 60 | 570 | 4.9 | 8.15 |
| MORE THAN 84 HOURS..... | 110 | 809 | 7.4 | .144 | 1,312 | 178 | 92 | 921 | 8.4 | 6.39 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 287 | 2,077 | 7.2 | .180 | 626 | 86 | 68 | 1,327 | 4.6 | 7.39 |
| NO..... | 418 | 2,983 | 7.1 | .301 | 719 | 101 | 68 | 1,883 | 4.5 | 6.26 |
| DON'T KNOW/NOT REPORTED..... | 28 | 211 | 7.5 | .025 | 874 | 117 | 104 | 180 | 6.4 | 7.27 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 227 | 1,641 | 7.2 | .146 | 643 | 89 | 76 | 1,010 | 4.5 | 6.93 |
| NO..... | 453 | 3,240 | 7.1 | .328 | 723 | 101 | 68 | 2,142 | 4.7 | 6.54 |
| DON'T KNOW/NOT REPORTED..... | 53 | 390 | 7.3 | .032 | 595 | 81 | 62 | 237 | 4.5 | 7.50 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLAR) BTU |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|--|
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 149 | 1,078 | 7.3 | 0.076 | 514 | 71 | 59 | 690 | 4.6 | 9.04 |
| NO..... | 544 | 3,897 | 7.2 | .403 | 740 | 103 | 72 | 2,511 | 4.6 | 6.24 |
| DON'T KNOW/NOT REPORTED..... | 41 | 296 | 7.3 | .026 | 641 | 88 | 71 | 188 | 4.6 | 7.24 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 574 | 4,113 | 7.2 | .361 | 629 | 88 | 63 | 2,493 | 4.3 | 6.91 |
| NO..... | 127 | 937 | 7.4 | .130 | 1,024 | 139 | 97 | 748 | 5.9 | 5.76 |
| NOT REPORTED/ NOT APPLICABLE..... | 33 | 221 | 6.7 | 0 | 0 | 0 | 67 | 148 | 4.5 | 0 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 316 | 2,318 | 7.3 | .241 | 762 | 104 | 58 | 1,648 | 5.2 | 6.84 |
| NO..... | 52 | 380 | 7.3 | .073 | 1,399 | 191 | 90 | 424 | 8.2 | 5.84 |
| NOT REPORTED/ NOT APPLICABLE..... | 365 | 2,573 | 7.0 | .191 | 524 | 74 | 83 | 1,317 | 3.6 | 6.88 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 601 | 4,322 | 7.2 | .400 | 665 | 93 | 65 | 2,692 | 4.5 | 6.73 |
| NO..... | 103 | 762 | 7.4 | .091 | 883 | 120 | 92 | 549 | 5.3 | 6.01 |
| NOT REPORTED/ NOT APPLICABLE..... | 29 | 187 | 6.5 | 0 | 0 | 0 | 103 | 149 | 5.1 | 0 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 13. 1979 Natural Gas and Electricity Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Natural Gas or Electricity or Both

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLI-DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|--|--|--|--|-------------------------------|---|---------------------------------------|
| COMMERCIAL BUILDINGS..... | 918 | 37,276 | 40.6 | 3.238 | 3,527 | 87 | 70 | 23,350 | 25.4 | 7.21 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 879 | 35,957 | 40.9 | 3.204 | 3,646 | 89 | 70 | 23,038 | 26.2 | 7.19 |
| ELECTRICITY..... | 231 | 8,867 | 38.4 | .754 | 3,264 | 85 | 59 | 6,431 | 27.8 | 8.53 |
| NATURAL GAS..... | 526 | 20,469 | 38.9 | 2.300 | 4,375 | 112 | 91 | 12,950 | 24.6 | 5.63 |
| FUEL OIL/KEROSENE..... | 204 | 8,598 | 42.1 | .719 | 3,520 | 84 | 70 | 5,887 | 28.8 | 8.19 |
| LIQUID PETROLEUM GAS..... | 20 | 579 | 29.5 | .031 | 1,561 | 53 | 41 | 268 | 13.6 | 8.75 |
| WOOD..... | 10 | 304 | 30.7 | 0 | 0 | 0 | 0 | 0 | 0 | 8.87 |
| STEAM..... | 37 | 3,627 | 97.7 | .305 | 8,223 | 84 | 43 | 2,993 | 80.6 | 9.80 |
| COAL..... | 13 | 629 | 48.2 | .017 | 0 | 27 | 25 | 119 | 0 | 7.15 |
| OTHER..... | 4 | 339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 39 | 1,319 | 33.6 | .034 | 864 | 26 | 114 | 312 | 7.9 | 9.19 |
| AIR CONDITIONING FUEL USED.. | 718 | 30,909 | 43.1 | 2.917 | 4,064 | 94 | 68 | 21,473 | 29.9 | 7.36 |
| ELECTRICITY..... | 684 | 28,974 | 42.3 | 2.685 | 3,923 | 93 | 69 | 19,744 | 28.9 | 7.35 |
| NATURAL GAS..... | 50 | 2,390 | 47.4 | .378 | 7,498 | 158 | 104 | 2,106 | 41.8 | 5.57 |
| OTHER..... | 9 | 1,284 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 200 | 6,367 | 31.8 | .321 | 1,603 | 50 | 96 | 1,878 | 9.4 | 5.84 |
| WATER-HEATING FUEL USED..... | 764 | 32,318 | 42.3 | 2.900 | 3,795 | 90 | 69 | 20,750 | 27.2 | 7.16 |
| NATURAL GAS..... | 398 | 17,432 | 43.8 | 1.894 | 4,756 | 109 | 87 | 10,902 | 27.4 | 5.76 |
| ELECTRICITY..... | 309 | 11,262 | 36.5 | .830 | 2,687 | 74 | 60 | 6,788 | 22.0 | 8.18 |
| FUEL OIL/KEROSENE..... | 76 | 4,137 | 54.3 | .323 | 4,237 | 78 | 56 | 3,513 | 46.1 | 10.88 |
| OTHER..... | 32 | 2,854 | 88.3 | .217 | 6,717 | 76 | 39 | 2,044 | 63.3 | 9.42 |
| NO WATER-HEATING FUEL..... | 154 | 4,958 | 32.2 | .338 | 2,196 | 68 | 77 | 2,600 | 16.9 | 7.69 |
| MANUFACTURING FUEL USED..... | 96 | 4,639 | 48.5 | .585 | 6,112 | 126 | 118 | 3,204 | 33.5 | 5.48 |
| ELECTRICITY..... | 86 | 3,948 | 45.8 | .486 | 5,639 | 123 | 125 | 2,670 | 31.0 | 5.49 |
| NATURAL GAS..... | 17 | 1,088 | 64.0 | .371 | 21,828 | 341 | 235 | 1,596 | 93.9 | 4.30 |
| OTHER..... | 17 | 896 | 53.9 | .268 | 0 | 300 | 194 | 1,139 | 68.5 | 4.24 |
| NO MANUFACTURING FUEL..... | 822 | 32,637 | 39.7 | 2.653 | 3,226 | 81 | 64 | 20,147 | 24.5 | 7.59 |
| COOKING FUEL USED..... | 423 | 20,433 | 48.4 | 1.860 | 4,401 | 91 | 68 | 12,471 | 29.5 | 6.71 |
| ELECTRICITY..... | 232 | 11,334 | 48.8 | 1.062 | 4,573 | 94 | 66 | 7,444 | 32.1 | 7.01 |
| NATURAL GAS..... | 219 | 12,052 | 55.1 | 1.170 | 5,351 | 97 | 72 | 7,287 | 33.3 | 6.23 |
| LIQUID PETROLEUM GAS..... | 23 | 892 | 38.3 | .030 | 0 | 33 | 32 | 328 | 14.1 | 11.07 |
| OTHER..... | 7 | 849 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 496 | 16,843 | 34.0 | 1.378 | 2,781 | 82 | 73 | 10,879 | 22.0 | 7.89 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 226 | 9,415 | 41.7 | .784 | 3,472 | 83 | 68 | 6,949 | 30.8 | 8.87 |
| NORTH CENTRAL..... | 276 | 11,914 | 43.2 | 1.248 | 4,522 | 105 | 89 | 7,528 | 27.3 | 6.03 |
| SOUTH..... | 280 | 10,685 | 38.2 | .830 | 2,965 | 78 | 62 | 6,410 | 22.9 | 7.72 |
| WEST..... | 137 | 5,262 | 38.5 | .377 | 2,758 | 72 | 51 | 2,464 | 18.0 | 6.54 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 625 | 28,200 | 45.1 | 2.598 | 4,158 | 92 | 67 | 19,267 | 30.8 | 7.42 |
| NONSMSA..... | 293 | 9,076 | 30.9 | .640 | 2,183 | 71 | 85 | 4,083 | 13.9 | 6.38 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 106 | 4,185 | 39.3 | .355 | 3,339 | 85 | 85 | 2,107 | 19.8 | 5.93 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 300 | 12,949 | 43.1 | 1.233 | 4,110 | 95 | 81 | 8,122 | 27.1 | 6.58 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 260 | 10,140 | 39.0 | .781 | 3,006 | 77 | 63 | 6,656 | 25.6 | 8.52 |
| <2,000 CDD AND <4,000 HDD... | 124 | 5,363 | 43.3 | .450 | 3,628 | 84 | 57 | 3,180 | 25.6 | 7.07 |
| >2,000 CDD AND <4,000 HDD... | 128 | 4,638 | 36.3 | .418 | 3,275 | 90 | 64 | 3,286 | 25.7 | 7.86 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 118 | 3,602 | 30.6 | .181 | 1,535 | 50 | 101 | 1,365 | 11.6 | 7.56 |
| AUTOMOTIVE SALES & SERVICE... | 34 | 734 | 21.5 | .061 | 1,788 | 83 | 69 | 439 | 12.9 | 7.20 |
| EDUCATION..... | 98 | 5,595 | 57.2 | .348 | 3,559 | 62 | 82 | 2,240 | 22.9 | 6.44 |
| FOOD SALES..... | 38 | 936 | 24.4 | .105 | 2,742 | 112 | 80 | 913 | 23.8 | 8.68 |
| HEALTH CARE..... | 16 | 1,588 | 100.9 | .295 | 18,706 | 185 | 76 | 1,629 | 103.4 | 5.53 |
| LODGING..... | 36 | 1,760 | 49.3 | .180 | 5,045 | 102 | 120 | 1,313 | 36.7 | 7.28 |
| OFFICE..... | 138 | 6,577 | 47.8 | .640 | 4,650 | 97 | 35 | 5,932 | 43.1 | 9.27 |
| RESIDENTIAL..... | 84 | 2,246 | 26.8 | .093 | 1,111 | 41 | 87 | 603 | 7.2 | 6.48 |
| RETAIL/SERVICES..... | 147 | 5,625 | 38.2 | .400 | 2,711 | 71 | 64 | 3,192 | 21.7 | 7.99 |
| WAREHOUSE AND STORAGE..... | 123 | 5,186 | 42.1 | .473 | 3,841 | 91 | 139 | 2,917 | 23.7 | 6.17 |
| OTHER..... | 65 | 2,618 | 40.4 | .428 | 6,608 | 163 | 126 | 2,509 | 38.8 | 5.86 |
| VACANT..... | 22 | 808 | 36.5 | .035 | 1,584 | 43 | 2 | 297 | 13.4 | 8.47 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 10,001 TO 25,000..... | 549 | 8,628 | 15.7 | .850 | 1,549 | 99 | 78 | 5,397 | 9.8 | 6.35 |
| 25,001 TO 50,000..... | 204 | 7,201 | 35.2 | .581 | 2,844 | 81 | 81 | 5,169 | 25.3 | 8.90 |
| OVER 50,000..... | 165 | 21,448 | 129.8 | 1.807 | 10,939 | 84 | 64 | 12,784 | 77.4 | 7.08 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 294 | 8,551 | 29.1 | .677 | 2,305 | 79 | 80 | 4,952 | 16.9 | 7.32 |
| TWO FLOORS..... | 251 | 8,673 | 34.5 | .689 | 2,739 | 79 | 78 | 4,929 | 19.6 | 7.16 |
| THREE FLOORS..... | 190 | 6,807 | 35.7 | .520 | 2,729 | 76 | 72 | 3,572 | 18.8 | 6.87 |
| MORE THAN THREE..... | 183 | 13,244 | 72.5 | 1.352 | 7,408 | 102 | 62 | 9,897 | 54.2 | 7.32 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|------------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE | 86 | 2,547 | 29.6 | 0.197 | 2.296 | 77 | 87 | 1,909 | 22.2 | 9.67 |
| 1901 TO 1920 | 110 | 4,183 | 38.1 | .228 | 2,074 | 54 | 67 | 1,662 | 15.1 | 7.30 |
| 1921 TO 1945 | 198 | 7,112 | 36.0 | .680 | 3,442 | 96 | 91 | 3,894 | 19.7 | 5.73 |
| 1946 TO 1960 | 176 | 7,129 | 40.6 | .554 | 3,156 | 78 | 64 | 4,179 | 23.8 | 7.54 |
| 1961 TO 1970 | 166 | 8,207 | 49.5 | .810 | 4,890 | 99 | 68 | 5,716 | 34.5 | 7.05 |
| 1971 TO 1973 | 65 | 3,174 | 48.6 | .373 | 5,715 | 118 | 68 | 2,574 | 39.4 | 6.90 |
| 1974 TO 1979 | 118 | 4,924 | 41.7 | .395 | 3,345 | 80 | 57 | 3,417 | 28.9 | 8.64 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | |
| ELECTRICITY | 122 | 4,225 | 34.6 | .196 | 1,607 | 46 | 46 | 2,273 | 18.6 | 11.59 |
| NATURAL GAS | 122 | 4,221 | 34.6 | .195 | 1,600 | 46 | 46 | 2,271 | 18.6 | 11.63 |
| NATURAL GAS | - | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | |
| ELEC., NATURAL GAS | 597 | 20,698 | 34.7 | 1.868 | 3,131 | 90 | 80 | 12,279 | 20.6 | 6.57 |
| ELEC., FUEL OIL/KEROSENE | 482 | 16,777 | 34.8 | 1.625 | 3,372 | 97 | 89 | 9,735 | 20.2 | 5.99 |
| ELEC., LPG | 76 | 2,180 | 28.9 | .073 | 962 | 33 | 35 | 957 | 12.7 | 13.17 |
| OTHER | 14 | 360 | 25.0 | .015 | 1,015 | 41 | 31 | 187 | 12.9 | 12.73 |
| OTHER | 25 | 1,381 | 55.8 | .155 | 0 | 113 | 57 | 1,401 | 2 | 9.02 |
| THREE FUELS USED | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE | 181 | 11,168 | 61.8 | 1.017 | 5,629 | 91 | 63 | 7,758 | 42.9 | 7.63 |
| ELEC., GAS, FUEL OIL/KEROSENE | 115 | 6,845 | 59.4 | .824 | 7,153 | 120 | 77 | 5,792 | 50.3 | 7.03 |
| ELEC., FUEL OIL/KEROSENE, LPG | 18 | 812 | 45.0 | .026 | 1,428 | 32 | 46 | 337 | 18.7 | 13.09 |
| ELEC., GAS, OTHER | 36 | 2,802 | 76.8 | .138 | 3,797 | 49 | 38 | 1,314 | 36.0 | 9.49 |
| OTHER | 11 | 709 | 64.9 | .029 | 0 | 40 | 22 | 314 | 0 | 11.01 |
| FOUR OR MORE FUELS USED | | | | | | | | | | |
| OTHER | 19 | 1,185 | 63.1 | .157 | 0 | 132 | 68 | 1,040 | 55.4 | 6.63 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY | 918 | 37,261 | 40.6 | 3.228 | 3,517 | 87 | 70 | 23,327 | 25.4 | 7.23 |
| NATURAL GAS | 648 | 27,420 | 42.3 | 2.741 | 4,226 | 100 | 80 | 17,753 | 27.4 | 6.48 |
| FUEL OIL/KEROSENE | 230 | 11,089 | 48.3 | 1.068 | 4,653 | 96 | 69 | 7,970 | 34.7 | 7.46 |
| LIQUID PETROLEUM GAS | 53 | 2,327 | 43.9 | .160 | 3,010 | 69 | 68 | 1,229 | 23.2 | 7.70 |
| WOOD | 16 | 409 | 26.3 | 0 | 0 | 0 | 0 | 0 | 0 | 9.04 |
| COAL | 16 | 673 | 42.6 | .020 | 0 | 29 | 28 | 132 | 0 | 6.71 |
| STEAM | 39 | 3,773 | 96.4 | .317 | 8,087 | 84 | 42 | 3,067 | 78.3 | 9.69 |
| OTHER | 12 | 928 | 77.1 | .078 | 6,486 | 84 | 38 | 714 | 59.3 | 9.14 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 241 | 7,382 | 30.7 | 0.564 | 2,342 | 76 | 65 | 4,297 | 17.9 | 7.62 |
| RADIANT..... | 21 | 694 | 33.7 | .035 | 1,682 | 50 | 58 | 305 | 14.8 | 8.79 |
| COMBINATION/OTHER..... | 59 | 1,829 | 31.0 | .128 | 2,169 | 70 | 64 | 911 | 15.4 | 7.12 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 185 | 8,472 | 45.7 | .786 | 4,238 | 93 | 67 | 5,575 | 30.1 | 7.09 |
| RADIANT..... | 191 | 7,807 | 40.9 | .682 | 3,573 | 87 | 81 | 4,129 | 21.6 | 6.06 |
| COMBINATION/OTHER..... | 88 | 5,946 | 67.6 | .551 | 6,263 | 93 | 63 | 3,958 | 45.0 | 7.18 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 37 | 1,309 | 35.3 | 0 | 0 | 0 | 0 | 1,559 | 0 | 6.90 |
| RADIANT..... | 13 | 418 | 33.0 | 0 | 0 | 0 | 0 | 0 | 0 | 22.34 |
| COMBINATION/OTHER..... | 44 | 2,108 | 47.4 | .189 | 4,253 | 90 | 72 | 1,314 | 29.6 | 6.95 |
| NONE..... | 39 | 1,313 | 33.4 | .033 | 844 | 25 | 114 | 308 | 7.8 | 9.29 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 76 | 2,697 | 35.3 | .163 | 2,131 | 60 | 100 | 1,126 | 14.7 | 6.92 |
| 26 TO 50..... | 63 | 1,724 | 27.6 | 0 | 0 | 0 | 0 | 906 | 14.5 | 5.05 |
| 51 TO 75..... | 68 | 2,516 | 36.8 | .166 | 2,420 | 66 | 57 | 1,279 | 18.7 | 7.72 |
| 76 TO 99..... | 60 | 3,591 | 59.5 | .354 | 5,878 | 99 | 55 | 2,849 | 47.3 | 8.04 |
| 100..... | 611 | 25,435 | 41.6 | 2,342 | 3,833 | 92 | 70 | 16,882 | 27.6 | 7.21 |
| NONE..... | 39 | 1,313 | 33.4 | .033 | 844 | 25 | 114 | 308 | 7.8 | 9.29 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 237 | 9,286 | 39.1 | .875 | 3,687 | 94 | 125 | 5,014 | 21.1 | 5.73 |
| 26 TO 50..... | 117 | 3,614 | 30.8 | .282 | 2,402 | 78 | 84 | 1,906 | 16.3 | 6.77 |
| 51 TO 75..... | 68 | 3,434 | 50.8 | .333 | 4,923 | 97 | 60 | 3,261 | 48.2 | 9.80 |
| 76 TO 99..... | 63 | 4,387 | 69.4 | .451 | 7,132 | 103 | 50 | 3,595 | 56.9 | 7.97 |
| 100..... | 232 | 10,190 | 43.9 | .976 | 4,206 | 96 | 55 | 7,699 | 33.2 | 7.88 |
| NONE..... | 200 | 6,364 | 31.7 | .321 | 1,600 | 50 | 96 | 1,876 | 9.4 | 5.85 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 160 | 5,151 | 32.3 | .374 | 2,341 | 73 | 125 | 2,099 | 13.2 | 5.62 |
| PACKAGE UNITS..... | 240 | 9,312 | 38.8 | .719 | 2,996 | 77 | 59 | 5,494 | 22.9 | 7.64 |
| CENTRAL SYSTEM..... | 206 | 9,920 | 48.1 | .996 | 4,834 | 100 | 59 | 7,404 | 35.9 | 7.43 |
| COMBINATION/OTHER..... | 112 | 6,530 | 58.2 | .829 | 7,394 | 127 | 78 | 6,478 | 57.8 | 7.82 |
| NO AIR CONDITIONING..... | 200 | 6,364 | 31.7 | .321 | 1,600 | 50 | 96 | 1,876 | 9.4 | 5.85 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 376 | 13,633 | 36.3 | 1.174 | 3,126 | 86 | 87 | 8,138 | 21.7 | 6.93 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 201 | 6,512 | 32.4 | .495 | 2,464 | 76 | 86 | 3,393 | 16.9 | 6.85 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 131 | 6,170 | 47.0 | .463 | 3,527 | 75 | 40 | 4,538 | 34.5 | 9.79 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 102 | 4,131 | 40.5 | .319 | 3,129 | 77 | 53 | 2,653 | 26.0 | 8.31 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 95 | 6,076 | 63.6 | .669 | 7,006 | 110 | 78 | 3,983 | 41.7 | 5.95 |
| NOT REPORTED..... | 13 | 754 | 60.0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 342 | 8,084 | 23.6 | .302 | 882 | 37 | 232 | 2,141 | 6.3 | 7.10 |
| 10 TO 19..... | 152 | 3,933 | 26.0 | .224 | 1,476 | 57 | 112 | 1,633 | 10.8 | 7.30 |
| 20 TO 49..... | 242 | 8,031 | 33.1 | .875 | 3,609 | 109 | 115 | 5,561 | 22.9 | 6.35 |
| 50 TO 99..... | 94 | 5,194 | 55.5 | .514 | 5,487 | 99 | 85 | 3,494 | 37.3 | 6.80 |
| 100 OR MORE..... | 88 | 12,033 | 136.3 | 1.324 | 14,994 | 110 | 45 | 10,521 | 119.2 | 7.95 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 25 | 810 | 32.0 | .022 | 2 | 27 | 2 | 196 | 2 | 9.08 |
| 39 OR FEWER HOURS..... | 72 | 1,683 | 23.4 | .066 | 920 | 39 | 83 | 539 | 7.5 | 8.16 |
| 40 TO 48 HOURS..... | 219 | 8,214 | 37.5 | .569 | 2,596 | 69 | 59 | 4,807 | 21.9 | 8.45 |
| 49 TO 60 HOURS..... | 234 | 8,426 | 36.1 | .671 | 2,873 | 80 | 60 | 4,512 | 19.3 | 6.72 |
| 61 TO 84 HOURS..... | 172 | 7,567 | 44.0 | .642 | 3,734 | 85 | 64 | 4,827 | 28.1 | 7.52 |
| MORE THAN 84 HOURS..... | 196 | 10,576 | 53.9 | 1.268 | 6,462 | 120 | 88 | 8,469 | 43.2 | 6.68 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 402 | 16,649 | 41.4 | 1.380 | 3,429 | 83 | 61 | 10,767 | 26.8 | 7.81 |
| NO..... | 460 | 18,780 | 40.8 | 1.656 | 3,600 | 88 | 76 | 11,162 | 24.3 | 6.74 |
| DON'T KNOW/NOT REPORTED..... | 56 | 1,847 | 33.2 | .202 | 3,625 | 109 | 109 | 1,421 | 25.5 | 7.04 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 242 | 9,615 | 39.8 | .881 | 3,646 | 92 | 74 | 5,831 | 24.1 | 6.61 |
| NO..... | 614 | 25,473 | 41.5 | 2.204 | 3,588 | 87 | 69 | 16,375 | 26.7 | 7.43 |
| DON'T KNOW/NOT REPORTED..... | 62 | 2,188 | 35.3 | .152 | 2,453 | 70 | 74 | 1,145 | 18.5 | 7.52 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 162 | 6,545 | 40.5 | .544 | 3,361 | 83 | 66 | 3,946 | 24.4 | 7.26 |
| NO..... | 697 | 28,791 | 41.3 | 2.548 | 3,653 | 88 | 71 | 18,247 | 26.2 | 7.16 |
| DON'T KNOW/NOT REPORTED..... | 59 | 1,941 | 33.0 | .146 | 2,489 | 75 | 75 | 1,157 | 19.7 | 7.90 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 701 | 28,806 | 41.1 | 2.510 | 3,580 | 87 | 68 | 18,164 | 25.9 | 7.24 |
| NO..... | 158 | 6,492 | 41.0 | .596 | 3,760 | 92 | 77 | 4,072 | 25.7 | 6.83 |
| NOT REPORTED..... | 19 | 665 | 34.6 | .099 | 5,149 | 149 | 94 | 806 | 42.0 | 8.16 |
| NOT APPLICABLE..... | 39 | 1,313 | 33.4 | .033 | 844 | 25 | 114 | 308 | 7.8 | 9.29 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 457 | 21,007 | 46.0 | 1.971 | 4,317 | 94 | 60 | 14,778 | 32.4 | 7.50 |
| NO..... | 92 | 4,291 | 46.4 | .514 | 5,559 | 120 | 83 | 4,114 | 44.5 | 8.01 |
| NOT REPORTED/NOT APPLICABLE..... | 369 | 11,978 | 32.5 | .753 | 2,040 | 63 | 107 | 4,458 | 12.1 | 5.92 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 741 | 30,484 | 41.1 | 2.660 | 3,590 | 87 | 68 | 19,232 | 26.0 | 7.23 |
| NO..... | 128 | 5,068 | 39.5 | .484 | 3,768 | 95 | 80 | 3,303 | 25.7 | 6.83 |
| NOT REPORTED..... | 15 | 591 | 38.9 | .077 | 5,042 | 129 | 97 | 635 | 41.8 | 8.29 |
| NOT APPLICABLE..... | 34 | 1,133 | 33.7 | .018 | 521 | 15 | 114 | 181 | 5.4 | 10.31 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 14. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Natural Gas

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 1,129 | 2,746 | 2.4 | 0.376 | 0.369 | 334 | 137 | 63 | 1,096 | 1.0 | 2.91 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 1,087 | 2,650 | 2.4 | .361 | .353 | 332 | 136 | 62 | 1,046 | 1.0 | 2.90 |
| NATURAL GAS..... | 978 | 2,361 | 2.4 | .334 | .327 | 342 | 142 | 68 | 958 | 1.0 | 2.87 |
| ELECTRICITY..... | 127 | 326 | 2.6 | .048 | .047 | 380 | 148 | 50 | 156 | 1.2 | 3.24 |
| FUEL OIL/KEROSENE..... | 71 | 202 | 2.9 | 0 | 0 | 0 | 0 | 0 | 43 | .6 | 0 |
| LIQUID PETROLEUM GAS..... | 14 | 30 | 2.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER..... | 9 | 18 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 42 | 96 | 2.3 | .015 | .015 | 366 | 160 | 0 | 0 | 1.2 | 3.19 |
| AIR CONDITIONING FUEL USED.. | 741 | 1,856 | 2.5 | .243 | .238 | 327 | 131 | 51 | 714 | 1.0 | 2.94 |
| ELECTRICITY..... | 675 | 1,680 | 2.5 | .216 | .211 | 319 | 128 | 51 | 628 | .9 | 2.91 |
| NATURAL GAS..... | 75 | 192 | 2.6 | .027 | .026 | 358 | 139 | 49 | 84 | 1.1 | 3.14 |
| OTHER..... | 3 | 9 | 3.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 388 | 890 | 2.3 | .134 | .131 | 345 | 150 | 115 | 382 | 1.0 | 2.85 |
| WATER-HEATING FUEL USED..... | 820 | 2,062 | 2.5 | .317 | .310 | 387 | 154 | 66 | 908 | 1.1 | 2.86 |
| NATURAL GAS..... | 608 | 1,541 | 2.5 | .257 | .251 | 423 | 167 | 71 | 710 | 1.2 | 2.77 |
| ELECTRICITY..... | 210 | 517 | 2.5 | .063 | .062 | 300 | 122 | 54 | 208 | 1.0 | 3.29 |
| FUEL OIL/KEROSENE..... | 16 | 46 | 2.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER..... | 5 | 13 | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO WATER-HEATING FUEL..... | 309 | 684 | 2.2 | .059 | .058 | 192 | 87 | 50 | 187 | .6 | 3.16 |
| MANUFACTURING FUEL USED..... | 93 | 261 | 2.8 | .042 | .041 | 454 | 162 | 88 | 124 | 1.3 | 2.94 |
| ELECTRICITY..... | 66 | 174 | 2.6 | .026 | .025 | 389 | 147 | 72 | 80 | 1.2 | 3.13 |
| NATURAL GAS..... | 26 | 88 | 3.4 | .017 | .017 | 664 | 198 | 114 | 45 | 1.7 | 2.61 |
| OTHER..... | 7 | 22 | 3.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO MANUFACTURING DONE..... | 1,036 | 2,485 | 2.4 | .334 | .327 | 323 | 134 | 61 | 971 | .9 | 2.91 |
| COOKING FUEL USED..... | 397 | 1,065 | 2.7 | .163 | .159 | 409 | 153 | 60 | 476 | 1.2 | 2.93 |
| ELECTRICITY..... | 172 | 472 | 2.7 | .057 | .055 | 330 | 120 | 43 | 164 | 1.0 | 2.88 |
| NATURAL GAS..... | 271 | 728 | 2.7 | .130 | .127 | 478 | 178 | 65 | 381 | 1.4 | 2.94 |
| OTHER..... | 7 | 20 | 2.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 731 | 1,680 | 2.3 | .214 | .210 | 293 | 127 | 66 | 620 | .8 | 2.90 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 192 | 543 | 2.8 | .059 | .058 | 307 | 109 | 56 | 202 | 1.1 | 3.42 |
| NORTH CENTRAL..... | 464 | 1,120 | 2.4 | .158 | .155 | 341 | 141 | 71 | 419 | .9 | 2.65 |
| SOUTH..... | 319 | 740 | 2.3 | .115 | .112 | 361 | 156 | 80 | 352 | 1.1 | 3.06 |
| WEST..... | 154 | 343 | 2.2 | .044 | .043 | 288 | 129 | 36 | 122 | .8 | 2.76 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 719 | 1,757 | 2.4 | 0.246 | 0.242 | 343 | 140 | 57 | 746 | 1.0 | 3.03 |
| NONSMSA..... | 410 | 989 | 2.4 | .130 | .127 | 318 | 132 | 81 | 349 | .9 | 2.68 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 109 | 317 | 2.9 | .042 | .041 | 382 | 132 | 92 | 104 | 1.0 | 2.49 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 400 | 992 | 2.5 | .144 | .142 | 361 | 145 | 70 | 412 | 1.0 | 2.86 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 304 | 719 | 2.4 | .085 | .083 | 279 | 118 | 60 | 259 | .9 | 3.05 |
| <2,000 CDD AND <4,000 HDD... | 208 | 458 | 2.2 | .066 | .064 | 316 | 144 | 48 | 201 | 1.0 | 3.05 |
| >2,000 CDD AND <4,000 HDD... | 108 | 260 | 2.4 | .090 | .039 | 368 | 153 | 61 | 120 | 1.1 | 3.00 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 82 | 235 | 2.9 | .026 | .026 | 323 | 112 | 136 | 70 | .9 | 2.65 |
| AUTOMOTIVE SALES & SERVICE.. | 142 | 311 | 2.2 | .035 | .034 | 248 | 113 | 71 | 107 | .8 | 3.04 |
| EDUCATION..... | 17 | 57 | 3.3 | 0 | 0 | 449 | 136 | 97 | 23 | 1.3 | 2.94 |
| FOOD SALES..... | 156 | 345 | 2.2 | .066 | .064 | 419 | 190 | 46 | 195 | 1.2 | 2.97 |
| HEALTH CARE..... | 9 | 18 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 19 | 45 | 2.4 | .007 | .007 | 358 | 151 | 0 | 20 | 1.1 | 3.00 |
| OFFICE..... | 179 | 423 | 2.4 | .060 | .059 | 333 | 141 | 43 | 170 | .9 | 2.85 |
| RESIDENTIAL..... | 151 | 401 | 2.6 | .048 | .047 | 316 | 119 | 97 | 147 | 1.0 | 3.07 |
| RETAIL/SERVICES..... | 242 | 616 | 2.5 | .079 | .077 | 326 | 128 | 61 | 235 | 1.0 | 2.98 |
| WAREHOUSE AND STORAGE..... | 55 | 142 | 2.6 | .026 | .025 | 474 | 182 | 203 | 51 | .9 | 1.96 |
| OTHER..... | 38 | 77 | 2.0 | .008 | .008 | 209 | 104 | 0 | 23 | .6 | 2.91 |
| VACANT..... | 38 | 74 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.78 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 191 | 124 | .6 | .035 | .034 | 185 | 286 | 60 | 108 | .6 | 3.06 |
| 1,001 TO 5,000..... | 938 | 2,622 | 2.8 | .341 | .334 | 364 | 130 | 63 | 988 | 1.1 | 2.89 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 720 | 1,592 | 2.2 | .233 | .227 | 323 | 146 | 57 | 684 | .9 | 2.94 |
| TWO FLOORS..... | 240 | 665 | 2.8 | .095 | .094 | 397 | 143 | 82 | 257 | 1.1 | 2.69 |
| THREE FLOORS..... | 125 | 362 | 2.9 | .035 | .035 | 282 | 98 | 74 | 110 | .9 | 3.10 |
| MORE THAN THREE..... | 43 | 126 | 3.0 | .013 | .013 | 312 | 105 | 56 | 45 | 1.1 | 3.38 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 111 | 308 | 2.8 | 0.026 | 0.025 | 231 | 83 | 62 | 77 | 0.7 | 3.01 |
| 1901 TO 1920..... | 127 | 358 | 2.8 | .042 | .041 | 331 | 118 | 88 | 116 | .9 | 2.74 |
| 1921 TO 1945..... | 265 | 588 | 2.2 | .079 | .078 | 299 | 135 | 68 | 218 | .8 | 2.74 |
| 1946 TO 1960..... | 285 | 631 | 2.2 | .085 | .083 | 299 | 135 | 65 | 261 | .9 | 3.07 |
| 1961 TO 1970..... | 208 | 508 | 2.4 | .093 | .091 | 446 | 183 | 81 | 283 | 1.4 | 3.05 |
| 1971 TO 1973..... | 41 | 101 | 2.5 | .015 | .014 | 357 | 145 | 44 | 41 | 1.0 | 2.78 |
| 1974 TO 1979..... | 92 | 252 | 2.7 | .037 | .036 | 400 | 146 | 33 | 101 | 1.1 | 2.74 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 6 | 16 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| TWO FUELS USED..... | 1,010 | 2,430 | 2.4 | .344 | .338 | 341 | 142 | 63 | 1,015 | 1.0 | 2.95 |
| ELEC., NATURAL GAS..... | 1,008 | 2,424 | 2.4 | .344 | .338 | 341 | 142 | 63 | 1,014 | 1.0 | 2.95 |
| OTHER..... | 2 | 6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 76 | 216 | 2.9 | .025 | .024 | 330 | 115 | 67 | 57 | .8 | 2.28 |
| ELEC., GAS, OTHER..... | 30 | 63 | 2.1 | .005 | .004 | 178 | 2 | 2 | 17 | .6 | 3.16 |
| FOUR OR MORE FUELS USED..... | 7 | 22 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 1,121 | 2,725 | 2.4 | .375 | .367 | 335 | 138 | 63 | 1,090 | 1.0 | 2.91 |
| NATURAL GAS..... | 1,129 | 2,746 | 2.4 | .376 | .369 | 334 | 137 | 63 | 1,096 | 1.0 | 2.91 |
| FUEL OIL/KEROSENE..... | 78 | 224 | 2.9 | .025 | .025 | 325 | 113 | 66 | 58 | .8 | 2 |
| WOOD..... | 18 | 40 | 2.2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.76 |
| OTHER..... | 26 | 65 | 2.5 | .004 | .003 | 2 | 2 | 2 | 13 | 2 | 3.72 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 356 | 853 | 2.4 | .133 | .130 | 374 | 156 | 55 | 387 | 1.1 | 2.90 |
| RADIANT..... | 33 | 76 | 2.3 | .005 | .005 | 146 | 64 | 36 | 18 | .5 | 3.68 |
| COMBINATION/OTHER..... | 102 | 236 | 2.3 | .034 | .033 | 333 | 143 | 80 | 111 | 1.1 | 3.27 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 335 | 766 | 2.3 | .082 | .080 | 244 | 107 | 49 | 244 | .7 | 2.99 |
| RADIANT..... | 144 | 393 | 2.7 | .052 | .051 | 359 | 132 | 87 | 156 | 1.1 | 3.02 |
| COMBINATION/OTHER..... | 49 | 149 | 3.0 | .023 | .022 | 466 | 153 | 108 | 60 | 1.2 | 2.63 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 34 | 104 | 3.0 | .023 | .023 | 669 | 221 | 2 | 43 | 1.2 | 1.86 |
| RADIANT..... | 4 | 8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| COMBINATION/OTHER..... | 31 | 66 | 2.1 | .010 | .009 | 306 | 145 | 86 | 28 | .9 | 2.88 |
| NONE..... | 41 | 95 | 2.3 | .015 | .015 | 378 | 162 | 2 | 2 | 1.2 | 3.19 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|-----------------------------------|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 33 | 63 | 1.9 | 0.005 | 0.005 | 142 | 75 | 2 | 15 | 0.4 | 3.16 |
| 26 TO 50..... | 104 | 266 | 2.6 | .030 | .029 | 289 | 113 | 69 | 89 | .9 | 2.97 |
| 51 TO 75..... | 103 | 263 | 2.6 | .029 | .028 | 283 | 111 | 41 | 88 | .9 | 3.02 |
| 76 TO 99..... | 73 | 193 | 2.6 | .026 | .025 | 350 | 133 | 42 | 79 | 1.1 | 3.07 |
| 100..... | 775 | 1,866 | 2.4 | .272 | .266 | 351 | 146 | 69 | 776 | 1.0 | 2.86 |
| NONE..... | 41 | 95 | 2.3 | .015 | .015 | 378 | 162 | 2 | 2 | 1.2 | 3.19 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 99 | 255 | 2.6 | .034 | .033 | 342 | 133 | 65 | 100 | 1.0 | 2.97 |
| 26 TO 50..... | 202 | 535 | 2.7 | .076 | .074 | 374 | 141 | 69 | 214 | 1.1 | 2.83 |
| 51 TO 75..... | 85 | 221 | 2.6 | .032 | .032 | 381 | 147 | 42 | 92 | 1.1 | 2.83 |
| 76 TO 99..... | 42 | 96 | 2.3 | .011 | .011 | 274 | 119 | 41 | 31 | .7 | 2.69 |
| 100..... | 313 | 748 | 2.4 | .089 | .088 | 285 | 120 | 42 | 277 | .9 | 3.09 |
| NONE..... | 388 | 890 | 2.3 | .134 | .131 | 345 | 150 | 115 | 382 | 1.0 | 2.85 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 270 | 590 | 2.2 | .068 | .067 | 254 | 116 | 62 | 219 | .8 | 3.20 |
| PACKAGE UNITS..... | 187 | 509 | 2.7 | .069 | .068 | 371 | 136 | 42 | 204 | 1.1 | 2.94 |
| CENTRAL SYSTEM..... | 213 | 573 | 2.7 | .083 | .082 | 390 | 145 | 49 | 229 | 1.1 | 2.75 |
| COMBINATION/OTHER..... | 71 | 184 | 2.6 | .022 | .021 | 307 | 119 | 59 | 63 | .9 | 2.87 |
| NO AIR CONDITIONING..... | 388 | 890 | 2.3 | .134 | .131 | 345 | 150 | 115 | 382 | 1.0 | 2.85 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 550 | 1,325 | 2.4 | .193 | .189 | 351 | 146 | 75 | 549 | 1.0 | 2.84 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 398 | 929 | 2.3 | .116 | .113 | 291 | 125 | 54 | 342 | .9 | 2.94 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 90 | 251 | 2.8 | .023 | .023 | 258 | 93 | 37 | 73 | .8 | 3.16 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 54 | 159 | 2.9 | .017 | .017 | 315 | 108 | 41 | 60 | 1.1 | 3.52 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| | 32 | 69 | 2.2 | .026 | .025 | 804 | 374 | 2 | 67 | 2.1 | 2.62 |
| NOT REPORTED..... | 4 | 13 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 986 | 2,305 | 2.3 | 0.292 | 0.286 | 296 | 127 | 92 | 841 | 0.9 | 2.89 |
| 10 TO 19..... | 101 | 288 | 2.9 | .059 | .057 | 580 | 203 | 45 | 173 | 1.7 | 2.94 |
| 20 TO 49..... | 33 | 113 | 3.5 | .021 | .021 | 655 | 190 | 24 | 66 | 2.0 | 3.08 |
| 50 OR MORE..... | 9 | 41 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 49 | 94 | 1.9 | .016 | .016 | 2 | 2 | 2 | 56 | 2 | 3.53 |
| 39 OR FEWER HOURS..... | 173 | 419 | 2.4 | .051 | .050 | 292 | 121 | 131 | 140 | .8 | 2.76 |
| 40 TO 48 HOURS..... | 284 | 713 | 2.5 | .080 | .079 | 282 | 112 | 57 | 236 | .8 | 2.94 |
| 49 TO 60 HOURS..... | 265 | 698 | 2.6 | .072 | .070 | 272 | 103 | 49 | 221 | .8 | 3.08 |
| 61 TO 84 HOURS..... | 167 | 358 | 2.2 | .070 | .069 | 422 | 196 | 76 | 185 | 1.1 | 2.64 |
| MORE THAN 84 HOURS..... | 191 | 464 | 2.4 | .088 | .085 | 459 | 189 | 50 | 257 | 1.3 | 2.93 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 413 | 1,037 | 2.5 | .139 | .136 | 336 | 134 | 64 | 405 | 1.0 | 2.92 |
| NO..... | 649 | 1,555 | 2.4 | .224 | .219 | 345 | 144 | 63 | 644 | 1.0 | 2.88 |
| DON'T KNOW/NOT REPORTED..... | 66 | 153 | 2.3 | .014 | .013 | 206 | 89 | 56 | 46 | .7 | 3.35 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 316 | 805 | 2.6 | .097 | .095 | 308 | 121 | 65 | 288 | .9 | 2.96 |
| NO..... | 729 | 1,747 | 2.4 | .255 | .250 | 350 | 146 | 63 | 739 | 1.0 | 2.90 |
| DON'T KNOW/NOT REPORTED..... | 84 | 193 | 2.3 | .024 | .024 | 289 | 126 | 58 | 69 | .8 | 2.83 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 195 | 483 | 2.5 | .057 | .056 | 295 | 119 | 56 | 173 | .9 | 3.01 |
| NO..... | 854 | 2,062 | 2.4 | .299 | .293 | 350 | 145 | 66 | 867 | 1.0 | 2.90 |
| DON'T KNOW/NOT REPORTED..... | 79 | 200 | 2.5 | .020 | .019 | 248 | 98 | 53 | 56 | .7 | 2.82 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 920 | 2,223 | 2.4 | .296 | .289 | 321 | 133 | 64 | 869 | .9 | 2.94 |
| NO..... | 163 | 413 | 2.5 | .064 | .063 | 392 | 155 | 55 | 173 | 1.1 | 2.70 |
| NOT REPORTED/ NOT APPLICABLE..... | 46 | 110 | 2.4 | .017 | .017 | 373 | 154 | 2 | 54 | 1.2 | 3.19 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 408 | 1,085 | 2.7 | 0.142 | 0.140 | 349 | 131 | 46 | 409 | 1.0 | 2.87 |
| NO..... | 58 | 165 | 2.8 | .027 | .026 | 469 | 165 | 48 | 72 | 1.2 | 2.66 |
| NOT REPORTED/ NOT APPLICABLE..... | 663 | 1,496 | 2.3 | .207 | .202 | 312 | 138 | 89 | 614 | .9 | 2.97 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 945 | 2,287 | 2.4 | .302 | .296 | 320 | 132 | 61 | 889 | .9 | 2.94 |
| NO..... | 142 | 355 | 2.5 | .057 | .056 | 403 | 161 | 70 | 152 | 1.1 | 2.67 |
| NOT REPORTED/ NOT APPLICABLE..... | 42 | 104 | 2.5 | .017 | .017 | 407 | 163 | 2 | 54 | 1.3 | 3.19 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. R = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 15. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Natural Gas

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 475 | 3,469 | 7.3 | 0.323 | 0.317 | 680 | 93 | 69 | 894 | 1.9 | 2.77 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 467 | 3,414 | 7.3 | .318 | .312 | 682 | 93 | 68 | 878 | 1.9 | 2.76 |
| NATURAL GAS..... | 418 | 3,055 | 7.3 | .292 | .287 | 698 | 96 | 72 | 807 | 1.9 | 2.76 |
| ELECTRICITY..... | 72 | 515 | 7.1 | .028 | .027 | 387 | 54 | 32 | 77 | 1.1 | 2.75 |
| FUEL OIL/KEROSENE..... | 54 | 389 | 7.3 | .033 | .033 | 619 | 85 | 69 | 84 | 1.6 | 2.53 |
| OTHER..... | 12 | 96 | 7.9 | .009 | .009 | 743 | 94 | 2 | 28 | 2.3 | 3.05 |
| NO HEATING FUEL USED..... | 8 | 54 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| AIR CONDITIONING FUEL USED.. | 327 | 2,404 | 7.3 | .258 | .253 | 789 | 107 | 66 | 711 | 2.2 | 2.75 |
| ELECTRICITY..... | 308 | 2,260 | 7.3 | .237 | .232 | 768 | 105 | 65 | 648 | 2.1 | 2.73 |
| NATURAL GAS..... | 22 | 169 | 7.7 | .022 | .022 | 1,007 | 132 | 69 | 67 | 3.0 | 3.01 |
| OTHER..... | - | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO AIR CONDITIONING FUEL.... | 148 | 1,065 | 7.2 | .065 | .064 | 439 | 61 | 84 | 183 | 1.2 | 2.82 |
| WATER-HEATING FUEL USED..... | 363 | 2,690 | 7.4 | .258 | .254 | 712 | 96 | 66 | 740 | 2.0 | 2.86 |
| NATURAL GAS..... | 247 | 1,821 | 7.4 | .174 | .171 | 705 | 96 | 65 | 509 | 2.1 | 2.93 |
| ELECTRICITY..... | 113 | 846 | 7.5 | .088 | .087 | 782 | 104 | 74 | 251 | 2.2 | 2.85 |
| FUEL OIL/KEROSENE..... | 13 | 90 | 6.8 | 2 | 2 | 2 | 2 | 2 | 6 | .5 | 2 |
| OTHER..... | - | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO WATER-HEATING FUEL..... | 112 | 779 | 7.0 | .065 | .063 | 577 | 83 | 80 | 154 | 1.4 | 2.39 |
| MANUFACTURING FUEL USED..... | 30 | 225 | 7.4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.79 |
| ELECTRICITY..... | 26 | 189 | 7.2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2.80 |
| OTHER..... | 8 | 68 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO MANUFACTURING DONE..... | 445 | 3,243 | 7.3 | .278 | .273 | 626 | 86 | 65 | 769 | 1.7 | 2.76 |
| COOKING FUEL USED..... | 175 | 1,275 | 7.3 | .097 | .096 | 556 | 76 | 55 | 289 | 1.7 | 2.97 |
| ELECTRICITY..... | 70 | 496 | 7.1 | .045 | .045 | 653 | 92 | 55 | 123 | 1.8 | 2.70 |
| NATURAL GAS..... | 120 | 901 | 7.5 | .072 | .071 | 599 | 80 | 55 | 217 | 1.8 | 3.01 |
| NO COOKING FUEL..... | 300 | 2,194 | 7.3 | .226 | .221 | 752 | 103 | 77 | 605 | 2.0 | 2.68 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 97 | 680 | 7.0 | .059 | .058 | 611 | 87 | 73 | 177 | 1.8 | 2.99 |
| NORTH CENTRAL..... | 192 | 1,392 | 7.3 | .162 | .159 | 842 | 116 | 82 | 425 | 2.2 | 2.63 |
| SOUTH..... | 110 | 816 | 7.4 | .045 | .044 | 405 | 55 | 43 | 126 | 1.1 | 2.82 |
| WEST..... | 76 | 581 | 7.7 | .057 | .056 | 758 | 99 | 64 | 165 | 2.2 | 2.88 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 309 | 2,262 | 7.3 | 0.230 | 0.226 | 746 | 102 | 74 | 644 | 2.1 | 2.79 |
| NONSMSA..... | 166 | 1,207 | 7.3 | .093 | .091 | 557 | 77 | 58 | 251 | 1.5 | 2.71 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 54 | 390 | 7.2 | .034 | .033 | 631 | 87 | 58 | 99 | 1.8 | 2.92 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 189 | 1,364 | 7.2 | .171 | .168 | 908 | 126 | 97 | 439 | 2.3 | 2.56 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 122 | 887 | 7.3 | .063 | .062 | 515 | 71 | 55 | 187 | 1.5 | 2.97 |
| <2,000 CDD AND <4,000 HDD... | 77 | 585 | 7.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.05 |
| >2,000 CDD AND <4,000 HDD... | 33 | 243 | 7.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.22 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 95 | 717 | 7.6 | .083 | .082 | 878 | 116 | 138 | 208 | 2.2 | 2.50 |
| AUTOMOTIVE SALES & SERVICE.. | 38 | 270 | 7.1 | .038 | .037 | 995 | 140 | 134 | 114 | 3.0 | 3.02 |
| EDUCATION..... | 9 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOOD SALES..... | 34 | 243 | 7.2 | .032 | .031 | 954 | 132 | 57 | 109 | 3.3 | 3.41 |
| HEALTH CARE..... | 8 | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 14 | 104 | 7.5 | .020 | .020 | 0 | 0 | 0 | 40 | 2.9 | 1.96 |
| OFFICE..... | 78 | 545 | 7.0 | .049 | .048 | 628 | 89 | 36 | 137 | 1.8 | 2.82 |
| RESIDENTIAL..... | 38 | 272 | 7.2 | .014 | .014 | 377 | 52 | 50 | 45 | 1.2 | 3.17 |
| RETAIL/SERVICES..... | 88 | 661 | 7.5 | .054 | .053 | 613 | 82 | 73 | 155 | 1.8 | 2.87 |
| WAREHOUSE AND STORAGE..... | 35 | 260 | 7.5 | .009 | .009 | 267 | 36 | 0 | 25 | .7 | 2.67 |
| OTHER..... | 28 | 206 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.44 |
| VACANT..... | 11 | 71 | 6.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 5,001 TO 10,000..... | 475 | 3,469 | 7.3 | .323 | .317 | 680 | 93 | 69 | 894 | 1.9 | 2.77 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 184 | 1,344 | 7.3 | .111 | .109 | 602 | 83 | 51 | 340 | 1.8 | 3.06 |
| TWO FLOORS..... | 164 | 1,233 | 7.5 | .126 | .124 | 770 | 102 | 91 | 318 | 1.9 | 2.51 |
| THREE FLOORS..... | 94 | 651 | 6.9 | .051 | .050 | 539 | 78 | 57 | 148 | 1.6 | 2.91 |
| MORE THAN THREE..... | 33 | 241 | 7.3 | .035 | .034 | 1,071 | 146 | 136 | 89 | 2.7 | 2.53 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 41 | 302 | 7.3 | 0.030 | 0.029 | 727 | 99 | 108 | 68 | 1.7 | 2.28 |
| 1901 TO 1920..... | 91 | 644 | 7.1 | .044 | .043 | 482 | 68 | 50 | 117 | 1.3 | 2.66 |
| 1921 TO 1945..... | 99 | 742 | 7.5 | .089 | .087 | 894 | 119 | 103 | 256 | 2.6 | 2.89 |
| 1946 TO 1960..... | 105 | 774 | 7.3 | .058 | .057 | 546 | 74 | 59 | 178 | 1.7 | 3.09 |
| 1961 TO 1970..... | 82 | 574 | 7.0 | .060 | .059 | 727 | 104 | 65 | 170 | 2.1 | 2.83 |
| 1971 TO 1973..... | 21 | 162 | 7.8 | 0 | 0 | 834 | 107 | 65 | 0 | 2.1 | 2.48 |
| 1974 TO 1979..... | 35 | 270 | 7.7 | .026 | .025 | 738 | 96 | 50 | 62 | 1.8 | 2.41 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | - | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 399 | 2,903 | 7.3 | .267 | .262 | 667 | 92 | 67 | 750 | 1.9 | 2.81 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 73 | 538 | 7.4 | .054 | .053 | 744 | 100 | 74 | 137 | 1.9 | 2.54 |
| ELEC., GAS, OTHER..... | 59 | 436 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.44 |
| ELEC., GAS, OTHER..... | 13 | 102 | 7.8 | .011 | .011 | 828 | 106 | 63 | 32 | 2.4 | 2.94 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 3 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 475 | 3,467 | 7.3 | .323 | .317 | 680 | 93 | 69 | 894 | 1.9 | 2.77 |
| NATURAL GAS..... | 475 | 3,469 | 7.3 | .323 | .317 | 680 | 93 | 69 | 894 | 1.9 | 2.77 |
| FUEL OIL/KEROSENE..... | 60 | 440 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.44 |
| OTHER..... | 16 | 127 | 8.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.92 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 144 | 1,059 | 7.3 | .076 | .075 | 528 | 72 | 43 | 234 | 1.6 | 3.07 |
| RADIANT..... | 19 | 135 | 7.0 | .011 | .011 | 0 | 0 | 0 | 31 | 0 | 2.85 |
| COMBINATION/OTHER..... | 14 | 106 | 7.4 | 0 | 0 | 1,677 | 225 | 118 | 0 | 4.7 | 2.78 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 134 | 999 | 7.5 | .090 | .088 | 671 | 90 | 76 | 241 | 1.8 | 2.69 |
| RADIANT..... | 81 | 560 | 6.9 | .080 | .078 | 984 | 142 | 99 | 199 | 2.5 | 2.50 |
| COMBINATION/OTHER..... | 22 | 168 | 7.7 | .015 | .015 | 681 | 88 | 0 | 41 | 1.9 | 2.78 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 21 | 158 | 7.5 | .006 | .006 | 291 | 39 | 35 | 19 | .9 | 3.10 |
| RADIANT..... | 5 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 26 | 188 | 7.1 | .015 | .015 | 584 | 82 | 0 | 42 | 0 | 2.72 |
| NONE..... | 8 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 38 | 303 | 7.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.76 |
| 26 TO 50..... | 53 | 366 | 7.0 | 0.023 | 0.023 | 447 | 64 | 72 | 69 | 1.3 | 2.92 |
| 51 TO 75..... | 51 | 357 | 7.0 | .065 | .064 | 1,277 | 181 | 168 | 169 | 3.3 | 2.60 |
| 76 TO 99..... | 32 | 242 | 7.5 | .012 | .011 | 361 | 48 | 29 | 36 | 1.1 | 3.06 |
| 100..... | 293 | 2,145 | 7.3 | .189 | .185 | 645 | 88 | 60 | 525 | 1.8 | 2.77 |
| NONE..... | 8 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 75 | 548 | 7.3 | .070 | .069 | 934 | 127 | 87 | 193 | 2.6 | 2.77 |
| 26 TO 50..... | 83 | 598 | 7.2 | .066 | .065 | 801 | 111 | 98 | 181 | 2.2 | 2.73 |
| 51 TO 75..... | 44 | 318 | 7.2 | .025 | .025 | 565 | 79 | 50 | 72 | 1.6 | 2.87 |
| 76 TO 99..... | 29 | 226 | 7.7 | .013 | .013 | 458 | 59 | 29 | 41 | 1.4 | 3.04 |
| 100..... | 96 | 714 | 7.4 | .084 | .082 | 869 | 117 | 56 | 225 | 2.3 | 2.69 |
| NONE..... | 148 | 1,065 | 7.2 | .065 | .064 | 439 | 61 | 84 | 183 | 1.2 | 2.82 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 73 | 517 | 7.1 | .052 | .051 | 712 | 101 | 85 | 128 | 1.8 | 2.47 |
| PACKAGE UNITS..... | 119 | 880 | 7.4 | .084 | .083 | 713 | 96 | 50 | 253 | 2.1 | 2.99 |
| CENTRAL SYSTEM..... | 98 | 739 | 7.5 | .087 | .085 | 883 | 117 | 70 | 225 | 2.3 | 2.60 |
| COMBINATION/OTHER..... | 38 | 267 | 7.1 | .035 | .034 | 0 | 131 | 0 | 105 | 0 | 2.99 |
| NO AIR CONDITIONING..... | 148 | 1,065 | 7.2 | .065 | .064 | 439 | 61 | 84 | 183 | 1.2 | 2.82 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 230 | 1,725 | 7.5 | .160 | .157 | 695 | 93 | 77 | 412 | 1.8 | 2.58 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 111 | 798 | 7.2 | .069 | .067 | 619 | 86 | 71 | 206 | 1.9 | 2.99 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 54 | 378 | 7.0 | .032 | .032 | 596 | 85 | 52 | 90 | 1.7 | 2.78 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 53 | 369 | 6.9 | .031 | .031 | 581 | 84 | 49 | 103 | 1.9 | 3.33 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| GOVERNMENT-OWNED AND NOT REPORTED..... | 21 | 162 | 7.8 | 0 | 0 | 0 | 98 | 44 | 0 | 1.9 | 2.46 |
| NOT REPORTED..... | 6 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 309 | 2,209 | 7.2 | 0.151 | 0.148 | 488 | 68 | 124 | 408 | 1.3 | 2.71 |
| 10 TO 19..... | 102 | 773 | 7.6 | .084 | .082 | 821 | 109 | 63 | 244 | 2.4 | 2.91 |
| 20 TO 49..... | 52 | 397 | 7.6 | .076 | .075 | 1,465 | 193 | 52 | 207 | 4.0 | 2.71 |
| 50 TO 99..... | 12 | 89 | 7.6 | .012 | .012 | 1,015 | 133 | 17 | 34 | 2.9 | 2.90 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 8 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 OR FEWER HOURS..... | 89 | 659 | 7.4 | .052 | .051 | 586 | 79 | 101 | 136 | 1.5 | 2.60 |
| 40 TO 48 HOURS..... | 131 | 922 | 7.0 | .071 | .069 | 539 | 77 | 53 | 186 | 1.4 | 2.63 |
| 49 TO 60 HOURS..... | 99 | 719 | 7.2 | .069 | .068 | 700 | 97 | 74 | 203 | 2.0 | 2.93 |
| 61 TO 84 HOURS..... | 74 | 554 | 7.5 | .040 | .039 | 538 | 72 | 47 | 130 | 1.8 | 3.28 |
| MORE THAN 84 HOURS..... | 73 | 556 | 7.6 | .089 | .088 | 1,220 | 161 | 83 | 234 | 3.2 | 2.62 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 184 | 1,359 | 7.4 | .107 | .105 | 581 | 79 | 65 | 303 | 1.6 | 2.83 |
| NO..... | 270 | 1,956 | 7.2 | .203 | .199 | 750 | 104 | 70 | 553 | 2.0 | 2.73 |
| DON'T KNOW/NOT REPORTED..... | 20 | 153 | 7.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.90 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 143 | 1,042 | 7.3 | .093 | .091 | 651 | 90 | 77 | 244 | 1.7 | 2.62 |
| NO..... | 297 | 2,158 | 7.3 | .212 | .208 | 713 | 98 | 66 | 596 | 2.0 | 2.82 |
| DON'T KNOW/NOT REPORTED..... | 35 | 269 | 7.7 | .018 | .018 | 521 | 68 | 58 | 54 | 1.5 | 2.93 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 89 | 651 | 7.3 | .036 | .036 | 407 | 56 | 51 | 102 | 1.1 | 2.81 |
| NO..... | 363 | 2,636 | 7.3 | .273 | .267 | 751 | 103 | 71 | 752 | 2.1 | 2.76 |
| DON'T KNOW/NOT REPORTED..... | 23 | 182 | 7.8 | .014 | 0 | 0 | 79 | 83 | 0 | 1.7 | 2.85 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 377 | 2,748 | 7.3 | .229 | .225 | 608 | 83 | 61 | 661 | 1.8 | 2.88 |
| NO..... | 88 | 649 | 7.4 | .088 | .087 | 1,003 | 136 | 100 | 216 | 2.5 | 2.44 |
| NOT REPORTED/NOT APPLICABLE..... | 10 | 72 | 7.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 221 | 1,646 | 7.5 | 0.155 | 0.152 | 704 | 94 | 54 | 449 | 2.0 | 2.89 |
| NO..... | 34 | 240 | 7.1 | 2 | 2 | 1,510 | 212 | 115 | 2 | 4.0 | 2.62 |
| NOT REPORTED/ NOT APPLICABLE..... | 221 | 1,583 | 7.2 | .117 | .115 | 529 | 74 | 84 | 312 | 1.4 | 2.67 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 398 | 2,917 | 7.3 | .260 | .255 | 652 | 89 | 64 | 742 | 1.9 | 2.85 |
| NO..... | 68 | 492 | 7.3 | .058 | .057 | 855 | 118 | 101 | 135 | 2.0 | 2.33 |
| NOT REPORTED/ NOT APPLICABLE..... | 9 | 60 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 16. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Natural Gas.

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 648 | 27,420 | 42.3 | 1.657 | 1.626 | 2,556 | 60 | 48 | 4,372 | 6.7 | 2.64 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 642 | 27,222 | 42.4 | 1.648 | 1.616 | 2,568 | 61 | 48 | 4,346 | 6.8 | 2.64 |
| NATURAL GAS..... | 526 | 20,469 | 38.9 | 1.498 | 1.470 | 2,851 | 73 | 60 | 3,918 | 7.5 | 2.61 |
| ELECTRICITY..... | 103 | 4,498 | 43.8 | .257 | .251 | 2,497 | 57 | 37 | 660 | 6.4 | 2.57 |
| FUEL OIL/KEROSENE..... | 109 | 5,619 | 51.3 | .386 | .379 | 3,526 | 69 | 52 | 1,042 | 9.5 | 2.70 |
| OTHER..... | 34 | 2,849 | 82.9 | .073 | .071 | 2,123 | 26 | 17 | 197 | 5.7 | 2.70 |
| NO HEATING FUEL USED..... | 7 | 198 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AIR CONDITIONING FUEL USED.. | 524 | 23,212 | 44.3 | 1.450 | 1.423 | 2,768 | 62 | 45 | 3,823 | 7.3 | 2.64 |
| ELECTRICITY..... | 494 | 21,697 | 44.0 | 1.325 | 1.301 | 2,685 | 61 | 45 | 3,498 | 7.1 | 2.64 |
| NATURAL GAS..... | 50 | 2,390 | 47.4 | .241 | .236 | 4,781 | 101 | 66 | 573 | 11.4 | 2.38 |
| OTHER..... | 4 | 664 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 125 | 4,208 | 33.8 | .208 | .203 | 1,665 | 49 | 87 | 550 | 4.4 | 2.65 |
| WATER-HEATING FUEL USED..... | 567 | 24,829 | 43.8 | 1.515 | 1.486 | 2,671 | 61 | 48 | 4,001 | 7.1 | 2.64 |
| NATURAL GAS..... | 398 | 17,432 | 43.8 | 1.241 | 1.217 | 3,117 | 71 | 57 | 3,300 | 8.3 | 2.66 |
| ELECTRICITY..... | 156 | 5,985 | 38.3 | .303 | .297 | 1,937 | 51 | 40 | 750 | 4.8 | 2.48 |
| FUEL OIL/KEROSENE..... | 42 | 2,835 | 68.0 | .140 | .137 | 3,347 | 49 | 33 | 401 | 9.6 | 2.87 |
| OTHER..... | 11 | 1,483 | 135.1 | .040 | .040 | 3,688 | 27 | 16 | 106 | 9.6 | 2.61 |
| NO WATER-HEATING FUEL..... | 81 | 2,591 | 31.8 | .143 | .140 | 1,752 | 55 | 52 | 371 | 4.6 | 2.60 |
| MANUFACTURING FUEL USED..... | 64 | 3,132 | 49.3 | .394 | .387 | 6,207 | 126 | 105 | 1,027 | 16.2 | 2.60 |
| ELECTRICITY..... | 55 | 2,528 | 45.8 | .324 | .318 | 5,880 | 128 | 115 | 824 | 14.9 | 2.54 |
| NATURAL GAS..... | 17 | 1,088 | 64.0 | .294 | .288 | 17,271 | 270 | 186 | 756 | 44.5 | 2.57 |
| OTHER..... | 10 | 603 | 59.2 | .216 | .212 | 0 | 358 | 213 | 579 | 0 | 2.68 |
| NO MANUFACTURING DONE..... | 585 | 24,288 | 41.5 | 1.263 | 1.239 | 2,159 | 52 | 41 | 3,345 | 5.7 | 2.65 |
| COOKING FUEL USED..... | 330 | 16,596 | 50.2 | 1.036 | 1.017 | 3,136 | 62 | 47 | 2,740 | 8.3 | 2.64 |
| ELECTRICITY..... | 153 | 8,022 | 52.5 | .514 | .504 | 3,360 | 64 | 47 | 1,315 | 8.6 | 2.56 |
| NATURAL GAS..... | 219 | 12,052 | 55.1 | .731 | .717 | 3,341 | 61 | 45 | 1,950 | 8.9 | 2.67 |
| OTHER..... | 7 | 726 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 318 | 10,824 | 34.0 | .621 | .609 | 1,953 | 57 | 50 | 1,633 | 5.1 | 2.63 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 162 | 6,932 | 42.9 | .398 | .390 | 2,462 | 57 | 45 | 1,175 | 7.3 | 2.95 |
| NORTH CENTRAL..... | 245 | 10,280 | 41.9 | .742 | .728 | 3,025 | 72 | 64 | 1,867 | 7.6 | 2.51 |
| SOUTH..... | 154 | 6,424 | 41.8 | .329 | .322 | 2,136 | 51 | 40 | 839 | 5.5 | 2.55 |
| WEST..... | 88 | 3,784 | 43.2 | .188 | .185 | 2,150 | 50 | 33 | 492 | 5.6 | 2.61 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 478 | 22,121 | 46.2 | 1.317 | 1.292 | 2,753 | 60 | 44 | 3,577 | 7.5 | 2.72 |
| NONSMSA..... | 170 | 5,299 | 31.2 | .340 | .333 | 1,999 | 64 | 78 | 795 | 4.7 | 2.34 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 81 | 3,209 | 39.5 | .210 | .206 | 2,586 | 65 | 64 | 524 | 6.4 | 2.49 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 248 | 10,501 | 42.4 | .657 | .645 | 2,656 | 63 | 55 | 1,724 | 7.0 | 2.62 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 179 | 6,960 | 38.8 | .429 | .421 | 2,391 | 62 | 50 | 1,210 | 6.7 | 2.82 |
| <2,000 CDD AND <4,000 HDD... | 82 | 4,017 | 48.9 | .196 | .192 | 2,379 | 49 | 30 | 523 | 6.4 | 2.68 |
| >2,000 CDD AND <4,000 HDD... | 58 | 2,733 | 46.9 | .166 | .163 | 2,845 | 61 | 42 | 391 | 6.7 | 2.36 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 93 | 2,900 | 31.1 | .098 | .096 | 1,049 | 34 | 70 | 262 | 2.8 | 2.68 |
| AUTOMOTIVE SALES & SERVICE.. | 23 | 552 | 24.0 | .036 | .036 | 1,581 | 66 | 48 | 110 | 4.8 | 3.01 |
| EDUCATION..... | 66 | 3,923 | 59.4 | .198 | .194 | 3,001 | 51 | 66 | 506 | 7.7 | 2.56 |
| FOOD SALES..... | 24 | 564 | 23.6 | .039 | .038 | 1,643 | 70 | 50 | 107 | 4.5 | 2.74 |
| HEALTH CARE..... | 12 | 1,421 | 121.3 | .182 | .178 | 15,527 | 128 | 54 | 464 | 39.6 | 2.55 |
| LODGING..... | 21 | 1,317 | 64.1 | .082 | .080 | 3,987 | 62 | 74 | 215 | 10.5 | 2.62 |
| OFFICE..... | 99 | 4,621 | 46.7 | .246 | .241 | 2,487 | 53 | 20 | 660 | 6.7 | 2.68 |
| RESIDENTIAL..... | 71 | 1,869 | 26.4 | .065 | .063 | 914 | 35 | 66 | 182 | 2.6 | 2.82 |
| RETAIL/SERVICES..... | 119 | 4,805 | 40.3 | .170 | .167 | 1,428 | 35 | 32 | 486 | 4.1 | 2.85 |
| WAREHOUSE AND STORAGE..... | 68 | 3,195 | 46.9 | .266 | .261 | 3,898 | 83 | 108 | 620 | 9.1 | 2.33 |
| OTHER..... | 43 | 1,793 | 41.6 | .261 | .256 | 6,049 | 145 | 100 | 721 | 16.7 | 2.77 |
| VACANT..... | 10 | 460 | 47.1 | .015 | .014 | 1,489 | 32 | 8 | 39 | 4.0 | 2.68 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 10,001 TO 25,000..... | 383 | 5,964 | 15.6 | .543 | .533 | 1,416 | 91 | 70 | 1,433 | 3.7 | 2.64 |
| 25,001 TO 50,000..... | 144 | 5,117 | 35.6 | .252 | .247 | 1,753 | 49 | 48 | 694 | 4.8 | 2.75 |
| OVER 50,000..... | 121 | 16,339 | 134.9 | .862 | .846 | 7,116 | 53 | 40 | 2,245 | 18.5 | 2.60 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 185 | 5,691 | 30.7 | 0.332 | 0.326 | 1,795 | 58 | 59 | 895 | 4.8 | 2.69 |
| TWO FLOORS..... | 176 | 6,344 | 36.0 | .341 | .334 | 1,934 | 54 | 51 | 911 | 5.2 | 2.67 |
| THREE FLOORS..... | 145 | 5,128 | 35.3 | .286 | .281 | 1,969 | 56 | 50 | 762 | 5.2 | 2.66 |
| MORE THAN THREE..... | 142 | 10,257 | 72.5 | .698 | .685 | 4,928 | 68 | 43 | 1,805 | 12.8 | 2.59 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 73 | 2,162 | 29.5 | .101 | .099 | 1,375 | 47 | 55 | 250 | 3.4 | 2.48 |
| 1901 TO 1920..... | 84 | 3,235 | 38.5 | .131 | .129 | 1,560 | 41 | 49 | 348 | 4.1 | 2.66 |
| 1921 TO 1945..... | 143 | 5,236 | 36.7 | .440 | .432 | 3,081 | 84 | 76 | 1,129 | 7.9 | 2.57 |
| 1946 TO 1960..... | 134 | 5,644 | 42.2 | .276 | .271 | 2,064 | 49 | 40 | 770 | 5.8 | 2.79 |
| 1961 TO 1970..... | 116 | 6,147 | 52.9 | .392 | .384 | 3,373 | 64 | 44 | 1,037 | 8.9 | 2.65 |
| 1971 TO 1973..... | 40 | 2,160 | 54.4 | .175 | .171 | 4,403 | 81 | 43 | 436 | 11.0 | 2.50 |
| 1974 TO 1979..... | 59 | 2,836 | 48.1 | .143 | .140 | 2,428 | 50 | 34 | 401 | 6.8 | 2.81 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | - | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 482 | 16,777 | 34.8 | 1.006 | .988 | 2,088 | 60 | 55 | 2,631 | 5.5 | 2.61 |
| OTHER..... | - | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 115 | 6,845 | 59.4 | .509 | .500 | 4,421 | 74 | 48 | 1,383 | 12.0 | 2.72 |
| ELEC., GAS, OTHER..... | 36 | 2,802 | 76.8 | .055 | .054 | 1,498 | 19 | 15 | 145 | 4.0 | 2.66 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 15 | 982 | 66.7 | .077 | .075 | 0 | 79 | 43 | 190 | 0 | 2.45 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 648 | 27,405 | 42.3 | 1.648 | 1.617 | 2,542 | 60 | 48 | 4,349 | 6.7 | 2.64 |
| NATURAL GAS..... | 648 | 27,420 | 42.3 | 1.657 | 1.626 | 2,556 | 60 | 48 | 4,372 | 6.7 | 2.64 |
| FUEL OIL/KEROSENE..... | 129 | 7,708 | 59.9 | .586 | .575 | 4,559 | 76 | 48 | 1,570 | 12.2 | 2.68 |
| LIQUID PETROLEUM GAS..... | 14 | 872 | 61.3 | .062 | .060 | 0 | 71 | 67 | 140 | 9.8 | 2.27 |
| COAL..... | 10 | 431 | 43.0 | .010 | .010 | 1,009 | 23 | 19 | 26 | 2.6 | 2.55 |
| STEAM..... | 15 | 2,083 | 136.7 | .054 | .053 | 3,538 | 26 | 15 | 146 | 9.6 | 2.70 |
| OTHER..... | 13 | 596 | 44.5 | .027 | .027 | 0 | 0 | 0 | 78 | 0 | 2.83 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 177 | 5,479 | 31.0 | 0.249 | 0.244 | 1,408 | 45 | 40 | 672 | 3.8 | 2.70 |
| RADIANT..... | 9 | 335 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 39 | 1,237 | 31.6 | 0 | 0 | 0 | 0 | 0 | 194 | 5.0 | 2.78 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 137 | 6,266 | 45.8 | .358 | .351 | 2,617 | 57 | 42 | 951 | 7.0 | 2.66 |
| RADIANT..... | 143 | 6,010 | 42.1 | .467 | .458 | 3,268 | 78 | 73 | 1,234 | 8.6 | 2.65 |
| COMBINATION/OTHER..... | 66 | 4,835 | 72.9 | .276 | .271 | 4,160 | 57 | 39 | 734 | 11.1 | 2.66 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 29 | 1,092 | 37.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.20 |
| RADIANT..... | 11 | 347 | 30.9 | .006 | .006 | 0 | 17 | 0 | 18 | 1.6 | 3.13 |
| COMBINATION/OTHER..... | 30 | 1,628 | 53.7 | .105 | .103 | 3,469 | 65 | 52 | 275 | 9.1 | 2.62 |
| NONE..... | 7 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 44 | 1,637 | 36.9 | .084 | .082 | 1,894 | 51 | 84 | 212 | 4.8 | 2.52 |
| 26 TO 50..... | 47 | 1,357 | 28.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2.29 |
| 51 TO 75..... | 50 | 1,983 | 39.9 | .077 | .076 | 1,554 | 39 | 36 | 197 | 4.0 | 2.55 |
| 76 TO 99..... | 43 | 2,682 | 62.6 | .163 | .160 | 3,805 | 61 | 33 | 410 | 9.6 | 2.52 |
| 100..... | 457 | 19,569 | 42.8 | 1.199 | 1.176 | 2,622 | 61 | 48 | 3,243 | 7.1 | 2.70 |
| NONE..... | 7 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 167 | 6,760 | 40.4 | .588 | .577 | 3,511 | 87 | 107 | 1,492 | 8.9 | 2.54 |
| 26 TO 50..... | 98 | 2,984 | 30.3 | .162 | .159 | 1,650 | 54 | 62 | 441 | 4.5 | 2.71 |
| 51 TO 75..... | 52 | 2,815 | 54.0 | .142 | .139 | 2,717 | 50 | 33 | 396 | 7.6 | 2.80 |
| 76 TO 99..... | 43 | 3,314 | 77.0 | .196 | .192 | 4,547 | 59 | 28 | 501 | 11.6 | 2.56 |
| 100..... | 163 | 7,342 | 45.1 | .363 | .356 | 2,227 | 49 | 29 | 993 | 6.1 | 2.74 |
| NONE..... | 125 | 4,205 | 33.7 | .207 | .203 | 1,662 | 49 | 87 | 549 | 4.4 | 2.65 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 115 | 3,610 | 31.3 | .276 | .271 | 2,389 | 76 | 129 | 751 | 6.5 | 2.72 |
| PACKAGE UNITS..... | 169 | 6,667 | 39.4 | .333 | .327 | 1,968 | 50 | 38 | 902 | 5.3 | 2.71 |
| CENTRAL SYSTEM..... | 157 | 7,676 | 48.9 | .449 | .440 | 2,858 | 58 | 36 | 1,191 | 7.6 | 2.65 |
| COMBINATION/OTHER..... | 82 | 5,262 | 64.1 | .392 | .385 | 4,778 | 75 | 46 | 979 | 11.9 | 2.50 |
| NO AIR CONDITIONING..... | 125 | 4,205 | 33.7 | .207 | .203 | 1,662 | 49 | 87 | 549 | 4.4 | 2.65 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 258 | 9,790 | 38.0 | 0.588 | 0.577 | 2,284 | 60 | 57 | 1,556 | 6.0 | 2.65 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 140 | 4,818 | 34.4 | .287 | .282 | 2,053 | 60 | 65 | 761 | 5.4 | 2.65 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 108 | 5,109 | 47.5 | .171 | .167 | 1,586 | 33 | 19 | 487 | 4.5 | 2.86 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 69 | 3,103 | 44.9 | .135 | .133 | 1,959 | 44 | 31 | 386 | 5.6 | 2.85 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 66 | 3,994 | 60.9 | .410 | .403 | 6,253 | 103 | 74 | 1,063 | 16.2 | 2.59 |
| NOT REPORTED..... | 9 | 606 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 231 | 5,403 | 23.4 | .175 | .171 | 755 | 32 | 191 | 474 | 2.0 | 2.71 |
| 10 TO 19..... | 111 | 2,838 | 25.6 | .128 | .125 | 1,155 | 45 | 89 | 358 | 3.2 | 2.80 |
| 20 TO 49..... | 170 | 5,757 | 33.9 | .531 | .520 | 3,122 | 92 | 98 | 1,417 | 8.3 | 2.67 |
| 50 TO 99..... | 69 | 4,002 | 58.0 | .253 | .248 | 3,667 | 63 | 57 | 639 | 9.3 | 2.53 |
| 100 OR MORE..... | 67 | 9,421 | 139.6 | .571 | .561 | 8,469 | 61 | 26 | 1,484 | 22.0 | 2.60 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 10 | 392 | 39.8 | .008 | .008 | 810 | 20 | 2 | 23 | 2.4 | 2.94 |
| 39 OR FEWER HOURS..... | 59 | 1,372 | 23.3 | .032 | .031 | 541 | 23 | 62 | 90 | 1.5 | 2.83 |
| 40 TO 48 HOURS..... | 148 | 5,485 | 37.1 | .268 | .263 | 1,814 | 49 | 40 | 710 | 4.8 | 2.65 |
| 49 TO 60 HOURS..... | 161 | 5,900 | 36.7 | .395 | .388 | 2,458 | 67 | 56 | 1,082 | 6.7 | 2.74 |
| 61 TO 84 HOURS..... | 128 | 5,905 | 46.3 | .270 | .265 | 2,117 | 46 | 32 | 718 | 5.6 | 2.66 |
| MORE THAN 84 HOURS..... | 144 | 8,367 | 58.3 | .684 | .671 | 4,764 | 82 | 59 | 1,749 | 12.2 | 2.56 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 308 | 13,293 | 43.2 | .673 | .660 | 2,186 | 51 | 39 | 1,866 | 6.1 | 2.77 |
| NO..... | 299 | 12,749 | 42.7 | .871 | .854 | 2,914 | 68 | 56 | 2,186 | 7.3 | 2.51 |
| DON'T KNOW/NOT REPORTED..... | 42 | 1,378 | 33.0 | .114 | .111 | 2,718 | 82 | 83 | 320 | 7.7 | 2.82 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 180 | 7,638 | 42.4 | 0.482 | 0.473 | 2,675 | 63 | 52 | 1,212 | 6.7 | 2.51 |
| NO..... | 416 | 18,032 | 43.3 | 1.100 | 1.080 | 2,643 | 61 | 47 | 2,946 | 7.1 | 2.68 |
| DON'T KNOW/NOT REPORTED..... | 52 | 1,750 | 33.8 | .074 | .073 | 1,437 | 43 | 43 | 215 | 4.1 | 2.88 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 120 | 5,279 | 44.2 | .274 | .268 | 2,290 | 52 | 42 | 757 | 6.3 | 2.77 |
| NO..... | 481 | 20,653 | 42.9 | 1.313 | 1.288 | 2,729 | 64 | 50 | 3,410 | 7.1 | 2.60 |
| DON'T KNOW/NOT REPORTED..... | 48 | 1,488 | 31.2 | .070 | .069 | 1,476 | 47 | 44 | 205 | 4.3 | 2.91 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 517 | 21,809 | 42.2 | 1.311 | 1.286 | 2,538 | 60 | 48 | 3,435 | 6.7 | 2.62 |
| NO..... | 114 | 5,025 | 43.9 | .308 | .302 | 2,688 | 61 | 52 | 841 | 7.3 | 2.73 |
| NOT REPORTED/ NOT APPLICABLE..... | 17 | 587 | 33.6 | .038 | .038 | 2,199 | 66 | 51 | 96 | 5.5 | 2.50 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 341 | 16,071 | 47.1 | .922 | .904 | 2,701 | 57 | 37 | 2,422 | 7.1 | 2.63 |
| NO..... | 61 | 3,221 | 52.4 | .238 | .234 | 3,882 | 74 | 51 | 615 | 10.0 | 2.58 |
| NOT REPORTED/ NOT APPLICABLE..... | 246 | 8,128 | 33.1 | .497 | .488 | 2,023 | 61 | 101 | 1,336 | 5.4 | 2.69 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 548 | 23,149 | 42.2 | 1.389 | 1.362 | 2,534 | 60 | 47 | 3,655 | 6.7 | 2.63 |
| NO..... | 86 | 3,747 | 43.3 | .273 | .238 | 2,808 | 65 | 53 | 654 | 7.6 | 2.69 |
| NOT REPORTED/ NOT APPLICABLE..... | 14 | 524 | 37.5 | .026 | .025 | 1,845 | 49 | 56 | 64 | 4.6 | 2.47 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.
SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 17. 1979 Electricity Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 2,215 | 4,736 | 2.1 | 0.330 | 97 | 149 | 70 | 32 | 4,640 | 2.1 | 14.07 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 1,969 | 4,352 | 2.2 | .297 | 87 | 151 | 68 | 30 | 4,223 | 2.1 | 14.24 |
| NATURAL GAS..... | 973 | 2,346 | 2.4 | .132 | 39 | 135 | 56 | 27 | 1,859 | 1.9 | 14.13 |
| ELECTRICITY..... | 567 | 1,151 | 2.0 | .103 | 30 | 182 | 90 | 32 | 1,529 | 2.7 | 14.82 |
| FUEL OIL/KEROSENE..... | 381 | 873 | 2.3 | .049 | 14 | 129 | 56 | 31 | 794 | 2.1 | 16.13 |
| LIQUID PETROLEUM GAS..... | 152 | 256 | 1.7 | .025 | 7 | 167 | 99 | 44 | 258 | 1.7 | 10.17 |
| WOOD..... | 63 | 132 | 2.1 | .009 | 3 | 143 | 68 | 54 | 120 | 2.1 | 14.32 |
| COAL..... | 26 | 70 | 2.7 | .001 | - | 0 | 0 | 0 | 20 | 0 | 13.53 |
| OTHER..... | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 246 | 384 | 1.6 | .033 | 10 | 134 | 86 | 58 | 417 | 1.7 | 12.59 |
| AIR CONDITIONING FUEL USED.. | 1,334 | 3,012 | 2.3 | .254 | 74 | 190 | 84 | 32 | 3,587 | 2.7 | 14.14 |
| ELECTRICITY..... | 1,262 | 2,826 | 2.2 | .233 | 68 | 185 | 83 | 32 | 3,313 | 2.6 | 14.19 |
| NATURAL GAS..... | 73 | 184 | 2.5 | .016 | 5 | 217 | 86 | 29 | 211 | 2.9 | 13.34 |
| OTHER..... | 12 | 32 | 2.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.69 |
| NO AIR CONDITIONING FUEL.... | 882 | 1,724 | 2.0 | .076 | 22 | 86 | 44 | 32 | 1,053 | 1.2 | 13.84 |
| WATER-HEATING FUEL USED.... | 1,358 | 3,233 | 2.4 | .242 | 71 | 178 | 75 | 31 | 3,343 | 2.5 | 13.82 |
| NATURAL GAS..... | 608 | 1,541 | 2.5 | .105 | 31 | 172 | 68 | 29 | 1,501 | 2.5 | 14.33 |
| ELECTRICITY..... | 662 | 1,494 | 2.3 | .128 | 37 | 193 | 85 | 34 | 1,677 | 2.5 | 13.13 |
| FUEL OIL/KEROSENE..... | 55 | 141 | 2.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17.63 |
| OTHER..... | 59 | 128 | 2.2 | .004 | 1 | 76 | 35 | 19 | 72 | 1.2 | 16.11 |
| NO WATER-HEATING FUEL..... | 857 | 1,503 | 1.8 | .088 | 26 | 102 | 58 | 34 | 1,296 | 1.5 | 14.78 |
| MANUFACTURING FUEL USED.... | 167 | 424 | 2.5 | .022 | 6 | 130 | 51 | 31 | 315 | 1.9 | 14.46 |
| ELECTRICITY..... | 134 | 317 | 2.4 | .015 | 4 | 113 | 48 | 26 | 223 | 1.7 | 14.80 |
| NATURAL GAS..... | 26 | 88 | 3.4 | .009 | 3 | 352 | 105 | 60 | 113 | 4.3 | 12.24 |
| OTHER..... | 17 | 53 | 3.1 | 0 | 0 | 81 | 26 | 0 | 0 | 1.5 | 18.10 |
| NO MANUFACTURING DONE..... | 2,048 | 4,312 | 2.1 | .308 | 90 | 150 | 71 | 32 | 4,325 | 2.1 | 14.05 |
| COOKING FUEL USED..... | 635 | 1,579 | 2.5 | .130 | 38 | 205 | 82 | 34 | 1,716 | 2.7 | 13.20 |
| ELECTRICITY..... | 366 | 911 | 2.5 | .089 | 26 | 242 | 97 | 40 | 1,059 | 2.9 | 11.95 |
| NATURAL GAS..... | 270 | 727 | 2.7 | .069 | 20 | 254 | 94 | 35 | 966 | 3.6 | 14.08 |
| LIQUID PETROLEUM GAS..... | 61 | 118 | 1.9 | .005 | 2 | 87 | 45 | 18 | 85 | 1.4 | 16.06 |
| OTHER..... | 12 | 27 | 2.3 | 0 | 0 | 75 | 33 | 31 | 0 | 1.0 | 13.17 |
| NO COOKING FUEL..... | 1,580 | 3,157 | 2.0 | .200 | 59 | 126 | 63 | 31 | 2,924 | 1.9 | 14.64 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 308 | 771 | 2.5 | 0.044 | 13 | 142 | 57 | 30 | 808 | 2.6 | 18.40 |
| NORTH CENTRAL..... | 700 | 1,557 | 2.2 | .081 | 24 | 115 | 52 | 26 | 1,161 | 1.7 | 14.42 |
| SOUTH..... | 905 | 1,770 | 2.0 | .165 | 48 | 182 | 93 | 44 | 2,185 | 2.4 | 13.24 |
| WEST..... | 302 | 638 | 2.1 | .040 | 12 | 133 | 63 | 20 | 486 | 1.6 | 12.07 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 1,173 | 2,613 | 2.2 | .187 | 55 | 159 | 72 | 30 | 2,746 | 2.3 | 14.68 |
| NONSMSA..... | 1,042 | 2,123 | 2.0 | .143 | 42 | 137 | 67 | 35 | 1,894 | 1.8 | 13.27 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 221 | 522 | 2.4 | .021 | 6 | 94 | 40 | 28 | 293 | 1.3 | 14.05 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 598 | 1,378 | 2.3 | .075 | 22 | 126 | 55 | 25 | 1,129 | 1.9 | 14.97 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 600 | 1,277 | 2.1 | .083 | 24 | 138 | 65 | 31 | 1,202 | 2.0 | 14.55 |
| <2,000 CDD AND <4,000 HDD... | 397 | 781 | 2.0 | .077 | 23 | 195 | 99 | 39 | 882 | 2.2 | 11.40 |
| >2,000 CDD AND <4,000 HDD... | 398 | 779 | 2.0 | 0 | 0 | 184 | 94 | 37 | 0 | 2.8 | 15.45 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 194 | 451 | 2.3 | .022 | 6 | 113 | 49 | 48 | 271 | 1.4 | 12.35 |
| AUTOMOTIVE SALES & SERVICE.. | 285 | 539 | 1.9 | .021 | 6 | 75 | 40 | 23 | 351 | 1.2 | 16.41 |
| EDUCATION..... | 43 | 104 | 2.4 | .007 | 2 | 158 | 65 | 38 | 115 | 2.7 | 16.89 |
| FOOD SALES..... | 276 | 569 | 2.1 | .093 | 27 | 336 | 163 | 46 | 1,177 | 4.3 | 12.71 |
| HEALTH CARE..... | 19 | 42 | 2.2 | .002 | 1 | 94 | 42 | 19 | 26 | 1.3 | 14.29 |
| LODGING..... | 43 | 90 | 2.1 | .008 | 2 | 177 | 84 | 0 | 120 | 2.8 | 15.90 |
| OFFICE..... | 346 | 777 | 2.2 | .059 | 17 | 170 | 76 | 21 | 846 | 2.4 | 14.40 |
| RESIDENTIAL..... | 216 | 528 | 2.4 | .019 | 6 | 90 | 37 | 30 | 321 | 1.5 | 16.56 |
| RETAIL/SERVICES..... | 413 | 908 | 2.2 | .039 | 11 | 93 | 42 | 21 | 633 | 1.5 | 16.43 |
| WAREHOUSE AND STORAGE..... | 184 | 391 | 2.1 | .036 | 11 | 196 | 92 | 88 | 459 | 2.5 | 12.71 |
| OTHER..... | 127 | 216 | 1.7 | 0 | 0 | 0 | 0 | 0 | 214 | 1.7 | 12.69 |
| VACANT..... | 69 | 121 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.39 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 598 | 341 | .6 | .062 | 18 | 104 | 182 | 43 | 874 | 1.5 | 14.08 |
| 1,001 TO 5,000..... | 1,617 | 4,395 | 2.7 | .268 | 78 | 165 | 61 | 30 | 3,765 | 2.3 | 14.07 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILL-DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-DOLLARS) | AVERAGE EXPEND. PER BTU (DOL-LARS) |
|--|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|------------------------------|---|------------------------------------|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 1,597 | 3,042 | 1.9 | 0.258 | 75 | 161 | 85 | 35 | 3,480 | 2.2 | 13.51 |
| TWO FLOORS..... | 398 | 1,060 | 2.7 | .049 | 14 | 123 | 46 | 25 | 751 | 1.9 | 15.30 |
| THREE FLOORS..... | 169 | 497 | 2.9 | .011 | 3 | 66 | 23 | 17 | 186 | 1.1 | 16.56 |
| MORE THAN THREE..... | 50 | 136 | 2.7 | .012 | 3 | 235 | 86 | 43 | 223 | 4.5 | 18.97 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 165 | 422 | 2.6 | .017 | 5 | 102 | 40 | 28 | 286 | 1.7 | 17.05 |
| 1901 TO 1920..... | 188 | 481 | 2.6 | .024 | 7 | 129 | 51 | 35 | 309 | 1.6 | 12.73 |
| 1921 TO 1945..... | 423 | 874 | 2.1 | .044 | 13 | 105 | 51 | 26 | 643 | 1.5 | 18.51 |
| 1946 TO 1960..... | 626 | 1,226 | 2.0 | .068 | 20 | 109 | 56 | 29 | 1,017 | 1.6 | 14.90 |
| 1961 TO 1970..... | 420 | 879 | 2.1 | .077 | 22 | 182 | 87 | 40 | 1,057 | 2.5 | 13.82 |
| 1971 TO 1973..... | 102 | 231 | 2.3 | .019 | 5 | 183 | 81 | 25 | 273 | 2.7 | 14.64 |
| 1974 TO 1979..... | 291 | 623 | 2.1 | .081 | 24 | 278 | 130 | 35 | 1,054 | 3.6 | 13.03 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 575 | 968 | 1.7 | .101 | 30 | 176 | 104 | 42 | 1,412 | 2.5 | 14.00 |
| TWO FUELS USED..... | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 1,460 | 3,314 | 2.3 | .204 | 60 | 140 | 62 | 28 | 2,794 | 1.9 | 13.71 |
| ELEC., FUEL OIL/KEROSENE..... | 1,008 | 2,424 | 2.4 | .145 | 43 | 144 | 60 | 27 | 2,057 | 2.0 | 14.18 |
| ELEC., LPG..... | 275 | 589 | 2.1 | .031 | 9 | 113 | 53 | 30 | 461 | 1.7 | 14.88 |
| ELEC., GAS, OTHER..... | 134 | 213 | 1.6 | .024 | 7 | 177 | 111 | 0 | 234 | 1.8 | 9.91 |
| OTHER..... | 43 | 88 | 2.0 | .004 | 1 | 95 | 47 | 0 | 42 | 1.0 | 10.11 |
| THREE FUELS USED..... | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 166 | 407 | 2.4 | .024 | 7 | 142 | 58 | 32 | 412 | 2.5 | 17.49 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 76 | 216 | 2.9 | .014 | 4 | 179 | 63 | 36 | 251 | 3.3 | 18.51 |
| ELEC., GAS, OTHER..... | 35 | 78 | 2.2 | .003 | 1 | 79 | 35 | 0 | 44 | 1.3 | 16.05 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 30 | 63 | 2.1 | .003 | 1 | 89 | 0 | 30 | 36 | 1.2 | 13.64 |
| OTHER..... | 12 | 25 | 2.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER..... | 14 | 25 | 1.9 | .001 | - | 54 | 29 | 22 | 9 | .7 | 12.13 |
| FOUR OR MORE FUELS USED..... | 14 | 48 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 2,215 | 4,736 | 2.1 | .330 | 97 | 149 | 70 | 32 | 4,640 | 2.1 | 14.07 |
| NATURAL GAS..... | 1,121 | 2,725 | 2.4 | .162 | 48 | 145 | 60 | 27 | 2,362 | 2.1 | 14.55 |
| FUEL OIL/KEROSENE..... | 400 | 917 | 2.3 | .051 | 15 | 128 | 56 | 31 | 829 | 2.1 | 16.18 |
| LIQUID PETROLEUM GAS..... | 199 | 367 | 1.8 | .029 | 9 | 146 | 80 | 36 | 317 | 1.6 | 10.88 |
| WOOD..... | 77 | 160 | 2.1 | .010 | 3 | 129 | 62 | 52 | 143 | 1.9 | 14.43 |
| COAL..... | 33 | 91 | 2.8 | .002 | 1 | 0 | 0 | 0 | 25 | 0 | 13.56 |
| OTHER..... | 4 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 646 | 1,402 | 2.2 | 0.120 | 35 | 186 | 85 | 29 | 1,776 | 2.7 | 14.81 |
| RADIANT..... | 112 | 188 | 1.7 | .008 | 2 | 74 | 44 | 25 | 122 | 1.1 | 14.81 |
| COMBINATION/OTHER..... | 251 | 480 | 1.9 | .034 | 10 | 134 | 70 | 41 | 446 | 1.8 | 13.29 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 551 | 1,219 | 2.2 | .072 | 21 | 131 | 59 | 28 | 978 | 1.8 | 13.50 |
| RADIANT..... | 203 | 561 | 2.8 | .038 | 11 | 186 | 67 | 35 | 513 | 2.5 | 13.62 |
| COMBINATION/OTHER..... | 77 | 220 | 2.8 | .009 | 3 | 120 | 42 | 25 | 150 | 1.9 | 16.06 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 66 | 160 | 2.4 | .008 | 2 | 128 | 52 | 0 | 110 | 1.7 | 13.07 |
| RADIANT..... | 12 | 23 | 1.9 | 0 | 0 | 114 | 60 | 0 | 0 | 2.0 | 17.84 |
| COMBINATION/OTHER..... | 52 | 100 | 1.9 | .006 | 2 | 115 | 60 | 39 | 108 | 2.1 | 18.00 |
| NONE..... | 245 | 382 | 1.6 | .033 | 10 | 134 | 86 | 58 | 413 | 1.7 | 12.61 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 83 | 185 | 2.2 | .010 | 3 | 115 | 52 | 26 | 135 | 1.6 | 14.15 |
| 26 TO 50..... | 199 | 448 | 2.3 | .023 | 7 | 114 | 51 | 28 | 346 | 1.7 | 15.21 |
| 51 TO 75..... | 160 | 388 | 2.4 | .021 | 6 | 128 | 53 | 20 | 299 | 1.9 | 14.55 |
| 76 TO 99..... | 118 | 304 | 2.6 | .017 | 5 | 144 | 56 | 21 | 260 | 2.2 | 15.27 |
| 100..... | 1,409 | 3,029 | 2.1 | .227 | 67 | 161 | 75 | 34 | 3,187 | 2.3 | 14.04 |
| NONE..... | 245 | 382 | 1.6 | .033 | 10 | 134 | 86 | 58 | 413 | 1.7 | 12.61 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 156 | 404 | 2.6 | .025 | 7 | 162 | 63 | 28 | 374 | 2.4 | 14.79 |
| 26 TO 50..... | 292 | 749 | 2.6 | .028 | 8 | 95 | 37 | 17 | 429 | 1.5 | 15.84 |
| 51 TO 75..... | 149 | 350 | 2.3 | .026 | 8 | 176 | 75 | 23 | 396 | 2.7 | 15.08 |
| 76 TO 99..... | 82 | 193 | 2.4 | .021 | 6 | 256 | 109 | 40 | 297 | 3.6 | 14.16 |
| 100..... | 654 | 1,317 | 2.0 | .153 | 45 | 234 | 116 | 40 | 2,091 | 3.2 | 13.64 |
| NONE..... | 882 | 1,724 | 2.0 | .076 | 22 | 86 | 44 | 32 | 1,053 | 1.2 | 13.84 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 533 | 1,031 | 1.9 | .057 | 17 | 107 | 55 | 27 | 909 | 1.7 | 15.99 |
| PACKAGE UNITS..... | 335 | 857 | 2.6 | .087 | 26 | 260 | 102 | 31 | 1,232 | 3.7 | 14.14 |
| CENTRAL SYSTEM..... | 357 | 859 | 2.4 | .092 | 27 | 257 | 107 | 37 | 1,185 | 3.3 | 12.94 |
| COMBINATION/OTHER..... | 109 | 265 | 2.4 | .018 | 5 | 165 | 68 | 32 | 261 | 2.4 | 14.46 |
| NO AIR CONDITIONING..... | 882 | 1,724 | 2.0 | .076 | 22 | 86 | 44 | 32 | 1,053 | 1.2 | 13.84 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 1,121 | 2,331 | 2.1 | 0.170 | 50 | 152 | 73 | 38 | 2,299 | 2.1 | 13.50 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 717 | 1,488 | 2.1 | .095 | 28 | 133 | 64 | 29 | 1,463 | 2.0 | 15.37 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 161 | 419 | 2.6 | .020 | 6 | 123 | 47 | 18 | 290 | 1.8 | 14.67 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 82 | 241 | 2.9 | .020 | 6 | 242 | 83 | 28 | 296 | 3.6 | 14.83 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 106 | 199 | 1.9 | 0 | 0 | 199 | 106 | 0 | 248 | 2.3 | 11.77 |
| NOT REPORTED..... | 28 | 58 | 2.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.58 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 1,966 | 3,977 | 2.0 | .241 | 71 | 123 | 61 | 42 | 3,401 | 1.7 | 14.10 |
| 10 TO 19..... | 183 | 515 | 2.8 | .049 | 14 | 269 | 96 | 21 | 725 | 4.0 | 14.74 |
| 20 TO 49..... | 55 | 188 | 3.4 | .032 | 9 | 589 | 171 | 22 | 434 | 7.9 | 13.46 |
| 50 OR MORE..... | 12 | 56 | 4.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11.22 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 145 | 216 | 1.5 | .021 | 6 | 147 | 99 | 0 | 262 | 1.8 | 12.31 |
| 39 OR FEWER HOURS..... | 370 | 750 | 2.0 | .046 | 14 | 125 | 62 | 55 | 559 | 1.5 | 12.04 |
| 40 TO 48 HOURS..... | 533 | 1,203 | 2.3 | .055 | 16 | 103 | 45 | 22 | 814 | 1.5 | 14.88 |
| 49 TO 60 HOURS..... | 477 | 1,131 | 2.4 | .052 | 15 | 109 | 46 | 21 | 886 | 1.9 | 17.13 |
| 61 TO 84 HOURS..... | 307 | 612 | 2.0 | .043 | 13 | 140 | 70 | 28 | 638 | 2.1 | 14.85 |
| MORE THAN 84 HOURS..... | 382 | 825 | 2.2 | .113 | 33 | 294 | 136 | 40 | 1,480 | 3.9 | 13.15 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 736 | 1,659 | 2.3 | .085 | 25 | 116 | 51 | 23 | 1,313 | 1.8 | 15.42 |
| NO..... | 1,369 | 2,827 | 2.1 | .225 | 66 | 165 | 80 | 36 | 3,062 | 2.2 | 13.59 |
| DON'T KNOW/NOT REPORTED..... | 110 | 250 | 2.3 | .019 | 6 | 174 | 77 | 45 | 265 | 2.4 | 13.75 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 608 | 1,394 | 2.3 | 0.070 | 20 | 115 | 50 | 24 | 1,071 | 1.8 | 15.35 |
| NO..... | 1,471 | 3,040 | 2.1 | .241 | 71 | 164 | 79 | 35 | 3,298 | 2.2 | 13.69 |
| DON'T KNOW/NOT REPORTED..... | 136 | 302 | 2.2 | .019 | 6 | 140 | 63 | 30 | 271 | 2.0 | 14.19 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 373 | 837 | 2.2 | .094 | 13 | 117 | 52 | 23 | 639 | 1.7 | 14.63 |
| NO..... | 1,726 | 3,631 | 2.1 | .270 | 79 | 156 | 74 | 34 | 3,785 | 2.2 | 14.02 |
| DON'T KNOW/NOT REPORTED..... | 116 | 268 | 2.3 | .016 | 5 | 138 | 60 | 32 | 216 | 1.9 | 13.39 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 1,674 | 3,706 | 2.2 | .239 | 70 | 143 | 65 | 30 | 3,393 | 2.0 | 14.17 |
| NO..... | 278 | 618 | 2.2 | .054 | 16 | 195 | 88 | 31 | 777 | 2.8 | 14.35 |
| NOT REPORTED..... | 18 | 30 | 1.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.59 |
| NOT APPLICABLE..... | 245 | 382 | 1.6 | .033 | 10 | 134 | 86 | 58 | 413 | 1.7 | 12.61 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 708 | 1,744 | 2.5 | .165 | 48 | 234 | 95 | 33 | 2,222 | 3.1 | 13.43 |
| NO..... | 81 | 211 | 2.6 | .025 | 7 | 311 | 120 | 35 | 354 | 4.4 | 14.06 |
| NOT REPORTED..... | 12 | 28 | 2.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.53 |
| NOT APPLICABLE..... | 1,414 | 2,754 | 1.9 | .133 | 39 | 94 | 48 | 30 | 1,962 | 1.4 | 14.76 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 1,727 | 3,823 | 2.2 | .262 | 77 | 152 | 69 | 31 | 3,680 | 2.1 | 14.02 |
| NO..... | 237 | 523 | 2.2 | .046 | 14 | 195 | 88 | 37 | 662 | 2.8 | 14.35 |
| NOT REPORTED..... | 21 | 38 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.34 |
| NOT APPLICABLE..... | 230 | 352 | 1.5 | .017 | 5 | 73 | 48 | 33 | 229 | 1.0 | 13.60 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 18. 1979 Electricity Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) | |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|--|
| COMMERCIAL BUILDINGS..... | 733 | 5,270 | 7.2 | 0.182 | 53 | 248 | 35 | 25 | 2,496 | 3.4 | 13.71 | |
| END USE BY FUEL TYPE | | | | | | | | | | | | |
| HEATING FUEL USED..... | 706 | 5,098 | 7.2 | .177 | 52 | 251 | 35 | 25 | 2,421 | 3.4 | 13.65 | |
| NATURAL GAS..... | 418 | 3,054 | 7.3 | .105 | 31 | 252 | 34 | 26 | 1,481 | 3.5 | 14.07 | |
| ELECTRICITY..... | 187 | 1,295 | 6.9 | .055 | 16 | 295 | 43 | 26 | 689 | 3.7 | 12.47 | |
| FUEL OIL/KEROSENE..... | 171 | 1,222 | 7.1 | .025 | 7 | 147 | 21 | 15 | 374 | 2.2 | 14.82 | |
| LIQUID PETROLEUM GAS..... | 37 | 240 | 6.5 | .008 | 2 | 229 | 35 | 19 | 109 | 2.9 | 12.81 | |
| WOOD..... | 21 | 168 | 7.9 | 0 | 0 | 141 | 18 | 34 | 0 | 1.6 | 0 | |
| OTHER..... | 10 | 82 | 8.1 | .002 | 1 | 197 | 24 | 0 | 28 | 0 | 13.74 | |
| NO HEATING FUEL USED..... | 27 | 171 | 6.4 | .005 | 1 | 175 | 28 | 37 | 75 | 2.8 | 15.91 | |
| AIR CONDITIONING FUEL USED.. | 490 | 3,533 | 7.2 | .130 | 38 | 266 | 37 | 22 | 1,815 | 3.7 | 13.93 | |
| ELECTRICITY..... | 468 | 3,372 | 7.2 | .123 | 36 | 262 | 36 | 22 | 1,712 | 3.7 | 13.96 | |
| NATURAL GAS..... | 22 | 167 | 7.6 | .008 | 2 | 363 | 48 | 25 | 109 | 5.0 | 13.74 | |
| OTHER..... | 5 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| NO AIR CONDITIONING FUEL.... | 243 | 1,736 | 7.1 | .052 | 15 | 213 | 30 | 39 | 681 | 2.8 | 13.15 | |
| WATER-HEATING FUEL USED..... | 539 | 3,951 | 7.3 | .152 | 44 | 282 | 38 | 27 | 2,083 | 3.9 | 13.73 | |
| NATURAL GAS..... | 247 | 1,821 | 7.4 | .075 | 22 | 305 | 41 | 28 | 1,050 | 4.3 | 14.05 | |
| ELECTRICITY..... | 252 | 1,844 | 7.3 | .066 | 19 | 262 | 36 | 26 | 866 | 3.4 | 13.10 | |
| FUEL OIL/KEROSENE..... | 36 | 256 | 7.1 | .008 | 2 | 231 | 33 | 29 | 130 | 3.6 | 15.56 | |
| OTHER..... | 18 | 138 | 7.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.16 | |
| NO WATER-HEATING FUEL..... | 199 | 1,318 | 6.8 | .030 | 9 | 156 | 23 | 18 | 413 | 2.1 | 13.62 | |
| MANUFACTURING FUEL USED.... | 55 | 368 | 6.7 | .010 | 3 | 186 | 28 | 17 | 145 | 2.7 | 14.23 | |
| ELECTRICITY..... | 47 | 315 | 6.7 | .009 | 3 | 200 | 30 | 17 | 135 | 2.8 | 14.26 | |
| OTHER..... | 11 | 85 | 7.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.21 | |
| NO MANUFACTURING DONE..... | 679 | 4,902 | 7.2 | .172 | 50 | 253 | 35 | 26 | 2,350 | 3.5 | 13.68 | |
| COOKING FUEL USED..... | 265 | 1,909 | 7.2 | .071 | 21 | 269 | 37 | 29 | 920 | 3.5 | 12.88 | |
| ELECTRICITY..... | 143 | 1,008 | 7.1 | .042 | 12 | 293 | 41 | 30 | 494 | 3.5 | 11.81 | |
| NATURAL GAS..... | 120 | 901 | 7.5 | .034 | 10 | 287 | 38 | 26 | 488 | 4.1 | 14.14 | |
| LIQUID PETROLEUM GAS..... | 24 | 174 | 7.4 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 14.19 | |
| OTHER..... | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| NO COOKING FUEL..... | 468 | 3,360 | 7.2 | .111 | 32 | 236 | 33 | 23 | 1,576 | 3.4 | 14.24 | |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 144 | 1,027 | 7.1 | 0.031 | 9 | 214 | 30 | 26 | 524 | 3.6 | 16.94 |
| NORTH CENTRAL..... | 247 | 1,781 | 7.2 | .074 | 22 | 300 | 42 | 30 | 999 | 4.0 | 13.48 |
| SOUTH..... | 223 | 1,578 | 7.1 | .051 | 15 | 227 | 32 | 22 | 682 | 3.1 | 13.46 |
| WEST..... | 119 | 883 | 7.4 | .026 | 8 | 221 | 30 | 20 | 291 | 2.4 | 11.04 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 418 | 3,038 | 7.3 | .117 | 34 | 280 | 39 | 29 | 1,646 | 3.9 | 14.05 |
| NONSMSA..... | 315 | 2,231 | 7.1 | .065 | 19 | 206 | 29 | 21 | 850 | 2.7 | 13.09 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 109 | 779 | 7.2 | .023 | 7 | 216 | 30 | 24 | 298 | 2.7 | 12.68 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 241 | 1,729 | 7.2 | .063 | 19 | 262 | 37 | 28 | 821 | 3.4 | 13.00 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 182 | 1,314 | 7.2 | .048 | 14 | 265 | 37 | 23 | 736 | 4.1 | 15.30 |
| <2,000 CDD AND <4,000 HDD... | 105 | 792 | 7.5 | .025 | 7 | 242 | 32 | 26 | 332 | 3.2 | 13.05 |
| >2,000 CDD AND <4,000 HDD... | 97 | 656 | 6.8 | 0 | 0 | 226 | 33 | 23 | 0 | 3.2 | 14.14 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 131 | 968 | 7.4 | .017 | 5 | 131 | 18 | 0 | 247 | 1.9 | 14.42 |
| AUTOMOTIVE SALES & SERVICE.. | 76 | 520 | 6.8 | .017 | 5 | 219 | 32 | 29 | 215 | 2.8 | 12.92 |
| EDUCATION..... | 21 | 152 | 7.3 | .005 | 2 | 264 | 36 | 30 | 77 | 3.7 | 14.10 |
| FOOD SALES..... | 51 | 355 | 7.0 | .027 | 8 | 522 | 75 | 33 | 313 | 6.1 | 11.77 |
| HEALTH CARE..... | 9 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 22 | 162 | 7.2 | .010 | 3 | 433 | 60 | 0 | 116 | 5.2 | 11.95 |
| OFFICE..... | 115 | 829 | 7.2 | .034 | 10 | 292 | 41 | 16 | 451 | 3.9 | 13.40 |
| RESIDENTIAL..... | 45 | 340 | 7.5 | 0 | 0 | 0 | 0 | 0 | 170 | 3.7 | 14.15 |
| RETAIL/SERVICES..... | 152 | 1,110 | 7.3 | .024 | 7 | 156 | 21 | 20 | 380 | 2.5 | 16.06 |
| WAREHOUSE AND STORAGE..... | 58 | 409 | 7.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.35 |
| OTHER..... | 38 | 277 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.08 |
| VACANT..... | 14 | 90 | 6.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.45 |
| TOTAL SQUARE FOOTAGE 5,001 TO 10,000..... | | | | | | | | | | | |
| | 733 | 5,270 | 7.2 | .182 | 53 | 248 | 35 | 25 | 2,496 | 3.4 | 13.71 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 321 | 2,257 | 7.0 | 0.083 | 24 | 258 | 37 | 25 | 1,176 | 3.7 | 14.15 |
| TWO FLOORS..... | 250 | 1,868 | 7.5 | .073 | 21 | 291 | 39 | 29 | 894 | 3.6 | 12.28 |
| THREE FLOORS..... | 119 | 827 | 7.0 | .017 | 5 | 142 | 20 | 17 | 262 | 2.2 | 15.50 |
| MORE THAN THREE..... | 43 | 319 | 7.4 | .009 | 3 | 213 | 29 | 25 | 163 | 3.8 | 17.72 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 65 | 475 | 7.3 | .010 | 3 | 152 | 21 | 25 | 165 | 2.5 | 16.77 |
| 1901 TO 1920..... | 100 | 716 | 7.1 | .024 | 7 | 239 | 34 | 25 | 366 | 3.6 | 15.26 |
| 1921 TO 1945..... | 130 | 961 | 7.4 | .023 | 7 | 174 | 24 | 19 | 336 | 2.6 | 14.83 |
| 1946 TO 1960..... | 173 | 1,237 | 7.1 | .034 | 10 | 196 | 27 | 22 | 476 | 2.7 | 13.99 |
| 1961 TO 1970..... | 134 | 914 | 6.8 | .039 | 11 | 293 | 43 | 31 | 480 | 3.6 | 12.25 |
| 1971 TO 1973..... | 34 | 251 | 7.4 | .015 | 4 | 434 | 59 | 35 | 210 | 6.2 | 14.19 |
| 1974 TO 1979..... | 97 | 715 | 7.4 | .038 | 11 | 389 | 52 | 26 | 462 | 4.8 | 12.31 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 91 | 620 | 6.8 | .031 | 9 | 341 | 50 | 34 | 383 | 4.2 | 12.29 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 534 | 3,880 | 7.3 | .132 | 39 | 247 | 34 | 25 | 1,842 | 3.4 | 13.96 |
| ELEC., FUEL OIL/KEROSENE.. | 399 | 2,903 | 7.3 | .108 | 32 | 270 | 37 | 27 | 1,506 | 3.8 | 13.99 |
| ELEC., LPG..... | 90 | 664 | 7.3 | .014 | 4 | 151 | 21 | 0 | 199 | 2.2 | 14.56 |
| OTHER..... | 29 | 198 | 6.7 | .008 | 2 | 272 | 40 | 25 | 111 | 3.8 | 13.98 |
| OTHER..... | 15 | 115 | 7.5 | 0 | 0 | 171 | 23 | 0 | 0 | 1.7 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 101 | 726 | 7.2 | .019 | 5 | 183 | 26 | 20 | 264 | 2.6 | 14.23 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 59 | 436 | 7.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14.56 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 22 | 140 | 6.3 | 0 | 0 | 136 | 0 | 17 | 0 | 1.9 | 13.60 |
| ELEC., GAS, OTHER..... | 13 | 102 | 7.8 | .003 | 1 | 193 | 25 | 15 | 37 | 2.8 | 14.70 |
| OTHER..... | 7 | 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| OTHER..... | 6 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 733 | 5,270 | 7.2 | .182 | 53 | 248 | 35 | 25 | 2,496 | 3.4 | 13.71 |
| NATURAL GAS..... | 475 | 3,467 | 7.3 | .123 | 36 | 258 | 35 | 26 | 1,723 | 3.6 | 14.06 |
| FUEL OIL/KEROSENE..... | 179 | 1,280 | 7.1 | .029 | 9 | 163 | 23 | 17 | 423 | 2.4 | 14.48 |
| LIQUID PETROLEUM GAS..... | 60 | 408 | 6.8 | .013 | 4 | 211 | 31 | 22 | 174 | 2.9 | 13.62 |
| WOOD..... | 23 | 176 | 7.7 | 0 | 0 | 134 | 17 | 32 | 0 | 1.5 | 0 |
| OTHER..... | 18 | 126 | 7.2 | .003 | 1 | 160 | 22 | 13 | 36 | 2.1 | 12.93 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 227 | 1,601 | 7.1 | 0.066 | 19 | 290 | 41 | 24 | 877 | 3.9 | 13.34 |
| RADIANT..... | 28 | 196 | 7.1 | .008 | 2 | 2 | 2 | 2 | 102 | 3.7 | 12.50 |
| COMBINATION/OTHER..... | 31 | 232 | 7.5 | .008 | 2 | 256 | 34 | 26 | 112 | 3.6 | 14.06 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 197 | 1,443 | 7.3 | .044 | 13 | 221 | 30 | 22 | 591 | 3.0 | 13.56 |
| RADIANT..... | 110 | 787 | 7.1 | .026 | 8 | 234 | 33 | 24 | 385 | 3.5 | 14.92 |
| COMBINATION/OTHER..... | 39 | 294 | 7.4 | .012 | 4 | 306 | 41 | 42 | 178 | 4.5 | 14.71 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 30 | 223 | 7.4 | 2 | 2 | 207 | 28 | 24 | 2 | 3.3 | 15.96 |
| RADIANT..... | 6 | 47 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| COMBINATION/OTHER..... | 38 | 275 | 7.2 | .007 | 2 | 194 | 27 | 29 | 71 | 1.9 | 9.58 |
| NONE..... | 27 | 171 | 6.4 | .005 | 1 | 175 | 28 | 37 | 75 | 2.8 | 15.91 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 66 | 484 | 7.4 | .011 | 3 | 168 | 23 | 22 | 158 | 2.4 | 14.35 |
| 26 TO 50..... | 71 | 495 | 6.9 | .014 | 4 | 202 | 29 | 33 | 229 | 3.2 | 15.86 |
| 51 TO 75..... | 71 | 493 | 6.9 | .013 | 4 | 186 | 27 | 26 | 172 | 2.4 | 12.93 |
| 76 TO 99..... | 47 | 338 | 7.3 | .012 | 3 | 254 | 35 | 20 | 179 | 3.8 | 15.12 |
| 100..... | 451 | 3,288 | 7.3 | .127 | 37 | 281 | 39 | 25 | 1,682 | 3.7 | 13.27 |
| NONE..... | 27 | 171 | 6.4 | .005 | 1 | 175 | 28 | 37 | 75 | 2.8 | 15.91 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 116 | 811 | 7.0 | .023 | 7 | 195 | 28 | 20 | 331 | 2.9 | 14.68 |
| 26 TO 50..... | 115 | 832 | 7.2 | .021 | 6 | 181 | 25 | 22 | 289 | 2.5 | 13.84 |
| 51 TO 75..... | 55 | 384 | 7.0 | .015 | 4 | 267 | 38 | 25 | 194 | 3.5 | 13.23 |
| 76 TO 99..... | 37 | 279 | 7.5 | .013 | 4 | 346 | 46 | 20 | 194 | 5.2 | 15.17 |
| 100..... | 167 | 1,227 | 7.3 | .059 | 17 | 355 | 48 | 23 | 806 | 4.8 | 13.58 |
| NONE..... | 243 | 1,736 | 7.1 | .052 | 15 | 213 | 30 | 39 | 681 | 2.8 | 13.15 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 120 | 823 | 6.9 | .019 | 6 | 159 | 23 | 20 | 269 | 2.2 | 14.09 |
| PACKAGE UNITS..... | 169 | 1,241 | 7.3 | .058 | 17 | 341 | 46 | 26 | 796 | 4.7 | 13.82 |
| CENTRAL SYSTEM..... | 145 | 1,066 | 7.4 | .040 | 12 | 280 | 38 | 19 | 558 | 3.9 | 13.77 |
| COMBINATION/OTHER..... | 57 | 403 | 7.1 | .013 | 4 | 231 | 33 | 22 | 192 | 3.4 | 14.63 |
| NO AIR CONDITIONING..... | 243 | 1,736 | 7.1 | .052 | 15 | 213 | 30 | 39 | 681 | 2.8 | 13.15 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 352 | 2,573 | 7.3 | 0.087 | 26 | 247 | 34 | 29 | 1,141 | 3.2 | 13.11 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 169 | 1,208 | 7.1 | .041 | 12 | 243 | 34 | 23 | 597 | 3.5 | 14.53 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 89 | 616 | 6.9 | .014 | 4 | 154 | 22 | 14 | 208 | 2.3 | 15.11 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 72 | 503 | 6.9 | .018 | 5 | 249 | 36 | 24 | 271 | 3.8 | 15.03 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 42 | 316 | 7.5 | 0 | 0 | 429 | 57 | 28 | 224 | 5.4 | 12.48 |
| NOT REPORTED..... | 8 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 495 | 3,487 | 7.0 | .086 | 25 | 174 | 25 | 45 | 1,173 | 2.4 | 13.61 |
| 10 TO 19..... | 143 | 1,053 | 7.4 | .045 | 13 | 318 | 43 | 24 | 663 | 4.6 | 14.61 |
| 20 TO 49..... | 77 | 586 | 7.6 | .040 | 12 | 522 | 68 | 18 | 518 | 6.7 | 12.89 |
| 50 OR MORE..... | 18 | 144 | 8.0 | .010 | 3 | 573 | 72 | 8 | 141 | 7.8 | 13.68 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 11 | 75 | 6.7 | .001 | - | 0 | 0 | 0 | 12 | 0 | 13.35 |
| 39 OR FEWER HOURS..... | 123 | 912 | 7.4 | .013 | 4 | 103 | 14 | 0 | 186 | 1.5 | 14.71 |
| 40 TO 48 HOURS..... | 194 | 1,340 | 6.9 | .048 | 14 | 250 | 36 | 25 | 660 | 3.4 | 13.65 |
| 49 TO 60 HOURS..... | 179 | 1,281 | 7.1 | .035 | 10 | 195 | 27 | 21 | 510 | 2.8 | 14.56 |
| 61 TO 84 HOURS..... | 116 | 851 | 7.3 | .030 | 9 | 261 | 36 | 26 | 440 | 3.8 | 14.54 |
| MORE THAN 84 HOURS..... | 110 | 809 | 7.4 | .055 | 16 | 498 | 68 | 35 | 687 | 6.2 | 12.53 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 287 | 2,075 | 7.2 | .072 | 21 | 253 | 35 | 28 | 1,024 | 3.6 | 14.15 |
| NO..... | 418 | 2,983 | 7.1 | .098 | 29 | 234 | 33 | 22 | 1,329 | 3.2 | 13.57 |
| DON'T KNOW/NOT REPORTED..... | 28 | 211 | 7.5 | .012 | 3 | 414 | 56 | 49 | 142 | 5.0 | 12.13 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|---|---|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 227 | 1,641 | 7.2 | 0.053 | 15 | 232 | 32 | 28 | 766 | 3.4 | 14.56 |
| NO..... | 453 | 3,239 | 7.1 | .116 | 34 | 256 | 36 | 24 | 1,546 | 3.4 | 13.32 |
| DON'T KNOW/NOT REPORTED..... | 53 | 390 | 7.3 | .013 | 4 | 251 | 34 | 26 | 184 | 3.5 | 13.73 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 149 | 1,078 | 7.3 | .040 | 12 | 270 | 37 | 31 | 588 | 4.0 | 14.65 |
| NO..... | 544 | 3,895 | 7.2 | .130 | 38 | 239 | 33 | 23 | 1,760 | 3.2 | 13.52 |
| DON'T KNOW/NOT REPORTED..... | 41 | 296 | 7.3 | .012 | 3 | 289 | 40 | 32 | 148 | 3.6 | 12.58 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 573 | 4,112 | 7.2 | .132 | 39 | 230 | 32 | 23 | 1,833 | 3.2 | 13.90 |
| NO..... | 127 | 937 | 7.4 | .041 | 12 | 326 | 44 | 31 | 532 | 4.2 | 12.86 |
| NOT REPORTED/ NOT APPLICABLE..... | 33 | 221 | 6.7 | .009 | 3 | 267 | 40 | 42 | 131 | 4.0 | 14.78 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 316 | 2,317 | 7.3 | .086 | 25 | 271 | 37 | 21 | 1,199 | 3.8 | 14.00 |
| NO..... | 52 | 380 | 7.3 | .022 | 6 | 418 | 57 | 27 | 291 | 5.6 | 13.39 |
| NOT REPORTED/ NOT APPLICABLE..... | 365 | 2,573 | 7.0 | .075 | 22 | 204 | 29 | 32 | 1,005 | 2.8 | 13.47 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 601 | 4,321 | 7.2 | .140 | 41 | 233 | 32 | 23 | 1,950 | 3.2 | 13.93 |
| NO..... | 103 | 762 | 7.4 | .033 | 10 | 324 | 44 | 34 | 415 | 4.0 | 12.30 |
| NOT REPORTED/ NOT APPLICABLE..... | 29 | 187 | 6.5 | .009 | 3 | 296 | 46 | 64 | 131 | 4.5 | 15.33 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Summary of Findings (Continued)

Table 19. 1979 Electricity Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Electricity

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 918 | 37,261 | 40.6 | 1.581 | 463 | 1,722 | 42 | 34 | 18,978 | 20.7 | 12.01 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 879 | 35,942 | 40.9 | 1.556 | 456 | 1,771 | 43 | 34 | 18,692 | 21.3 | 12.01 |
| NATURAL GAS..... | 526 | 20,454 | 38.9 | .801 | 235 | 1,525 | 39 | 32 | 9,033 | 17.2 | 11.27 |
| ELECTRICITY..... | 231 | 8,867 | 38.4 | .497 | 146 | 2,153 | 56 | 39 | 5,771 | 25.0 | 11.61 |
| FUEL OIL/KEROSENE..... | 204 | 8,597 | 42.1 | .333 | 98 | 1,631 | 39 | 33 | 4,846 | 23.7 | 14.55 |
| LIQUID PETROLEUM GAS..... | 20 | 577 | 29.4 | .020 | 6 | 1,009 | 34 | 27 | 241 | 12.3 | 12.19 |
| WOOD..... | 10 | 304 | 30.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11.05 |
| STEAM..... | 37 | 3,627 | 97.7 | .257 | 75 | 6,929 | 71 | 36 | 2,861 | 77.0 | 11.12 |
| COAL..... | 13 | 629 | 48.2 | 0 | 0 | 0 | 0 | 13 | 99 | 0 | 11.21 |
| OTHER..... | 4 | 339 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 39 | 1,319 | 33.6 | .024 | 7 | 616 | 18 | 81 | 286 | 7.3 | 11.83 |
| AIR CONDITIONING FUEL USED.. | 718 | 30,896 | 43.1 | 1.467 | 430 | 2,044 | 47 | 34 | 17,650 | 24.6 | 12.03 |
| ELECTRICITY..... | 684 | 28,974 | 42.3 | 1.360 | 398 | 1,987 | 47 | 35 | 16,247 | 23.7 | 11.95 |
| NATURAL GAS..... | 50 | 2,377 | 47.2 | .137 | 40 | 2,719 | 58 | 38 | 1,533 | 30.4 | 11.20 |
| OTHER..... | 9 | 1,282 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 200 | 6,365 | 31.8 | .114 | 33 | 568 | 18 | 34 | 1,328 | 6.6 | 11.68 |
| WATER-HEATING FUEL USED..... | 764 | 32,303 | 42.3 | 1.385 | 406 | 1,813 | 43 | 33 | 16,749 | 21.9 | 12.09 |
| NATURAL GAS..... | 398 | 17,419 | 43.8 | .653 | 191 | 1,640 | 37 | 30 | 7,602 | 19.1 | 11.64 |
| ELECTRICITY..... | 309 | 11,262 | 36.5 | .527 | 155 | 1,707 | 47 | 38 | 6,038 | 19.6 | 11.45 |
| FUEL OIL/KEROSENE..... | 76 | 4,135 | 54.3 | .183 | 54 | 2,409 | 44 | 32 | 3,112 | 40.9 | 16.97 |
| OTHER..... | 32 | 2,852 | 88.3 | .177 | 52 | 5,466 | 62 | 32 | 1,938 | 60.0 | 10.98 |
| NO WATER-HEATING FUEL..... | 154 | 4,958 | 32.2 | .195 | 57 | 1,269 | 39 | 45 | 2,229 | 14.5 | 11.41 |
| MANUFACTURING FUEL USED..... | 96 | 4,639 | 48.5 | .191 | 56 | 1,992 | 41 | 39 | 2,177 | 22.7 | 11.42 |
| ELECTRICITY..... | 86 | 3,948 | 45.8 | .162 | 47 | 1,874 | 41 | 41 | 1,846 | 21.4 | 11.43 |
| NATURAL GAS..... | 17 | 1,088 | 64.0 | .078 | 23 | 4,557 | 71 | 49 | 840 | 49.4 | 10.84 |
| OTHER..... | 17 | 896 | 53.9 | .053 | 15 | 3,169 | 59 | 38 | 559 | 33.6 | 10.61 |
| NO MANUFACTURING DONE..... | 822 | 32,623 | 39.7 | 1.390 | 407 | 1,690 | 43 | 34 | 16,801 | 20.4 | 12.09 |
| COOKING FUEL USED..... | 422 | 20,419 | 48.3 | .823 | 241 | 1,949 | 40 | 30 | 9,732 | 23.0 | 11.82 |
| ELECTRICITY..... | 232 | 11,334 | 48.8 | .548 | 161 | 2,360 | 48 | 34 | 6,129 | 26.4 | 11.19 |
| NATURAL GAS..... | 219 | 12,038 | 55.1 | .439 | 129 | 2,011 | 37 | 27 | 5,337 | 24.4 | 12.14 |
| LIQUID PETROLEUM GAS..... | 23 | 890 | 38.2 | .025 | 7 | 1,076 | 28 | 27 | 318 | 13.6 | 12.68 |
| OTHER..... | 7 | 849 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 496 | 16,843 | 34.0 | .757 | 222 | 1,528 | 45 | 40 | 9,246 | 18.7 | 12.21 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 226 | 9,410 | 41.7 | 0.386 | 113 | 1,710 | 41 | 34 | 5,774 | 25.6 | 14.97 |
| NORTH CENTRAL..... | 276 | 11,912 | 43.2 | .505 | 148 | 1,831 | 42 | 36 | 5,661 | 20.5 | 11.21 |
| SOUTH..... | 280 | 10,678 | 38.2 | .501 | 147 | 1,791 | 47 | 38 | 5,572 | 19.9 | 11.11 |
| WEST..... | 137 | 5,262 | 38.5 | .188 | 55 | 1,379 | 36 | 25 | 1,972 | 14.4 | 10.47 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 625 | 28,185 | 45.1 | 1.280 | 375 | 2,050 | 45 | 33 | 15,690 | 25.1 | 12.25 |
| NONSMSA..... | 293 | 9,076 | 30.9 | .300 | 88 | 1,024 | 33 | 40 | 3,288 | 11.2 | 10.95 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 106 | 4,185 | 39.3 | .145 | 43 | 1,366 | 35 | 35 | 1,583 | 14.9 | 10.90 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 300 | 12,943 | 43.1 | .576 | 169 | 1,920 | 45 | 38 | 6,398 | 21.3 | 11.11 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 260 | 10,139 | 39.0 | .352 | 103 | 1,357 | 35 | 28 | 5,446 | 21.0 | 15.45 |
| <2,000 CDD AND <4,000 HDD... | 124 | 5,357 | 43.2 | .254 | 75 | 2,051 | 47 | 32 | 2,657 | 21.4 | 10.45 |
| >2,000 CDD AND <4,000 HDD... | 128 | 4,638 | 36.3 | .252 | 74 | 1,977 | 54 | 39 | 2,894 | 22.7 | 11.47 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 118 | 3,602 | 30.6 | .083 | 24 | 702 | 23 | 46 | 1,103 | 9.4 | 13.36 |
| AUTOMOTIVE SALES & SERVICE... | 34 | 734 | 21.5 | .025 | 7 | 720 | 33 | 28 | 330 | 9.7 | 13.43 |
| EDUCATION..... | 98 | 5,591 | 57.2 | .150 | 44 | 1,533 | 27 | 35 | 1,734 | 17.7 | 11.57 |
| FOOD SALES..... | 38 | 936 | 24.4 | .066 | 19 | 1,721 | 71 | 50 | 806 | 21.0 | 12.21 |
| HEALTH CARE..... | 16 | 1,586 | 100.8 | .113 | 33 | 7,160 | 71 | 29 | 1,165 | 74.0 | 10.34 |
| LODGING..... | 36 | 1,760 | 49.3 | .098 | 29 | 2,753 | 56 | 65 | 1,098 | 30.7 | 11.16 |
| OFFICE..... | 138 | 6,570 | 47.8 | .394 | 115 | 2,863 | 60 | 21 | 5,272 | 38.3 | 13.38 |
| RESIDENTIAL..... | 84 | 2,244 | 26.8 | .028 | 8 | 340 | 13 | 27 | 421 | 5.0 | 14.82 |
| RETAIL/SERVICES..... | 147 | 5,625 | 38.2 | .229 | 67 | 1,556 | 41 | 37 | 2,707 | 18.4 | 11.80 |
| WAREHOUSE AND STORAGE..... | 123 | 5,186 | 42.1 | .207 | 61 | 1,683 | 40 | 61 | 2,297 | 18.7 | 11.08 |
| OTHER..... | 65 | 2,618 | 40.4 | .167 | 49 | 2,581 | 64 | 49 | 1,788 | 27.6 | 10.70 |
| VACANT..... | 22 | 808 | 36.5 | .021 | 6 | 2 | 25 | 2 | 258 | 11.7 | 12.55 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 10,001 TO 25,000..... | 549 | 8,626 | 15.7 | .307 | 90 | 560 | 36 | 28 | 3,964 | 7.2 | 12.91 |
| 25,001 TO 50,000..... | 204 | 7,201 | 35.2 | .329 | 96 | 1,608 | 46 | 46 | 4,475 | 21.9 | 13.62 |
| OVER 50,000..... | 165 | 21,435 | 129.8 | .945 | 277 | 5,721 | 44 | 34 | 10,539 | 63.8 | 11.15 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 294 | 8,551 | 29.1 | 0.344 | 101 | 1,173 | 40 | 41 | 4,057 | 13.8 | 11.78 |
| TWO FLOORS..... | 251 | 8,673 | 34.5 | .348 | 102 | 1,384 | 40 | 40 | 4,018 | 16.0 | 11.55 |
| THREE FLOORS..... | 190 | 6,804 | 35.7 | .233 | 68 | 1,226 | 34 | 32 | 2,810 | 14.8 | 12.04 |
| MORE THAN THREE..... | 182 | 13,233 | 72.5 | .655 | 192 | 3,589 | 49 | 30 | 8,092 | 44.4 | 12.36 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 86 | 2,547 | 29.6 | .097 | 28 | 1,123 | 38 | 43 | 2 | 2 | 17.19 |
| 1901 TO 1920..... | 110 | 4,183 | 38.1 | .097 | 28 | 880 | 23 | 28 | 1,313 | 12.0 | 13.59 |
| 1921 TO 1945..... | 197 | 7,111 | 36.0 | .240 | 70 | 1,216 | 34 | 32 | 2,765 | 14.0 | 11.51 |
| 1946 TO 1960..... | 176 | 7,129 | 40.6 | .278 | 82 | 1,585 | 39 | 32 | 3,408 | 19.4 | 12.25 |
| 1961 TO 1970..... | 166 | 8,203 | 49.5 | .419 | 123 | 2,526 | 51 | 35 | 4,679 | 28.2 | 11.18 |
| 1971 TO 1973..... | 65 | 3,165 | 48.5 | .198 | 58 | 3,037 | 63 | 36 | 2,138 | 32.8 | 10.79 |
| 1974 TO 1979..... | 118 | 4,924 | 41.7 | .252 | 74 | 2,135 | 51 | 36 | 3,016 | 25.5 | 11.95 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 122 | 4,221 | 34.6 | .195 | 57 | 1,600 | 46 | 46 | 2,271 | 18.6 | 11.63 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 596 | 20,687 | 34.7 | .853 | 250 | 1,430 | 41 | 36 | 9,627 | 16.1 | 11.29 |
| ELEC., FUEL OIL/KEROSENE..... | 482 | 16,777 | 34.8 | .619 | 181 | 1,284 | 37 | 34 | 7,104 | 14.7 | 11.48 |
| ELEC., LPG..... | 76 | 2,180 | 28.9 | .073 | 21 | 962 | 33 | 35 | 957 | 12.7 | 13.17 |
| OTHER..... | 14 | 360 | 25.0 | 2 | 2 | 1,015 | 41 | 31 | 2 | 12.9 | 12.73 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 25 | 1,370 | 55.7 | .147 | 43 | 2 | 107 | 54 | 1,380 | 2 | 9.40 |
| OTHER..... | 181 | 11,168 | 61.8 | .453 | 133 | 2,507 | 41 | 28 | 6,230 | 34.5 | 13.75 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 115 | 6,845 | 59.4 | .315 | 92 | 2,732 | 46 | 29 | 4,409 | 38.3 | 14.00 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 18 | 812 | 45.0 | .026 | 8 | 1,428 | 32 | 46 | 337 | 18.7 | 13.09 |
| ELEC., GAS, OTHER..... | 36 | 2,802 | 76.8 | .084 | 25 | 2,299 | 30 | 23 | 1,169 | 32.1 | 13.95 |
| OTHER..... | 11 | 709 | 64.9 | .029 | 8 | 2 | 40 | 22 | 314 | 2 | 11.01 |
| FOUR OR MORE FUELS USED..... | 19 | 1,185 | 63.1 | .079 | 23 | 4,232 | 67 | 35 | 850 | 2 | 10.71 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 918 | 37,261 | 40.6 | 1.581 | 463 | 1,722 | 42 | 34 | 18,978 | 20.7 | 12.01 |
| NATURAL GAS..... | 648 | 27,405 | 42.3 | 1.083 | 318 | 1,671 | 40 | 32 | 13,381 | 20.6 | 12.35 |
| FUEL OIL/KEROSENE..... | 229 | 11,081 | 48.3 | .482 | 141 | 2,100 | 43 | 31 | 6,399 | 27.9 | 13.29 |
| LIQUID PETROLEUM GAS..... | 53 | 2,324 | 43.9 | .098 | 29 | 1,847 | 42 | 42 | 1,088 | 20.5 | 11.12 |
| WOOD..... | 16 | 409 | 26.3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 11.82 |
| COAL..... | 16 | 673 | 42.6 | 2 | 2 | 2 | 2 | 14 | 106 | 2 | 11.15 |
| STEAM..... | 39 | 3,773 | 96.4 | .263 | 77 | 6,710 | 70 | 35 | 2,921 | 74.6 | 11.12 |
| OTHER..... | 12 | 928 | 77.1 | .055 | 16 | 4,552 | 59 | 27 | 648 | 53.8 | 11.81 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 241 | 7,382 | 30.7 | 0.315 | 92 | 1,307 | 43 | 36 | 3,625 | 15.1 | 11.52 |
| RADIANT..... | 21 | 694 | 33.7 | .023 | 7 | 1,130 | 34 | 0 | 270 | 13.1 | 11.60 |
| COMBINATION/OTHER..... | 59 | 1,829 | 31.0 | .058 | 17 | 985 | 32 | 29 | 716 | 12.2 | 12.33 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 185 | 8,468 | 45.7 | .428 | 125 | 2,309 | 51 | 36 | 4,624 | 24.9 | 10.80 |
| RADIANT..... | 191 | 7,805 | 40.9 | .215 | 63 | 1,129 | 28 | 26 | 2,895 | 15.2 | 13.44 |
| COMBINATION/OTHER..... | 88 | 5,943 | 67.5 | .275 | 81 | 3,129 | 46 | 31 | 3,224 | 36.6 | 11.71 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 37 | 1,309 | 35.3 | .119 | 35 | 0 | 91 | 51 | 1,325 | 0 | 11.12 |
| RADIANT..... | 13 | 418 | 33.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.22 |
| COMBINATION/OTHER..... | 44 | 2,101 | 47.3 | .084 | 25 | 1,887 | 40 | 32 | 1,039 | 23.4 | 12.39 |
| NONE..... | 39 | 1,313 | 33.4 | .024 | 7 | 607 | 18 | 82 | 283 | 7.2 | 11.87 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 76 | 2,697 | 35.3 | .079 | 23 | 1,030 | 29 | 48 | 914 | 12.0 | 11.63 |
| 26 TO 50..... | 63 | 1,724 | 27.6 | .055 | 16 | 879 | 32 | 45 | 621 | 9.9 | 11.30 |
| 51 TO 75..... | 68 | 2,516 | 36.8 | .088 | 26 | 1,291 | 35 | 31 | 1,081 | 15.8 | 12.24 |
| 76 TO 99..... | 60 | 3,584 | 59.4 | .192 | 56 | 3,177 | 53 | 30 | 2,439 | 40.5 | 12.73 |
| 100..... | 611 | 25,427 | 41.6 | 1.143 | 335 | 1,871 | 45 | 34 | 13,639 | 22.3 | 11.93 |
| NONE..... | 39 | 1,313 | 33.4 | .024 | 7 | 607 | 18 | 82 | 283 | 7.2 | 11.87 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 237 | 9,286 | 39.1 | .288 | 84 | 1,211 | 31 | 41 | 3,522 | 14.8 | 12.25 |
| 26 TO 50..... | 117 | 3,614 | 30.8 | .119 | 35 | 1,017 | 33 | 35 | 1,465 | 12.5 | 12.29 |
| 51 TO 75..... | 68 | 3,434 | 50.8 | .191 | 56 | 2,827 | 56 | 34 | 2,865 | 42.4 | 14.99 |
| 76 TO 99..... | 63 | 4,381 | 69.3 | .255 | 75 | 4,037 | 58 | 28 | 3,098 | 48.9 | 12.12 |
| 100..... | 232 | 10,184 | 43.9 | .614 | 180 | 2,644 | 60 | 34 | 6,706 | 28.9 | 10.92 |
| NONE..... | 200 | 6,362 | 31.8 | .114 | 33 | 567 | 18 | 34 | 1,327 | 6.6 | 11.68 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 160 | 5,151 | 32.3 | .098 | 29 | 612 | 19 | 33 | 1,348 | 8.4 | 13.79 |
| PACKAGE UNITS..... | 240 | 9,312 | 38.8 | .366 | 113 | 1,607 | 41 | 31 | 4,591 | 19.1 | 11.91 |
| CENTRAL SYSTEM..... | 206 | 9,920 | 48.1 | .547 | 160 | 2,656 | 55 | 32 | 6,213 | 30.2 | 11.35 |
| COMBINATION/OTHER..... | 112 | 6,517 | 58.1 | .436 | 128 | 3,894 | 67 | 41 | 5,499 | 49.1 | 12.60 |
| NO AIR CONDITIONING..... | 200 | 6,362 | 31.8 | .114 | 33 | 567 | 18 | 34 | 1,327 | 6.6 | 11.68 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 376 | 13,631 | 36.3 | 0.506 | 172 | 1,560 | 43 | 43 | 6,582 | 17.5 | 11.23 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 201 | 6,510 | 32.4 | .208 | 61 | 1,035 | 32 | 36 | 2,632 | 13.1 | 12.67 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 131 | 6,163 | 46.9 | .293 | 86 | 2,229 | 48 | 25 | 4,051 | 30.8 | 13.83 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 102 | 4,131 | 40.5 | .184 | 54 | 1,803 | 45 | 30 | 2,267 | 22.2 | 12.32 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 95 | 6,072 | 63.6 | .258 | 76 | 2,707 | 43 | 30 | 2,920 | 30.6 | 11.30 |
| NOT REPORTED..... | 13 | 754 | 60.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10.23 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 342 | 8,084 | 23.6 | .127 | 37 | 371 | 16 | 98 | 1,668 | 4.9 | 13.12 |
| 10 TO 19..... | 151 | 3,931 | 26.0 | .096 | 28 | 632 | 24 | 48 | 1,275 | 8.4 | 13.32 |
| 20 TO 49..... | 242 | 8,031 | 33.1 | .345 | 101 | 1,421 | 43 | 45 | 4,144 | 17.1 | 12.02 |
| 50 TO 99..... | 94 | 5,194 | 55.5 | .261 | 76 | 2,786 | 50 | 43 | 2,855 | 30.5 | 10.95 |
| 100 OR MORE..... | 88 | 12,020 | 136.2 | .752 | 221 | 8,526 | 63 | 26 | 9,037 | 102.4 | 12.01 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 25 | 810 | 32.0 | .014 | 4 | 0 | 0 | 0 | 173 | 0 | 12.67 |
| 39 OR FEWER HOURS..... | 72 | 1,683 | 23.4 | .034 | 10 | 476 | 20 | 43 | 449 | 6.3 | 13.13 |
| 40 TO 48 HOURS..... | 219 | 8,214 | 37.5 | .301 | 88 | 1,373 | 37 | 31 | 4,097 | 18.7 | 13.61 |
| 49 TO 60 HOURS..... | 233 | 8,425 | 36.1 | .276 | 81 | 1,182 | 33 | 25 | 3,431 | 14.7 | 12.44 |
| 61 TO 84 HOURS..... | 172 | 7,567 | 44.0 | .372 | 109 | 2,163 | 49 | 37 | 4,109 | 23.9 | 11.05 |
| MORE THAN 84 HOURS..... | 196 | 10,563 | 53.8 | .584 | 171 | 2,976 | 55 | 40 | 6,719 | 34.2 | 11.51 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 402 | 16,642 | 41.4 | .707 | 207 | 1,756 | 42 | 31 | 8,901 | 22.1 | 12.60 |
| NO..... | 460 | 18,772 | 40.8 | .786 | 230 | 1,708 | 42 | 36 | 8,976 | 19.5 | 11.42 |
| DON'T KNOW/NOT REPORTED..... | 56 | 1,847 | 33.2 | .088 | 26 | 1,587 | 48 | 48 | 1,101 | 19.8 | 12.46 |

SEE NOTES AT END OF TABLE



Summary of Findings (Continued)

Table 19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 242 | 9,613 | 39.8 | 0.399 | 117 | 1,652 | 42 | 33 | 4,619 | 19.1 | 11.57 |
| NO..... | 614 | 25,460 | 41.4 | 1.104 | 323 | 1,797 | 43 | 34 | 13,429 | 21.9 | 12.17 |
| DON'T KNOW/NOT REPORTED..... | 62 | 2,188 | 35.3 | .078 | 23 | 1,253 | 36 | 38 | 930 | 15.0 | 11.97 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 162 | 6,545 | 40.5 | .270 | 79 | 1,669 | 41 | 33 | 3,189 | 19.7 | 11.81 |
| NO..... | 697 | 28,776 | 41.3 | 1.234 | 362 | 1,770 | 43 | 34 | 14,836 | 21.3 | 12.02 |
| DON'T KNOW/NOT REPORTED..... | 59 | 1,941 | 33.0 | .076 | 22 | 1,293 | 39 | 39 | 953 | 16.2 | 12.51 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 701 | 28,792 | 41.1 | 1.199 | 351 | 1,710 | 42 | 32 | 14,729 | 21.0 | 12.29 |
| NO..... | 158 | 6,492 | 41.0 | .288 | 84 | 1,819 | 44 | 37 | 3,231 | 20.4 | 11.21 |
| NOT REPORTED..... | 19 | 665 | 34.6 | .070 | 20 | 3,630 | 105 | 66 | 734 | 38.3 | 10.54 |
| NOT APPLICABLE..... | 39 | 1,313 | 33.4 | .024 | 7 | 607 | 18 | 82 | 283 | 7.2 | 11.87 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 457 | 20,994 | 46.0 | 1.050 | 308 | 2,299 | 50 | 32 | 12,356 | 27.1 | 11.77 |
| NO..... | 92 | 4,291 | 46.4 | .275 | 81 | 2,979 | 64 | 44 | 3,500 | 37.9 | 12.72 |
| NOT REPORTED..... | 9 | 463 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NOT APPLICABLE..... | 360 | 11,513 | 32.0 | .211 | 62 | 587 | 18 | 33 | 2,675 | 7.4 | 12.66 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 741 | 30,469 | 41.1 | 1.271 | 373 | 1,716 | 42 | 32 | 15,577 | 21.0 | 12.25 |
| NO..... | 128 | 5,068 | 39.5 | .241 | 71 | 1,877 | 48 | 40 | 2,650 | 20.6 | 11.00 |
| NOT REPORTED..... | 15 | 591 | 38.9 | .056 | 16 | 3,661 | 94 | 71 | 585 | 38.5 | 10.52 |
| NOT APPLICABLE..... | 34 | 1,133 | 33.7 | .013 | 4 | 378 | 11 | 83 | 167 | 5.0 | 13.17 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

Appendix A

How the Survey Was Conducted





How the Survey Was Conducted

Introduction

The Nonresidential Buildings Energy Consumption Survey was designed by the Energy Information Administration (EIA) to provide information related to energy consumption in nonresidential buildings, primarily those in the commercial sector. This survey, along with analogous studies for the residential and industrial sectors, will enable analysts to study comprehensive consumption patterns for the United States.

Information on energy use in the commercial sector was collected at the building level. A representative sample of buildings was selected in the 48 contiguous States plus the District of Columbia. Personal interviews were conducted with building representatives to obtain information on building characteristics and on the types and uses of energy found in the buildings. At the conclusion of the interviews, respondents were asked to sign waivers releasing energy consumption and expenditures data for the buildings. The data on actual energy consumption were collected from fuel records maintained by the buildings' fuel suppliers.

Sample Design

The building sample was a multi-stage, representative area probability sample consisting of 79 primary sampling units (PSU's). The approximately 3,100 counties and independent cities of the contiguous United States were grouped into about 1,900 PSU's by the Census Bureau for its Current Population Survey. These PSU's, with some modifications, were used to construct the first-stage area-sampling frame. The 25 PSU's that had a 1970 population of over 1.85 million were designated as self-representing; that is, they were chosen with certainty. The remaining nonself-representing PSU's were placed in strata on the basis of metropolitan status, region, rate of growth from 1960 to 1970, percent of black population, and a measure of socio-economic status. The 79 sample PSU's were selected with probabilities proportionate to their 1970 population.

The sample PSU's were then divided into secondary sampling units corresponding to zip codes or groups of zip codes. Procedures were designed to handle zip codes that overlapped county boundaries and/or special zip codes that were assigned to large commercial establishments or Government agencies.

Each zip code was assigned a measure of size based jointly on summary data from the 1975 County Business Patterns (CBP) and on proprietary commercial data related to office machines. The CBP data were weighted counts of establishments by 2-digit Standard Industrial Classification (SIC) code and employment size according to zip code. The measure of size assigned to a zip code was an integer equal to the number of segments into which a zip code would be divided if drawn into the sample. The sizes were assigned in such a way that segments would contain an average of 120 establishments based on the CBP tabulations. After assignments of the measures of size were made, a sample of about five zip code groups was selected in each PSU with probabilities proportionate to the number of segments in each zip code group, giving a total second-stage sample of about 400 zip code groups.

The sample of third-stage units consisted of approximately 400 segments, one selected from each of the sampled zip code areas. The selection of the segments was done in such a way that one percent of all segments in the contiguous United States was included in the sample, each having an



How the Survey Was Conducted (Continued)

equal chance of being selected. In zip code groups with measures of size of 6 or more, the segments were compact areas. It was feasible to define area segments within these selected zip code groups on the basis of preliminary field work done in the selected zip code areas. In the zip code groups with smaller measures of size, the segments were, in effect, selected from listings made for the complete zip code group.

Nonresidential buildings (excluding farm buildings) were selected from the area segments at the fourth-stage of sampling (see Glossary for a definition of "Nonresidential Building"). With a few exceptions, a nonresidential building was defined as a structure that (1) was totally enclosed by walls that extend from the foundation to the roof line, and (2) housed some type of nonresidential activity. The first step in the selection process was to do a field canvass to identify and list the addresses of all in-scope buildings within each sampled segment. As part of the listing procedure, the lister made rough estimates based on observation of descriptive information related to energy usage, including square footage and general use. This information was used to categorize buildings for subsampling. About 75,000 buildings were listed (this includes the extra listings in zip code groups with measures of less than 6) from which approximately 5,800 buildings were selected for a personal interview. Subsampling fractions from the one percent sample of segments varied from 1 in 1 for buildings having measures of size of 50,000 or more square feet as assigned by the lister, to 1 in 20 for small buildings (less than 10,000 square feet) of certain types.

Another part of the sampling procedure entailed the advance preparation of a list of "large" buildings within the sampled PSU's and placing them on a Special Building List. "Large" buildings were defined as those with 250,000 or more square feet of enclosed floor space in PSU's that are Standard Metropolitan Statistical Areas (SMSA). In the remaining one-third of the PSU's, buildings of 100,000 square feet or more were listed. The list of large buildings was compiled from existing lists of schools, hospitals, and government-owned buildings and also through inquiries with chambers of commerce and other local sources. Some of the large buildings listed were clusters of buildings such as a university campus. About 3,200 buildings (or building clusters) were included on the Special Building List and approximately 1,200 of them were included in the sample with varying probabilities depending on their sizes. In those cases where the selected unit consisted of a cluster of buildings, the individual buildings were listed and subsampled at rates designed to yield the desired overall selection probabilities. Large buildings sampled from the area sample list were checked against the Special Building List to identify duplicates and assign them appropriate selection probabilities.

A total of 549 sampled buildings were ineligible for interview. Buildings were designated as being ineligible for interview for a number of reasons including: (1) duplication; (2) incorrect or multiple listings; (3) sampled structure failed to meet the building definition; and (4) the sampled structure was demolished after the list was prepared. Duplication resulted from duplicate sample selections from the area sample and the sample selections from the list of large buildings.

Buildings were listed incorrectly or as multiple listings for several reasons. First, the area-sampling technique required that most buildings be listed by observation. Therefore, it was not always possible to determine the exact scope of a building until the interviewing phase, when contact was made with a building owner/manager. Secondly, since the list of large buildings was obtained through telephone contacts,



How the Survey Was Conducted (Continued)

what was reported over the telephone to be one building frequently turned out to be a group of buildings. Buildings that did not meet the study definition (e.g., totally residential buildings) were also considered out-of-scope.

Weights were calculated for each sample building to: (1) reflect the reciprocals of the probabilities of selection, and (2) adjust for differences in the interview completion rate for different classes of buildings. The overall response rate in the survey was 92 percent.

Data Collection

The sample consisted of a total of 7,322 buildings. Of these, 6,773 were eligible to be interviewed; 5,677 were from the area sample and 1,096 were from the list sample. Westat, Inc., of Rockville, Maryland conducted the interviews. Extensive follow-up efforts were used in field data collection, and as a result, interviews were initially completed for 91 percent of the eligible buildings. Of those interviewed, 88 percent signed waivers authorizing utility companies to release their buildings' consumption records (see Table A1).

Since the field response was so high, only limited additional follow-up procedures were initiated. In January 1980, an overall refusal-conversion effort was undertaken. An attempt was made to conduct telephone interviews with building owners or managers who had originally refused to be interviewed in person. Calls were made to 197 buildings, and of these, 83 interviews were completed. As a result of this effort, 42 percent of the refusals were converted, and the overall response rate was raised by 1 percentage point, to 92 percent.

Table A1. Number and Percent Distribution of Sample Buildings by Building Disposition

| Building Disposition | Number | Percent of All Buildings | Percent of Eligible Buildings | Percent of Interviewed Buildings |
|---------------------------------|--------|--------------------------|-------------------------------|----------------------------------|
| Total Buildings | 7,322 | 100.0 | -- | -- |
| Not Eligible for Interview..... | 549 | 7.5 | -- | -- |
| Eligible for Interview..... | 6,773 | 92.5 | 100.0 | -- |
| Interviewed..... | 6,222 | -- | 91.8 | 100.0 |
| With Waiver..... | 5,536 | -- | -- | 89.0 |
| Without Waiver.... | 686 | -- | -- | 11.0 |
| Not Interviewed..... | 551 | -- | 8.2 | -- |

-- Indicates data not applicable.



How the Survey Was Conducted (Continued)

During December 1979, 734 letters were sent to respondents who had completed the interview but did not sign an authorization form. These letters asked them to reconsider their decision. From the waiver-conversion effort, an additional 108 signed waivers were received, 6 refusals were received, and 620 failed to reply. This effort resulted in an overall conversion rate of 17 percent and increased the waiver response rate by 1 percentage point, to 89 percent.

In addition to these supplemental follow-up efforts, some additional follow-up was done for a few selected data items that were missing or inconsistent in completed questionnaires. Certain items in the building questionnaire, such as size, building activity, and the names and addresses of fuel suppliers, were designated as being crucial. If any of the crucial items were missing, a telephone call was made to the respondent to try to obtain this information as well as any other missing data.

Initial contacts with the building owners and managers were made through a letter signed by the EIA Administrator. The letter introduced the data collection contractor, stressed the importance of cooperation, and assured the confidentiality of responses.

The building interviews were conducted between October 1979 and January 1980. Respondents were asked about the building as a whole, rather than individual establishments located within the building. Professionals in the areas of architecture, building operations, engineering, statistics, and survey research were consulted during the development of the interview questionnaire. The interviews averaged 50 minutes each and covered: structural and operational building features; types of heating, cooling, and ventilation systems; fuel used in these systems and patterns of usage; and a description of the activities found in the building. At the conclusion of the interview, respondents were asked to sign waivers authorizing Westat, Inc., the data collection contractor, to obtain fuel consumption records from the buildings' fuel suppliers.

Nearly 90 percent of the respondents signed waivers to permit fuel suppliers to give Westat, Inc., monthly records of their fuel purchases for the past 14 months. Information was requested on the amount sold, the price of the fuel, the unit of measure, the number of customers, and the billing dates. The suppliers of electricity and natural gas were contacted by mail beginning in August 1979. Two letters were sent to each company. The first, signed by the EIA Administrator, explained the legal authority and need for the data collection. The second letter introduced Westat, Inc., and discussed the data collection procedures and the kind of information that would be requested. Follow-up telephone calls were initiated in September 1979 to insure the receipt of the letters and to establish a personal contact with the appropriate utility company representative.

After the building interviews were completed and the signed waivers were received, approximately 230 electric and natural gas companies and about 1,300 fuel oil and other energy suppliers were identified for participation.

At the end of February 1980, each supplier was sent a packet containing instructions and explanations, signed waivers, and data-retrieval forms. Follow-up telephone calls were made to the suppliers of electricity and natural gas in March 1980 to make sure the utility companies received the forms, to answer any of their questions, and to obtain an estimated completion date. A letter was then sent to confirm the completion date. If the data were not received within a week of the completion date, a second telephone call was made to deal with any problems that might have arisen and to arrange a second date. Suppliers were not required to



How the Survey Was Conducted (Continued)

transcribe data to the survey forms. Any format (such as computer print-out) providing the required information was acceptable. A telephone follow-up of suppliers of energy other than electricity and natural gas was implemented in August 1980. Most of the suppliers of LPG, fuel oil, and coal had only one customer in the survey. Therefore, it was considered feasible to obtain the required information over the telephone. During this operation, calls were placed to 429 suppliers, almost 300 of which supplied the requested data.

For the Utility Survey, 13,386 questionnaires were mailed to the 1,509 companies/ organizations/agencies that supplied varying types of energy to the 6,222 buildings participating in the Building Survey. Of the questionnaires mailed, 534 were determined to be ineligible for the Utility Survey. Of the 12,852 eligible cases, there were 11,210 questionnaires with data for an overall response rate of 87 percent.

Some buildings had many tenants who were metered and billed separately. Interviewers were instructed to obtain lists of tenants in buildings where establishments were separately metered. If there were three or fewer establishments within a building, the interviewer attempted to get a signed waiver for each establishment. In buildings with four or more establishments, the building owner or manager was asked to sign a waiver releasing the aggregate utility records for the occupants of the building.

Companies were asked to supply limited consumption data for those buildings where an interview was completed but a signed waiver was not obtained. Suppliers were requested to aggregate cost and consumption information for a group of buildings and to report a yearly total. While energy suppliers will not provide individual building data without a waiver, some will provide aggregate data for groups of nonrespondent buildings. This information will be used to analyze the potential bias introduced by nonresponse and to improve the accuracy of consumption estimates in the commercial sector.

Field Procedures

Once the sampled zip code groups and segments had been selected, the initial field step was to prepare a listing of building addresses located within the sampled segments (see Sample Design). The sample consisted of approximately 400 segments which were listed by a team of 85 listers. Supervisors attended a 3-day training session during the first week of June 1979. During this session, a combination of slides, exercises, lectures, and an actual listing were used as training devices. Supervisors were also given an annotated manual which described the session. This manual was used as a guidebook to supervisors in order to conduct identical training sessions for the listers.

Prior to their training, each lister received a copy of a Listing Manual and a home study package with assignments to be turned in before training began. The supervisors trained 85 listers in 2-day sessions conducted in 9 cities. As soon as possible after the listing procedure began, the supervisors relisted at least one segment for each lister. This verification provided immediate feedback for the lister and corrected any misunderstandings. The check also served to identify any definitional problems or procedural weaknesses.



How the Survey Was Conducted (Continued)

Once all the segments had been listed, the field supervisors relisted a subsample of 53, not including the segments that had already been checked. The relisting showed that less than one percent of the buildings had been missed. Buildings were usually missed because of questions concerning segment boundaries.

Training for the interview phase began with a 3-day session for supervisors and their assistants in September 1979. Approximately 170 interviewers were trained in 3-day sessions held during October and November 1979. Westat, Inc., conducted the training of both the supervisors and the interviewers utilizing a variety of techniques. The training materials used included: an annotated manual, interactive lectures, role-playing exercises, audio-visual presentations of the interview techniques, and slides relating specific building types to the questionnaire. The supervisors and their assistants functioned as small-group leaders during the interview training.

The completed questionnaires were initially screened by the field supervisors. They were reviewed for completeness, correct identifying information, and ambiguities requiring clarification. The supervisors mailed the completed questionnaires to Westat, Inc., where they were subjected to a similar check. Also at this time, certain data were categorized and some of the more complex data items such as open-ended questions, were put into special processing. After the manual editing, the questionnaires were coded, keypunched, verified, and computerized. A machine edit check was made for reasonable values, proper skip patterns, and logical inconsistencies. Additional edit checks were performed on the consumption and expenditure data received from the buildings' energy suppliers. Data retrieval procedures were instituted in cases where data were incomplete, inconsistent or unreasonable. In cases where data retrieval was not possible, cost and consumption estimates were imputed (see Appendix B: Limitations of the Data).

Weather Data

Two types of weather data are used in conjunction with the building interview and consumption data. The first type is the long-term average heating degree-days (HDD) and cooling degree-days (CDD) for the National Oceanic and Atmospheric Administration (NOAA) weather division in which the building is located. These data were used in the preparation of this report. They will be used to analyze the effects of weather on trends in basic building structure and equipment.

The second type of data are the HDD and CDD totals for each building by billing period. These totals are calculated by NOAA division for the appropriate billing period. For example, one building may be billed on the 1st of the month, while another may be billed on the 5th. Thus, there are different 30-day averages of HDD and CDD for each billing period. These data will allow more complete analysis of fuel consumption. They will be included in the public use data tape of the consumption file. Analyses of usage patterns and operation characteristics can be undertaken only if the confounding effects of the weather are controlled.

Adjusting for Nonresponse

The amount of data collected from this survey was reduced by two types of nonresponse: unit nonresponse (e.g., noninterview) and nonresponse to particular items in an otherwise completed interview. As mentioned in the section, "Sample Design", unit nonresponse was handled by adjusting the sampling weights of responding buildings. Item nonresponse



How the Survey Was Conducted (Continued)

for selected building characteristics was treated by imputing data from responding cases, using a separate hot deck procedure for each item. (For more information on the imputation procedures used for this survey, see the section on Limitations of the Data.) The only data element for which a hot deck procedure was not used was square footage. For this variable, the lister's guess was used, unless that guess was less than 10,000 or greater than 100,000 square feet. When the lister's square footage estimate was in either of these categories, an average unweighted square foot per floor was computed for all responding buildings of the same type in the same size class. This value was then multiplied by the number of floors in the building of interest to produce an estimate of square footage for the building. Most of the imputed building characteristics items had less than two percent nonresponse; two of them (year constructed and square footage) had about three percent nonresponse, and one item (hours of operation) had about seven percent nonresponse.

Table A2 shows the effect of unit nonresponse adjustment and item imputations on estimates of numbers of buildings by square footage category and year built. The left column of the table contains the estimated numbers using the basic inflation weight without nonresponse adjustment, and eliminating those buildings whose value for the stub variable was imputed. In the center column, the nonresponse adjustment has been incorporated into the building weight, but the buildings with imputed values are still eliminated. The entries in the right column match those in the detailed tables because nonresponse adjustments and imputed cases are both included in the estimation procedure.

Table A2. Effects of Nonresponse Adjustment and Item Imputation on Estimated Numbers of Buildings by Square Footage and Year Built

| Population Subgroup | Estimated Number of Buildings (Thousands) | | |
|----------------------------------|---|--|---|
| | Without Nonresponse Adjustment or Imputations | With Nonresponse Adjustment; With- out Imputations | With Nonresponse Adjustment and Imputations |
| All Buildings (Square Feet)..... | 3,681 | 4,081 | 4,238 |
| Less Than or Equal to 1,000.... | 604 | 677 | 677 |
| 1,001-5,000..... | 1,510 | 1,697 | 1,729 |
| 5,001-10,000..... | 667 | 749 | 801 |
| 10,001-25,000..... | 498 | 537 | 596 |
| 25,001-50,000..... | 217 | 226 | 237 |
| Over 50,000..... | 185 | 195 | 199 |
| All Buildings (Year Built) | 3,638 | 4,029 | 4,238 |
| 1900 or before.... | 281 | 314 | 329 |
| 1901-1920..... | 373 | 419 | 432 |
| 1921-1945..... | 716 | 793 | 829 |
| 1946-1960..... | 912 | 1,010 | 1,064 |
| 1961-1970..... | 663 | 732 | 789 |
| 1971-1973..... | 206 | 225 | 235 |
| 1974-Present..... | 487 | 536 | 561 |

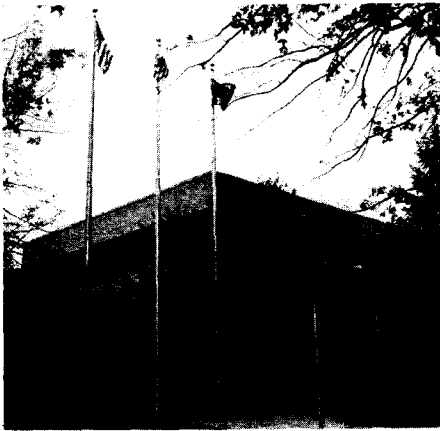
Appendix B

Limitations of the Data





Limitations of the Data



Data from the Nonresidential Buildings Energy Consumption Survey (NBECS) are subject to many sources of sampling error, nonsampling error, and bias. Sampling error is a measure of variability in the data because a subset of buildings was surveyed rather than the entire population. Because probability sampling was used for the NBECS, estimates of sampling error could be computed for survey statistics. These estimates were computed using a balanced half-sample replication procedure described later in this section of the report. Nonsampling error and bias are measures of variability and lack of accuracy in survey data due to the conduct of the survey. Components of these error measures include coverage bias, respondent bias and response variance, interviewer error, coding and/or keypunching error, and nonresponse bias. Survey logistics such as wording and format of the survey questionnaires, the procedures used to select and train interviewers, and the quality control built into the data collection, data receipt, and data processing operations were all designed to minimize these sources of error (for discussion of these procedures, see Appendix A -- How the Survey was Conducted). Even so, nonsampling error, especially error due to nonresponse, is of major concern for the statistics shown in this report. Caution should be used in analyzing the data, especially in the use of statistical tests of hypotheses based on sampling errors only. Readers should be conservative in drawing conclusions based on statistical tests of hypotheses. Because of the extent of nonresponse for important data items in this survey, extensive and rather complex procedures were devised to impute for missing data items. These procedures, along with those used to adjust for unit nonresponse, are described below. A forthcoming report will describe the imputation procedures for consumption and expenditures data in more detail. This section also discusses the computation and use of sampling errors.

One way to judge the validity of survey estimates is to compare them with similar types of estimates from other sources. Unfortunately, since no national counts of the nonresidential building stock exist, and since no national probability sample surveys of this population are known to have been previously undertaken, such comparisons cannot be made for building characteristics data. The lack of prior information also made it impossible to use techniques such as ratio estimation or post-stratification to improve the survey estimator. However, certain comparisons can be made between energy consumption data from this survey and data from other sources. The comparisons are shown later in this section.

Adjusting for Unit Nonresponse

A unit nonresponse is defined as any case for which no information was obtained for an eligible, in-scope sample building. As was mentioned in the "Sample Design" part of Appendix A, unit nonresponse was handled by adjusting the sampling weights of responding buildings. A separate adjustment was computed for each of 144 population subgroups formed by crossing the 4 Census regions with 6 square footage categories and 6 broad building type classes. The weight adjustment for subgroups is given by

$$A_s = \frac{W_s}{R_s}$$

where W_s is the sum of the basic building weights over all eligible buildings in the subgroup and R_s is the corresponding sum over all responding buildings.



Limitations of the Data (Continued)

Imputing Building Characteristics with Few Missing Values

Most building characteristics, including range values of square footage and number of employees, were recorded for the great majority of completed interviews (see Table B1). Item nonresponse for selected building characteristics was treated by imputing data from a responding case, using a separate hot deck procedure for each item. The hot deck procedure requires the file of buildings to be sorted by variables related to the missing item. A building is then selected which has the same value on the related variables and this "donor" building supplies the value for the variable which is missing. The only data element for which a hot deck procedure was not used was the square footage range. For this variable, the lister's guess was used, unless that guess was less than 10,000 or greater than 100,000 square feet (see Building Listing Form). When the lister's square footage estimate was in either of these categories, an unweighted average square footage per floor was computed for all responding buildings of the same type in the same size class. This value was then multiplied by the number of floors in the building of interest to produce an estimate of square footage for the building, which was then coded into the appropriate range. Most of the imputed building characteristics items had less than 2 percent item nonresponse; three of them (year constructed range estimate, square footage range estimate and fuel oil tank capacity) had about 3 percent nonresponse, and one item (hours of operation) had over 7 percent nonresponse.

Table B2 shows the effect of unit nonresponse adjustment and item imputations on estimates of numbers of nonresidential buildings by square footage category and year built. Within each set of 3 columns (aggregate and percentage) the right column contains the estimate using the basic inflation weight without nonresponse adjustment, and eliminating those buildings whose value for the stub variable was imputed. In the center column, the nonresponse adjustment has been incorporated in the building weight, but the buildings with imputed values are still eliminated. The entries in the left column represent the buildings in Table 2 because nonresponse adjustments and imputed cases are both included in the estimation procedure. The data indicate that the level of year built imputations was relatively constant from category while the square footage imputations seemed to be concentrated in the middle size classes. This distribution suggests that the square footage imputations may have tended to compress the square footage range values toward the middle categories.



Limitations of the Data (Continued)

Table B1. Number and Percent of Nonresidential Building Interviews Requiring Imputation of Selected Building Characteristics

| Questionnaire Item | Number of Cases Needing Imputation | Percent of the 6,222 Completed Nonresidential Buildings Interviews |
|------------------------------------|------------------------------------|--|
| Year Built (Range)..... | 193 | 3.1 |
| Percent Glass..... | 18 | 0.3 |
| Number of Floors..... | 16 | 0.3 |
| Square Footage (Range)..... | 191 | 3.1 |
| Building Activities..... | 0 | 0.0 |
| Number Employed..... | 69 | 1.1 |
| Hours of Operation..... | 464 | 7.5 |
| Percent of Building Heated..... | 51 | 0.8 |
| Heat Energy Conversion System..... | 15 | 0.2 |
| Heat Distribution System... | 28 | 0.5 |
| Percent of Building Cooled..... | 49 | 0.8 |
| Cooling System..... | 16 | 0.3 |
| Energy Sources..... | 0 | 0.0 |
| Existence of Boilers..... | 74 | 1.2 |
| Number of Boilers..... | 95 | 1.5 |
| Number of Fuel Oil Tanks..... | 30 | 0.5 |
| Capacity of Fuel Oil Tanks..... | 174 | 2.8 |



Limitations of the Data (Continued)

Imputing Numeric Values for Square Footage and Employment

Two very important building characteristics, numeric values for square footage and employment, had missing values for a large proportion of cases. Of the 6,222 responding sample buildings, 1,555 or 25 percent, were missing square footage and 664 or 11 percent were missing employment. Because these variables are so important, both in and of themselves and as standardizing variables for energy consumption, an attempt was made to apply a regression technique to impute for missing values. The attempt was generally unsuccessful. There seemed to be no way to produce an R^2 greater than about 0.20 for predicting square footage, and about half the predicted values were outside the corresponding range value (in many cases, several categories removed). Regression within range categories resulted in even lower values of R^2 . Results were no better for employment.

In order to make best use of the range estimates of square footage and employment to impute numeric values, a simultaneous hot-deck procedure was used. First the building types used for analysis in this report were collapsed into 8 categories, each category having building types with approximately the same average square footage. Building records were then sorted by type within employment range category within square footage range category, and ordered by ID number in each cell.

The order in each cell was treated as circular; that is, the last record "preceded" the first. Each record that was missing both numeric square footage and numeric employment was given the values of the highest-numbered preceding record in the cell with both values available (if there were intervening records with one but not both variables available, they were skipped). If there was no other record in the cell with both values available, the search continued in the cell with the same range values for square footage and employment and the next higher type value¹, then in the cell with the next lower type value, then in the cell with the type 2 values higher, and so on until an appropriate donor record was found. All donor records were then identified so that they would not be used again in the imputation procedure.

After the imputations were finished for cases with both values missing, imputations began for records with one but not both values missing. The procedure was exactly the same as that used for cases with both variables missing, with two exceptions. First, the donor record needed to have only the numeric value of the variable being imputed, not both variables. Second, a necessary additional retreat step was supplied when the imputation cell did not have a donor. In the relatively few instances when square footage was missing, and retreating over values of building type did not yield a donor, the next step was to hold building type constant at the value for the case with missing data, and retreat in a similar fashion over surrounding range values of employment. An analogous retreat was performed over range values of square footage when employment was missing and retreating over building type did not produce a donor record. Donor records used to impute either square footage or employment were identified so that the same variable would not be imputed for a second case. However, the same case could serve as a donor record for separate imputations of square footage and employment.

¹Actually, the retreat procedure alternated, starting with the next higher type value one time and the next lower type value the next.



Limitations of the Data (Continued)

Imputing for Missing Cost and Consumption Data

In order to investigate the validity of the square footage and employment imputation procedures, 1,061 cases with actual square footage and 541 cases with actual employment were randomly selected and given imputed values by applying the above procedures to the remainder of the responding file. The selection was designed to simulate as closely as possible the samples of cases that actually needed imputation. Weighted and unweighted values of total square footage and employment were then created for the file of original respondents, using both the actual and imputed values for the validation subsample. Selected results are summarized in Table B3. There were negligible differences between the corresponding estimates based on actual and imputed data.

One of the major goals of the NBECS was to produce estimates of energy consumption and expenditures in the nonresidential buildings sector during calendar year 1979. To accomplish this, consumption and cost data were collected from electricity and natural gas suppliers. Ideally, the data for each fuel used in each building should have been in the form of complete data records for consecutive billing periods¹ either totally or partially contained in calendar year 1979, covering exactly the energy consumed in the sample building.

However, there were several ways in which the actual data varied from the ideal. The major variations were:

1. The data covered more than the energy used in the sample building. The data could cover such activities as consumption in other buildings or consumption for outside lighting, signs, security equipment, or other activities affiliated with, but not carried on inside, the sample building.
2. When several sample buildings in an energy supplier service area did not grant a waiver allowing individual collection of consumption and expenditures data, the supplier was asked to supply aggregate data for all such buildings. The aggregation procedure was carried out to protect the confidentiality of the sample buildings while collecting their consumption data.
3. Data were supplied for billing periods in 1979, but the month and/or day of the meter reading or billing was omitted.
4. Most of the cases of complete reporting of 1979 data included billing periods that overlapped into 1978 and 1980.
5. The utility would not or could not provide the cost and/or consumption data for some or all billing periods totally or partially contained in 1979. Reasons for missing data include utility company refusal, archived, lost, or destroyed billing records, and waiver refusal on the part of the building respondent.

¹A billing period is the time period between two adjacent estimates or meter readings for purposes of billing a customer. A meter reading date or billing date marks the end of a billing period. The next billing period begins on the following day.



Limitations of the Data (Continued)

Table B3. Total Square Footage and Employment for Nonresidential Buildings in the United States Based on Buildings with Actual Square Footage and Employment, Using Actual and Imputed Values for the Validation Subsample

| Employment and Year Built | Total Square Footage (Millions) | | Ratio | Total Employment (Thousands) | | Ratio |
|---------------------------|---------------------------------|-----------------------------|--------|------------------------------|-----------------------------|--------|
| | With All Actual Ft ² | With Validation Imputations | | With All Actual Emp. | With Validation Imputations | |
| All Buildings | 40,428 | 40,611 | 1.0045 | 64,886 | 65,082 | 1.0030 |
| Employees | | | | | | |
| <10..... | 10,405 | 10,499 | 1.0090 | 9,156 | 9,144 | 0.9987 |
| 10-19..... | 4,259 | 4,270 | 1.0026 | 6,094 | 6,123 | 1.0048 |
| 20-49..... | 7,054 | 7,067 | 1.0018 | 11,570 | 11,460 | 0.9905 |
| 50-99..... | 4,889 | 4,848 | 0.9916 | 7,748 | 7,863 | 1.0148 |
| 100+..... | 13,821 | 13,927 | 1.0077 | 30,318 | 30,492 | 1.0057 |
| Year Built | | | | | | |
| 1900 or before.. | 2,537 | 2,545 | 1.0032 | 3,286 | 3,286 | 1.0000 |
| 1901-1920..... | 4,274 | 4,327 | 1.0124 | 5,197 | 5,241 | 1.0085 |
| 1921-1945..... | 6,989 | 6,942 | 0.9933 | 11,060 | 11,357 | 1.0269 |
| 1946-1960..... | 8,163 | 8,261 | 1.0120 | 13,496 | 13,568 | 1.0053 |
| 1961-1970..... | 9,502 | 9,502 | 1.0000 | 15,054 | 15,028 | 0.9983 |
| 1971-1973..... | 3,538 | 3,545 | 1.0020 | 6,554 | 6,356 | 0.9698 |
| 1974-1979..... | 5,425 | 5,489 | 1.0118 | 10,239 | 10,246 | 1.0007 |



Limitations of the Data (Continued)

Adjustments for Overcoverage

When energy consumption and expenditures for either electricity or natural gas were reported to include facilities other than the sample building, space was provided in the questionnaire for the interviewers to describe them. If these additional facilities represented nonresidential energy use that could be associated with the sample building (rather than some other building) no adjustment was made. All consumption and expenditures for the fuel was attributed to the sample building. Examples of facilities whose energy consumption would be associated with the sample building include exterior lighting, alarm systems, billboards and/or signs adjacent to the sample building, and unlisted trailers and other out buildings at the same address as the sample building.

If, on the other hand, some of the consumption was known to have taken place in another building or buildings, the total reported amounts were adjusted in an attempt to produce more appropriate estimates of consumption and expenditures. The adjustments had to be crude because there was often very little information written down about the other buildings. When nothing except the number of other buildings was known, the total reported consumption and expenditures were divided by the number of buildings sharing it to produce estimates for the sample building. A few exceptions were made to this procedure when the description of the other buildings revealed that equal allocation would be nonsense. For example, if the electricity used by a large hospital included that used in an adjoining maintenance shed, the entire consumption and expenditures went with the hospital, since the amount of electricity used in the shed was most likely negligible in comparison. When the square footage of the other buildings was known, consumption and expenditures were computed for the sample building by prorating the consumption and expenditures in each billing period by the square footage of the sample building relative to the total square footage of all buildings sharing the consumption. This last procedure was also used to allocate consumption and expenditures to individual buildings in groups of sample buildings whose utility data were aggregated when waivers were not obtained for them.

Handling Missing Dates

Virtually all missing meter reading dates or billing dates were one of two types. The first type occurred for all records with billing period data. Since the billing or meter reading date was used to define the end of one billing period and the beginning of the next, the beginning date of the first (chronological) billing period was never available, since there was no previous billing date to define it. Other billing or meter reading dates that were incomplete usually had the month and year entered, with the day missing. For each case of this second type, the billing periods affected were either bounded (surrounded by billing periods with known beginning and ending dates), or unbounded (either at the beginning or end of the set of billing periods).

Any set of consecutive bounded billing periods with missing dates was given billing dates that would make all billing periods in the set have as close to the same number of days as possible. Unbounded billing periods were given beginning and/or ending dates as needed so that the number of days in each unbounded period was the same as the average number of days in billing periods of known length.

There were some cases where month and year were present but day was missing for the beginning and ending dates of all billing periods on a record. These cases were imputed by assigning "16" to each beginning date and "15" to each ending date.



Limitations of the Data (Continued)

Adjusting for Overlapping Data

One of the main reasons that the NBECS requested utility data from December 1978 through January 1980 was to assure complete coverage of 1979 consumption in cases of complete response. Unless a billing period happened to end on December 31, 1978 or December 31, 1979, consumption as reported by the utilities overlapped from the desired time period of calendar 1979 into 1978 and 1980. Consumption and cost for overlapping billing periods were adjusted by splitting the overlapping period into two subperiods, one running from the beginning date through December 31, the other from January 1 through the billing or meter reading date. Cost and consumption were prorated according to the number of days in each subperiod, and the cost and consumption for the subperiod that fell in 1979 were included in the total cost and consumption for 1979.

Imputing for Missing Consumption

After all previous steps were carried out for each utility data record as needed, one large, important gap remained in the consumption and expenditures data. Many buildings were missing their consumption and/or expenditures data for all or part(s) of 1979 (Tables B4 and B5). For virtually the entire file, the number of days of consumption reported in 1979 was at least as large as the number of days for expenditures; for only 3 records did the number of reported days of expenditures for 1979 exceed the number of days of cost. Thus the major effort was to find methods of imputing for missing consumption. Once consumption was imputed, cost was imputed from the actual and imputed consumption data.

To begin, utility records were examined to see if consumption data were reported by the utility for periods in 1978 or 1980 corresponding to part or all of the periods of missing data in 1979. If there was consumption available for corresponding periods in the adjacent year, it was transferred to 1979. Any 1978 or 1980 consumption that overlapped into periods of known consumption in 1979 was removed by the same prorating operation described in the previous section. All utility records now had three types of "billing" periods of consumption data in 1979: periods of reported 1979 consumption, periods of consumption transferred from 1978 or 1980, and periods of missing consumption. The periods of 1979 consumption usually (but not always) had corresponding expenditure data; periods of transferred or missing consumption had no corresponding expenditure data.

Utility records were now split into three groups: (1) records whose periods of reported or transferred consumption covered 331 days or more in 1979; (2) records whose periods of reported or transferred consumption covered 31-330 days in 1979; and (3) records whose periods of reported or transferred consumption covered 30 or fewer days in 1979. A separate imputation procedure was devised to impute consumption for each group.

Group 1: If a period of missing consumption was surrounded by periods for which reported or transferred consumption was available, average consumption per day was computed for the surrounding periods and the two values were themselves averaged. The result was multiplied by the number of days in the period of missing consumption to produce an estimate for the period. If the period of missing consumption was not surrounded, average consumption per day was computed for an adjacent billing period, and that average was multiplied by the number of days of missing data to produce an estimate of consumption.



Limitations of the Data (Continued)

Table B4. Number and Percent Distribution of Commercial Buildings in the NBECS Sample by Number of Days of 1979 Electricity Consumption Reported by the Energy Supplier

| Building Subgroup | Total ¹ | | Days of 1979 Electricity Consumption Reported | | | | | | | |
|---------------------|--------------------|---------|---|---------|------------|---------|--------------|---------|----------|---------|
| | | | 0-30 Days | | 31-30 Days | | 331-364 Days | | 365 Days | |
| | Number | Percent | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| All Buildings..... | 5511 | 100 | 697 | 13 | 717 | 13 | 653 | 12 | 3444 | 62 |
| Building Type | | | | | | | | | | |
| Assembly..... | 449 | 100 | 45 | 10 | 46 | 10 | 50 | 11 | 308 | 69 |
| Automotive..... | 252 | 100 | 23 | 9 | 40 | 16 | 31 | 12 | 158 | 63 |
| Education..... | 630 | 100 | 83 | 13 | 53 | 8 | 67 | 11 | 427 | 68 |
| Food Sales..... | 340 | 100 | 26 | 8 | 59 | 17 | 44 | 13 | 211 | 62 |
| Health Care..... | 212 | 100 | 52 | 25 | 22 | 10 | 23 | 11 | 115 | 54 |
| Lodging..... | 235 | 100 | 36 | 15 | 22 | 9 | 18 | 8 | 159 | 68 |
| Office..... | 1229 | 100 | 133 | 11 | 161 | 13 | 150 | 12 | 785 | 64 |
| Residential..... | 354 | 100 | 40 | 11 | 46 | 13 | 50 | 14 | 218 | 62 |
| Retail/Services.... | 849 | 100 | 94 | 11 | 128 | 15 | 107 | 13 | 520 | 61 |
| Warehouse/Storage.. | 541 | 100 | 71 | 13 | 90 | 17 | 64 | 12 | 316 | 58 |
| Other..... | 298 | 100 | 54 | 18 | 32 | 11 | 40 | 13 | 172 | 58 |
| Vacant..... | 122 | 100 | 40 | 33 | 18 | 15 | 9 | 7 | 55 | 45 |
| Square Footage | | | | | | | | | | |
| < 1,000..... | 377 | 100 | 46 | 12 | 62 | 16 | 48 | 13 | 221 | 59 |
| 1,001 - 5,000..... | 1175 | 100 | 90 | 8 | 187 | 16 | 137 | 12 | 761 | 65 |
| 5,001 - 10,000..... | 646 | 100 | 62 | 10 | 84 | 13 | 80 | 12 | 420 | 65 |
| 10,001- 25,000..... | 862 | 100 | 104 | 12 | 100 | 12 | 100 | 12 | 558 | 65 |
| 25,001- 50,000..... | 680 | 100 | 73 | 11 | 101 | 15 | 76 | 11 | 430 | 63 |
| >50,000..... | 1771 | 100 | 322 | 18 | 183 | 10 | 212 | 12 | 1054 | 60 |
| Year Constructed | | | | | | | | | | |
| 1900 or before..... | 382 | 100 | 43 | 11 | 45 | 12 | 39 | 10 | 255 | 67 |
| 1901 - 1920..... | 568 | 100 | 67 | 12 | 65 | 11 | 72 | 13 | 364 | 64 |
| 1921 - 1945..... | 993 | 100 | 130 | 13 | 145 | 15 | 118 | 12 | 600 | 60 |
| 1946 - 1960..... | 1175 | 100 | 121 | 10 | 170 | 14 | 140 | 12 | 744 | 63 |
| 1961 - 1970..... | 1233 | 100 | 168 | 14 | 121 | 10 | 142 | 12 | 803 | 65 |
| 1971 - 1973..... | 413 | 100 | 64 | 15 | 49 | 12 | 45 | 11 | 255 | 62 |
| 1974 - 1979..... | 746 | 100 | 104 | 14 | 122 | 16 | 97 | 13 | 423 | 57 |

¹Buildings supplied with electricity.



Limitations of the Data (Continued)

Table B5. Number and Percent Distribution of Commercial Buildings in the NBECS Sample by Number of Days of 1979 Natural Gas Consumption Reported by the Energy Supplier

| Building Subgroup | Total ¹ | | Days of 1979 National Gas Consumption Reported | | | | | | | |
|---------------------|--------------------|---------|--|---------|-------------|---------|--------------|---------|----------|---------|
| | Number | Percent | 0-30 Days | | 31-330 Days | | 331-364 Days | | 365 Days | |
| | | | Number | Percent | Number | Percent | Number | Percent | Number | Percent |
| All Buildings..... | 3654 | 100 | 484 | 13 | 285 | 8 | 235 | 6 | 2650 | 73 |
| Building Type | | | | | | | | | | |
| Assembly..... | 292 | 100 | 39 | 13 | 12 | 4 | 20 | 7 | 221 | 76 |
| Automotive..... | 145 | 100 | 17 | 12 | 13 | 9 | 5 | 3 | 110 | 76 |
| Education..... | 452 | 100 | 39 | 9 | 25 | 6 | 36 | 8 | 352 | 78 |
| Food Sales..... | 204 | 100 | 17 | 8 | 25 | 12 | 10 | 5 | 152 | 75 |
| Health Care..... | 186 | 100 | 37 | 20 | 13 | 7 | 16 | 9 | 120 | 65 |
| Lodging..... | 163 | 100 | 13 | 8 | 15 | 9 | 13 | 8 | 122 | 75 |
| Office..... | 792 | 100 | 103 | 13 | 59 | 7 | 42 | 5 | 588 | 74 |
| Residential..... | 265 | 100 | 38 | 14 | 26 | 10 | 24 | 9 | 177 | 67 |
| Retail/Services.... | 603 | 100 | 85 | 14 | 42 | 7 | 34 | 6 | 442 | 73 |
| Warehouse/Storage.. | 311 | 100 | 32 | 10 | 32 | 10 | 20 | 6 | 227 | 73 |
| Other..... | 179 | 100 | 41 | 23 | 8 | 4 | 12 | 7 | 118 | 66 |
| Vacant..... | 62 | 100 | 23 | 37 | 15 | 24 | 3 | 5 | 21 | 34 |
| Square Footage | | | | | | | | | | |
| < 1,000..... | 132 | 100 | 22 | 17 | 7 | 5 | 5 | 4 | 98 | 74 |
| 1,001 - 5,000..... | 692 | 100 | 76 | 11 | 62 | 9 | 49 | 7 | 505 | 73 |
| 5,001 - 10,000..... | 426 | 100 | 48 | 11 | 37 | 9 | 27 | 6 | 314 | 74 |
| 10,001- 25,000..... | 607 | 100 | 81 | 13 | 36 | 6 | 48 | 8 | 442 | 73 |
| 25,001- 50,000..... | 470 | 100 | 53 | 11 | 42 | 9 | 22 | 5 | 353 | 75 |
| >50,000..... | 1327 | 100 | 204 | 15 | 101 | 8 | 84 | 6 | 938 | 71 |
| Year Constructed | | | | | | | | | | |
| 1900 or before..... | 287 | 100 | 41 | 14 | 24 | 8 | 24 | 8 | 198 | 69 |
| 1901 - 1920..... | 416 | 100 | 47 | 11 | 33 | 8 | 29 | 7 | 307 | 74 |
| 1921 - 1945..... | 720 | 100 | 97 | 13 | 66 | 9 | 47 | 7 | 510 | 71 |
| 1946 - 1960..... | 772 | 100 | 85 | 11 | 53 | 7 | 51 | 7 | 583 | 76 |
| 1961 - 1970..... | 829 | 100 | 109 | 13 | 49 | 6 | 60 | 7 | 611 | 74 |
| 1971 - 1973..... | 270 | 100 | 41 | 15 | 21 | 8 | 10 | 4 | 198 | 73 |
| 1974 - 1979..... | 360 | 100 | 64 | 18 | 39 | 11 | 14 | 4 | 243 | 67 |

¹Buildings supplied with natural gas.



Limitations of the Data (Continued)

Group 2: The set of fuel records that had 331 days or more of reported consumption in 1979 (not including transferred consumption), served as a pool of potential donor records for the group 2 imputations. For each fuel record in group 2, a fuel record was randomly selected from the subset of records for buildings in the same climate zone, of the same building type, and in the same end use category for heating and air conditioning as the building whose fuel record needed imputation. The end use categories are shown in Table B6. Group 1 imputations had already been completed for the donor records, so each donor record had consumption for a set of consecutive "billing periods" running from January 1 through December 31, 1979. The corresponding stratum 2 record had consumption for one or more "billing periods" covering 31-330 days in 1979. First, an estimate of the energy consumption for the donor record in the period covered by the group 2 record was computed, using the formula

$$Q_o = \sum_{j=1}^J (Q_j \cdot \frac{f_j}{d_j})$$

where Q_j is the consumption of the donor record during its billing period j , d_j is the number of days in period j , and f_j is the number of days in period j that fall into the period covered by the group 2 record. If Q represents the total 1979 consumption for the donor record and q represents the total consumption for the period covered by the group 2 record, then

$$\bar{q} = q \left(\frac{Q}{Q_o} \right) - q = \left(\frac{Q - Q_o}{Q_o} \right) q$$

estimates the consumption for the group 2 record for the remainder of the year, which was treated as one large "billing period".

Group 3: Fuel records with 30 or fewer days of consumption in 1979, reported or transferred, were considered to be totally without consumption data. Consumption was imputed for these records using an unweighted stepwise multiple regression procedure. The input records used to determine the regression equations were the set of fuel records with both consumption and cost reported for 331 or more days in 1979. Much experimentation was conducted to search for subpopulations of the building stock that would yield acceptable regressions and predictor variables that would do the best job of explaining consumption. The final consumption regression were carried out for 44 subgroups, 18 for electricity and 26 for natural gas. The primary variable used to define the subpopulations was building type (either the building types shown in this report, or in several cases, a finer breakdown), although square footage, number of floors, and number of employees were each used in one instance to subdivide a type category in order to improve the regressions. The number of input records

Table B6. Fuel End Use Categories for Imputing Consumption of Buildings Whose Fuel Records Are in Group 2

| Building Uses Fuel for Air Conditioning | Building Uses Fuel for Heating | |
|---|--------------------------------|------------|
| | Yes | No |
| Yes | Category 1 | Category 2 |
| No | Category 3 | Category 4 |



Limitations of the Data (Continued)

in the regression categories ranged from 81 to 580 for electricity and 40 to 353 for natural gas. R^2 values (which measure the proportion of the total sum of squares explained by the regression equation) range from 0.5635 to 0.9326 for electricity and 0.5137 to 0.9875 for natural gas. The set of potential predictor variables for the regressions is given in Table B7. Residuals for the input records (actual consumption minus the consumption predicted by the appropriate regression equation) generally increased in magnitude as the actual and predicted values increased, but relative residuals (defined as residual - predicted value) tended to decrease. Certain small positive predicted values had very large relative residuals. Also, most of the regressions produced some negative predicted values, which were generally associated with the smaller actual values of consumption.

A record with missing consumption data was first given a predicted consumption value Q' by inserting the values of its predictor variables into the appropriate regression equation. The input records were then stratified by predicted value. For most regression categories there were 3 strata: records with negative predicted values, records with "small" positive values, and records with "large" positive values (the dividing line between "small" and "large" varied by regression category). An input record was chosen

Table B7. Potential Predictor Variables for Consumption Imputation Regression Equations

1. Heating degree-days
2. Cooling degree-days
3. Estimated year of construction
4. Number of floors
5. Square footage
6. Estimated square footage (interval recode)
7. Square footage heated by this fuel
8. Square footage cooled by this fuel
9. Square footage residential
10. Square footage vacant during previous year
11. Number of employees
12. Estimated number of employees (interval recode)
13. Hours of operation
14. Fuel used for space heating (Yes, No)
15. Fuel used for air conditioning (Yes, No)
16. Fuel used for water heating (Yes, No)
17. Fuel used for electricity generation (Yes, No)
18. Fuel used for manufacturing (Yes, No)
19. Fuel used for cooking (Yes, No)
20. Census Region (coded as a set of dummy variables)
21. Weather zone (coded as a set of dummy variables)
22. Climate zone (coded as a set of dummy variables)
23. Percent glass on outside walls
24. Detailed 4-digit building code (dummy variable)



Limitations of the Data (Continued)

at random from those in the stratum whose range of predicted values included the predicted value given to the record with missing data, A final consumption value \hat{Q} for that record was computed using the expression

$$\hat{Q} = Q' \left(1 + \frac{A_r - P_r}{P_r} \right)$$

where A_r and P_r are the actual and predicted consumption values, respectively, of the randomly chosen input record. Stratification of input records assured that \hat{Q} would be positive when Q' was negative, and that large relative residuals associated with small predicted values of consumption for input records would only affect missing data records with small predicted values. No input record was used more than once as a donor; the final value of consumption covered the entire year.

Of the more than 1,000 records whose consumption was imputed using the group 3 method, nine values were rejected because they were totally unrealistic and could potentially disrupt variance estimates. New values were imputed by either adjusting the regression equation, selecting a different residual, or assigning the smallest actual consumption among the input records in the appropriate regression category.

Imputing for Missing Cost

Once consumption imputations were complete, actual or imputed consumption was available for each fuel record for one or more billing periods that together covered all of 1979. Cost was variously reported for none, some, or all of these billing periods. The cases that needed cost imputations were divided into 2 groups: (1) cases with cost data reported for one or more (but not all) billing periods, and (2) cases with no cost data reported.

Group 1: If a period of missing cost was surrounded by billing periods for which cost and consumption were both available, a cost-per-unit-consumption ratio was computed for the surrounding periods and the two values were averaged. The result was multiplied by the reported or imputed consumption for the period of missing cost to produce a cost estimate.

If the period of missing cost was not surrounded by periods of complete data, a cost-per-unit-consumption ratio was computed for the billing period closest to it. This ratio was multiplied by the reported or imputed consumption for the period of missing cost to provide a preliminary cost estimate C' . This estimate was then adjusted to account for the rapid inflation in energy costs that occurred in 1979, using monthly data on average fuel costs for commercial customers published in the Monthly Energy Review, publication DOE/EIA 0035 (Reference 1). The adjustment factor was the ratio

$$A = \frac{C_m}{C_a}$$



Limitations of the Data (Continued)

where C_m is the cost benchmark for the month corresponding to the midpoint of the period of missing data and C_a is the benchmark for the month corresponding to the midpoint of the adjacent period (see Table B8). The final cost estimate \hat{C} was given by:

$$\hat{C} = C' \cdot A$$

Group 2: If no cost data was available, cost was imputed from consumption via an unweighted linear regression procedure based on the model

$$C' = a + bQ + e$$

where consumption is the lone independent variable and a and b are parameters to be estimated. The input data were the same set of records used for the consumption regressions. However, there were only 4 regression categories for each fuel, based on actual consumption for the input record. (Level of consumption was used to define 4 regression categories for each fuel because the per-unit cost of fuel, approximated by the slope of the regression line, was presumed to decrease as consumption increased). Residuals were much more well-behaved for these regressions than for the consumption regression (although residuals again tended to increase as cost increased), and no negative predicted values of cost turned up. Therefore, there was no need to stratify residuals.

The procedure used to impute cost was similar to that used to impute consumption in Group 3. A record with missing cost was given a predicted value C' by inserting its consumption into the appropriate regression equation. An input record associated with that regression was randomly selected, and a final cost value C was computed using the expression:

$$\hat{C} = C' \left(1 + \frac{A_r - P_r}{P_r} \right)$$

where A_r and P_r are now the actual and predicted cost values, respectively, of the input record.

Effect of Imputations on Consumption Estimates

Virtually every building in the NBECS sample that used electricity and/or natural gas had its consumption and expenditure values affected by some stage of the imputation procedures. Even the cases that had data reported for all 365 days of 1979 had to have their consumption and expenditures adjusted for billing periods that overlapped into 1978 or 1980. Table B9 shows the number of commercial buildings in the NBECS sample that used electricity and the number that used natural gas, distributed by the number of days in 1979 for which usable consumption data and cost data were available. All reported data in the 0-30 day category was eliminated and regression imputations were performed. The 717 buildings in the 31-330 day consumption group for electricity averaged about 250 days of reported consumption for 1975, or conversely, 115 days of missing or transferred consumption. Therefore, about 226 building equivalent years of electricity consumption had to be imputed or transferred for this category, about 1/3 the number that had to be imputed for the 0-30 day category. For natural gas, 484 building years of data had to be imputed for the 0-30 day category, while the 285 buildings in the 31-330 day category necessitated about 113 building equivalent years of imputed and



Limitations of the Data (Continued)

Table B8. Cost Benchmarks for Electricity and Natural Gas by Month

| Month | Electricity Cents/Kwh | Natural Gas Cents/1,000 ft ³ |
|-------|--------------------------|--|
| 1978 | | |
| Nov. | 4.38 | 285.8 |
| Dec. | 4.31 | 290.1 |
| 1979 | | |
| Jan. | 4.28 | 292.9 |
| Feb. | 4.30 | 295.6 |
| Mar. | 4.44 | 300.6 |
| Apr. | 4.54 | 299.6 |
| May | 4.65 | 314.9 |
| June | 4.73 | 320.0 |
| July | 4.77 | 328.4 |
| Aug. | 4.79 | 330.8 |
| Sept. | 4.84 | 341.4 |
| Oct. | 4.94 | 352.8 |
| Nov. | 4.92 | 347.6 |
| Dec. | 4.90 | 351.9 |
| 1980 | | |
| Jan. | 4.90 | 354.9 |
| Feb. | 4.96 | 357.9 |

Source: DOE/EIA-0035(81/02). Monthly Energy Review, February 1981.
Government Printing Office, Washington, D.C.

Table B9. Number of Commercial Sample Buildings Supplied with Electricity and Natural Gas, by Number of days of 1979 Consumption Reported by the Supplier

| Fuel Type | Number of Buildings Supplied With Fuel | Days of 1979 Consumption Report by Supplier | | | |
|------------------|--|---|--------|---------|-------|
| | | 0-30 | 31-330 | 331-364 | 365 |
| Electricity..... | 5,511 | 697 | 717 | 653 | 3,445 |
| Natural Gas..... | 3,654 | 484 | 285 | 235 | 2,652 |



Limitations of the Data (Continued)

transferred consumption since the average building in this category had 245 days of 1979 consumption report. Comparable figures in the 331-364 day category were 32 building years imputed or transferred for electricity, 12 building years for natural gas.

Table B10 shows estimated aggregate electricity and natural gas consumption distributed by the same categories. An estimate of the amount of consumption based on reported 1979 data can be produced as follows: for electricity,

$$Q_R = 1.0(1.243 \text{ quadrillion Btu}) + \left(\frac{347}{365}\right)(0.225 \text{ quadrillion Btu}) + \left(\frac{250}{365}\right)(0.261 \text{ quadrillion Btu}) + 0.0(0.363 \text{ quadrillion Btu})$$

$$= 1.636 \text{ quadrillion Btu}$$

Which is 78 percent of the total estimated commercial consumption of electricity in 1979. For natural gas,

$$Q_R = 1.0(1.651 \text{ quadrillion Btu}) + \left(\frac{347}{365}\right)(0.147 \text{ quadrillion Btu}) + \left(\frac{245}{365}\right)(0.100 \text{ quadrillion Btu}) + 0.0(0.459 \text{ quadrillion Btu})$$

$$= 1.858 \text{ quadrillion Btu}$$

which is 79 percent of the total estimated commercial consumption of natural gas in 1979.

Comparison of Consumption Estimates with Data from Other Sources

Because no known energy consumption surveys of the United States building stock had been attempted prior to the NBECS, there are no other estimates of commercial consumption based on statistics collected for the point of consumption. However, the Energy Information Administration has published other statistics on commercial consumption by fuel, in its Monthly Energy Review (MER), its Annual Report to Congress (ARC), and its State Energy Data Report (References 1-3). These data are based on utility sales and supply data, and although each data system uses somewhat different methods to generate its final estimates, the estimates are somewhat related. For example, the introduction to the State Energy Data System (SEDS) report states that "a prime requisite in the development of the SEDS data series was that the summations of State data to national totals in the SEDS equal as closely as possible the national totals for each energy type and end-use sector that appear in ... the Monthly Energy Review (MER), ... , and Annual Report to Congress, Volume Two (ARC-2)".

Table B10. Weighted Consumption in Quadrillion Btu for Commercial Buildings Supplied with Electricity and Natural Gas, by Number of Days of 1979 Consumption Reported by the Supplier for the Sample Buildings

| Fuel Type | Aggregate 1979 Consumption (Quadrillion Btu) | Days of 1979 Data Reported by Supplier | | | |
|------------------|--|--|--------|---------|-------|
| | | 0-30 | 31-330 | 331-364 | 365 |
| Electricity..... | 2.092 | 0.363 | 0.261 | 0.225 | 1.243 |
| Natural Gas..... | 2.357 | 0.459 | 0.100 | 0.147 | 1.651 |



Limitations of the Data (Continued)

Table B11 compares NBECS consumption estimates for electricity and natural gas to the most comparable estimates from these other data sources. These data are not comparable to NBECS in that they present estimates for the commercial sector rather than a buildings population, and the NBECS data includes a certain unavoidable amount of residential and industrial building activity.

Also, the data are subject to the adjustments described in the footnotes to Table B11. The values that appear to be most significantly different from the NBECS estimates are the ARC estimates and the SEDS natural gas estimate. All of these differences may be due to differences in population covered by the data sources (see SEDS, ARC, and MER publications for further details).

Computation of Sampling Errors

One component of total survey error that can be estimated is sampling error. However, the complex multi-stage, multi-frame design of a survey such as the NBECS makes it virtually impossible to construct an exact algebraic variance estimator. The method used to produce sampling variances for this survey is balanced half-sample replication (see References 4 and 5). In order to apply the half-sample technique to this survey, the 79 sample primary sampling units (PSU's) were grouped into 37 strata. Eighteen of the strata were self-representing; that is, they consisted of large metropolitan areas that came into the sample with certainty. In these strata, segments were divided into two replication groups. Each of the remaining 19 strata consisted of two or more sample PSU's belonging to the same Census region. The two replication groups in these strata consisted of one or more PSU's each.

Table B11. Estimates of Commercial Electricity and Natural Gas Consumption in Quadrillion Btu,¹ from NBECS and Other Sources

| Fuel Type | Estimated Consumption (Quadrillion Btu) | | | | Standard Errors | |
|----------------|---|-----------------------------|-----------------|--|-----------------|------|
| | NBECS (1979) | SEDS ² (1979) | ARC-2 (1979) | MER/RECS ³ (4/1979-3/1980) | NBECS | RECS |
| Electricity... | 2.09 | 1.85 | 1.61 | 1.74 | 0.15 | 0.12 |
| Natural Gas... | 2.36 | 2.84 | 2.84 | 2.23 | 0.18 | 0.23 |

¹Conversion factors used to convert physical units to Btu were: Electricity, 3412 Btu/Kwh; Natural gas, 1019 Btu/ft³.

²The SEDS natural gas estimate in physical units for 1979 was converted to Btu using a factor of 1,019 Btu/ft³, the factor used for NBECS. This figure differs slightly from the Btu estimate in the ARC because a conversion factor of 1,018 Btu/ft³ was used for that report.

³The MER data combined the residential and commercial sectors, so residential consumption based on EIA's Residential Energy Consumption Survey (RECS) was subtracted to produce estimates of commercial consumption. Since the closest comparable period for RECS estimates was April 1979 to March 1980, those values were subtracted from MER estimates for the same months to produce estimates of commercial consumption for that period.



Limitations of the Data (Continued)

Variance estimates for survey statistics were created by computing 40 half-sample estimates for each statistic. Each half-sample estimate was formed by selecting one of the two replication groups from each stratum using an orthogonal matrix technique adapted from an article by Plackett and Burman (Reference 6). Then the sampling weights were adjusted so that the half-sample estimates would be essentially unbiased estimates of the corresponding population parameter, as was the estimate based on the entire national sample.

The variance estimate for the survey estimate X' of characteristic X is given by:

$$S_{X'}^2 = \frac{1}{40} \sum_{i=1}^{40} (X_i' - X')^2$$

where X_i' is the i th half-sample estimate of X . The standard error of X' , the measure of variability used in the text, is given by

$$S_{X'} = \sqrt{S_{X'}^2}$$

The relative standard error of X' , the error form used in the error tables (Appendix C), is given by

$$RSE(X') = \frac{S_{X'}}{X'}$$

Use of Error Tables

Tables C1-C19 show standard errors for each statistic presented in the detailed tables. Certain statistics have been suppressed from both the detailed tables and the error tables because of concerns about their sampling variability. The entries have been replaced by an entry of "Q" in the appropriate table cell. Suppressed values fall into one of 2 categories:

1. All consumption, expenditure and average square footage per building statistics were suppressed for population subclasses whose estimated number of buildings was less than 10,000. The estimates for virtually all such subclasses were based on fewer than 30 observations, and were usually subject to large variability. In addition, the sampling variance estimates themselves were highly unstable, so that any estimate from a small subclass that did have a reasonable standard error would have to have been regarded with suspicion.
2. Each consumption, expenditure, and average square footage per building statistic whose relative standard error exceeded 50 percent was suppressed. In a few instances, an estimate whose relative standard error was just under 50 percent was also suppressed if the estimate would have been the only entry in a row of suppressed data, since the acceptability of the estimate may have been due to the instability of the standard error estimate.



Limitations of the Data (Continued)

All estimates of number of buildings and aggregate square footage have been retained to give the reader some idea, however rough, of the size of each population subgroup.

There are two types of statistics presented in the text whose errors cannot be found in Tables C1-C19; percentage statistics and statistics for collapsed population subgroups not found in the tables. The relative standard errors of a percentage statistics $P' = X'/Y'$ were computed using the formula

$$RSE (P') = \sqrt{[RSE (X')]^2 - [RSE(Y')]^2}$$

For example, the first sentence under the heading "Electricity" in the Summary of Findings states that 97 percent (+ 3) of all commercial buildings used electricity. That statistic is based on a numeration of 3,867,000 buildings and a denominator of 3,995,000 (Table 1). From Table C1 the RSE's of these two estimates are 5.5 percent and 5.3 percent respectively, so the RSE of the ratio is estimated by

$$RSE (P') = \sqrt{(5.5)^2 - (5.3)^2} = 1.5 \text{ percent}$$

so that the two standard error interval around the 97 percent estimate is of width $(97)(0.015)(2) = 3$ percent, the value in parentheses.

The relative standard error of an estimate for a collapsed population subgroup was approximated by the relative standard error of the same type of statistic with the same approximate value, for a population subgroup with approximately the same estimated number of buildings. For example, the first sentence of paragraph 5 of the "natural gas" section states "Average natural gas consumption per square foot varied enormously by building size... to 52,000 Btu (+ 9,000) for buildings over 25,000 square feet." From Table 5, there are an estimated 265,000 buildings over 25,000 square feet that use natural gas. Under the "Energy sources supplied to the building" variable, the category "fuel oil" has an estimated 267,000 buildings, with an average natural gas usage of 61,000 Btu per square foot. The RSE of that statistic, from Table C5, is 8.2 percent. Therefore, two standard errors for the 52,000 Btu estimate for buildings over 25,000 square feet is equal to $(52,000)(0.82)(2)=9,000$, the value given in parentheses.

Using Standard Errors to Test Statistical Hypotheses

The analytical statements in this report can be divided into three types. The first type is the expository statement, which presents a statistic for its own sake, without reference or comparison to any other statistic. An example of such a statement is found in sentence 2 under the heading "Natural Gas and Electricity" in the Summary of Findings. "Total natural gas and electricity consumption for commercial buildings in 1979 was an estimated 4.449 quadrillion Btu (+0.543)." No statistical tests of hypothesis are needed or were performed for such statements; twice the standard error is given in parentheses after the estimate. This value serves as a measure of the level of variability in the statistic, and allows the reader to compute an approximate 95 percent confidence interval for the estimate by adding and subtracting the value in parentheses.



Limitations of the Data (Continued)

The second type of statement is the descriptive statement, which is intended as a summary statement of a data relationship or relationships that exist in a table. An example of this type of statement is found in the first sentence of paragraph 6 in the "Square Footage" section of the Summary of Findings: "Generally speaking, the greater the number of different fuels used in a building, the larger the building." Such statements are meant to give general impressions and are not subject to statistical justification.

The third, and most commonly occurring type of statement, is the stated or implied comparison between two or more statistics. Such comparisons are meant to point out specific similarities and differences between population subgroups, sometimes in support of the summary statements discussed above. Since these statements imply specific relationships among population subgroups based on sample data, they are inferential, and subject to statistical testing. Examples of such comparisons are

- (1) The last sentence of paragraph 5 in the "National Gas" section: "Average natural gas consumption per building ranged from 185 million Btu (+ 51 million) for the smallest buildings to 7,116 million Btu (+1,053 million) for buildings over 50,000 square feet."
- (2) The last sentence of the "Electricity and Natural Gas" section: "Buildings where cooling was reduced when the building was not in full operation consumed significantly less for each of the summary measures (average amount per building, per square foot, and per employee) than buildings where the level of cooling was not reduced."

The test used to check this kind of statement is the standard normal deviate test. In order to test the significance of the difference between estimates X' and Y' , X' and Y' are assumed to be normally distributed by appeal to the Central Limit Theorem. Then the test statistic

$$Z_{X', Y'} = \frac{X' - Y'}{\sqrt{S_{X'}^2 + S_{Y'}^2}}$$

is computed, with Z having approximately a standard normal distribution. The null hypothesis, that there is no difference between X' and Y' , is rejected if $Z_{X', Y'}$ is greater than some critical value G . In this report, G is set so that the level of significance of the test (the probability of incorrectly detecting a significant difference) is 0.05. Ordinarily, this level of significance corresponds to a critical value of 1.96, and when a comparison is the only possible one of its type, 1.96 is the correct value. However, most of the statements in this report involve comparisons that were selected from a larger set of C possible comparisons, each of which had an opportunity to be tested and falsely yield a significant difference. In order to attain a true level of significance no greater than 0.05 for a particular test from such a set, the critical value G was adjusted so that the probability of falsely detecting any significant difference was $0.05/C$. The rationale for this adjustment is based on the Bonferroni inequality, and is discussed elsewhere (see References 7 and 8).



Limitations of the Data (Continued)

The normal test of an hypothesis with adjusted critical value can be applied to the examples as follows:

- (1) The range statement for natural gas consumption implies a significant difference between the average for buildings of 1,000 square feet or less and the average for buildings over 50,000 square feet in Table 5. The number of possible comparisons among the 6 square footage categories is the combinatorial $\binom{6}{2} = 15$, so the critical value for the test is the normal two-tailed $0.05/15 = 0.0033$ critical value which, from the standard normal tables, is 2.935.

The test statistic for the comparison is

$$Z = \frac{7,116 - 185}{\sqrt{(1,053)^2 + (51)^2}} = \frac{6,931}{1,054} = 6.57$$

The Z value exceeds the critical value of 2.935, so the difference is significant and the statement is justified.

- (2) The pertinent parameter and error estimates come from Tables 3 and C3 respectively, and are summarized below:

| Statistic | Reduced Cooling | | | Did Not Reduce Cooling | | |
|---|-----------------|---------------|----------------|------------------------|---------------|----------------|
| | Estimate | RSE (Percent) | Standard Error | Estimate | RSE (Percent) | Standard Error |
| Consumption/ Building (million Btu) | 1700 | 7.0 | 119 | 2832 | 10.3 | 292 |
| Consumption/ Square Foot (Thousand Btu) | 100 | 4.7 | 5 | 131 | 7.0 | 9 |
| Consumption/ Employee (Million Btu) | 60 | 6.1 | 4 | 83 | 8.5 | 7 |

The differences are claimed to be significant for all 3 statistics simultaneously, so the critical value for all tests is the two-tailed $0.05/3 = 0.0167$ critical value which, from the standard normal tables, is 2.394. The test statistics are

$$Z_B = \frac{2,832 - 1,700}{\sqrt{(292)^2 + (119)^2}} = \frac{1,132}{315.3} = 3.59$$

$$Z_{SF} = \frac{131 - 100}{\sqrt{(9)^2 + (5)^2}} = \frac{31}{10.3} = 3.01$$

$$Z_E = \frac{86 - 60}{\sqrt{(7)^2 + (4)^2}} = \frac{23}{8.1} = 2.84$$

All Z values exceed the critical value of 2.394, so all differences are significant and the statement is justified.



Limitations of the Data (Continued)

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Appendix C

Relative Standard Errors





Relative Standard Errors (Continued)

Table C1. Total Square Footage for Commercial Buildings as of January 1, 1980: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| COMMERCIAL BUILDINGS..... | 5.3 | 4.0 | 4.6 | 6.0 | 9.3 | 5.4 | 7.3 | 7.9 | 9.1 | 7.6 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 5.3 | 3.6 | 3.9 | 6.0 | 9.8 | 5.7 | 6.8 | 7.8 | 9.0 | 7.6 |
| NATURAL GAS..... | 8.7 | 4.6 | 4.0 | 8.6 | 11.5 | 9.1 | 11.4 | 12.4 | 13.3 | 8.8 |
| ELECTRICITY..... | 13.0 | 6.7 | 9.5 | 12.1 | 12.1 | 16.9 | 21.0 | 19.6 | 10.2 | 12.2 |
| FUEL OIL/KEROSENE..... | 10.3 | 6.1 | 6.7 | 9.5 | 15.9 | 11.9 | 11.9 | 13.4 | 18.9 | 10.5 |
| LIQUID PETROLEUM GAS..... | 15.7 | 17.5 | 42.8 | 13.6 | 29.6 | 18.7 | 27.9 | 32.0 | 30.2 | 34.5 |
| WOOD..... | 23.8 | 31.4 | 44.0 | 27.7 | 30.8 | 26.0 | 0 | 0 | 0 | 0 |
| STEAM..... | 22.0 | 14.2 | 12.8 | 19.4 | - | 0 | 44.2 | 29.0 | 30.1 | 20.2 |
| COAL..... | 24.0 | 25.1 | 32.1 | 22.9 | 0 | 29.5 | 0 | 46.3 | 49.5 | 28.1 |
| OTHER..... | 43.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 12.7 | 12.9 | 18.7 | 13.3 | 19.2 | 18.6 | 31.0 | 25.4 | 29.7 | 29.1 |
| AIR CONDITIONING FUEL USED.. | 7.1 | 4.6 | 4.0 | 6.9 | 12.6 | 7.5 | 9.5 | 9.0 | 11.2 | 7.8 |
| ELECTRICITY..... | 7.4 | 4.8 | 4.3 | 7.1 | 12.5 | 7.7 | 10.6 | 9.4 | 11.3 | 8.2 |
| NATURAL GAS..... | 9.3 | 14.3 | 23.2 | 11.9 | 49.2 | 16.7 | 28.0 | 17.6 | 21.9 | 18.9 |
| OTHER..... | 17.7 | 16.3 | 44.5 | 9.4 | 0 | 33.6 | 0 | 0 | 47.5 | 8.8 |
| NO AIR CONDITIONING FUEL.... | 9.1 | 5.4 | 6.4 | 10.4 | 11.3 | 9.9 | 10.9 | 18.8 | 16.8 | 14.1 |
| WATER-HEATING FUEL USED..... | 5.8 | 3.5 | 2.9 | 6.4 | 9.9 | 6.4 | 7.0 | 8.4 | 9.0 | 7.9 |
| NATURAL GAS..... | 8.0 | 4.6 | 5.1 | 8.2 | 18.3 | 7.7 | 11.8 | 12.4 | 12.6 | 9.3 |
| ELECTRICITY..... | 7.9 | 4.9 | 3.6 | 8.7 | 10.4 | 11.1 | 7.2 | 9.6 | 10.9 | 13.1 |
| FUEL OIL/KEROSENE..... | 13.2 | 11.9 | 22.5 | 11.4 | 44.9 | 19.2 | 19.3 | 22.6 | 27.9 | 13.3 |
| OTHER..... | 16.5 | 20.0 | 28.7 | 16.2 | 31.9 | 26.7 | 40.0 | 30.5 | 18.8 | 20.0 |
| NO WATER-HEATING FUEL..... | 6.5 | 5.7 | 9.0 | 7.1 | 11.1 | 9.3 | 12.2 | 17.1 | 15.7 | 15.0 |
| MANUFACTURING FUEL USED..... | 11.2 | 7.4 | 7.2 | 11.0 | 30.2 | 14.3 | 27.7 | 23.7 | 23.7 | 13.1 |
| ELECTRICITY..... | 13.3 | 7.8 | 7.7 | 12.9 | 31.9 | 13.6 | 31.5 | 27.0 | 25.5 | 15.9 |
| NATURAL GAS..... | 11.1 | 14.7 | 0 | 14.7 | - | 19.1 | 48.9 | 41.5 | 37.5 | 18.0 |
| OTHER..... | 24.1 | 27.7 | 0 | 18.4 | 0 | 47.5 | 0 | 35.0 | 39.1 | 21.9 |
| NO MANUFACTURING DONE..... | 5.5 | 4.3 | 5.0 | 6.2 | 9.1 | 6.3 | 7.3 | 8.2 | 9.3 | 8.2 |
| COOKING FUEL USED..... | 7.5 | 5.1 | 4.7 | 8.6 | 16.2 | 8.8 | 10.0 | 10.7 | 10.4 | 10.6 |
| ELECTRICITY..... | 9.8 | 6.2 | 4.7 | 10.1 | 20.1 | 11.0 | 16.0 | 13.0 | 14.4 | 12.0 |
| NATURAL GAS..... | 8.3 | 8.1 | 10.5 | 10.7 | 17.5 | 10.1 | 13.8 | 14.1 | 14.2 | 13.6 |
| LIQUID PETROLEUM GAS..... | 19.8 | 12.4 | 27.2 | 15.8 | 31.0 | 20.4 | 40.1 | 32.8 | 38.7 | 18.3 |
| OTHER..... | 28.6 | 0 | 0 | 26.2 | 0 | 45.7 | 0 | 43.2 | 0 | 30.0 |
| NO COOKING FUEL..... | 5.3 | 3.5 | 4.8 | 5.1 | 10.4 | 5.7 | 8.2 | 7.6 | 10.4 | 8.1 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 12.5 | 8.0 | 9.4 | 9.3 | 37.8 | 16.4 | 14.9 | 11.9 | 17.3 | 9.0 |
| NORTH CENTRAL..... | 10.3 | 8.8 | 6.0 | 9.6 | 19.8 | 10.2 | 10.4 | 14.3 | 16.0 | 13.2 |
| SOUTH..... | 9.8 | 6.7 | 9.7 | 11.8 | 14.1 | 10.2 | 16.9 | 15.5 | 17.9 | 13.9 |
| WEST..... | 11.8 | 9.2 | 6.5 | 13.1 | 18.9 | 14.7 | 6.6 | 20.6 | 22.3 | 15.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | | |
|---|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|--|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 | |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA | 7.8 | 5.5 | 4.1 | 6.8 | 10.2 | 7.9 | 9.9 | 8.9 | 10.6 | 7.8 | |
| NONSMSA | 7.3 | 6.4 | 6.0 | 10.6 | 14.0 | 7.5 | 9.5 | 16.2 | 17.1 | 17.2 | |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 37.3 | 16.6 | 10.3 | 35.3 | 2 | 38.6 | 33.3 | 38.8 | 48.4 | 36.3 | |
| <2,000 CDD AND 5,500 TO 7,000 HDD | 13.2 | 9.3 | 6.3 | 10.1 | 26.2 | 13.4 | 14.5 | 11.7 | 15.1 | 12.5 | |
| <2,000 CDD AND 4,000 TO 5,499 HDD | 25.5 | 12.4 | 13.6 | 18.3 | 29.8 | 29.1 | 29.8 | 25.0 | 22.6 | 13.7 | |
| <2,000 CDD AND <4,000 HDD... | 31.3 | 19.4 | 11.2 | 26.6 | 35.8 | 30.4 | 31.1 | 27.7 | 29.0 | 26.7 | |
| >2,000 CDD AND <4,000 HDD... | 45.6 | 17.0 | 15.3 | 37.3 | 2 | 47.3 | 2 | 41.1 | 26.3 | 36.7 | |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY | 12.8 | 6.9 | 12.4 | 12.4 | 31.0 | 15.2 | 17.8 | 25.9 | 19.3 | 15.9 | |
| AUTOMOTIVE SALES & SERVICE... | 9.7 | 10.8 | 21.1 | 13.1 | 17.8 | 12.7 | 33.3 | 28.1 | 49.5 | 49.5 | |
| EDUCATION | 14.2 | 11.9 | 30.4 | 10.1 | 40.0 | 39.2 | 44.0 | 24.3 | 16.7 | 12.3 | |
| FOOD SALES | 7.4 | 6.4 | 5.1 | 8.6 | 15.3 | 8.9 | 17.6 | 19.3 | 24.5 | 34.5 | |
| HEALTH CARE | 16.5 | 16.6 | 37.1 | 11.0 | 33.5 | 44.6 | 41.3 | 39.8 | 36.2 | 11.7 | |
| LODGING | 13.4 | 15.8 | 18.9 | 12.8 | 41.5 | 22.8 | 14.7 | 31.4 | 23.9 | 18.9 | |
| OFFICE | 6.1 | 6.4 | 8.0 | 7.0 | 16.4 | 9.2 | 9.3 | 13.5 | 14.4 | 10.6 | |
| RESIDENTIAL | 9.4 | 7.0 | 8.7 | 12.0 | 27.4 | 10.9 | 19.1 | 19.3 | 42.2 | 20.9 | |
| RETAIL/SERVICES | 8.8 | 6.8 | 4.8 | 11.6 | 13.9 | 13.1 | 13.6 | 11.5 | 17.4 | 18.3 | |
| WAREHOUSE AND STORAGE | 8.0 | 6.9 | 15.3 | 7.9 | 24.7 | 14.5 | 23.2 | 20.8 | 15.9 | 12.6 | |
| OTHER | 11.4 | 7.0 | 10.2 | 11.5 | 20.2 | 18.2 | 22.2 | 20.4 | 33.7 | 12.6 | |
| VACANT | 14.2 | 12.8 | 16.4 | 18.6 | 19.3 | 20.7 | 37.8 | 36.0 | 23.5 | 31.6 | |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS | 9.5 | 2.9 | 3.9 | 9.3 | 9.3 | - | - | - | - | - | |
| 1,001 TO 5,000 | 5.7 | 1.4 | 3.1 | 5.4 | - | 5.4 | - | - | - | - | |
| 5,001 TO 10,000 | 7.4 | 1.6 | 2.6 | 7.3 | - | - | 7.3 | - | - | - | |
| 10,001 TO 25,000 | 8.5 | 1.4 | 2.2 | 7.9 | - | - | - | 7.9 | - | - | |
| 25,001 TO 50,000 | 8.9 | 1.3 | 1.9 | 9.1 | - | - | - | - | 9.1 | - | |
| OVER 50,000 | 8.3 | 4.0 | 4.9 | 7.6 | - | - | - | - | - | 7.6 | |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR | 6.3 | 4.9 | 5.4 | 6.3 | 9.9 | 7.4 | 9.3 | 10.8 | 13.2 | 11.2 | |
| TWO FLOORS | 8.7 | 7.1 | 7.9 | 9.1 | 29.6 | 11.8 | 14.4 | 13.4 | 14.8 | 13.7 | |
| THREE FLOORS | 12.3 | 6.8 | 10.8 | 8.7 | 2 | 19.5 | 19.6 | 10.9 | 16.8 | 9.3 | |
| MORE THAN THREE | 9.0 | 7.7 | 9.3 | 7.7 | 39.7 | 22.0 | 21.3 | 13.7 | 17.2 | 8.3 | |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE | 19.5 | 8.2 | 8.7 | 11.2 | 43.8 | 16.0 | 22.7 | 14.5 | 23.1 | 15.8 |
| 1901 TO 1920 | 10.1 | 6.4 | 8.2 | 10.7 | 29.9 | 12.4 | 16.5 | 21.3 | 15.1 | 14.9 |
| 1921 TO 1945 | 7.5 | 9.8 | 11.1 | 10.9 | 17.2 | 8.5 | 15.3 | 12.9 | 16.1 | 18.8 |
| 1946 TO 1960 | 7.5 | 5.3 | 7.1 | 8.7 | 13.9 | 7.4 | 15.5 | 12.2 | 15.2 | 12.0 |
| 1961 TO 1970 | 7.2 | 6.7 | 9.2 | 7.9 | 17.1 | 12.7 | 10.3 | 11.6 | 16.9 | 10.8 |
| 1971 TO 1973 | 7.8 | 11.1 | 15.8 | 12.2 | 29.0 | 15.8 | 19.9 | 20.2 | 14.5 | 18.8 |
| 1974 TO 1979 | 8.7 | 8.2 | 11.6 | 8.2 | 22.1 | 11.7 | 20.8 | 15.1 | 13.7 | 14.2 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| NO FUEL USED | 25.9 | 21.0 | 36.9 | 17.0 | 41.9 | 32.2 | 0 | 0 | 0 | 0 |
| ONE FUEL USED | 18.1 | 8.3 | 11.3 | 13.5 | 19.4 | 24.3 | 33.1 | 25.7 | 12.9 | 12.1 |
| ELECTRICITY | 17.8 | 8.1 | 11.9 | 13.5 | 14.3 | 24.2 | 32.7 | 26.0 | 12.9 | 12.1 |
| OTHER | 91.9 | 31.7 | 38.2 | 0 | 0 | 0 | 0 | 0 | - | 0 |
| TWO FUELS USED | 6.9 | 3.9 | 4.1 | 7.4 | 13.1 | 7.0 | 8.0 | 10.0 | 10.4 | 9.2 |
| ELEC., NATURAL GAS | 8.7 | 4.7 | 4.2 | 9.4 | 11.9 | 8.8 | 11.3 | 12.7 | 13.1 | 10.9 |
| ELEC., FUEL OIL/KEROSENE | 12.4 | 5.2 | 7.0 | 13.3 | 18.9 | 13.9 | 15.6 | 17.5 | 25.5 | 20.1 |
| ELEC., LPG | 14.7 | 19.1 | 34.0 | 20.8 | 28.7 | 15.0 | 29.3 | 28.9 | 0 | 53.7 |
| OTHER | 17.3 | 21.8 | 31.6 | 18.1 | 37.6 | 24.6 | 0 | 25.9 | 37.9 | 24.1 |
| THREE FUELS USED | 8.3 | 8.8 | 13.2 | 9.6 | 20.7 | 13.9 | 14.7 | 12.5 | 16.2 | 12.3 |
| ELEC., GAS, FUEL OIL/KEROSENE | 11.1 | 8.6 | 9.3 | 9.7 | 0 | 19.6 | 18.9 | 13.9 | 19.5 | 11.9 |
| ELEC., FUEL OIL/KEROSENE, LPG | 29.8 | 20.3 | 13.8 | 16.8 | 0 | 27.0 | 44.8 | 33.6 | 39.1 | 19.7 |
| ELEC., GAS, OTHER | 15.4 | 24.3 | 42.2 | 21.9 | 0 | 31.0 | 35.6 | 35.9 | 37.8 | 25.0 |
| ELEC., FUEL OIL/KEROSENE, OTHER | 37.5 | 46.4 | 0 | 37.5 | 0 | 43.3 | 0 | 0 | 0 | 35.9 |
| OTHER | 26.7 | 40.2 | 0 | 26.5 | 0 | 36.3 | 0 | 0 | 40.6 | 33.2 |
| FOUR OR MORE FUELS USED | 24.2 | 25.1 | 45.2 | 18.7 | 0 | 43.4 | 38.1 | 41.2 | 0 | 18.7 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY | 5.5 | 3.9 | 4.2 | 6.1 | 9.3 | 5.7 | 6.9 | 7.9 | 9.1 | 7.7 |
| NATURAL GAS | 7.7 | 5.0 | 4.2 | 7.5 | 11.2 | 7.5 | 10.4 | 11.0 | 11.7 | 8.7 |
| FUEL OIL/KEROSENE | 10.3 | 5.7 | 7.2 | 8.8 | 16.4 | 11.5 | 12.1 | 12.8 | 16.9 | 9.2 |
| LIQUID PETROLEUM GAS | 13.9 | 11.5 | 20.9 | 15.0 | 25.4 | 15.3 | 13.8 | 22.7 | 23.2 | 19.4 |
| WOOD | 20.5 | 27.6 | 46.4 | 21.5 | 30.8 | 26.7 | 0 | 38.9 | 0 | 0 |
| COAL | 22.9 | 22.3 | 26.8 | 22.9 | 0 | 28.4 | 0 | 44.9 | 49.5 | 26.9 |
| STEAM | 20.8 | 15.3 | 17.7 | 19.4 | 0 | 0 | 40.0 | 27.0 | 29.9 | 20.5 |
| OTHER | 25.2 | 19.7 | 0 | 21.6 | - | 0 | 35.0 | 36.1 | 0 | 17.8 |
| NONE | 25.9 | 21.0 | 36.9 | 17.0 | 41.9 | 32.2 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-----------------------------------|-----------------------------|--|---|--|---------|----------|-----------|-----------|-----------|--------|
| | | | | TOTAL | 1,000 | 1,001 | 5,001 | 10,001 | 25,001 | OVER |
| | | | | | OR LESS | TO 5,000 | TO 10,000 | TO 25,000 | TO 50,000 | 50,000 |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 5.4 | 4.8 | 7.4 | 15.3 | 8.8 | 10.7 | 14.5 | 10.7 | 13.9 |
| RADIANT..... | 13.5 | 18.9 | 46.4 | 15.8 | 23.9 | 18.6 | 17.2 | 32.0 | 43.0 | 33.6 |
| COMBINATION/OTHER..... | 9.0 | 9.7 | 8.9 | 11.1 | 13.4 | 15.6 | 23.8 | 20.5 | 24.0 | 22.5 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 5.4 | 8.2 | 6.0 | 15.9 | 9.8 | 10.0 | 8.8 | 15.5 | 10.5 |
| RADIANT..... | 9.8 | 6.6 | 9.2 | 10.4 | 27.8 | 8.1 | 16.2 | 15.2 | 15.9 | 14.0 |
| COMBINATION/OTHER..... | 10.1 | 8.0 | 16.4 | 8.1 | 45.4 | 19.6 | 18.7 | 20.7 | 29.3 | 9.8 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 14.3 | 16.3 | 18.2 | 21.7 | 40.0 | 17.6 | 32.9 | 38.0 | 38.0 | 30.6 |
| RADIANT..... | 19.1 | 19.5 | 30.9 | 24.7 | 29.5 | 40.5 | 0 | 40.8 | 45.5 | 48.5 |
| COMBINATION/OTHER..... | 13.4 | 10.2 | 14.7 | 13.4 | 36.5 | 30.8 | 25.1 | 26.8 | 20.4 | 14.9 |
| NONE..... | 12.8 | 13.0 | 18.8 | 13.3 | 19.2 | 18.7 | 31.0 | 25.4 | 29.7 | 29.4 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 8.6 | 7.1 | 12.8 | 9.4 | 36.4 | 18.7 | 16.9 | 18.9 | 21.0 | 13.2 |
| 26 TO 50..... | 11.1 | 9.2 | 7.6 | 10.9 | 25.8 | 14.5 | 17.4 | 17.4 | 38.1 | 25.0 |
| 51 TO 75..... | 10.6 | 11.3 | 7.6 | 10.3 | 30.8 | 12.3 | 12.8 | 19.9 | 18.1 | 21.7 |
| 76 TO 99..... | 12.7 | 12.9 | 8.8 | 11.3 | 46.4 | 11.1 | 28.7 | 24.8 | 17.5 | 16.4 |
| 100..... | 6.1 | 4.2 | 5.5 | 7.0 | 10.0 | 7.3 | 8.9 | 9.8 | 11.0 | 8.1 |
| NONE..... | 12.8 | 13.0 | 18.8 | 13.3 | 19.2 | 18.7 | 31.0 | 25.4 | 29.7 | 29.4 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 7.0 | 5.1 | 8.8 | 7.1 | 28.1 | 9.5 | 15.8 | 12.2 | 16.8 | 8.6 |
| 26 TO 50..... | 9.4 | 5.4 | 5.1 | 9.6 | 22.1 | 12.0 | 14.5 | 18.6 | 16.8 | 16.2 |
| 51 TO 75..... | 9.7 | 12.1 | 9.8 | 7.1 | 26.1 | 13.6 | 15.1 | 17.5 | 18.6 | 13.3 |
| 76 TO 99..... | 13.4 | 14.1 | 15.0 | 10.3 | 0 | 15.2 | 29.2 | 19.9 | 20.0 | 13.4 |
| 100..... | 12.7 | 8.5 | 6.3 | 11.2 | 15.0 | 16.0 | 14.3 | 18.2 | 15.5 | 11.5 |
| NONE..... | 9.1 | 5.5 | 6.4 | 10.4 | 11.3 | 9.9 | 10.9 | 18.8 | 16.8 | 14.1 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS | | | | | | | | | | |
| WINDOW UNITS..... | 8.2 | 7.8 | 9.1 | 10.9 | 20.5 | 7.4 | 12.6 | 14.0 | 25.3 | 17.6 |
| PACKAGE UNITS..... | 12.9 | 6.5 | 8.8 | 9.3 | 17.0 | 17.8 | 19.2 | 13.1 | 11.8 | 11.4 |
| CENTRAL SYSTEM..... | 7.2 | 7.4 | 8.0 | 8.3 | 15.8 | 9.8 | 13.2 | 12.8 | 16.6 | 10.6 |
| COMBINATION/OTHER..... | 10.3 | 12.7 | 22.5 | 9.5 | 47.5 | 19.2 | 16.9 | 17.3 | 19.2 | 12.7 |
| NO AIR CONDITIONING..... | 9.1 | 5.5 | 6.4 | 10.4 | 11.3 | 9.9 | 10.9 | 18.8 | 16.8 | 14.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.1 | 4.8 | 5.6 | 7.3 | 14.2 | 6.0 | 10.1 | 10.8 | 9.9 | 8.7 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 7.4 | 6.0 | 7.3 | 8.1 | 10.8 | 10.5 | 12.6 | 16.4 | 14.6 | 12.8 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 8.3 | 11.1 | 10.3 | 12.3 | 27.3 | 17.3 | 13.1 | 12.8 | 17.8 | 20.5 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.6 | 9.6 | 11.9 | 11.0 | 49.1 | 20.7 | 20.6 | 20.4 | 20.1 | 11.5 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | |
| NOT REPORTED..... | 13.2 | 9.3 | 16.3 | 10.3 | 32.2 | 22.0 | 22.3 | 22.7 | 24.9 | 10.0 |
| | 20.6 | 29.6 | 30.2 | 18.3 | 2 | 29.8 | 37.7 | 2 | 34.9 | 34.3 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 5.8 | 4.2 | 5.4 | 7.2 | 9.9 | 6.3 | 7.4 | 13.4 | 12.7 | 21.4 |
| 10 TO 19..... | 12.0 | 8.0 | 10.9 | 10.0 | 2 | 17.1 | 17.1 | 12.8 | 20.7 | 18.7 |
| 20 TO 49..... | 9.0 | 6.1 | 5.6 | 8.1 | 2 | 21.0 | 14.4 | 13.7 | 13.8 | 13.2 |
| 50 TO 99..... | 11.6 | 8.0 | 11.0 | 9.2 | - | 34.4 | 27.5 | 23.9 | 17.4 | 9.3 |
| 100 OR MORE..... | 11.5 | 11.3 | 18.2 | 9.5 | - | 2 | 2 | 26.7 | 19.4 | 10.0 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 17.1 | 12.7 | 15.5 | 17.8 | 23.9 | 22.6 | 39.5 | 20.4 | 27.8 | 31.6 |
| 39 OR FEWER HOURS..... | 9.2 | 9.2 | 10.8 | 14.8 | 16.0 | 9.9 | 16.7 | 35.2 | 26.9 | 27.7 |
| 40 TO 48 HOURS..... | 6.7 | 5.9 | 5.3 | 8.8 | 11.8 | 8.6 | 10.2 | 13.7 | 11.8 | 13.1 |
| 49 TO 60 HOURS..... | 8.2 | 4.3 | 3.9 | 8.6 | 19.3 | 10.4 | 11.1 | 12.3 | 11.9 | 11.3 |
| 61 TO 84 HOURS..... | 6.5 | 8.8 | 12.0 | 9.9 | 21.6 | 8.8 | 14.7 | 15.3 | 17.5 | 13.9 |
| MORE THAN 84 HOURS..... | 7.6 | 6.3 | 8.9 | 6.2 | 15.7 | 8.2 | 11.3 | 13.6 | 14.0 | 6.9 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 5.8 | 4.3 | 4.6 | 7.0 | 9.4 | 6.2 | 10.0 | 10.4 | 11.3 | 9.5 |
| NO..... | 6.1 | 4.4 | 4.8 | 6.5 | 11.2 | 6.6 | 9.0 | 7.5 | 11.2 | 8.2 |
| DON'T KNOW/NOT REPORTED..... | 9.4 | 9.3 | 11.3 | 13.7 | 19.7 | 14.1 | 23.0 | 24.9 | 36.1 | 18.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C1. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|---|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| | | | | | | | | | | |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.4 | 4.9 | 4.2 | 8.3 | 11.7 | 9.1 | 9.9 | 12.4 | 13.6 | 10.7 |
| NO..... | 5.7 | 4.8 | 5.6 | 6.2 | 11.2 | 6.5 | 7.0 | 8.6 | 9.9 | 8.6 |
| DON'T KNOW/NOT REPORTED..... | 10.6 | 11.8 | 10.6 | 12.2 | 25.3 | 12.3 | 26.6 | 19.0 | 31.0 | 21.4 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.5 | 5.6 | 4.6 | 8.5 | 14.0 | 10.3 | 9.9 | 11.2 | 17.2 | 12.1 |
| NO..... | 5.7 | 4.5 | 5.1 | 6.2 | 11.1 | 6.0 | 6.6 | 8.6 | 9.6 | 8.0 |
| DON'T KNOW/NOT REPORTED..... | 9.2 | 10.8 | 9.7 | 12.0 | 32.6 | 11.4 | 26.9 | 22.6 | 30.5 | 20.2 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 5.7 | 3.8 | 4.4 | 6.2 | 10.1 | 6.4 | 8.2 | 9.9 | 8.6 | 7.6 |
| NO..... | 7.6 | 6.7 | 7.6 | 8.9 | 19.9 | 10.4 | 11.6 | 11.7 | 16.3 | 12.6 |
| NOT REPORTED/ NOT APPLICABLE..... | 12.4 | 11.9 | 22.6 | 14.0 | 18.0 | 18.7 | 28.4 | 20.6 | 24.1 | 27.6 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 7.8 | 5.1 | 6.1 | 7.4 | 14.8 | 9.2 | 11.1 | 11.2 | 10.3 | 8.3 |
| NO..... | 13.1 | 8.8 | 8.0 | 11.7 | 41.2 | 20.7 | 26.4 | 16.5 | 15.8 | 15.6 |
| NOT REPORTED/ NOT APPLICABLE..... | 6.7 | 4.6 | 6.3 | 8.0 | 10.8 | 7.3 | 9.0 | 11.4 | 13.0 | 11.8 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 5.7 | 3.8 | 4.1 | 6.1 | 10.1 | 6.3 | 8.0 | 9.3 | 8.9 | 7.5 |
| NO..... | 8.6 | 7.3 | 9.0 | 11.0 | 20.6 | 11.6 | 13.4 | 14.6 | 14.9 | 16.9 |
| NOT REPORTED..... | 22.5 | 27.7 | 2 | 22.2 | 44.6 | 42.1 | 39.0 | 38.8 | 47.0 | 28.1 |
| NOT APPLICABLE..... | 11.9 | 15.0 | 17.9 | 14.8 | 18.8 | 19.0 | 32.3 | 31.2 | 30.5 | 34.1 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C2. Total Square Footage for Nonresidential Buildings as of January 1, 1980: Relative Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| NONRESIDENTIAL BUILDINGS..... | 5.5 | 4.2 | 4.3 | 6.2 | 9.8 | 5.7 | 7.3 | 7.8 | 8.2 | 8.0 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 5.5 | 3.6 | 3.4 | 6.2 | 9.6 | 5.9 | 6.9 | 7.8 | 8.3 | 7.9 |
| NATURAL GAS..... | 8.8 | 5.1 | 4.3 | 9.1 | 11.2 | 9.5 | 11.9 | 11.9 | 13.0 | 10.2 |
| ELECTRICITY..... | 13.3 | 6.6 | 8.3 | 12.0 | 12.2 | 17.8 | 20.5 | 18.7 | 13.3 | 11.9 |
| FUEL OIL/KEROSENE..... | 10.5 | 5.4 | 8.1 | 9.5 | 17.7 | 11.8 | 11.5 | 14.5 | 17.3 | 10.3 |
| LIQUID PETROLEUM GAS..... | 14.6 | 14.6 | 39.9 | 13.7 | 28.8 | 17.5 | 24.4 | 29.4 | 27.1 | 25.0 |
| WOOD..... | 22.9 | 19.5 | 40.7 | 19.3 | 30.8 | 25.8 | 61.8 | 0 | 0 | 26.6 |
| STEAM..... | 18.7 | 12.4 | 12.0 | 18.8 | - | 49.3 | 40.3 | 27.5 | 26.4 | 19.8 |
| COAL..... | 29.0 | 29.5 | 27.5 | 28.4 | 0 | 30.2 | 43.8 | 43.6 | 49.5 | 33.9 |
| OTHER..... | 37.0 | 36.4 | 0 | 32.1 | - | 0 | 0 | 42.1 | 0 | 33.3 |
| NO HEATING FUEL USED..... | 12.9 | 12.3 | 19.7 | 12.6 | 21.2 | 18.1 | 31.4 | 23.3 | 31.0 | 28.0 |
| AIR CONDITIONING FUEL USED.. | 7.1 | 5.1 | 3.8 | 6.6 | 12.6 | 7.5 | 9.6 | 9.3 | 10.4 | 7.7 |
| ELECTRICITY..... | 7.4 | 5.2 | 4.0 | 6.8 | 12.5 | 7.7 | 10.7 | 9.6 | 10.7 | 7.9 |
| NATURAL GAS..... | 9.1 | 13.0 | 22.7 | 11.9 | 49.2 | 16.2 | 28.5 | 16.5 | 20.0 | 17.8 |
| OTHER..... | 15.4 | 15.1 | 46.8 | 8.3 | 0 | 33.6 | 44.1 | 0 | 47.5 | 7.8 |
| NO AIR CONDITIONING FUEL.... | 9.1 | 5.5 | 6.9 | 10.3 | 11.7 | 10.2 | 10.3 | 18.5 | 16.1 | 14.2 |
| WATER-HEATING FUEL USED..... | 5.8 | 3.9 | 3.1 | 6.5 | 9.2 | 6.5 | 7.2 | 8.1 | 8.3 | 8.2 |
| NATURAL GAS..... | 7.8 | 4.9 | 5.2 | 8.1 | 16.8 | 7.6 | 12.0 | 11.9 | 11.9 | 9.2 |
| ELECTRICITY..... | 7.8 | 5.7 | 3.6 | 8.6 | 10.4 | 11.1 | 7.4 | 9.9 | 11.7 | 13.0 |
| FUEL OIL/KEROSENE..... | 12.6 | 10.7 | 21.5 | 10.0 | 44.9 | 18.6 | 20.4 | 21.0 | 24.9 | 11.1 |
| OTHER..... | 15.6 | 21.3 | 31.1 | 14.2 | 31.9 | 26.3 | 35.3 | 28.8 | 22.0 | 18.1 |
| NO WATER-HEATING FUEL..... | 6.7 | 6.1 | 9.2 | 7.5 | 12.6 | 10.0 | 12.3 | 16.6 | 14.6 | 15.5 |
| MANUFACTURING FUEL USED..... | 9.7 | 6.3 | 8.0 | 10.4 | 28.8 | 10.9 | 17.0 | 17.1 | 18.0 | 12.8 |
| ELECTRICITY..... | 10.7 | 7.0 | 9.5 | 11.1 | 30.5 | 12.3 | 18.1 | 18.9 | 19.2 | 13.9 |
| NATURAL GAS..... | 12.1 | 12.7 | 42.8 | 14.7 | 0 | 17.3 | 38.8 | 30.7 | 27.4 | 15.8 |
| OTHER..... | 20.3 | 16.1 | 48.5 | 15.4 | 0 | 41.4 | 0 | 32.1 | 31.5 | 14.8 |
| NO MANUFACTURING DONE..... | 5.5 | 4.4 | 5.0 | 6.1 | 9.0 | 6.1 | 7.4 | 8.1 | 9.4 | 8.0 |
| COOKING FUEL USED..... | 7.4 | 5.5 | 5.5 | 8.3 | 15.9 | 8.9 | 10.0 | 10.4 | 10.6 | 10.3 |
| ELECTRICITY..... | 9.5 | 7.1 | 4.9 | 9.9 | 19.8 | 11.1 | 15.6 | 12.1 | 14.2 | 12.3 |
| NATURAL GAS..... | 8.2 | 8.2 | 10.5 | 10.4 | 17.5 | 10.1 | 14.0 | 14.1 | 14.1 | 13.2 |
| LIQUID PETROLEUM GAS..... | 19.9 | 12.4 | 27.6 | 16.6 | 31.0 | 20.4 | 40.1 | 32.8 | 37.2 | 18.7 |
| OTHER..... | 28.3 | 0 | 0 | 23.9 | 0 | 45.7 | 0 | 43.2 | 0 | 26.3 |
| NO COOKING FUEL..... | 5.6 | 3.8 | 5.0 | 5.9 | 11.0 | 5.8 | 8.0 | 7.5 | 9.0 | 9.5 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 12.2 | 7.6 | 10.8 | 9.2 | 37.8 | 17.6 | 15.3 | 11.2 | 14.7 | 8.9 |
| NORTH CENTRAL..... | 11.0 | 9.4 | 5.9 | 10.6 | 20.2 | 11.0 | 11.7 | 14.8 | 16.7 | 14.3 |
| SOUTH..... | 10.1 | 6.9 | 9.7 | 12.1 | 15.5 | 10.1 | 16.7 | 16.5 | 16.3 | 14.6 |
| WEST..... | 11.0 | 8.3 | 6.5 | 10.5 | 14.8 | 14.7 | 6.6 | 18.6 | 11.8 | 14.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | | |
|--|-----------------------------|--|---|--|---------|----------|-----------|-----------|-----------|--------|--|
| | | | | TOTAL | 1,000 | 1,001 | 5,001 | 10,001 | 25,001 | OVER | |
| | | | | | OR LESS | TO 5,000 | TO 10,000 | TO 25,000 | TO 50,000 | 50,000 | |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 7.8 | 5.2 | 3.5 | 7.1 | 8.8 | 8.3 | 10.0 | 8.9 | 9.7 | 8.4 | |
| NONSMSA..... | 7.7 | 7.4 | 6.8 | 11.4 | 15.2 | 7.6 | 8.9 | 16.9 | 14.0 | 18.0 | |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 37.4 | 14.9 | 12.3 | 33.9 | 2 | 39.6 | 33.5 | 37.7 | 46.3 | 33.4 | |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 12.9 | 7.8 | 5.9 | 10.1 | 24.8 | 12.9 | 14.9 | 11.3 | 14.2 | 12.1 | |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 25.1 | 11.9 | 14.1 | 17.8 | 30.1 | 29.0 | 28.6 | 24.7 | 21.0 | 15.0 | |
| <2,000 CDD AND <4,000 HDD... | 31.2 | 17.3 | 11.9 | 27.5 | 35.8 | 30.2 | 30.8 | 28.3 | 29.0 | 28.4 | |
| >2,000 CDD AND <4,000 HDD... | 45.8 | 14.9 | 14.8 | 38.4 | 2 | 47.5 | 2 | 41.0 | 26.7 | 38.2 | |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 12.8 | 6.9 | 12.4 | 12.4 | 31.0 | 15.2 | 17.8 | 25.9 | 19.3 | 15.9 | |
| AUTOMOTIVE SALES & SERVICE... | 9.7 | 10.8 | 21.1 | 13.1 | 17.8 | 12.7 | 33.3 | 28.1 | 49.5 | 49.5 | |
| EDUCATION..... | 14.2 | 11.9 | 30.4 | 10.1 | 40.0 | 39.2 | 44.0 | 24.3 | 16.7 | 12.3 | |
| FOOD SALES..... | 7.4 | 6.4 | 5.1 | 8.6 | 15.3 | 8.9 | 17.6 | 19.3 | 24.5 | 34.5 | |
| HEALTH CARE..... | 16.5 | 16.6 | 37.1 | 11.0 | 33.5 | 44.6 | 41.3 | 39.8 | 36.2 | 11.7 | |
| INDUSTRIAL..... | 11.1 | 10.5 | 8.8 | 12.5 | 41.9 | 19.1 | 19.2 | 17.8 | 19.5 | 15.9 | |
| LODGING..... | 13.4 | 15.8 | 18.9 | 12.8 | 41.5 | 22.8 | 14.7 | 31.4 | 23.9 | 18.9 | |
| OFFICE..... | 6.1 | 6.4 | 8.0 | 7.0 | 16.4 | 9.2 | 9.3 | 13.5 | 14.4 | 10.6 | |
| RESIDENTIAL..... | 9.4 | 7.0 | 8.7 | 12.0 | 27.4 | 10.9 | 19.1 | 19.3 | 42.2 | 20.9 | |
| RETAIL/SERVICES..... | 8.8 | 6.8 | 4.8 | 11.6 | 13.9 | 13.1 | 13.6 | 11.5 | 17.4 | 18.3 | |
| WAREHOUSE AND STORAGE..... | 8.0 | 6.9 | 15.3 | 7.9 | 24.7 | 14.5 | 23.2 | 20.8 | 15.9 | 12.6 | |
| OTHER..... | 11.4 | 7.0 | 10.2 | 11.5 | 20.2 | 18.2 | 22.2 | 20.4 | 33.7 | 12.6 | |
| VACANT..... | 14.2 | 12.8 | 16.4 | 18.6 | 19.3 | 20.7 | 37.8 | 36.0 | 23.5 | 31.6 | |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 9.6 | 2.9 | 3.6 | 9.8 | 9.8 | - | - | - | - | - | |
| 1,001 TO 5,000..... | 5.9 | 1.4 | 3.0 | 5.7 | - | 5.7 | - | - | - | - | |
| 5,001 TO 10,000..... | 7.4 | 1.5 | 2.3 | 7.3 | - | - | 7.3 | - | - | - | |
| 10,001 TO 25,000..... | 8.2 | 1.3 | 2.0 | 7.8 | - | - | - | 7.8 | - | - | |
| 25,001 TO 50,000..... | 8.1 | 1.4 | 1.8 | 8.2 | - | - | - | - | 8.2 | - | |
| OVER 50,000..... | 8.9 | 3.6 | 4.7 | 8.0 | - | - | - | - | - | 8.0 | |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 6.4 | 4.5 | 5.7 | 6.0 | 10.6 | 7.6 | 8.5 | 10.8 | 11.4 | 10.0 | |
| TWO FLOORS..... | 8.7 | 6.7 | 6.8 | 9.0 | 29.6 | 10.9 | 13.9 | 13.0 | 15.2 | 12.3 | |
| THREE FLOORS..... | 12.5 | 5.9 | 9.9 | 10.2 | 75.5 | 19.5 | 19.2 | 10.9 | 16.5 | 12.2 | |
| MORE THAN THREE..... | 9.2 | 7.2 | 8.8 | 7.7 | 39.7 | 22.0 | 21.1 | 13.9 | 19.1 | 8.1 | |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAM SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.5 | 7.5 | 8.5 | 12.9 | 42.7 | 16.0 | 22.5 | 14.4 | 23.0 | 19.5 |
| 1901 TO 1920..... | 10.3 | 6.1 | 8.1 | 10.8 | 29.5 | 12.5 | 16.9 | 19.0 | 13.0 | 14.5 |
| 1921 TO 1945..... | 7.4 | 9.1 | 11.7 | 10.5 | 17.6 | 8.5 | 16.0 | 11.9 | 15.3 | 16.8 |
| 1946 TO 1960..... | 7.6 | 5.6 | 6.0 | 8.7 | 13.6 | 7.6 | 14.4 | 12.1 | 14.6 | 12.2 |
| 1961 TO 1970..... | 7.0 | 6.6 | 8.8 | 7.4 | 16.5 | 12.2 | 10.3 | 12.3 | 15.1 | 10.2 |
| 1971 TO 1973..... | 8.5 | 10.7 | 17.0 | 11.4 | 32.2 | 18.0 | 20.4 | 19.7 | 18.7 | 16.7 |
| 1974 TO 1979..... | 8.9 | 8.2 | 9.9 | 8.1 | 20.0 | 12.6 | 19.8 | 13.9 | 13.7 | 13.0 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| NO FUEL USED..... | 25.9 | 21.0 | 36.9 | 17.0 | 41.9 | 32.2 | 0 | 0 | 0 | 0 |
| ONE FUEL USED..... | 18.0 | 8.3 | 11.7 | 13.6 | 15.2 | 23.9 | 34.5 | 24.5 | 18.1 | 11.8 |
| ELECTRICITY..... | 17.7 | 8.1 | 12.1 | 13.7 | 15.2 | 23.8 | 34.2 | 24.8 | 18.1 | 11.9 |
| OTHER..... | 91.1 | 0 | 38.2 | 0 | 0 | 0 | 0 | 0 | - | 0 |
| TWO FUELS USED..... | 7.0 | 4.0 | 3.8 | 7.6 | 12.7 | 7.2 | 8.4 | 9.8 | 10.0 | 9.8 |
| ELEC., NATURAL GAS..... | 8.8 | 4.9 | 4.0 | 9.6 | 11.3 | 9.3 | 11.7 | 12.3 | 13.0 | 11.5 |
| ELEC., FUEL OIL/KEROSENE..... | 12.4 | 4.9 | 7.6 | 12.7 | 20.9 | 13.6 | 14.5 | 18.3 | 23.1 | 17.7 |
| ELEC., LPG..... | 14.6 | 17.6 | 34.6 | 21.4 | 27.8 | 14.5 | 28.1 | 31.8 | 49.7 | 44.5 |
| OTHER..... | 15.3 | 19.3 | 29.6 | 17.5 | 36.0 | 20.2 | 0 | 24.4 | 34.1 | 22.6 |
| THREE FUELS USED..... | 8.2 | 7.3 | 11.2 | 8.9 | 28.7 | 13.8 | 13.8 | 13.4 | 15.3 | 10.6 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 10.9 | 7.6 | 7.0 | 9.4 | 0 | 19.6 | 20.1 | 14.9 | 18.3 | 10.5 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 28.6 | 17.8 | 18.4 | 16.3 | 0 | 26.8 | 38.3 | 33.6 | 38.2 | 19.4 |
| ELEC., GAS, OTHER..... | 13.7 | 21.8 | 39.4 | 19.1 | 0 | 30.9 | 35.8 | 29.5 | 31.1 | 22.0 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 34.6 | 0 | 0 | 36.9 | 0 | 43.3 | 0 | 0 | 0 | 48.7 |
| OTHER..... | 27.8 | 34.3 | 0 | 25.8 | 0 | 36.3 | 0 | 0 | 40.3 | 31.0 |
| FOUR OR MORE FUELS USED..... | 24.3 | 21.9 | 30.0 | 18.7 | - | 41.8 | 38.1 | 36.1 | 65.1 | 18.8 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 5.6 | 4.1 | 3.9 | 6.2 | 9.7 | 5.9 | 7.0 | 7.8 | 8.2 | 8.0 |
| NATURAL GAS..... | 7.8 | 5.2 | 4.8 | 7.7 | 11.0 | 8.0 | 10.8 | 10.6 | 11.2 | 9.0 |
| FUEL OIL/KEROSENE..... | 10.3 | 5.7 | 8.9 | 9.2 | 18.6 | 11.4 | 11.0 | 13.8 | 15.8 | 9.9 |
| LIQUID PETROLEUM GAS..... | 13.6 | 8.9 | 19.3 | 13.2 | 25.0 | 14.8 | 21.5 | 21.3 | 22.6 | 14.8 |
| WOOD..... | 20.1 | 18.9 | 42.9 | 16.4 | 30.0 | 26.5 | 0 | 36.1 | 0 | 26.3 |
| COAL..... | 22.5 | 26.6 | 28.7 | 27.1 | 0 | 28.7 | 44.8 | 41.9 | 48.4 | 32.7 |
| STEAM..... | 17.9 | 13.4 | 14.1 | 19.0 | 0 | 49.3 | 37.1 | 25.3 | 26.3 | 20.2 |
| OTHER..... | 25.5 | 18.8 | 0 | 21.3 | - | 0 | 35.0 | 29.1 | 0 | 17.9 |
| NONE..... | 25.9 | 21.0 | 36.9 | 17.0 | 41.9 | 32.2 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|-----------------------------------|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| | | | | | | | | | | |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 7.7 | 5.6 | 4.6 | 7.8 | 15.3 | 9.4 | 10.6 | 14.6 | 10.4 | 14.4 |
| RADIANT..... | 12.6 | 27.0 | 46.3 | 21.4 | 23.9 | 17.7 | 18.4 | 31.4 | 9 | 34.6 |
| COMBINATION/OTHER..... | 9.1 | 8.6 | 9.0 | 10.7 | 13.4 | 15.7 | 19.0 | 19.6 | 23.6 | 17.9 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 7.2 | 5.1 | 6.8 | 6.1 | 15.9 | 9.9 | 9.8 | 9.4 | 13.4 | 9.8 |
| RADIANT..... | 9.7 | 6.8 | 8.9 | 11.0 | 27.8 | 8.1 | 16.0 | 15.0 | 16.0 | 14.3 |
| COMBINATION/OTHER..... | 10.2 | 8.2 | 15.2 | 8.4 | 45.4 | 19.9 | 17.2 | 20.3 | 27.7 | 10.8 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 15.4 | 14.2 | 17.7 | 17.6 | 40.0 | 21.2 | 31.5 | 37.1 | 38.2 | 21.1 |
| RADIANT..... | 17.9 | 18.7 | 29.7 | 23.0 | 29.5 | 40.5 | 9 | 37.7 | 45.5 | 38.3 |
| COMBINATION/OTHER..... | 13.7 | 10.1 | 11.1 | 14.8 | 36.5 | 29.8 | 23.8 | 27.4 | 19.6 | 16.5 |
| NONE..... | 13.0 | 12.4 | 20.3 | 12.8 | 21.2 | 18.2 | 31.4 | 23.3 | 30.8 | 28.3 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 8.9 | 7.5 | 10.2 | 9.5 | 36.8 | 16.9 | 16.0 | 16.4 | 19.6 | 15.3 |
| 26 TO 50..... | 11.1 | 9.3 | 7.9 | 10.9 | 25.8 | 14.5 | 17.3 | 17.0 | 38.3 | 22.3 |
| 51 TO 75..... | 10.6 | 10.5 | 7.4 | 10.4 | 30.8 | 11.3 | 13.5 | 19.8 | 17.6 | 17.9 |
| 76 TO 99..... | 12.8 | 11.9 | 8.3 | 11.7 | 46.4 | 11.0 | 27.3 | 24.4 | 17.0 | 16.0 |
| 100..... | 6.1 | 4.5 | 4.9 | 6.7 | 10.0 | 7.7 | 8.7 | 9.7 | 10.3 | 8.2 |
| NONE..... | 13.0 | 12.4 | 20.3 | 12.8 | 21.2 | 18.2 | 31.4 | 23.3 | 30.8 | 28.3 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 8.0 | 6.8 | 6.6 | 8.3 | 30.4 | 9.4 | 16.0 | 11.1 | 16.5 | 11.5 |
| 26 TO 50..... | 9.4 | 5.1 | 5.1 | 9.5 | 22.1 | 11.9 | 14.5 | 18.1 | 15.9 | 16.4 |
| 51 TO 75..... | 9.4 | 10.9 | 9.0 | 6.8 | 26.1 | 12.7 | 15.0 | 17.1 | 18.0 | 12.1 |
| 76 TO 99..... | 13.5 | 13.3 | 14.8 | 9.7 | 9 | 15.2 | 30.2 | 20.0 | 19.1 | 12.1 |
| 100..... | 12.5 | 8.5 | 6.0 | 11.0 | 15.6 | 15.9 | 13.9 | 18.0 | 14.2 | 11.6 |
| NONE..... | 9.1 | 5.5 | 6.9 | 10.3 | 11.7 | 10.2 | 10.3 | 18.5 | 16.1 | 14.2 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 8.0 | 7.5 | 9.1 | 10.3 | 20.4 | 7.4 | 12.8 | 13.9 | 24.4 | 15.7 |
| PACKAGE UNITS..... | 13.0 | 7.1 | 9.6 | 8.4 | 17.0 | 18.7 | 19.1 | 13.0 | 12.2 | 9.5 |
| CENTRAL SYSTEM..... | 6.9 | 7.0 | 8.1 | 8.1 | 16.0 | 9.4 | 12.2 | 11.9 | 15.2 | 10.0 |
| COMBINATION/OTHER..... | 9.7 | 11.9 | 19.7 | 8.6 | 47.5 | 19.2 | 16.4 | 15.7 | 18.2 | 11.7 |
| NO AIR CONDITIONING..... | 9.1 | 5.5 | 6.9 | 10.3 | 11.7 | 10.2 | 10.3 | 18.5 | 16.1 | 14.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|--|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.4 | 5.3 | 4.7 | 8.2 | 14.6 | 6.3 | 10.1 | 10.9 | 9.0 | 10.6 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 7.0 | 5.6 | 7.0 | 7.5 | 11.0 | 10.4 | 11.8 | 15.3 | 13.4 | 11.3 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.9 | 10.7 | 9.5 | 11.8 | 27.3 | 15.9 | 12.8 | 12.7 | 18.0 | 20.6 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.4 | 9.5 | 12.1 | 10.7 | 45.3 | 20.5 | 21.2 | 20.5 | 18.3 | 11.8 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 12.6 | 8.8 | 15.6 | 10.2 | 32.2 | 21.1 | 21.8 | 22.1 | 23.3 | 9.8 |
| NOT REPORTED..... | 20.2 | 28.9 | 39.6 | 17.9 | 9 | 29.2 | 36.8 | 9 | 34.9 | 32.5 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 5.8 | 4.6 | 5.4 | 7.3 | 10.3 | 6.5 | 8.0 | 13.2 | 12.4 | 21.5 |
| 10 TO 19..... | 11.8 | 7.4 | 9.7 | 9.7 | 50.8 | 16.7 | 17.3 | 12.3 | 19.7 | 18.3 |
| 20 TO 49..... | 8.1 | 5.3 | 5.7 | 7.7 | 9 | 20.5 | 11.0 | 12.5 | 13.1 | 13.1 |
| 50 TO 99..... | 10.8 | 7.0 | 9.9 | 9.2 | - | 34.6 | 27.1 | 22.4 | 15.1 | 9.7 |
| 100 OR MORE..... | 9.0 | 8.7 | 12.5 | 8.1 | - | 9 | 9 | 28.2 | 14.6 | 8.6 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 16.8 | 16.1 | 16.9 | 19.0 | 25.0 | 21.5 | 39.5 | 28.4 | 27.8 | 35.2 |
| 39 OR FEWER HOURS..... | 9.3 | 9.2 | 19.2 | 14.8 | 15.8 | 9.9 | 16.7 | 35.2 | 26.9 | 27.7 |
| 40 TO 48 HOURS..... | 7.1 | 5.9 | 4.3 | 9.1 | 12.5 | 9.4 | 9.8 | 14.5 | 11.2 | 13.5 |
| 49 TO 60 HOURS..... | 8.0 | 3.9 | 3.2 | 8.3 | 19.7 | 10.2 | 10.0 | 11.5 | 11.2 | 10.9 |
| 61 TO 84 HOURS..... | 6.6 | 7.9 | 11.8 | 8.9 | 22.4 | 8.8 | 14.0 | 14.7 | 15.1 | 12.8 |
| MORE THAN 84 HOURS..... | 7.5 | 6.9 | 9.4 | 7.5 | 14.3 | 8.4 | 11.1 | 12.4 | 13.6 | 9.2 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 5.7 | 4.5 | 4.5 | 7.3 | 9.6 | 6.4 | 9.5 | 10.5 | 11.2 | 9.5 |
| NO..... | 6.2 | 4.3 | 4.8 | 6.3 | 11.9 | 6.8 | 9.4 | 7.2 | 9.2 | 8.1 |
| DON'T KNOW/NOT REPORTED..... | 10.2 | 9.7 | 11.2 | 13.3 | 12.3 | 14.1 | 23.0 | 24.6 | 35.8 | 18.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C2. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | MEDIAN SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL SQUARE FOOTAGE BY BUILDING SQUARE FOOTAGE CATEGORIES (MILLION SQUARE FEET) | | | | | | |
|---|-----------------------------|--|---|--|---------------|----------------|-----------------|------------------|------------------|-------------|
| | | | | TOTAL | 1,000 OR LESS | 1,001 TO 5,000 | 5,001 TO 10,000 | 10,001 TO 25,000 | 25,001 TO 50,000 | OVER 50,000 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.7 | 4.3 | 3.9 | 8.2 | 11.6 | 9.5 | 10.4 | 12.0 | 12.5 | 9.7 |
| NO..... | 5.7 | 4.7 | 5.4 | 6.0 | 11.9 | 6.7 | 6.7 | 8.2 | 8.7 | 8.4 |
| DON'T KNOW/NOT REPORTED..... | 10.9 | 14.9 | 10.7 | 14.0 | 25.3 | 12.7 | 26.4 | 18.5 | 30.9 | 27.2 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.6 | 5.4 | 4.9 | 8.5 | 14.3 | 10.8 | 10.0 | 10.8 | 14.8 | 11.1 |
| NO..... | 5.8 | 4.4 | 4.8 | 6.0 | 11.8 | 6.2 | 6.8 | 8.3 | 8.4 | 7.9 |
| DON'T KNOW/NOT REPORTED..... | 9.1 | 13.2 | 10.3 | 13.4 | 32.6 | 11.3 | 26.8 | 22.0 | 30.3 | 24.9 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 5.9 | 3.9 | 3.9 | 6.4 | 9.9 | 6.8 | 8.3 | 9.9 | 7.0 | 8.0 |
| NO..... | 7.7 | 6.0 | 7.3 | 8.7 | 20.8 | 10.3 | 10.9 | 10.6 | 15.6 | 11.6 |
| NOT REPORTED/NOT APPLICABLE..... | 12.8 | 11.7 | 17.9 | 13.2 | 19.9 | 18.3 | 28.5 | 19.3 | 24.1 | 25.6 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 7.8 | 5.1 | 7.0 | 6.9 | 14.6 | 9.5 | 11.1 | 11.1 | 10.0 | 7.7 |
| NO..... | 12.5 | 10.3 | 5.6 | 10.7 | 41.2 | 19.7 | 27.4 | 15.8 | 14.6 | 14.6 |
| NOT REPORTED/NOT APPLICABLE..... | 6.9 | 4.8 | 6.1 | 8.4 | 11.4 | 7.6 | 8.6 | 11.3 | 12.6 | 12.3 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 5.8 | 3.9 | 3.7 | 6.2 | 9.9 | 6.6 | 8.1 | 9.3 | 8.0 | 7.8 |
| NO..... | 8.7 | 6.6 | 9.5 | 10.6 | 21.6 | 11.7 | 12.8 | 13.8 | 15.8 | 15.0 |
| NOT REPORTED..... | 22.3 | 27.7 | 9 | 14.2 | 44.6 | 41.2 | 42.0 | 38.0 | 39.8 | 19.5 |
| NOT APPLICABLE..... | 12.2 | 14.3 | 18.1 | 14.1 | 21.1 | 18.5 | 34.3 | 30.2 | 31.5 | 33.2 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C3. 1979 Natural Gas and Electricity Consumption and Expenditures for Commercial Buildings That Use Natural Gas or Electricity or Both: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED EMPLOYEE PER (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|----------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 5.5 | 6.1 | 4.0 | 6.1 | 6.1 | 4.1 | 5.0 | 6.9 | 6.3 | 5.0 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 5.3 | 6.0 | 3.6 | 6.2 | 5.8 | 4.0 | 4.9 | 6.9 | 6.4 | 4.9 |
| ELECTRICITY..... | 13.0 | 12.1 | 6.7 | 16.7 | 12.9 | 11.9 | 9.8 | 16.3 | 6.9 | 9.0 |
| NATURAL GAS..... | 8.7 | 8.6 | 4.6 | 7.4 | 8.8 | 6.4 | 5.7 | 7.6 | 8.0 | 3.7 |
| FUEL OIL/KEROSENE..... | 10.5 | 9.6 | 6.1 | 11.0 | 12.6 | 7.9 | 10.7 | 15.9 | 17.6 | 11.1 |
| LIQUID PETROLEUM GAS..... | 15.7 | 13.6 | 17.5 | 20.1 | 25.9 | 18.0 | 19.2 | 16.5 | 20.6 | 12.2 |
| WOOD..... | 24.0 | 28.1 | 31.3 | 42.2 | 0 | 23.8 | 16.5 | 35.9 | 0 | 9.1 |
| STEAM..... | 22.0 | 19.4 | 14.2 | 19.9 | 16.8 | 13.5 | 13.4 | 19.1 | 17.3 | 8.0 |
| COAL..... | 23.2 | 22.6 | 27.2 | 29.9 | 0 | 46.1 | 19.8 | 30.7 | 0 | 8.3 |
| OTHER..... | 43.2 | 33.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 16.6 | 15.6 | 14.6 | 30.0 | 29.7 | 30.9 | 25.4 | 26.7 | 20.1 | 15.5 |
| AIR CONDITIONING FUEL USED.. | 7.1 | 6.9 | 4.6 | 7.0 | 6.7 | 4.2 | 5.2 | 8.0 | 5.4 | 5.2 |
| ELECTRICITY..... | 7.4 | 7.1 | 4.8 | 6.7 | 6.8 | 4.3 | 5.6 | 8.0 | 5.6 | 5.6 |
| NATURAL GAS..... | 9.3 | 11.9 | 14.3 | 30.6 | 34.5 | 32.1 | 27.3 | 15.9 | 17.7 | 15.4 |
| OTHER..... | 17.7 | 9.4 | 16.3 | 20.3 | 33.1 | 18.0 | 19.4 | 18.5 | 32.0 | 6.1 |
| NO AIR CONDITIONING FUEL.... | 9.1 | 10.5 | 5.8 | 13.7 | 8.4 | 8.4 | 10.7 | 11.1 | 7.6 | 6.4 |
| WATER-HEATING FUEL USED..... | 5.8 | 6.4 | 3.5 | 7.0 | 6.1 | 4.3 | 4.7 | 7.4 | 6.2 | 4.8 |
| NATURAL GAS..... | 8.0 | 8.2 | 4.6 | 7.4 | 5.6 | 3.6 | 4.7 | 7.9 | 7.7 | 3.8 |
| ELECTRICITY..... | 7.9 | 8.7 | 4.9 | 13.1 | 11.0 | 10.4 | 10.1 | 10.2 | 6.7 | 9.1 |
| FUEL OIL/KEROSENE..... | 13.2 | 11.4 | 11.9 | 16.8 | 19.2 | 13.2 | 19.3 | 25.2 | 22.9 | 16.8 |
| OTHER..... | 16.5 | 16.2 | 20.0 | 17.1 | 20.9 | 13.4 | 14.9 | 18.3 | 21.2 | 8.0 |
| NO WATER-HEATING FUEL..... | 6.8 | 7.5 | 5.8 | 10.9 | 10.9 | 12.1 | 14.7 | 13.6 | 13.1 | 9.4 |
| MANUFACTURING FUEL USED..... | 11.2 | 11.0 | 7.4 | 11.8 | 15.1 | 15.7 | 15.4 | 8.1 | 10.9 | 7.9 |
| ELECTRICITY..... | 13.3 | 12.9 | 7.8 | 13.5 | 16.1 | 17.5 | 17.0 | 9.6 | 11.8 | 8.7 |
| NATURAL GAS..... | 11.1 | 14.7 | 14.7 | 20.1 | 20.5 | 16.5 | 15.3 | 17.4 | 19.7 | 10.1 |
| OTHER..... | 24.1 | 18.4 | 27.7 | 25.7 | 44.2 | 33.5 | 35.8 | 18.4 | 34.5 | 26.3 |
| NO MANUFACTURING DONE..... | 5.7 | 6.2 | 4.2 | 6.6 | 6.4 | 4.3 | 4.7 | 7.9 | 7.0 | 5.2 |
| COOKING FUEL USED..... | 7.5 | 8.6 | 5.1 | 10.8 | 10.4 | 6.8 | 6.1 | 10.6 | 9.4 | 4.6 |
| ELECTRICITY..... | 9.8 | 10.1 | 6.2 | 13.8 | 13.9 | 9.8 | 9.9 | 12.2 | 10.4 | 7.1 |
| NATURAL GAS..... | 8.3 | 10.7 | 8.1 | 10.1 | 10.3 | 5.0 | 4.2 | 11.4 | 13.2 | 4.3 |
| LIQUID PETROLEUM GAS..... | 19.8 | 15.8 | 12.4 | 38.8 | 38.1 | 34.5 | 13.5 | 35.1 | 31.8 | 10.0 |
| OTHER..... | 28.6 | 26.2 | 0 | 33.4 | 0 | 12.7 | 25.1 | 47.3 | 0 | 17.8 |
| NO COOKING FUEL..... | 5.3 | 5.1 | 3.5 | 6.6 | 6.6 | 5.2 | 9.3 | 9.7 | 9.2 | 8.6 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 12.4 | 9.3 | 8.1 | 11.8 | 12.4 | 6.9 | 7.4 | 13.3 | 14.8 | 7.9 |
| NORTH CENTRAL..... | 10.0 | 9.6 | 8.5 | 10.2 | 14.5 | 8.3 | 8.1 | 8.9 | 13.2 | 6.0 |
| SOUTH..... | 10.6 | 12.0 | 6.2 | 10.6 | 12.0 | 8.4 | 10.5 | 11.5 | 9.2 | 11.8 |
| WEST..... | 11.1 | 12.9 | 9.4 | 14.5 | 13.2 | 12.1 | 9.8 | 16.8 | 20.0 | 9.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 7.6 | 6.8 | 5.3 | 7.6 | 6.7 | 3.3 | 4.7 | 8.0 | 6.5 | 5.0 |
| NONSMSA..... | 8.1 | 10.7 | 6.4 | 14.2 | 16.0 | 14.1 | 16.0 | 11.1 | 12.5 | 15.1 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 37.7 | 35.4 | 16.9 | 39.2 | 23.0 | 12.5 | 16.3 | 38.3 | 23.3 | 10.9 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 13.2 | 10.1 | 9.2 | 14.3 | 13.2 | 8.3 | 6.5 | 11.7 | 11.9 | 5.1 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 25.7 | 18.3 | 12.4 | 25.1 | 13.7 | 12.3 | 10.3 | 20.9 | 18.6 | 11.4 |
| >2,000 CDD AND <4,000 HDD... | 30.9 | 26.5 | 18.4 | 30.3 | 19.3 | 10.2 | 14.2 | 31.1 | 18.9 | 6.5 |
| >2,000 CDD AND <4,000 HDD... | 44.4 | 37.0 | 15.9 | 29.8 | 29.1 | 12.0 | 17.7 | 37.8 | 13.8 | 16.2 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 12.5 | 12.4 | 6.6 | 11.5 | 14.8 | 11.7 | 13.6 | 10.2 | 17.5 | 6.8 |
| AUTOMOTIVE SALES & SERVICE... | 9.6 | 13.4 | 11.2 | 12.8 | 10.6 | 13.9 | 11.5 | 11.2 | 9.1 | 6.4 |
| EDUCATION..... | 14.2 | 10.1 | 11.9 | 14.7 | 16.1 | 9.7 | 8.6 | 14.0 | 15.0 | 5.9 |
| FOOD SALES..... | 7.3 | 8.6 | 6.4 | 9.2 | 8.1 | 7.3 | 7.6 | 12.2 | 11.1 | 10.5 |
| HEALTH CARE..... | 16.5 | 11.0 | 16.6 | 11.8 | 21.4 | 11.3 | 10.4 | 11.9 | 18.8 | 6.6 |
| LODGING..... | 13.4 | 12.8 | 15.8 | 16.1 | 19.2 | 14.6 | 16.9 | 18.9 | 21.1 | 7.6 |
| OFFICE..... | 6.1 | 7.0 | 6.4 | 8.0 | 7.2 | 6.0 | 9.5 | 15.0 | 13.4 | 10.1 |
| RESIDENTIAL..... | 9.4 | 12.0 | 7.0 | 16.3 | 12.8 | 13.4 | 15.1 | 13.1 | 9.7 | 6.9 |
| RETAIL/SERVICES..... | 8.8 | 11.6 | 6.8 | 13.6 | 11.0 | 10.8 | 8.1 | 17.3 | 12.6 | 6.9 |
| WAREHOUSE AND STORAGE..... | 8.2 | 8.0 | 7.1 | 20.3 | 23.7 | 21.3 | 20.2 | 11.0 | 12.8 | 13.9 |
| OTHER..... | 11.9 | 11.5 | 7.0 | 10.8 | 16.8 | 15.7 | 17.2 | 12.4 | 17.9 | 9.1 |
| VACANT..... | 15.3 | 22.8 | 15.4 | 21.1 | 20.8 | 22.2 | 45.3 | 20.5 | 22.7 | 13.3 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 9.9 | 9.1 | 3.4 | 12.8 | 9.0 | 8.8 | 9.3 | 14.8 | 9.5 | 7.8 |
| 1,001 TO 5,000..... | 6.0 | 5.6 | 1.5 | 7.5 | 6.9 | 6.5 | 10.4 | 8.7 | 7.5 | 10.1 |
| 5,001 TO 10,000..... | 7.2 | 6.9 | 1.6 | 8.1 | 8.5 | 8.0 | 11.2 | 8.9 | 7.2 | 7.9 |
| 10,001 TO 25,000..... | 8.5 | 7.9 | 1.4 | 17.9 | 16.6 | 16.6 | 16.8 | 11.8 | 10.7 | 11.1 |
| 25,001 TO 50,000..... | 8.8 | 9.1 | 1.3 | 13.0 | 10.2 | 9.9 | 7.9 | 20.3 | 19.4 | 13.2 |
| OVER 50,000..... | 8.4 | 7.7 | 4.1 | 7.2 | 6.1 | 4.8 | 5.8 | 7.7 | 8.2 | 4.4 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 6.7 | 6.5 | 4.7 | 7.4 | 5.6 | 5.7 | 7.1 | 9.2 | 5.6 | 6.5 |
| TWO FLOORS..... | 8.5 | 9.0 | 7.0 | 7.4 | 7.9 | 5.4 | 6.8 | 7.6 | 10.1 | 5.7 |
| THREE FLOORS..... | 12.4 | 8.7 | 6.9 | 8.9 | 12.8 | 7.9 | 9.8 | 9.5 | 14.3 | 5.1 |
| MORE THAN THREE..... | 9.0 | 7.7 | 7.6 | 12.9 | 14.0 | 9.8 | 9.2 | 11.7 | 10.6 | 10.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.6 | 11.4 | 8.0 | 22.3 | 19.1 | 17.3 | 17.9 | 44.0 | 95.4 | 31.8 |
| 1901 TO 1920..... | 10.1 | 10.7 | 6.5 | 17.0 | 11.5 | 10.5 | 12.9 | 16.4 | 13.4 | 10.1 |
| 1921 TO 1945..... | 7.6 | 10.9 | 9.9 | 17.5 | 23.4 | 17.4 | 18.4 | 11.1 | 14.6 | 11.4 |
| 1946 TO 1960..... | 8.3 | 8.9 | 5.7 | 9.7 | 7.0 | 5.3 | 7.1 | 11.1 | 8.6 | 7.4 |
| 1961 TO 1970..... | 7.1 | 8.0 | 6.4 | 10.3 | 8.9 | 6.8 | 6.7 | 9.3 | 7.6 | 4.0 |
| 1971 TO 1973..... | 7.7 | 12.2 | 11.4 | 16.7 | 14.8 | 10.0 | 12.9 | 12.8 | 9.7 | 7.6 |
| 1974 TO 1979..... | 9.1 | 8.2 | 8.2 | 12.0 | 10.1 | 8.4 | 8.7 | 14.3 | 9.1 | 8.1 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | 18.0 | 13.5 | 8.3 | 21.5 | 11.2 | 10.8 | 11.7 | 26.3 | 10.2 | 7.2 |
| ELECTRICITY..... | 17.8 | 13.5 | 8.1 | 21.2 | 10.9 | 10.4 | 11.4 | 26.3 | 10.1 | 7.0 |
| NATURAL GAS..... | 117.7 | 67.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 6.9 | 7.4 | 3.9 | 7.9 | 7.7 | 5.4 | 5.5 | 7.5 | 7.5 | 3.8 |
| ELEC., NATURAL GAS..... | 8.7 | 9.4 | 4.7 | 8.2 | 9.0 | 7.1 | 6.3 | 8.0 | 7.6 | 3.8 |
| ELEC., FUEL OIL/KEROSENE..... | 12.4 | 13.3 | 5.2 | 16.1 | 13.4 | 13.0 | 10.1 | 14.0 | 13.1 | 7.5 |
| ELEC., LPG..... | 14.7 | 20.8 | 19.1 | 30.3 | 34.8 | 25.2 | 28.1 | 28.5 | 30.9 | 19.5 |
| OTHER..... | 17.2 | 18.2 | 21.5 | 32.5 | 35.4 | 31.5 | 31.0 | 30.0 | 33.5 | 11.5 |
| THREE FUELS USED..... | 8.3 | 9.6 | 8.8 | 10.6 | 11.3 | 6.3 | 9.3 | 12.5 | 13.2 | 8.2 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 11.1 | 9.7 | 8.6 | 12.2 | 10.7 | 6.7 | 11.3 | 18.3 | 16.7 | 13.1 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 29.8 | 16.8 | 20.3 | 25.9 | 29.1 | 21.7 | 17.2 | 24.7 | 26.9 | 5.0 |
| ELEC., GAS, OTHER..... | 15.4 | 21.9 | 24.3 | 15.4 | 15.4 | 12.8 | 10.1 | 19.2 | 21.1 | 9.9 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 37.5 | 37.5 | 46.4 | 0 | 0 | 45.1 | 22.1 | 47.5 | 0 | 10.2 |
| OTHER..... | 26.7 | 26.5 | 40.2 | 36.0 | 0 | 20.9 | 47.3 | 36.9 | 0 | 7.7 |
| FOUR OR MORE FUELS USED..... | 24.2 | 18.7 | 25.1 | 25.0 | 44.3 | 24.7 | 18.9 | 19.1 | 38.9 | 14.0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 5.5 | 6.1 | 3.9 | 6.0 | 6.1 | 4.1 | 5.0 | 6.9 | 6.3 | 5.0 |
| NATURAL GAS..... | 7.7 | 7.5 | 5.0 | 6.9 | 7.8 | 4.5 | 5.2 | 7.0 | 8.0 | 4.5 |
| FUEL OIL/KEROSENE..... | 10.4 | 8.8 | 5.7 | 9.6 | 11.8 | 7.7 | 8.7 | 12.9 | 15.1 | 9.2 |
| LIQUID PETROLEUM GAS..... | 13.9 | 15.0 | 11.5 | 18.9 | 23.8 | 20.2 | 20.7 | 14.3 | 18.4 | 16.0 |
| WOOD..... | 20.5 | 21.8 | 27.5 | 33.1 | 0 | 23.2 | 21.0 | 28.3 | 0 | 6.3 |
| COAL..... | 22.3 | 22.7 | 23.6 | 29.7 | 38.4 | 38.5 | 19.1 | 29.6 | 46.1 | 12.9 |
| STEAM..... | 20.8 | 19.4 | 15.3 | 19.7 | 16.9 | 12.9 | 12.7 | 19.2 | 17.9 | 7.9 |
| OTHER..... | 25.2 | 21.6 | 19.7 | 23.7 | 39.9 | 26.6 | 36.2 | 17.7 | 29.7 | 14.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 7.4 | 5.4 | 9.3 | 8.4 | 6.7 | 9.7 | 9.9 | 6.1 | 9.2 |
| RADIANT..... | 13.5 | 15.8 | 18.9 | 21.2 | 22.3 | 17.6 | 20.0 | 19.3 | 22.6 | 7.3 |
| COMBINATION/OTHER..... | 8.7 | 11.2 | 9.6 | 22.5 | 18.5 | 20.5 | 14.5 | 19.5 | 16.7 | 12.4 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 6.0 | 5.4 | 8.0 | 7.9 | 5.9 | 6.3 | 7.8 | 8.7 | 5.1 |
| RADIANT..... | 9.8 | 10.4 | 6.5 | 12.7 | 8.5 | 7.3 | 10.7 | 12.3 | 10.9 | 7.9 |
| COMBINATION/OTHER..... | 10.1 | 8.1 | 8.0 | 10.3 | 9.5 | 5.8 | 6.8 | 9.8 | 13.0 | 6.6 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 14.3 | 21.7 | 16.3 | 46.6 | 0 | 44.7 | 49.3 | 33.1 | 31.6 | 28.8 |
| RADIANT..... | 19.1 | 24.7 | 19.5 | 0 | 0 | 0 | 0 | 0 | 0 | 39.3 |
| COMBINATION/OTHER..... | 13.4 | 13.4 | 10.2 | 10.2 | 11.6 | 9.6 | 12.2 | 9.7 | 12.2 | 5.1 |
| NONE..... | 16.9 | 15.7 | 14.8 | 30.5 | 30.0 | 31.3 | 25.5 | 27.2 | 20.2 | 15.7 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 8.6 | 9.4 | 7.1 | 20.5 | 22.3 | 22.5 | 26.7 | 11.7 | 9.4 | 22.1 |
| 26 TO 50..... | 11.1 | 10.9 | 9.2 | 40.9 | 48.9 | 47.1 | 47.8 | 16.6 | 22.7 | 27.1 |
| 51 TO 75..... | 10.9 | 10.5 | 11.5 | 15.4 | 17.1 | 10.7 | 11.6 | 14.8 | 21.9 | 9.7 |
| 76 TO 99..... | 12.9 | 11.3 | 13.0 | 15.4 | 17.7 | 9.2 | 11.5 | 15.9 | 18.0 | 9.9 |
| 100..... | 6.1 | 7.0 | 4.2 | 6.9 | 4.9 | 3.8 | 3.9 | 9.0 | 7.6 | 5.4 |
| NONE..... | 16.9 | 15.7 | 14.8 | 30.5 | 30.0 | 31.3 | 25.5 | 27.2 | 20.2 | 15.7 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 7.0 | 7.1 | 5.1 | 14.1 | 15.8 | 13.7 | 16.7 | 9.2 | 9.0 | 8.8 |
| 26 TO 50..... | 9.4 | 9.6 | 5.4 | 13.3 | 12.3 | 11.3 | 9.9 | 11.9 | 11.8 | 6.4 |
| 51 TO 75..... | 9.7 | 7.1 | 12.1 | 11.2 | 13.0 | 9.7 | 10.2 | 24.2 | 25.3 | 16.1 |
| 76 TO 99..... | 13.4 | 10.3 | 14.1 | 13.0 | 16.1 | 7.3 | 7.6 | 12.2 | 14.4 | 6.8 |
| 100..... | 12.7 | 11.2 | 8.5 | 11.7 | 7.6 | 5.4 | 5.4 | 13.7 | 5.5 | 5.1 |
| NONE..... | 9.1 | 10.5 | 5.8 | 13.7 | 8.5 | 8.4 | 10.7 | 11.1 | 7.6 | 6.4 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 8.2 | 10.9 | 7.8 | 9.3 | 8.9 | 8.2 | 9.8 | 10.6 | 8.5 | 7.2 |
| PACKAGE UNITS..... | 12.9 | 9.3 | 6.5 | 10.3 | 8.2 | 6.6 | 7.9 | 11.5 | 5.3 | 7.1 |
| CENTRAL SYSTEM..... | 7.2 | 8.3 | 7.4 | 7.2 | 6.3 | 4.5 | 6.7 | 8.2 | 6.2 | 6.3 |
| COMBINATION/OTHER..... | 10.3 | 9.5 | 12.7 | 16.2 | 23.4 | 14.1 | 14.9 | 14.7 | 18.3 | 13.5 |
| NO AIR CONDITIONING..... | 9.1 | 10.5 | 5.8 | 13.7 | 8.5 | 8.4 | 10.7 | 11.1 | 7.6 | 6.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.1 | 7.3 | 4.9 | 7.7 | 7.2 | 6.0 | 6.4 | 6.0 | 7.5 | 5.4 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 7.8 | 8.3 | 5.9 | 10.6 | 10.1 | 7.3 | 9.9 | 11.8 | 9.8 | 7.0 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 8.3 | 12.3 | 11.2 | 11.8 | 10.3 | 9.5 | 11.0 | 20.2 | 18.5 | 12.6 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.5 | 10.9 | 9.6 | 14.0 | 11.9 | 8.9 | 9.5 | 14.8 | 11.3 | 7.4 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 12.9 | 10.3 | 9.2 | 13.1 | 14.8 | 9.4 | 10.3 | 15.3 | 13.8 | 6.1 |
| NOT REPORTED..... | 17.2 | 20.6 | 24.3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 5.9 | 7.3 | 4.2 | 8.7 | 5.9 | 6.5 | 5.3 | 6.8 | 5.7 | 7.7 |
| 10 TO 19..... | 12.0 | 10.0 | 8.0 | 10.1 | 11.0 | 6.7 | 10.9 | 11.8 | 7.9 | 8.5 |
| 20 TO 49..... | 9.1 | 8.1 | 6.2 | 14.3 | 11.4 | 13.0 | 11.6 | 10.7 | 6.9 | 8.3 |
| 50 TO 99..... | 11.6 | 9.2 | 8.0 | 13.2 | 11.2 | 11.7 | 10.8 | 12.2 | 7.9 | 5.7 |
| 100 OR MORE..... | 11.5 | 9.5 | 11.3 | 10.9 | 11.1 | 7.5 | 7.9 | 12.8 | 10.8 | 7.4 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 10.3 | 21.1 | 14.8 | 25.8 | 30.7 | 31.1 | 44.6 | 25.5 | 33.9 | 13.0 |
| 39 OR FEWER HOURS..... | 9.5 | 14.8 | 9.1 | 15.9 | 12.0 | 15.4 | 12.5 | 16.5 | 15.5 | 9.9 |
| 40 TO 48 HOURS..... | 6.7 | 8.8 | 5.5 | 10.3 | 9.2 | 8.6 | 11.7 | 17.7 | 16.9 | 12.0 |
| 49 TO 60 HOURS..... | 8.2 | 8.6 | 4.3 | 9.2 | 8.1 | 8.5 | 9.0 | 8.6 | 5.9 | 6.0 |
| 61 TO 84 HOURS..... | 6.6 | 9.9 | 8.8 | 11.3 | 10.0 | 5.9 | 7.2 | 11.0 | 9.6 | 5.8 |
| MORE THAN 84 HOURS..... | 7.4 | 6.1 | 6.3 | 8.4 | 12.4 | 8.5 | 9.3 | 7.5 | 8.1 | 7.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C3. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION DOLLARS) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 5.7 | 7.0 | 4.3 | 7.9 | 6.3 | 5.4 | 5.1 | 10.0 | 9.7 | 6.3 |
| NO..... | 6.3 | 6.6 | 4.3 | 6.2 | 8.0 | 5.9 | 6.7 | 6.2 | 6.1 | 5.9 |
| DON'T KNOW/NOT REPORTED..... | 9.9 | 13.9 | 9.3 | 22.1 | 20.4 | 15.3 | 13.8 | 24.2 | 21.9 | 12.5 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.5 | 8.3 | 4.9 | 10.6 | 11.9 | 9.8 | 9.8 | 9.3 | 9.4 | 7.0 |
| NO..... | 5.9 | 6.2 | 4.7 | 6.7 | 5.5 | 4.0 | 5.5 | 8.0 | 7.2 | 5.8 |
| DON'T KNOW/NOT REPORTED..... | 10.7 | 12.1 | 12.4 | 10.5 | 11.3 | 7.5 | 12.6 | 9.4 | 8.4 | 7.6 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.4 | 8.5 | 5.7 | 9.8 | 9.3 | 7.8 | 7.2 | 10.9 | 10.0 | 4.5 |
| NO..... | 5.8 | 6.2 | 4.3 | 6.5 | 7.2 | 4.9 | 5.5 | 7.4 | 7.2 | 5.8 |
| DON'T KNOW/NOT REPORTED..... | 9.4 | 12.0 | 11.2 | 9.6 | 10.4 | 7.0 | 13.5 | 11.0 | 12.4 | 9.4 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 5.7 | 6.2 | 3.8 | 6.7 | 6.6 | 4.5 | 5.4 | 7.6 | 7.2 | 5.4 |
| NO..... | 7.6 | 8.9 | 6.8 | 9.8 | 8.0 | 6.2 | 6.0 | 9.4 | 10.2 | 5.0 |
| NOT REPORTED..... | 23.6 | 23.8 | 22.9 | 29.4 | 23.8 | 23.8 | 23.5 | 31.4 | 28.5 | 12.7 |
| NOT APPLICABLE..... | 16.9 | 15.7 | 14.8 | 30.5 | 30.0 | 31.3 | 25.5 | 27.2 | 20.2 | 15.7 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 7.8 | 7.4 | 5.1 | 7.1 | 7.0 | 4.7 | 6.1 | 7.6 | 5.3 | 5.0 |
| NO..... | 13.1 | 11.7 | 8.8 | 15.3 | 10.3 | 7.0 | 8.5 | 23.2 | 20.3 | 16.9 |
| NOT REPORTED..... | 24.2 | 20.9 | 22.5 | 30.4 | 32.5 | 27.6 | 28.4 | 30.6 | 31.9 | 13.0 |
| NOT APPLICABLE..... | 6.9 | 8.2 | 4.8 | 9.5 | 6.0 | 6.6 | 6.7 | 6.8 | 5.5 | 6.1 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 5.7 | 6.1 | 3.8 | 6.2 | 6.0 | 4.2 | 5.4 | 7.2 | 6.7 | 5.3 |
| NO..... | 8.5 | 11.0 | 7.4 | 13.2 | 9.7 | 7.3 | 7.3 | 12.3 | 11.8 | 5.3 |
| NOT REPORTED..... | 22.5 | 22.2 | 27.7 | 26.6 | 24.4 | 24.3 | 23.8 | 29.0 | 27.0 | 13.3 |
| NOT APPLICABLE..... | 15.5 | 17.6 | 17.0 | 28.5 | 28.8 | 31.3 | 22.9 | 23.7 | 20.3 | 15.7 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C4. 1979 Total Consumption and Expenditures for Commercial Buildings That Use Only Natural Gas or Electricity or Both: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|-----------------------------------|
| COMMERCIAL BUILDINGS..... | 6.9 | 7.1 | 5.0 | 7.2 | 7.2 | 5.7 | 6.4 | 7.6 | 5.5 | 5.1 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 6.7 | 7.2 | 4.5 | 7.3 | 6.8 | 5.6 | 6.4 | 7.6 | 5.5 | 5.0 |
| NATURAL GAS..... | 9.1 | 9.8 | 4.6 | 8.4 | 9.4 | 8.0 | 6.5 | 8.3 | 7.4 | 4.0 |
| ELECTRICITY..... | 13.5 | 10.4 | 6.3 | 19.6 | 15.6 | 14.4 | 13.6 | 18.3 | 6.7 | 12.1 |
| NO HEATING FUEL USED..... | 16.0 | 16.2 | 15.3 | 30.4 | 31.1 | 31.8 | 26.0 | 26.2 | 21.5 | 15.2 |
| AIR CONDITIONING FUEL USED... | 7.8 | 8.2 | 6.0 | 8.3 | 8.3 | 6.5 | 7.1 | 8.8 | 5.2 | 5.6 |
| ELECTRICITY..... | 8.1 | 8.3 | 6.1 | 8.0 | 8.1 | 6.3 | 7.4 | 9.0 | 5.1 | 6.0 |
| NATURAL GAS..... | 10.6 | 14.6 | 15.5 | 41.2 | 44.8 | 39.6 | 32.7 | 21.3 | 22.5 | 19.6 |
| NO AIR CONDITIONING FUEL.... | 9.6 | 10.8 | 8.2 | 13.8 | 7.9 | 9.3 | 12.1 | 12.7 | 7.5 | 6.3 |
| WATER-HEATING FUEL USED..... | 6.8 | 7.6 | 4.4 | 8.1 | 6.9 | 6.0 | 5.9 | 7.7 | 5.2 | 4.6 |
| NATURAL GAS..... | 8.7 | 9.6 | 4.5 | 8.9 | 5.6 | 4.9 | 3.6 | 8.8 | 7.3 | 3.7 |
| ELECTRICITY..... | 9.5 | 8.4 | 5.9 | 16.6 | 15.2 | 14.9 | 13.1 | 12.4 | 6.8 | 12.3 |
| NO WATER-HEATING FUEL..... | 9.3 | 8.3 | 7.5 | 11.9 | 12.8 | 12.1 | 19.0 | 16.8 | 14.3 | 12.8 |
| MANUFACTURING FUEL USED..... | 10.8 | 12.0 | 11.0 | 14.6 | 15.1 | 15.2 | 13.9 | 13.1 | 12.9 | 7.2 |
| ELECTRICITY..... | 11.8 | 13.1 | 11.5 | 16.6 | 16.6 | 17.4 | 16.0 | 15.1 | 13.8 | 8.3 |
| NATURAL GAS..... | 11.3 | 14.6 | 17.6 | 23.5 | 23.4 | 22.3 | 16.4 | 24.2 | 26.6 | 11.0 |
| NO MANUFACTURING DONE..... | 7.2 | 7.8 | 5.2 | 7.5 | 7.4 | 6.3 | 6.5 | 8.3 | 6.2 | 5.2 |
| COOKING FUEL USED..... | 8.7 | 10.5 | 6.0 | 13.2 | 12.3 | 10.6 | 8.5 | 11.5 | 9.9 | 5.6 |
| ELECTRICITY..... | 10.2 | 10.8 | 7.7 | 18.0 | 18.3 | 16.4 | 13.9 | 14.4 | 12.6 | 9.6 |
| NATURAL GAS..... | 10.1 | 13.3 | 7.5 | 12.2 | 10.3 | 7.6 | 5.8 | 12.7 | 13.0 | 3.6 |
| NO COOKING FUEL..... | 7.2 | 6.6 | 5.4 | 8.0 | 8.2 | 5.1 | 10.3 | 8.4 | 6.0 | 7.5 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 21.1 | 14.0 | 8.2 | 19.0 | 7.6 | 5.4 | 8.6 | 16.8 | 9.1 | 3.5 |
| NORTH CENTRAL..... | 12.1 | 13.0 | 9.2 | 12.2 | 15.5 | 14.3 | 11.0 | 11.9 | 11.0 | 8.0 |
| SOUTH..... | 11.2 | 13.7 | 9.0 | 10.7 | 11.6 | 8.4 | 12.4 | 12.9 | 8.6 | 11.6 |
| WEST..... | 12.8 | 13.2 | 9.5 | 14.3 | 12.1 | 10.4 | 11.1 | 18.4 | 18.3 | 10.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|------------------------------------|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 9.2 | 8.8 | 5.6 | 9.6 | 6.1 | 3.9 | 5.4 | 9.0 | 5.4 | 4.8 |
| NONSMSA..... | 7.7 | 11.0 | 8.9 | 18.9 | 21.5 | 19.5 | 20.6 | 11.9 | 11.8 | 18.8 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 40.3 | 46.5 | 15.1 | 44.4 | 12.3 | 13.6 | 14.3 | 44.4 | 11.3 | 10.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 11.3 | 10.8 | 7.1 | 15.2 | 10.6 | 12.2 | 9.8 | 11.2 | 6.9 | 6.6 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 31.5 | 28.0 | 14.1 | 32.7 | 17.2 | 13.2 | 9.5 | 31.8 | 17.2 | 9.3 |
| <2,000 CDD AND <4,000 HDD... | 29.2 | 26.6 | 12.3 | 28.0 | 15.7 | 10.9 | 12.3 | 28.8 | 15.2 | 8.3 |
| >2,000 CDD AND <4,000 HDD... | 43.6 | 35.3 | 20.6 | 32.6 | 27.4 | 9.8 | 16.1 | 36.7 | 16.4 | 13.4 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 12.5 | 15.8 | 10.3 | 13.7 | 15.4 | 13.7 | 12.9 | 14.2 | 18.0 | 7.8 |
| AUTOMOTIVE SALES & SERVICE... | 9.9 | 12.9 | 13.3 | 15.0 | 12.3 | 15.0 | 13.0 | 14.7 | 11.6 | 7.0 |
| EDUCATION..... | 15.9 | 15.0 | 12.0 | 18.6 | 11.9 | 9.9 | 9.5 | 20.9 | 13.2 | 6.2 |
| FOOD SALES..... | 8.5 | 9.9 | 9.3 | 9.4 | 7.8 | 6.9 | 5.1 | 14.0 | 13.3 | 10.7 |
| HEALTH CARE..... | 21.8 | 32.6 | 37.9 | 42.4 | 46.0 | 27.9 | 24.0 | 39.2 | 40.5 | 12.7 |
| LODGING..... | 14.1 | 15.6 | 23.8 | 20.0 | 25.6 | 20.5 | 14.1 | 23.5 | 28.7 | 7.3 |
| OFFICE..... | 7.9 | 7.8 | 5.3 | 8.2 | 8.6 | 5.4 | 10.4 | 11.5 | 8.4 | 7.8 |
| RESIDENTIAL..... | 11.1 | 13.7 | 8.6 | 19.6 | 13.0 | 13.3 | 15.6 | 19.3 | 12.7 | 6.6 |
| RETAIL/SERVICES..... | 11.5 | 10.7 | 7.0 | 13.4 | 12.5 | 12.3 | 9.8 | 16.1 | 10.7 | 7.4 |
| WAREHOUSE AND STORAGE..... | 11.2 | 7.7 | 8.7 | 28.9 | 38.9 | 34.2 | 30.5 | 13.8 | 19.3 | 20.7 |
| OTHER..... | 13.8 | 16.0 | 12.0 | 18.9 | 17.2 | 20.7 | 15.8 | 19.0 | 17.1 | 13.4 |
| VACANT..... | 18.8 | 22.9 | 13.6 | 26.5 | 20.8 | 25.6 | 2 | 26.2 | 26.1 | 15.7 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 9.4 | 8.4 | 3.8 | 13.4 | 9.4 | 9.3 | 11.3 | 16.6 | 10.5 | 9.3 |
| 1,001 TO 5,000..... | 8.4 | 7.9 | 1.7 | 7.1 | 7.0 | 7.1 | 11.4 | 9.9 | 7.3 | 10.3 |
| 5,001 TO 10,000..... | 9.8 | 9.7 | 1.4 | 10.3 | 10.4 | 10.0 | 12.7 | 9.3 | 7.4 | 8.6 |
| 10,001 TO 25,000..... | 10.2 | 9.4 | 1.9 | 20.8 | 21.7 | 21.2 | 20.3 | 13.4 | 14.1 | 13.2 |
| 25,001 TO 50,000..... | 10.8 | 11.0 | 2.1 | 14.4 | 12.6 | 12.0 | 8.0 | 15.5 | 4.7 | 3.8 |
| OVER 50,000..... | 10.8 | 9.2 | 3.4 | 11.1 | 8.5 | 7.5 | 7.5 | 10.7 | 8.3 | 4.7 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 8.9 | 7.9 | 6.8 | 8.3 | 6.8 | 5.6 | 7.2 | 10.5 | 6.7 | 7.1 |
| TWO FLOORS..... | 9.7 | 10.8 | 9.4 | 9.6 | 8.9 | 7.6 | 10.0 | 9.3 | 9.9 | 5.9 |
| THREE FLOORS..... | 13.4 | 10.4 | 9.4 | 13.4 | 10.8 | 8.4 | 12.9 | 13.5 | 15.9 | 6.7 |
| MORE THAN THREE..... | 11.6 | 9.6 | 7.9 | 24.7 | 24.1 | 25.8 | 20.8 | 15.5 | 14.1 | 13.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.8 | 14.6 | 8.1 | 23.0 | 11.1 | 12.5 | 12.8 | 19.0 | 9.8 | 9.4 |
| 1901 TO 1920..... | 13.1 | 14.9 | 8.8 | 18.0 | 13.0 | 10.0 | 12.5 | 17.2 | 12.9 | 9.1 |
| 1921 TO 1945..... | 10.5 | 11.1 | 10.2 | 21.7 | 27.8 | 28.1 | 27.7 | 14.4 | 16.2 | 15.3 |
| 1946 TO 1960..... | 10.1 | 12.4 | 7.3 | 11.4 | 10.0 | 7.8 | 10.1 | 9.1 | 9.3 | 9.2 |
| 1961 TO 1970..... | 8.9 | 11.2 | 8.4 | 13.8 | 11.5 | 6.8 | 8.2 | 12.9 | 10.3 | 4.6 |
| 1971 TO 1973..... | 11.3 | 14.1 | 11.3 | 25.5 | 21.6 | 12.3 | 16.4 | 17.9 | 13.2 | 9.5 |
| 1974 TO 1979..... | 11.6 | 9.7 | 10.2 | 14.4 | 11.5 | 8.4 | 10.7 | 17.6 | 9.9 | 9.7 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | 18.0 | 13.5 | 8.3 | 21.5 | 11.2 | 10.8 | 11.7 | 26.3 | 10.2 | 7.2 |
| ELECTRICITY..... | 17.8 | 13.5 | 8.1 | 21.2 | 10.9 | 10.4 | 11.4 | 26.3 | 10.1 | 7.0 |
| NATURAL GAS..... | 117.7 | 67.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 8.7 | 9.4 | 4.7 | 8.2 | 9.0 | 7.1 | 6.3 | 8.0 | 7.6 | 3.8 |
| ELEC., NATURAL GAS..... | 8.7 | 9.4 | 4.7 | 8.2 | 9.0 | 7.1 | 6.3 | 8.0 | 7.6 | 3.8 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 6.8 | 7.1 | 4.9 | 7.2 | 7.3 | 5.7 | 6.4 | 7.6 | 5.5 | 5.1 |
| NATURAL GAS..... | 8.7 | 9.4 | 4.8 | 8.2 | 9.0 | 7.1 | 6.2 | 8.0 | 7.6 | 3.8 |
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 10.1 | 7.9 | 6.2 | 9.0 | 6.8 | 5.4 | 8.6 | 11.7 | 4.9 | 7.8 |
| RADIANT..... | 16.5 | 17.9 | 21.9 | 23.7 | 25.5 | 18.6 | 20.2 | 22.2 | 26.3 | 5.7 |
| COMBINATION/OTHER..... | 10.7 | 13.2 | 11.3 | 25.4 | 19.8 | 22.2 | 14.4 | 21.1 | 16.5 | 12.7 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 7.8 | 7.7 | 7.1 | 8.6 | 9.4 | 5.9 | 7.1 | 9.1 | 11.2 | 5.6 |
| RADIANT..... | 12.0 | 14.5 | 9.7 | 16.3 | 11.8 | 7.5 | 10.4 | 16.2 | 14.7 | 7.6 |
| COMBINATION/OTHER..... | 17.0 | 17.7 | 16.5 | 17.8 | 12.8 | 11.4 | 8.5 | 16.2 | 14.7 | 4.6 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 17.2 | 22.2 | 15.2 | 0 | 0 | 0 | 0 | 33.9 | 37.5 | 36.0 |
| RADIANT..... | 33.1 | 31.4 | 37.1 | 33.0 | 0 | 25.6 | 0 | 35.9 | 0 | 14.0 |
| COMBINATION/OTHER..... | 15.9 | 14.7 | 13.2 | 13.8 | 12.2 | 7.4 | 15.3 | 12.8 | 14.9 | 8.6 |
| NONE..... | 16.3 | 16.2 | 15.4 | 30.9 | 31.4 | 32.1 | 26.1 | 26.6 | 21.6 | 15.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 10.6 | 13.4 | 8.9 | 27.3 | 24.2 | 22.7 | 31.8 | 20.8 | 14.4 | 18.8 |
| 26 TO 50..... | 10.1 | 13.8 | 9.4 | 47.3 | 0 | 0 | 0 | 20.1 | 23.8 | 31.5 |
| 51 TO 75..... | 11.9 | 13.4 | 12.9 | 16.2 | 17.6 | 9.3 | 11.1 | 19.2 | 24.5 | 10.2 |
| 76 TO 99..... | 11.0 | 12.3 | 9.9 | 17.8 | 15.0 | 11.4 | 12.7 | 16.0 | 11.9 | 9.4 |
| 100..... | 8.6 | 9.9 | 6.2 | 8.9 | 6.2 | 4.8 | 6.1 | 9.9 | 6.3 | 4.8 |
| NONE..... | 16.3 | 16.2 | 15.4 | 30.9 | 31.4 | 32.1 | 26.1 | 26.6 | 21.6 | 15.4 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 9.2 | 8.4 | 6.2 | 17.7 | 21.4 | 19.5 | 20.2 | 11.7 | 12.4 | 11.5 |
| 26 TO 50..... | 9.3 | 13.3 | 8.4 | 15.2 | 13.5 | 13.8 | 11.6 | 11.4 | 8.9 | 7.3 |
| 51 TO 75..... | 10.9 | 10.7 | 12.0 | 12.2 | 16.0 | 7.0 | 7.0 | 15.3 | 18.2 | 8.8 |
| 76 TO 99..... | 13.0 | 12.4 | 11.1 | 15.9 | 14.2 | 9.3 | 10.3 | 13.8 | 11.3 | 6.0 |
| 100..... | 14.5 | 12.7 | 10.1 | 13.0 | 10.1 | 5.4 | 7.3 | 15.1 | 6.9 | 6.3 |
| NONE..... | 9.6 | 10.8 | 8.2 | 13.8 | 7.9 | 9.3 | 12.1 | 12.7 | 7.5 | 6.3 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 7.7 | 12.6 | 12.1 | 10.4 | 11.9 | 11.7 | 10.5 | 12.8 | 11.1 | 8.5 |
| PACKAGE UNITS..... | 14.4 | 9.7 | 7.8 | 12.2 | 7.8 | 6.4 | 8.5 | 13.3 | 5.1 | 6.3 |
| CENTRAL SYSTEM..... | 7.7 | 10.2 | 8.4 | 9.4 | 9.2 | 6.6 | 8.7 | 9.1 | 7.2 | 7.6 |
| COMBINATION/OTHER..... | 13.4 | 11.9 | 15.3 | 25.2 | 37.6 | 25.7 | 29.4 | 13.8 | 23.4 | 15.3 |
| NO AIR CONDITIONING..... | 9.6 | 10.8 | 8.2 | 13.8 | 7.9 | 9.3 | 12.1 | 12.7 | 7.5 | 6.3 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.7 | 8.8 | 6.9 | 8.8 | 8.6 | 6.6 | 7.2 | 7.6 | 8.6 | 4.9 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 9.2 | 9.7 | 7.1 | 11.8 | 11.4 | 8.4 | 10.7 | 12.8 | 10.4 | 7.5 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.0 | 10.4 | 9.1 | 9.1 | 7.7 | 5.4 | 8.2 | 13.9 | 10.4 | 8.0 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 15.6 | 11.9 | 10.1 | 15.2 | 13.6 | 8.8 | 11.2 | 17.5 | 12.2 | 8.7 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | |
| GOVERNMENT-OWNED AND OCCUPIED..... | 16.7 | 15.7 | 14.6 | 20.2 | 16.3 | 10.8 | 14.3 | 23.0 | 15.1 | 8.7 |
| NOT REPORTED..... | 21.2 | 24.9 | 21.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 7.1 | 8.7 | 6.4 | 9.1 | 6.1 | 6.0 | 5.2 | 7.8 | 4.9 | 7.7 |
| 10 TO 19..... | 12.5 | 11.9 | 9.3 | 11.6 | 13.1 | 8.5 | 13.1 | 11.3 | 8.0 | 9.3 |
| 20 TO 49..... | 11.3 | 9.8 | 7.5 | 17.1 | 12.9 | 15.4 | 13.1 | 14.2 | 7.4 | 10.4 |
| 50 TO 99..... | 13.7 | 12.5 | 8.2 | 15.8 | 13.5 | 15.1 | 13.5 | 15.3 | 9.5 | 6.5 |
| 100 OR MORE..... | 14.0 | 11.3 | 12.8 | 16.5 | 16.6 | 8.4 | 11.9 | 16.8 | 15.5 | 4.8 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 18.8 | 24.7 | 16.7 | 28.8 | 30.4 | 2 | 45.1 | 27.1 | 31.2 | 13.8 |
| 39 OR FEWER HOURS..... | 11.0 | 17.6 | 13.5 | 16.2 | 9.2 | 16.3 | 11.9 | 17.9 | 13.8 | 9.4 |
| 40 TO 48 HOURS..... | 8.1 | 8.2 | 6.6 | 9.3 | 7.0 | 6.5 | 9.9 | 12.0 | 7.4 | 7.4 |
| 49 TO 60 HOURS..... | 9.8 | 10.0 | 4.7 | 12.4 | 12.4 | 11.8 | 12.6 | 9.8 | 8.3 | 7.2 |
| 61 TO 84 HOURS..... | 9.3 | 10.9 | 9.1 | 12.1 | 10.1 | 6.1 | 8.9 | 10.6 | 7.9 | 4.8 |
| MORE THAN 84 HOURS..... | 9.9 | 9.7 | 8.8 | 13.2 | 15.8 | 15.3 | 13.1 | 11.9 | 9.2 | 9.9 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 7.7 | 8.3 | 6.0 | 9.8 | 5.8 | 4.7 | 7.3 | 10.0 | 6.2 | 4.4 |
| NO..... | 7.3 | 7.7 | 5.2 | 6.9 | 9.2 | 8.8 | 8.4 | 7.6 | 6.5 | 6.4 |
| DON'T KNOW/NOT REPORTED..... | 11.7 | 17.2 | 11.7 | 25.6 | 25.6 | 19.4 | 12.3 | 26.8 | 25.0 | 12.5 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 8.5 | 9.2 | 7.1 | 17.4 | 17.3 | 16.7 | 15.2 | 12.6 | 9.7 | 9.7 |
| NO..... | 7.5 | 7.5 | 5.0 | 8.1 | 6.3 | 4.3 | 7.4 | 8.4 | 6.1 | 5.8 |
| DON'T KNOW/NOT REPORTED..... | 12.8 | 13.8 | 13.4 | 11.9 | 11.4 | 8.0 | 10.5 | 11.5 | 9.1 | 7.8 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 9.6 | 10.7 | 9.3 | 14.2 | 11.4 | 10.1 | 7.8 | 14.9 | 10.3 | 5.6 |
| NO..... | 7.4 | 7.4 | 4.8 | 7.1 | 8.4 | 7.2 | 7.2 | 7.6 | 6.6 | 5.5 |
| DON'T KNOW/NOT REPORTED..... | 11.3 | 14.2 | 13.5 | 13.0 | 12.4 | 7.8 | 10.0 | 12.4 | 10.9 | 7.9 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 7.3 | 7.9 | 4.7 | 7.9 | 7.2 | 6.0 | 6.9 | 7.9 | 5.6 | 5.3 |
| NO..... | 7.8 | 10.0 | 9.8 | 10.2 | 10.1 | 8.3 | 7.8 | 10.2 | 11.3 | 5.9 |
| NOT REPORTED..... | 22.6 | 25.3 | 30.8 | 40.3 | 31.7 | 28.4 | 36.6 | 40.8 | 37.2 | 13.2 |
| NOT APPLICABLE..... | 16.3 | 16.2 | 15.4 | 30.9 | 31.4 | 32.1 | 26.1 | 26.6 | 21.6 | 15.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C4. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 9.2 | 9.2 | 5.8 | 8.7 | 8.5 | 6.9 | 8.0 | 8.7 | 5.0 | 5.8 |
| NO..... | 13.6 | 14.4 | 11.3 | 17.0 | 15.4 | 8.4 | 10.9 | 16.8 | 13.5 | 7.8 |
| NOT REPORTED..... | 31.3 | 28.5 | 34.6 | 41.3 | 2 | 46.1 | 2 | 40.9 | 2 | 13.8 |
| NOT APPLICABLE..... | 7.4 | 8.7 | 6.8 | 9.9 | 6.3 | 6.4 | 7.8 | 8.2 | 5.0 | 6.0 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 7.2 | 7.8 | 4.8 | 7.7 | 7.1 | 5.6 | 6.8 | 7.7 | 5.5 | 5.2 |
| NO..... | 8.0 | 11.9 | 10.7 | 12.5 | 11.4 | 9.7 | 9.1 | 13.3 | 13.4 | 6.4 |
| NOT REPORTED..... | 25.2 | 24.3 | 46.1 | 36.6 | 37.5 | 32.1 | 36.9 | 38.2 | 39.5 | 10.7 |
| NOT APPLICABLE..... | 15.4 | 18.6 | 17.9 | 28.9 | 30.0 | 32.2 | 24.1 | 23.8 | 21.5 | 15.8 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C5. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings That Use Natural Gas: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 7.7 | 7.5 | 5.0 | 7.9 | 7.9 | 9.0 | 6.1 | 6.9 | 7.4 | 7.6 | 2.4 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 8.0 | 7.5 | 4.9 | 7.9 | 7.9 | 9.2 | 6.3 | 7.0 | 7.5 | 7.8 | 2.4 |
| NATURAL GAS..... | 8.7 | 8.6 | 4.6 | 8.1 | 8.1 | 10.4 | 8.3 | 7.5 | 7.5 | 8.9 | 2.5 |
| ELECTRICITY..... | 10.6 | 13.1 | 11.5 | 31.1 | 31.2 | 37.3 | 31.0 | 27.9 | 21.3 | 25.8 | 9.5 |
| FUEL OIL/KEROSENE..... | 11.6 | 10.1 | 9.1 | 17.3 | 17.3 | 16.9 | 10.2 | 14.3 | 17.8 | 16.9 | 7.7 |
| LIQUID PETROLEUM GAS..... | 37.2 | 45.8 | 0 | 39.9 | 41.2 | 0 | 36.5 | 37.8 | 37.9 | 0 | 6.5 |
| OTHER..... | 16.6 | 18.4 | 17.1 | 26.7 | 26.7 | 26.6 | 23.6 | 25.1 | 28.1 | 28.1 | 4.3 |
| NO HEATING FUEL USED..... | 27.0 | 26.0 | 21.4 | 48.3 | 48.3 | 45.9 | 37.0 | 33.0 | 48.5 | 44.9 | 5.4 |
| AIR CONDITIONING FUEL USED.. | 8.4 | 8.5 | 5.5 | 9.0 | 9.0 | 10.6 | 7.3 | 7.9 | 8.4 | 8.8 | 2.5 |
| ELECTRICITY..... | 8.7 | 8.7 | 5.8 | 8.9 | 8.9 | 10.7 | 7.7 | 8.5 | 8.3 | 8.6 | 2.8 |
| NATURAL GAS..... | 9.3 | 11.9 | 14.3 | 41.6 | 41.7 | 46.3 | 43.9 | 39.3 | 31.7 | 35.6 | 8.6 |
| OTHER..... | 30.6 | 16.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 11.5 | 12.4 | 5.7 | 15.3 | 15.3 | 8.0 | 7.6 | 10.0 | 14.3 | 8.2 | 3.9 |
| WATER-HEATING FUEL USED..... | 7.9 | 7.7 | 4.4 | 8.5 | 8.5 | 8.9 | 6.5 | 7.0 | 8.0 | 7.4 | 2.5 |
| NATURAL GAS..... | 8.0 | 8.2 | 4.6 | 8.0 | 8.0 | 5.4 | 4.8 | 6.5 | 8.0 | 5.7 | 2.1 |
| ELECTRICITY..... | 12.1 | 12.3 | 8.2 | 25.8 | 25.9 | 28.6 | 26.3 | 23.8 | 18.3 | 19.5 | 8.4 |
| FUEL OIL/KEROSENE..... | 19.0 | 13.0 | 21.1 | 22.3 | 22.4 | 35.8 | 17.7 | 24.6 | 24.1 | 35.2 | 11.0 |
| OTHER..... | 26.7 | 22.2 | 37.7 | 31.3 | 32.0 | 46.8 | 33.7 | 36.7 | 32.2 | 47.0 | 6.4 |
| NO WATER-HEATING FUEL..... | 10.9 | 11.0 | 8.3 | 12.2 | 12.2 | 14.4 | 11.4 | 15.7 | 10.3 | 12.4 | 4.9 |
| MANUFACTURING FUEL USED..... | 10.0 | 10.7 | 9.6 | 17.0 | 17.0 | 17.5 | 16.0 | 15.2 | 15.1 | 15.7 | 5.2 |
| ELECTRICITY..... | 12.4 | 12.1 | 10.6 | 19.7 | 19.7 | 20.5 | 19.3 | 17.7 | 17.7 | 18.2 | 6.3 |
| NATURAL GAS..... | 11.1 | 14.7 | 14.7 | 22.7 | 22.7 | 21.5 | 17.3 | 19.1 | 22.0 | 20.7 | 6.7 |
| OTHER..... | 25.8 | 23.1 | 21.0 | 36.8 | 36.8 | 43.6 | 32.2 | 42.6 | 33.4 | 42.1 | 13.2 |
| NO MANUFACTURING DONE..... | 8.0 | 7.7 | 5.6 | 8.5 | 8.5 | 10.7 | 7.5 | 8.2 | 7.9 | 8.9 | 2.5 |
| COOKING FUEL USED..... | 8.1 | 9.4 | 7.1 | 12.5 | 12.6 | 15.4 | 10.1 | 10.8 | 10.6 | 12.5 | 3.5 |
| ELECTRICITY..... | 11.4 | 10.1 | 10.7 | 20.4 | 20.4 | 27.4 | 17.6 | 21.7 | 15.1 | 20.3 | 6.1 |
| NATURAL GAS..... | 8.3 | 10.7 | 8.1 | 9.0 | 9.0 | 8.0 | 4.7 | 5.7 | 9.0 | 8.7 | 2.0 |
| OTHER..... | 31.3 | 28.6 | 0 | 25.7 | 25.8 | 0 | 34.5 | 37.5 | 29.3 | 0 | 11.2 |
| NO COOKING FUEL..... | 8.2 | 8.3 | 5.0 | 11.2 | 11.2 | 9.0 | 6.3 | 10.3 | 9.7 | 7.1 | 3.4 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 14.3 | 10.8 | 6.5 | 12.3 | 12.3 | 8.3 | 6.1 | 7.6 | 11.0 | 8.3 | 4.2 |
| NORTH CENTRAL..... | 10.8 | 10.5 | 8.7 | 13.2 | 13.2 | 16.5 | 11.1 | 13.2 | 12.5 | 14.0 | 3.3 |
| SOUTH..... | 20.5 | 19.3 | 12.6 | 18.6 | 18.6 | 15.6 | 13.1 | 13.9 | 16.6 | 14.0 | 5.4 |
| WEST..... | 18.8 | 14.0 | 15.1 | 19.2 | 19.3 | 17.3 | 13.6 | 14.4 | 15.8 | 16.2 | 5.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 9.5 | 8.7 | 5.1 | 9.4 | 9.4 | 5.0 | 5.0 | 5.3 | 9.7 | 4.4 | 2.1 |
| NONSMSA..... | 14.5 | 15.2 | 11.2 | 24.4 | 24.5 | 29.5 | 23.8 | 23.6 | 21.2 | 26.2 | 5.0 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 40.4 | 42.1 | 6.9 | 42.8 | 42.9 | 10.2 | 12.2 | 18.1 | 44.3 | 8.5 | 9.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 10.6 | 9.6 | 7.2 | 16.7 | 16.7 | 13.5 | 11.7 | 12.9 | 13.3 | 10.0 | 4.4 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 28.7 | 21.3 | 12.6 | 30.6 | 30.6 | 12.3 | 13.0 | 13.0 | 29.0 | 14.9 | 5.8 |
| <2,000 CDD AND <4,000 HDD... | 28.3 | 25.7 | 17.6 | 26.5 | 26.5 | 26.1 | 22.4 | 18.6 | 28.9 | 27.3 | 6.8 |
| >2,000 CDD AND <4,000 HDD... | 33.2 | 38.5 | 14.6 | 32.9 | 32.8 | 16.3 | 19.0 | 21.8 | 31.8 | 14.8 | 7.7 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 15.0 | 15.1 | 6.3 | 14.3 | 14.4 | 14.8 | 12.7 | 15.4 | 13.2 | 14.6 | 3.1 |
| AUTOMOTIVE SALES & SERVICE.. | 13.6 | 13.8 | 15.1 | 14.7 | 14.7 | 12.5 | 10.8 | 10.3 | 13.5 | 13.5 | 3.5 |
| EDUCATION..... | 12.5 | 12.0 | 6.9 | 17.8 | 17.8 | 17.3 | 13.7 | 14.5 | 16.2 | 15.2 | 3.1 |
| FOOD SALES..... | 11.2 | 14.3 | 9.2 | 13.5 | 13.6 | 10.7 | 9.1 | 10.1 | 13.0 | 11.2 | 2.1 |
| HEALTH CARE..... | 23.5 | 11.5 | 25.9 | 13.8 | 13.8 | 36.2 | 17.5 | 14.2 | 15.0 | 38.1 | 3.2 |
| LODGING..... | 18.1 | 14.4 | 26.4 | 14.4 | 14.4 | 22.8 | 15.2 | 22.1 | 13.8 | 23.2 | 5.1 |
| OFFICE..... | 7.3 | 8.6 | 10.0 | 10.8 | 10.8 | 10.0 | 9.1 | 12.3 | 11.0 | 10.8 | 2.8 |
| RESIDENTIAL..... | 9.9 | 11.7 | 8.2 | 18.6 | 18.6 | 14.2 | 15.8 | 17.8 | 17.9 | 13.5 | 4.5 |
| RETAIL/SERVICES..... | 10.3 | 11.6 | 8.1 | 13.0 | 13.0 | 14.2 | 14.1 | 16.2 | 12.9 | 12.7 | 3.9 |
| WAREHOUSE AND STORAGE..... | 11.9 | 9.0 | 8.6 | 32.0 | 32.1 | 38.3 | 33.5 | 31.1 | 24.5 | 30.4 | 10.7 |
| OTHER..... | 15.5 | 14.5 | 11.4 | 17.2 | 17.2 | 19.5 | 20.1 | 22.2 | 18.8 | 21.2 | 5.0 |
| VACANT..... | 22.3 | 29.5 | 29.0 | 32.8 | 33.0 | 2 | 34.2 | 2 | 36.8 | 2 | 13.1 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 11.1 | 11.2 | 3.3 | 19.9 | 19.8 | 13.7 | 13.8 | 17.2 | 19.5 | 13.9 | 2.8 |
| 1,001 TO 5,000..... | 8.0 | 7.5 | 1.7 | 10.8 | 10.8 | 8.6 | 8.4 | 11.1 | 9.1 | 7.0 | 3.8 |
| 5,001 TO 10,000..... | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 13.0 | 12.8 | 13.0 | 11.0 | 12.9 | 2.8 |
| 10,001 TO 25,000..... | 11.7 | 11.0 | 1.5 | 27.1 | 27.1 | 29.2 | 29.2 | 26.8 | 19.4 | 20.2 | 8.5 |
| 25,001 TO 50,000..... | 11.6 | 11.7 | 1.3 | 12.7 | 12.8 | 8.4 | 8.3 | 8.2 | 12.3 | 9.2 | 2.8 |
| OVER 50,000..... | 8.6 | 8.7 | 4.6 | 9.5 | 9.5 | 7.4 | 6.8 | 9.3 | 9.5 | 6.6 | 2.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 9.5 | 9.4 | 6.0 | 9.3 | 9.3 | 7.8 | 8.6 | 4.7 | 8.7 | 7.7 | 2.2 |
| TWO FLOORS..... | 11.5 | 10.6 | 8.7 | 11.0 | 11.0 | 11.5 | 8.2 | 10.3 | 10.8 | 11.4 | 3.3 |
| THREE FLOORS..... | 11.5 | 8.5 | 6.3 | 11.0 | 11.0 | 10.5 | 8.8 | 14.8 | 11.1 | 11.0 | 1.8 |
| MORE THAN THREE..... | 9.1 | 8.9 | 7.8 | 19.9 | 19.9 | 20.7 | 18.5 | 18.0 | 15.7 | 15.9 | 6.1 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 13.7 | 12.1 | 8.0 | 22.1 | 22.1 | 14.1 | 14.5 | 15.3 | 20.9 | 13.3 | 6.6 |
| 1901 TO 1920..... | 12.2 | 11.7 | 8.7 | 18.2 | 18.2 | 14.0 | 13.5 | 19.5 | 16.3 | 12.2 | 5.1 |
| 1921 TO 1945..... | 9.8 | 10.4 | 10.1 | 23.9 | 23.9 | 34.8 | 26.3 | 28.5 | 16.7 | 26.5 | 8.3 |
| 1946 TO 1960..... | 10.8 | 11.7 | 7.1 | 13.3 | 13.3 | 10.0 | 8.6 | 11.3 | 13.4 | 9.8 | 2.7 |
| 1961 TO 1970..... | 10.8 | 9.4 | 8.5 | 12.5 | 12.5 | 7.9 | 6.9 | 7.7 | 12.8 | 8.6 | 2.2 |
| 1971 TO 1973..... | 13.7 | 17.0 | 17.2 | 23.0 | 23.1 | 18.7 | 13.9 | 16.6 | 21.7 | 17.9 | 4.4 |
| 1974 TO 1979..... | 11.6 | 12.8 | 10.4 | 17.9 | 17.9 | 16.0 | 14.5 | 14.5 | 17.1 | 13.7 | 5.3 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 117.7 | 67.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 8.7 | 9.4 | 4.7 | 9.0 | 9.0 | 10.6 | 9.0 | 8.5 | 8.6 | 9.1 | 2.1 |
| OTHER..... | 8.7 | 9.4 | 4.7 | 9.0 | 9.0 | 10.8 | 9.3 | 8.7 | 8.6 | 9.3 | 2.2 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 95.8 | 55.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 9.4 | 10.1 | 10.6 | 13.0 | 13.1 | 11.0 | 7.7 | 10.4 | 13.4 | 12.1 | 5.8 |
| ELEC., GAS, OTHER..... | 11.1 | 9.7 | 8.6 | 14.3 | 14.3 | 12.7 | 8.4 | 12.6 | 14.8 | 13.6 | 6.4 |
| ELEC., GAS, OTHER..... | 15.4 | 21.9 | 24.3 | 19.6 | 20.3 | 15.3 | 23.3 | 17.8 | 16.1 | 12.2 | 6.5 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 36.8 | 22.5 | 32.6 | 34.4 | 34.6 | 0 | 29.7 | 23.3 | 30.7 | 0 | 10.3 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 7.8 | 7.5 | 5.0 | 7.9 | 7.9 | 9.2 | 6.3 | 7.0 | 7.4 | 7.7 | 2.4 |
| NATURAL GAS..... | 7.7 | 7.5 | 5.0 | 7.9 | 7.9 | 9.0 | 6.1 | 6.9 | 7.4 | 7.6 | 2.4 |
| FUEL OIL/KEROSENE..... | 11.0 | 9.1 | 8.2 | 12.7 | 12.7 | 12.8 | 8.2 | 11.2 | 13.5 | 13.7 | 5.5 |
| LIQUID PETROLEUM GAS..... | 27.0 | 27.6 | 35.3 | 37.6 | 38.0 | 33.8 | 38.5 | 33.8 | 32.2 | 29.9 | 12.1 |
| WOOD..... | 30.7 | 25.9 | 31.7 | 40.6 | 41.0 | 37.8 | 32.7 | 37.9 | 36.9 | 30.7 | 23.8 |
| COAL..... | 38.5 | 21.8 | 0 | 34.5 | 34.5 | 0 | 22.2 | 43.2 | 31.7 | 0 | 7.5 |
| STEAM..... | 25.6 | 25.3 | 16.3 | 31.9 | 31.9 | 25.6 | 26.6 | 28.3 | 34.3 | 27.4 | 5.5 |
| OTHER..... | 42.6 | 37.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLIAR DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 10.9 | 10.1 | 7.7 | 13.2 | 13.2 | 10.0 | 8.5 | 11.0 | 11.6 | 8.5 | 3.4 |
| RADIANT..... | 15.4 | 18.1 | 17.5 | 20.3 | 20.3 | 18.3 | 23.3 | 32.7 | 18.2 | 16.6 | 4.4 |
| COMBINATION/OTHER..... | 15.4 | 15.7 | 10.6 | 35.5 | 35.8 | 35.3 | 35.5 | 29.0 | 30.2 | 30.1 | 7.8 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 7.7 | 7.5 | 5.7 | 11.6 | 11.6 | 9.6 | 8.5 | 10.2 | 11.3 | 9.4 | 1.5 |
| RADIANT..... | 11.0 | 11.6 | 7.7 | 15.0 | 15.0 | 8.7 | 9.6 | 11.1 | 14.7 | 7.8 | 4.0 |
| COMBINATION/OTHER..... | 13.3 | 9.9 | 10.8 | 14.5 | 14.5 | 11.1 | 9.2 | 11.2 | 14.6 | 12.9 | 4.3 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 13.9 | 24.3 | 19.9 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 18.2 |
| RADIANT..... | 27.8 | 28.1 | 25.6 | 26.5 | 26.6 | 24.6 | 40.5 | 2 | 26.8 | 19.4 | 10.3 |
| COMBINATION/OTHER..... | 21.4 | 15.7 | 19.1 | 13.8 | 13.8 | 26.1 | 11.4 | 11.3 | 13.0 | 26.1 | 2.3 |
| NONE..... | 27.7 | 26.8 | 21.1 | 49.2 | 49.2 | 45.5 | 37.9 | 34.4 | 49.2 | 44.4 | 5.6 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 13.1 | 12.8 | 9.0 | 33.8 | 33.8 | 37.1 | 33.7 | 34.7 | 31.5 | 34.0 | 10.1 |
| 26 TO 50..... | 13.5 | 14.5 | 11.0 | 54.1 | 54.1 | 65.7 | 68.7 | 67.5 | 39.0 | 49.0 | 15.5 |
| 51 TO 75..... | 13.8 | 12.7 | 19.1 | 22.7 | 22.7 | 19.4 | 17.0 | 21.4 | 22.2 | 19.3 | 3.9 |
| 76 TO 99..... | 11.0 | 12.5 | 13.9 | 18.7 | 18.8 | 18.9 | 13.7 | 18.2 | 19.3 | 20.0 | 7.3 |
| 100..... | 9.4 | 8.5 | 5.5 | 7.7 | 7.7 | 7.3 | 5.1 | 4.9 | 7.7 | 6.9 | 2.0 |
| NONE..... | 27.7 | 26.8 | 21.1 | 49.2 | 49.2 | 45.5 | 37.9 | 34.4 | 49.2 | 44.4 | 5.6 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 7.7 | 8.5 | 5.3 | 18.8 | 18.8 | 22.3 | 19.8 | 21.7 | 14.5 | 16.5 | 6.7 |
| 26 TO 50..... | 10.4 | 11.9 | 7.5 | 15.1 | 15.1 | 14.5 | 13.6 | 13.1 | 14.0 | 13.0 | 2.9 |
| 51 TO 75..... | 11.3 | 8.5 | 13.6 | 14.8 | 14.8 | 15.6 | 13.7 | 15.6 | 15.5 | 15.8 | 2.5 |
| 76 TO 99..... | 13.2 | 11.6 | 14.2 | 15.3 | 15.3 | 19.1 | 12.9 | 12.7 | 16.6 | 19.1 | 4.3 |
| 100..... | 13.3 | 12.3 | 10.5 | 12.6 | 12.6 | 12.1 | 9.0 | 8.2 | 12.8 | 12.0 | 2.7 |
| NONE..... | 11.5 | 12.4 | 5.7 | 15.3 | 15.3 | 8.0 | 7.6 | 10.0 | 14.4 | 8.2 | 4.0 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 6.2 | 11.7 | 8.9 | 12.4 | 12.4 | 11.2 | 9.8 | 12.5 | 12.0 | 10.6 | 3.5 |
| PACKAGE UNITS..... | 14.1 | 11.8 | 7.9 | 13.6 | 13.6 | 7.2 | 8.8 | 8.1 | 12.6 | 6.8 | 3.5 |
| CENTRAL SYSTEM..... | 9.5 | 10.7 | 8.7 | 11.3 | 11.3 | 12.3 | 11.2 | 11.8 | 10.5 | 10.7 | 3.0 |
| COMBINATION/OTHER..... | 14.1 | 9.9 | 15.6 | 25.1 | 25.1 | 39.5 | 24.9 | 29.2 | 19.1 | 32.2 | 7.1 |
| NO AIR CONDITIONING..... | 11.5 | 12.4 | 5.7 | 15.3 | 15.3 | 8.0 | 7.6 | 10.0 | 14.4 | 8.2 | 4.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 9.6 | 8.9 | 5.4 | 10.6 | 10.6 | 7.3 | 5.6 | 8.4 | 9.7 | 7.3 | 2.5 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 10.5 | 11.0 | 7.1 | 12.3 | 12.3 | 13.1 | 9.7 | 10.7 | 12.5 | 12.8 | 3.5 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 8.7 | 12.1 | 13.9 | 9.0 | 9.0 | 9.4 | 10.0 | 12.2 | 9.3 | 10.0 | 2.2 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 12.7 | 12.5 | 8.4 | 17.0 | 17.0 | 11.5 | 13.5 | 14.4 | 16.7 | 10.5 | 3.0 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 14.3 | 12.3 | 12.7 | 12.1 | 12.1 | 18.8 | 11.5 | 14.7 | 12.6 | 18.2 | 3.5 |
| NOT REPORTED..... | 27.2 | 29.3 | 28.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 8.8 | 10.5 | 4.3 | 12.1 | 12.1 | 7.7 | 7.0 | 6.5 | 10.4 | 5.8 | 3.7 |
| 10 TO 19..... | 11.0 | 10.9 | 5.1 | 13.1 | 13.1 | 7.3 | 8.9 | 7.3 | 12.6 | 7.3 | 2.5 |
| 20 TO 49..... | 9.6 | 9.6 | 5.6 | 21.5 | 21.6 | 19.0 | 21.7 | 18.8 | 16.0 | 13.0 | 6.4 |
| 50 TO 99..... | 13.9 | 10.4 | 9.1 | 18.0 | 18.0 | 17.1 | 17.4 | 16.7 | 18.1 | 16.1 | 3.5 |
| 100 OR MORE..... | 12.1 | 10.3 | 11.5 | 11.7 | 11.7 | 15.2 | 9.2 | 11.9 | 12.0 | 14.6 | 3.2 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 25.2 | 29.7 | 32.6 | 31.2 | 31.2 | 0 | 32.3 | - | 34.5 | 0 | 10.8 |
| 39 OR FEWER HOURS..... | 13.6 | 18.6 | 11.3 | 16.0 | 16.0 | 10.1 | 18.0 | 14.4 | 14.3 | 10.3 | 3.8 |
| 40 TO 48 HOURS..... | 6.9 | 10.1 | 5.5 | 10.7 | 10.7 | 8.4 | 7.4 | 11.6 | 10.0 | 7.7 | 3.0 |
| 49 TO 60 HOURS..... | 9.7 | 8.6 | 8.1 | 14.0 | 14.0 | 14.2 | 13.5 | 13.9 | 13.8 | 13.1 | 2.2 |
| 61 TO 84 HOURS..... | 9.9 | 12.8 | 9.5 | 13.5 | 13.5 | 8.0 | 7.5 | 8.0 | 12.6 | 7.4 | 4.1 |
| MORE THAN 84 HOURS..... | 9.3 | 7.6 | 7.5 | 13.1 | 13.2 | 18.9 | 13.8 | 14.2 | 10.2 | 14.9 | 4.6 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 7.8 | 8.2 | 5.1 | 9.3 | 9.3 | 6.6 | 5.7 | 6.6 | 9.8 | 7.3 | 1.9 |
| NO..... | 9.0 | 8.6 | 5.3 | 9.7 | 9.7 | 12.6 | 10.3 | 10.6 | 8.3 | 9.8 | 3.6 |
| DON'T KNOW/NOT REPORTED..... | 12.3 | 15.8 | 12.1 | 25.0 | 25.0 | 29.8 | 22.0 | 17.9 | 25.1 | 29.1 | 6.8 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C5. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| INSULATION ADDED | | | | | | | | | | | |
| YES | 7.2 | 8.5 | 6.1 | 15.7 | 15.7 | 17.6 | 15.1 | 16.9 | 12.4 | 13.5 | 4.9 |
| NO | 8.6 | 8.2 | 5.5 | 8.4 | 8.4 | 6.5 | 4.6 | 5.9 | 8.6 | 6.8 | 2.1 |
| DON'T KNOW/NOT REPORTED | 15.2 | 14.4 | 14.9 | 14.8 | 14.8 | 19.2 | 12.9 | 17.8 | 14.5 | 17.8 | 2.0 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES | 7.5 | 9.1 | 6.5 | 10.8 | 10.8 | 8.5 | 7.6 | 10.1 | 11.4 | 9.1 | 1.7 |
| NO | 8.5 | 8.0 | 5.5 | 8.8 | 8.8 | 11.3 | 7.9 | 8.0 | 7.9 | 9.4 | 2.9 |
| DON'T KNOW/NOT REPORTED | 13.2 | 13.9 | 13.7 | 13.9 | 13.9 | 19.4 | 13.0 | 19.1 | 14.3 | 18.5 | 2.9 |
| REDUCED HEATING | | | | | | | | | | | |
| YES | 9.3 | 8.1 | 5.6 | 8.5 | 8.5 | 10.1 | 6.8 | 7.8 | 8.0 | 8.2 | 2.8 |
| NO | 9.5 | 8.5 | 7.3 | 12.5 | 12.5 | 10.9 | 9.5 | 9.3 | 12.4 | 12.1 | 2.6 |
| NOT REPORTED | 28.9 | 24.3 | 16.4 | 40.1 | 40.1 | 24.7 | 29.4 | 25.0 | 40.8 | 23.3 | 8.6 |
| NOT APPLICABLE | 27.7 | 26.8 | 21.1 | 49.2 | 49.2 | 45.5 | 37.9 | 34.4 | 49.2 | 44.4 | 5.6 |
| REDUCED COOLING | | | | | | | | | | | |
| YES | 11.4 | 9.7 | 7.7 | 9.4 | 9.4 | 12.7 | 8.5 | 9.6 | 8.9 | 10.4 | 3.2 |
| NO | 15.9 | 13.4 | 9.6 | 21.3 | 21.3 | 14.3 | 12.1 | 13.5 | 21.3 | 15.3 | 2.3 |
| NOT REPORTED | 40.8 | 29.0 | 0 | 35.9 | 35.9 | 0 | 27.1 | 29.2 | 34.7 | 0 | 18.0 |
| NOT APPLICABLE | 7.9 | 8.8 | 4.8 | 11.9 | 11.9 | 6.8 | 6.7 | 8.6 | 11.0 | 6.2 | 3.5 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES | 9.1 | 8.0 | 5.6 | 8.1 | 8.1 | 9.4 | 6.3 | 7.4 | 7.9 | 7.8 | 2.6 |
| NO | 10.2 | 10.6 | 8.5 | 16.3 | 16.3 | 12.5 | 10.7 | 11.3 | 15.9 | 13.6 | 2.9 |
| NOT REPORTED | 32.1 | 28.6 | 35.8 | 33.3 | 33.3 | 34.3 | 29.3 | 31.5 | 31.6 | 30.8 | 13.0 |
| NOT APPLICABLE | 30.7 | 29.2 | 22.0 | 49.2 | 49.2 | 38.1 | 42.6 | 0 | 0 | 40.2 | 4.5 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C6. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings That Heat With Natural Gas: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|-----------------------------------|
| COMMERCIAL BUILDINGS..... | 8.7 | 8.6 | 4.6 | 8.1 | 8.1 | 10.4 | 8.3 | 7.5 | 7.5 | 8.9 | 2.5 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 8.7 | 8.6 | 4.6 | 8.1 | 8.1 | 10.4 | 8.3 | 7.5 | 7.5 | 8.9 | 2.5 |
| ELECTRICITY..... | 12.6 | 13.4 | 11.1 | 46.9 | 46.9 | 0 | 0 | 44.0 | 32.7 | 38.4 | 12.4 |
| FUEL OIL/KEROSENE..... | 17.6 | 15.6 | 14.5 | 19.6 | 19.7 | 25.7 | 14.2 | 23.9 | 19.8 | 27.7 | 6.2 |
| LIQUID PETROLEUM GAS..... | 38.0 | 46.7 | 0 | 40.3 | 41.7 | 0 | 36.8 | 38.6 | 38.3 | 0 | 6.6 |
| OTHER..... | 33.5 | 21.6 | 0 | 40.2 | 40.3 | 0 | 33.5 | 45.7 | 36.4 | 0 | 9.7 |
| AIR CONDITIONING FUEL USED... | 9.1 | 9.4 | 5.4 | 9.5 | 9.5 | 11.9 | 9.7 | 9.0 | 8.9 | 10.0 | 2.6 |
| ELECTRICITY..... | 9.6 | 9.6 | 5.5 | 9.3 | 9.3 | 12.1 | 9.7 | 9.7 | 8.6 | 9.9 | 2.9 |
| NATURAL GAS..... | 9.8 | 13.1 | 13.9 | 45.9 | 45.9 | 45.7 | 46.8 | 41.3 | 35.7 | 35.4 | 8.9 |
| OTHER..... | 48.3 | 34.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL..... | 13.0 | 14.4 | 6.4 | 14.2 | 14.2 | 8.4 | 7.1 | 9.1 | 12.8 | 8.4 | 4.0 |
| WATER-HEATING FUEL USED..... | 9.0 | 8.7 | 4.5 | 8.8 | 8.8 | 10.3 | 8.9 | 7.8 | 8.2 | 8.7 | 2.5 |
| NATURAL GAS..... | 8.8 | 8.7 | 5.5 | 8.1 | 8.1 | 6.2 | 5.5 | 6.1 | 8.1 | 6.6 | 2.2 |
| ELECTRICITY..... | 13.8 | 13.9 | 6.0 | 29.6 | 29.6 | 34.4 | 35.7 | 28.9 | 21.1 | 23.8 | 9.6 |
| FUEL OIL/KEROSENE..... | 21.2 | 27.6 | 31.1 | 30.4 | 30.4 | 42.7 | 27.7 | 47.8 | 29.8 | 41.7 | 7.0 |
| OTHER..... | 50.4 | 26.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO WATER-HEATING FUEL..... | 11.4 | 13.0 | 7.9 | 13.5 | 13.5 | 16.8 | 13.4 | 18.5 | 11.0 | 14.7 | 5.2 |
| MANUFACTURING FUEL USED..... | 10.5 | 11.3 | 11.9 | 17.7 | 17.7 | 18.4 | 15.5 | 12.9 | 16.0 | 17.3 | 5.3 |
| ELECTRICITY..... | 11.9 | 12.1 | 13.3 | 20.1 | 20.2 | 20.2 | 18.7 | 15.2 | 18.3 | 17.9 | 6.4 |
| NATURAL GAS..... | 12.5 | 14.1 | 16.5 | 23.7 | 23.7 | 23.7 | 15.5 | 13.4 | 23.2 | 24.3 | 6.7 |
| OTHER..... | 26.4 | 24.1 | 29.2 | 43.3 | 43.3 | 0 | 35.9 | 37.2 | 42.0 | 0 | 14.9 |
| NO MANUFACTURING DONE..... | 9.0 | 9.0 | 5.2 | 8.8 | 8.8 | 12.0 | 10.0 | 8.8 | 8.1 | 10.1 | 2.6 |
| COOKING FUEL USED..... | 10.0 | 10.4 | 6.6 | 13.8 | 13.8 | 18.6 | 14.2 | 13.3 | 11.5 | 15.3 | 3.6 |
| ELECTRICITY..... | 14.0 | 11.0 | 10.5 | 22.9 | 22.9 | 34.0 | 23.2 | 24.4 | 16.6 | 25.6 | 6.8 |
| NATURAL GAS..... | 10.6 | 12.2 | 7.7 | 9.6 | 9.6 | 10.1 | 7.7 | 8.1 | 10.1 | 11.0 | 1.5 |
| OTHER..... | 32.2 | 41.5 | 0 | 26.8 | 26.9 | 0 | 0 | 0 | 30.4 | 0 | 11.5 |
| NO COOKING FUEL..... | 8.9 | 9.7 | 5.4 | 11.6 | 11.6 | 9.6 | 6.6 | 10.2 | 9.9 | 7.6 | 3.5 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 19.2 | 12.4 | 10.2 | 11.6 | 11.6 | 10.4 | 8.1 | 14.7 | 11.1 | 11.2 | 1.8 |
| NORTH CENTRAL..... | 10.9 | 11.2 | 7.9 | 13.0 | 13.0 | 17.8 | 15.4 | 15.5 | 12.0 | 15.2 | 3.5 |
| SOUTH..... | 24.7 | 22.7 | 10.3 | 20.8 | 20.8 | 21.6 | 15.3 | 17.0 | 19.1 | 19.4 | 5.8 |
| WEST..... | 20.8 | 15.8 | 14.7 | 21.9 | 22.0 | 22.6 | 17.7 | 13.0 | 17.8 | 21.1 | 6.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 10.4 | 9.2 | 5.3 | 9.6 | 9.6 | 6.0 | 5.6 | 6.1 | 9.8 | 5.2 | 2.0 |
| NONSMSA..... | 16.5 | 19.6 | 9.4 | 24.9 | 24.9 | 31.5 | 31.7 | 25.5 | 21.4 | 28.3 | 5.2 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 38.9 | 40.6 | 5.0 | 42.2 | 42.3 | 9.7 | 10.9 | 17.1 | 43.3 | 7.7 | 10.2 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 11.6 | 10.5 | 6.8 | 17.5 | 17.5 | 15.2 | 14.9 | 14.6 | 13.7 | 11.4 | 4.4 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 32.2 | 30.6 | 12.4 | 31.2 | 31.2 | 13.0 | 12.7 | 12.8 | 30.0 | 16.5 | 5.9 |
| <2,000 CDD AND <4,000 HDD... | 29.4 | 26.6 | 19.6 | 32.5 | 32.5 | 34.4 | 30.4 | 20.4 | 34.6 | 34.3 | 7.9 |
| >2,000 CDD AND <4,000 HDD... | 32.5 | 40.6 | 14.6 | 38.3 | 38.2 | 15.3 | 17.7 | 25.0 | 37.9 | 14.2 | 7.9 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 16.7 | 18.5 | 8.7 | 14.4 | 14.4 | 15.8 | 15.2 | 16.4 | 13.1 | 15.8 | 3.2 |
| AUTOMOTIVE SALES & SERVICE... | 13.9 | 12.5 | 14.4 | 14.8 | 14.8 | 13.0 | 12.0 | 12.4 | 13.3 | 13.8 | 3.6 |
| EDUCATION..... | 15.8 | 14.5 | 12.6 | 18.2 | 18.2 | 20.4 | 12.3 | 13.3 | 16.6 | 18.0 | 3.2 |
| FOOD SALES..... | 12.4 | 16.5 | 11.1 | 15.2 | 15.3 | 13.7 | 10.4 | 10.5 | 14.8 | 13.7 | 2.0 |
| HEALTH CARE..... | 24.1 | 13.0 | 27.8 | 14.3 | 14.3 | 39.9 | 20.0 | 13.0 | 15.5 | 41.8 | 3.3 |
| LODGING..... | 22.2 | 15.8 | 32.2 | 17.2 | 17.2 | 28.5 | 14.6 | 21.1 | 16.1 | 29.4 | 6.2 |
| OFFICE..... | 7.5 | 10.1 | 10.9 | 10.2 | 10.2 | 8.6 | 6.9 | 11.1 | 10.4 | 9.4 | 2.7 |
| RESIDENTIAL..... | 13.1 | 13.6 | 8.6 | 20.7 | 20.7 | 14.7 | 16.6 | 18.0 | 20.3 | 14.4 | 2.8 |
| RETAIL/SERVICES..... | 11.7 | 12.0 | 7.5 | 15.2 | 15.2 | 17.6 | 17.0 | 20.2 | 14.6 | 15.7 | 4.2 |
| WAREHOUSE AND STORAGE..... | 11.8 | 9.3 | 7.0 | 33.3 | 33.4 | 39.2 | 35.8 | 31.1 | 25.7 | 31.0 | 11.0 |
| OTHER..... | 14.6 | 15.6 | 14.8 | 12.7 | 12.7 | 17.8 | 26.1 | 28.4 | 14.7 | 19.6 | 6.5 |
| VACANT..... | 25.9 | 28.8 | 33.3 | 38.8 | 39.0 | 0 | 43.6 | 0 | 42.3 | 0 | 15.7 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 11.4 | 11.5 | 3.3 | 20.7 | 20.6 | 15.0 | 14.6 | 18.5 | 20.4 | 15.1 | 3.2 |
| 1,001 TO 5,000..... | 9.0 | 9.1 | 1.9 | 11.8 | 11.8 | 9.8 | 9.6 | 9.9 | 9.9 | 7.9 | 4.0 |
| 5,001 TO 10,000..... | 11.7 | 11.4 | 1.2 | 11.7 | 11.7 | 13.2 | 12.9 | 12.6 | 11.4 | 13.3 | 3.1 |
| 10,001 TO 25,000..... | 12.9 | 12.4 | 1.7 | 29.3 | 29.3 | 34.0 | 34.5 | 30.0 | 20.9 | 24.2 | 8.9 |
| 25,001 TO 50,000..... | 12.9 | 13.3 | 1.6 | 13.1 | 13.1 | 9.4 | 9.6 | 7.1 | 13.2 | 11.1 | 2.8 |
| OVER 50,000..... | 8.7 | 8.8 | 4.8 | 9.0 | 9.0 | 9.2 | 7.3 | 10.0 | 8.5 | 8.5 | 3.0 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.2 | 11.3 | 5.6 | 10.8 | 10.8 | 8.8 | 10.3 | 5.9 | 10.3 | 8.6 | 2.2 |
| TWO FLOORS..... | 12.5 | 10.7 | 8.8 | 10.4 | 10.4 | 12.1 | 7.9 | 9.5 | 10.4 | 12.0 | 3.7 |
| THREE FLOORS..... | 14.3 | 10.4 | 8.1 | 11.7 | 11.7 | 10.8 | 8.0 | 14.1 | 11.7 | 11.1 | 1.8 |
| MORE THAN THREE..... | 10.9 | 10.3 | 8.7 | 22.7 | 22.7 | 23.2 | 23.7 | 21.8 | 17.6 | 17.8 | 6.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 15.9 | 15.1 | 7.6 | 23.0 | 23.0 | 13.7 | 12.0 | 11.9 | 20.4 | 11.1 | 6.1 |
| 1901 TO 1920..... | 14.0 | 16.8 | 8.8 | 17.2 | 17.2 | 13.0 | 11.3 | 13.7 | 14.3 | 10.7 | 5.6 |
| 1921 TO 1945..... | 10.8 | 9.7 | 9.3 | 25.9 | 25.9 | 39.6 | 31.3 | 33.6 | 18.3 | 31.0 | 8.6 |
| 1946 TO 1960..... | 12.2 | 13.4 | 7.8 | 14.4 | 14.4 | 10.1 | 8.4 | 11.2 | 14.4 | 9.9 | 2.6 |
| 1961 TO 1970..... | 11.7 | 11.4 | 7.3 | 13.3 | 13.3 | 8.9 | 7.7 | 9.2 | 13.6 | 9.9 | 2.1 |
| 1971 TO 1973..... | 16.1 | 18.9 | 20.6 | 23.9 | 23.9 | 21.9 | 14.3 | 19.2 | 22.7 | 20.9 | 4.5 |
| 1974 TO 1979..... | 13.9 | 14.6 | 10.8 | 19.3 | 19.3 | 18.1 | 14.7 | 13.8 | 18.2 | 14.7 | 6.2 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 21.3 | 2.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 9.1 | 9.8 | 4.6 | 9.3 | 9.3 | 11.4 | 10.1 | 8.8 | 8.8 | 9.7 | 2.3 |
| ELEC., GAS..... | 9.1 | 9.8 | 4.6 | 9.3 | 9.3 | 11.6 | 10.4 | 8.9 | 8.9 | 9.9 | 2.3 |
| OTHER..... | 95.8 | 55.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 15.3 | 14.6 | 12.8 | 15.2 | 15.2 | 19.0 | 11.5 | 15.6 | 14.8 | 21.1 | 5.2 |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 16.6 | 14.9 | 12.1 | 16.2 | 16.2 | 21.2 | 12.1 | 17.7 | 16.0 | 23.2 | 5.5 |
| ELEC., GAS, OTHER..... | 21.3 | 18.5 | 21.5 | 27.0 | 28.1 | 26.6 | 21.8 | 19.3 | 22.8 | 24.7 | 8.4 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 47.4 | 24.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17.9 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 8.7 | 8.6 | 4.6 | 8.1 | 8.1 | 10.6 | 8.5 | 7.6 | 7.5 | 9.0 | 2.5 |
| NATURAL GAS..... | 8.7 | 8.6 | 4.6 | 8.1 | 8.1 | 10.4 | 8.3 | 7.5 | 7.5 | 8.9 | 2.5 |
| FUEL OIL/KEROSENE..... | 15.9 | 13.5 | 11.5 | 14.7 | 14.7 | 20.0 | 11.7 | 16.7 | 14.7 | 21.5 | 5.0 |
| LIQUID PETROLEUM GAS..... | 30.0 | 18.5 | 33.2 | 40.5 | 40.8 | 39.1 | 36.5 | 35.2 | 34.9 | 36.6 | 13.4 |
| OTHER..... | 31.9 | 19.3 | 42.8 | 33.5 | 33.6 | 0 | 23.5 | 28.4 | 29.9 | 0 | 10.7 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 11.6 | 11.1 | 6.6 | 14.0 | 14.0 | 10.3 | 10.8 | 11.2 | 12.4 | 8.8 | 3.5 |
| RADIANT..... | 19.1 | 19.1 | 22.5 | 21.1 | 21.1 | 24.4 | 24.5 | 33.0 | 19.6 | 22.5 | 5.5 |
| COMBINATION/OTHER..... | 15.7 | 16.3 | 8.6 | 39.1 | 39.1 | 38.3 | 39.7 | 28.5 | 33.1 | 31.8 | 8.1 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 7.9 | 7.7 | 5.7 | 11.5 | 11.5 | 10.2 | 9.5 | 12.0 | 11.1 | 9.7 | 1.6 |
| RADIANT..... | 13.3 | 14.4 | 8.4 | 13.9 | 13.9 | 8.6 | 9.6 | 9.4 | 13.5 | 8.5 | 2.9 |
| COMBINATION/OTHER..... | 14.4 | 13.0 | 12.7 | 14.4 | 14.4 | 12.2 | 9.0 | 11.4 | 14.4 | 14.2 | 4.6 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 14.5 | 25.5 | 20.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19.8 |
| RADIANT..... | 32.5 | 32.8 | 18.9 | 24.0 | 24.0 | 31.7 | 35.1 | 0 | 27.4 | 24.5 | 9.7 |
| COMBINATION/OTHER..... | 22.9 | 17.3 | 19.4 | 13.9 | 13.9 | 28.6 | 12.6 | 12.4 | 13.2 | 28.5 | 2.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLIARNS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARNS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------|---|--|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 13.7 | 16.1 | 11.6 | 37.7 | 37.7 | 42.9 | 40.6 | 37.3 | 34.1 | 39.0 | 12.1 |
| 26 TO 50..... | 14.5 | 16.1 | 10.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.4 |
| 51 TO 75..... | 15.2 | 15.7 | 13.3 | 21.6 | 21.6 | 18.6 | 10.6 | 14.6 | 20.1 | 17.8 | 4.7 |
| 76 TO 99..... | 11.4 | 15.5 | 14.9 | 19.8 | 19.9 | 19.0 | 11.2 | 20.4 | 20.4 | 20.3 | 7.9 |
| 100..... | 10.2 | 9.4 | 6.2 | 7.6 | 7.6 | 7.9 | 6.2 | 5.5 | 7.7 | 7.5 | 2.0 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 8.7 | 9.1 | 5.9 | 20.1 | 20.1 | 24.7 | 21.5 | 21.5 | 15.7 | 18.8 | 6.8 |
| 26 TO 50..... | 11.5 | 14.4 | 8.5 | 15.4 | 15.4 | 15.4 | 15.7 | 13.5 | 14.1 | 13.7 | 3.4 |
| 51 TO 75..... | 14.0 | 12.1 | 14.0 | 16.1 | 16.2 | 17.8 | 10.4 | 12.6 | 16.9 | 17.7 | 2.8 |
| 76 TO 99..... | 14.8 | 13.8 | 14.9 | 13.8 | 13.8 | 16.4 | 9.7 | 12.7 | 14.7 | 15.6 | 4.5 |
| 100..... | 14.0 | 12.5 | 11.2 | 14.2 | 14.2 | 13.1 | 10.9 | 10.4 | 14.6 | 12.9 | 2.9 |
| NONE..... | 13.0 | 14.4 | 6.4 | 14.2 | 14.2 | 8.4 | 7.1 | 9.1 | 12.8 | 8.4 | 4.0 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 7.1 | 16.0 | 11.9 | 14.0 | 14.0 | 11.8 | 12.1 | 12.6 | 13.7 | 11.5 | 3.3 |
| PACKAGE UNITS..... | 15.3 | 12.6 | 8.0 | 15.0 | 15.0 | 8.6 | 11.0 | 11.4 | 13.9 | 8.3 | 3.5 |
| CENTRAL SYSTEM..... | 9.6 | 10.7 | 8.5 | 11.5 | 11.5 | 12.5 | 9.7 | 11.6 | 10.7 | 11.0 | 3.1 |
| COMBINATION/OTHER..... | 16.8 | 10.7 | 17.7 | 28.7 | 28.7 | 48.4 | 31.9 | 35.3 | 21.5 | 39.6 | 7.6 |
| NO AIR CONDITIONING..... | 13.0 | 14.4 | 6.4 | 14.2 | 14.2 | 8.4 | 7.1 | 9.1 | 12.8 | 8.4 | 4.0 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.0 | 10.3 | 5.9 | 10.7 | 10.7 | 8.4 | 6.2 | 7.8 | 9.6 | 8.3 | 2.7 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 11.5 | 12.5 | 8.3 | 13.4 | 13.4 | 15.1 | 10.4 | 10.6 | 13.9 | 15.0 | 3.7 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 8.9 | 12.8 | 13.4 | 9.2 | 9.2 | 9.8 | 9.3 | 14.6 | 9.6 | 10.6 | 2.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 14.2 | 13.7 | 7.6 | 18.0 | 18.0 | 12.3 | 13.5 | 13.1 | 18.7 | 12.3 | 2.5 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| 16.2 | 13.8 | 14.1 | 11.3 | 11.3 | 11.3 | 20.5 | 12.7 | 14.9 | 11.7 | 19.5 | 3.9 |
| NOT REPORTED..... | 38.3 | 39.6 | 34.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 46.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING SAND (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|---|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 9.7 | 12.4 | 5.6 | 12.0 | 12.0 | 7.8 | 7.0 | 6.4 | 10.1 | 5.7 | 3.7 |
| 10 TO 19..... | 12.0 | 12.3 | 5.5 | 13.2 | 13.2 | 6.7 | 8.6 | 6.6 | 12.8 | 7.2 | 2.5 |
| 20 TO 49..... | 8.5 | 9.7 | 6.7 | 24.3 | 24.3 | 23.5 | 27.4 | 23.5 | 18.1 | 16.5 | 7.1 |
| 50 TO 99..... | 15.5 | 12.6 | 11.0 | 20.1 | 20.1 | 19.8 | 21.1 | 19.4 | 19.8 | 18.5 | 3.5 |
| 100 OR MORE..... | 12.6 | 10.6 | 11.8 | 11.4 | 11.4 | 16.5 | 10.1 | 14.4 | 11.6 | 15.7 | 3.5 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 27.2 | 26.4 | 35.5 | 32.7 | 32.7 | 9 | 40.9 | - | 36.5 | 9 | 12.6 |
| 39 OR FEWER HOURS..... | 15.5 | 20.8 | 12.1 | 16.2 | 16.2 | 10.9 | 22.3 | 13.9 | 14.7 | 11.5 | 3.8 |
| 40 TO 48 HOURS..... | 7.4 | 9.8 | 4.9 | 11.0 | 11.0 | 8.5 | 7.7 | 11.9 | 10.1 | 7.9 | 2.2 |
| 49 TO 60 HOURS..... | 10.9 | 8.6 | 7.7 | 14.7 | 14.7 | 17.2 | 14.3 | 13.6 | 14.4 | 16.0 | 2.4 |
| 61 TO 84 HOURS..... | 10.4 | 14.6 | 11.0 | 13.6 | 13.6 | 8.6 | 7.7 | 9.8 | 12.8 | 8.0 | 4.4 |
| MORE THAN 84 HOURS..... | 10.4 | 8.8 | 7.8 | 14.8 | 14.9 | 22.1 | 18.3 | 16.8 | 11.3 | 17.7 | 4.8 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 8.9 | 9.2 | 4.9 | 8.4 | 8.5 | 7.2 | 7.2 | 7.8 | 8.9 | 7.9 | 1.9 |
| NO..... | 9.7 | 9.8 | 4.8 | 10.0 | 10.0 | 14.5 | 13.2 | 11.9 | 8.3 | 11.4 | 3.8 |
| DON'T KNOW/NOT REPORTED..... | 14.7 | 17.9 | 11.4 | 27.3 | 27.3 | 29.5 | 22.5 | 15.1 | 28.0 | 28.4 | 7.4 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 7.8 | 8.1 | 5.9 | 16.6 | 16.6 | 19.1 | 17.4 | 18.9 | 12.8 | 14.9 | 5.1 |
| NO..... | 9.8 | 9.5 | 5.4 | 8.3 | 8.3 | 7.5 | 5.8 | 5.2 | 8.4 | 7.9 | 2.0 |
| DON'T KNOW/NOT REPORTED..... | 15.8 | 14.6 | 14.0 | 11.9 | 11.9 | 18.4 | 9.1 | 15.3 | 12.3 | 17.2 | 1.9 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 8.1 | 8.9 | 7.7 | 10.5 | 10.5 | 9.2 | 8.8 | 13.1 | 11.1 | 9.7 | 1.7 |
| NO..... | 9.6 | 9.4 | 5.0 | 9.2 | 9.2 | 13.1 | 10.9 | 8.9 | 8.0 | 11.0 | 3.0 |
| DON'T KNOW/NOT REPORTED..... | 13.4 | 15.6 | 14.6 | 11.6 | 11.6 | 18.9 | 9.8 | 16.5 | 13.1 | 18.2 | 3.7 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 9.9 | 9.5 | 5.0 | 8.6 | 8.6 | 11.2 | 8.9 | 8.3 | 7.9 | 9.0 | 3.0 |
| NO..... | 10.8 | 10.8 | 7.0 | 13.2 | 13.2 | 12.2 | 10.7 | 9.4 | 12.9 | 13.3 | 2.3 |
| NOT REPORTED..... | 35.2 | 28.4 | 31.9 | 41.2 | 41.2 | 27.0 | 30.0 | 28.1 | 42.1 | 24.8 | 9.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C6. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 12.1 | 10.5 | 7.1 | 10.0 | 10.0 | 14.4 | 10.9 | 10.8 | 9.3 | 11.8 | 3.4 |
| NO..... | 17.7 | 14.8 | 10.0 | 22.5 | 22.5 | 14.9 | 12.5 | 13.7 | 22.5 | 16.0 | 2.4 |
| NOT REPORTED..... | 47.3 | 32.7 | 113.2 | 40.8 | 40.8 | 118.1 | 32.3 | 35.2 | 40.9 | 113.0 | 20.3 |
| NOT APPLICABLE..... | 9.4 | 12.0 | 6.0 | 11.9 | 11.9 | 7.2 | 6.8 | 7.5 | 10.9 | 6.5 | 3.4 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 9.8 | 9.3 | 5.0 | 8.2 | 8.2 | 10.6 | 8.3 | 8.0 | 7.8 | 8.9 | 2.7 |
| NO..... | 11.7 | 12.8 | 8.6 | 17.5 | 17.5 | 12.7 | 11.9 | 10.6 | 17.2 | 14.0 | 2.9 |
| NOT REPORTED..... | 34.7 | 26.8 | 35.1 | 35.5 | 35.5 | 38.7 | 28.8 | 34.1 | 34.2 | 35.3 | 13.3 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C7. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Use Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|-----------------------------------|
| COMMERCIAL BUILDINGS..... | 5.5 | 6.1 | 3.9 | 7.0 | 7.0 | 6.6 | 5.5 | 4.3 | 7.9 | 7.4 | 3.7 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 5.3 | 6.0 | 3.6 | 7.1 | 7.1 | 6.6 | 5.4 | 4.3 | 7.9 | 7.6 | 3.7 |
| NATURAL GAS..... | 8.7 | 8.6 | 4.6 | 9.2 | 9.2 | 8.5 | 6.4 | 6.2 | 8.5 | 8.6 | 2.7 |
| ELECTRICITY..... | 13.0 | 12.1 | 6.7 | 14.3 | 14.3 | 7.3 | 7.9 | 5.6 | 17.1 | 6.8 | 4.5 |
| FUEL OIL/KEROSENE..... | 10.5 | 9.6 | 6.1 | 11.5 | 11.5 | 13.8 | 11.1 | 12.3 | 17.1 | 18.8 | 8.3 |
| LIQUID PETROLEUM GAS..... | 15.7 | 13.7 | 17.6 | 21.4 | 21.4 | 22.0 | 18.4 | 21.9 | 16.8 | 19.5 | 13.7 |
| WOOD..... | 24.0 | 28.1 | 31.3 | 0 | 0 | 0 | 27.7 | 21.7 | 37.5 | 0 | 15.0 |
| STEAM..... | 22.0 | 19.4 | 14.2 | 20.2 | 20.2 | 19.7 | 14.7 | 13.6 | 19.3 | 18.3 | 6.2 |
| COAL..... | 23.2 | 22.6 | 27.2 | 44.2 | 44.2 | 0 | 0 | 38.4 | 34.0 | 0 | 10.8 |
| OTHER..... | 43.2 | 33.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 15.8 | 15.5 | 14.2 | 25.5 | 25.5 | 22.0 | 28.4 | 22.6 | 26.2 | 18.1 | 11.9 |
| AIR CONDITIONING FUEL USED.. | 7.1 | 6.9 | 4.6 | 7.9 | 7.9 | 5.9 | 5.0 | 4.5 | 9.0 | 6.2 | 3.9 |
| ELECTRICITY..... | 7.4 | 7.1 | 4.8 | 7.8 | 7.8 | 6.2 | 5.1 | 4.8 | 9.1 | 6.6 | 4.1 |
| NATURAL GAS..... | 9.6 | 11.9 | 14.3 | 14.4 | 14.4 | 14.9 | 12.9 | 6.8 | 13.6 | 13.5 | 2.2 |
| OTHER..... | 17.7 | 9.4 | 16.3 | 22.0 | 22.0 | 33.1 | 21.1 | 21.8 | 18.8 | 32.0 | 7.5 |
| NO AIR CONDITIONING FUEL.... | 9.4 | 10.6 | 5.7 | 13.1 | 13.1 | 10.8 | 11.5 | 13.0 | 10.9 | 9.2 | 5.9 |
| WATER-HEATING FUEL USED..... | 5.8 | 6.4 | 3.5 | 8.4 | 8.4 | 7.3 | 6.2 | 5.1 | 8.4 | 7.4 | 4.0 |
| NATURAL GAS..... | 8.0 | 8.1 | 4.6 | 10.2 | 10.2 | 10.3 | 8.0 | 7.2 | 9.2 | 9.6 | 3.2 |
| ELECTRICITY..... | 7.9 | 8.7 | 4.9 | 9.3 | 9.3 | 6.8 | 7.0 | 6.0 | 10.8 | 7.4 | 4.3 |
| FUEL OIL/KEROSENE..... | 13.2 | 11.4 | 11.9 | 19.9 | 19.9 | 18.6 | 16.7 | 22.4 | 27.4 | 24.6 | 12.3 |
| OTHER..... | 16.5 | 16.2 | 20.0 | 20.1 | 20.1 | 23.5 | 13.0 | 13.2 | 19.3 | 22.0 | 6.4 |
| NO WATER-HEATING FUEL..... | 6.8 | 7.5 | 5.8 | 16.5 | 16.5 | 16.3 | 17.4 | 16.5 | 16.2 | 15.7 | 5.9 |
| MANUFACTURING FUEL USED..... | 11.2 | 11.0 | 7.4 | 8.9 | 8.9 | 11.7 | 11.9 | 12.9 | 8.7 | 10.1 | 4.0 |
| ELECTRICITY..... | 13.3 | 12.9 | 7.8 | 10.3 | 10.3 | 13.7 | 14.3 | 14.8 | 9.9 | 11.8 | 4.3 |
| NATURAL GAS..... | 11.1 | 14.7 | 14.7 | 23.1 | 23.1 | 27.5 | 25.8 | 19.3 | 20.4 | 24.6 | 6.1 |
| OTHER..... | 24.1 | 18.4 | 27.7 | 19.7 | 19.7 | 27.2 | 15.5 | 23.0 | 20.8 | 32.2 | 11.9 |
| NO MANUFACTURING DONE..... | 5.6 | 6.2 | 4.2 | 8.2 | 8.2 | 7.3 | 6.2 | 4.2 | 9.1 | 8.3 | 4.0 |
| COOKING FUEL USED..... | 7.5 | 8.6 | 5.1 | 11.8 | 11.8 | 10.2 | 7.1 | 5.1 | 11.4 | 10.1 | 3.5 |
| ELECTRICITY..... | 9.8 | 10.1 | 6.2 | 14.0 | 14.0 | 11.6 | 9.9 | 7.3 | 13.2 | 10.8 | 4.6 |
| NATURAL GAS..... | 8.2 | 10.6 | 8.2 | 13.8 | 13.8 | 15.4 | 9.3 | 7.3 | 12.9 | 15.3 | 4.4 |
| LIQUID PETROLEUM GAS..... | 19.8 | 15.8 | 12.4 | 35.4 | 35.4 | 32.9 | 28.6 | 11.4 | 34.8 | 31.1 | 4.0 |
| OTHER..... | 28.6 | 26.2 | 0 | 39.6 | 39.6 | 0 | 14.6 | 21.6 | 48.9 | 0 | 14.3 |
| NO COOKING FUEL..... | 5.3 | 5.1 | 3.4 | 7.6 | 7.6 | 7.7 | 7.1 | 7.4 | 11.7 | 11.3 | 5.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 12.4 | 9.3 | 8.1 | 12.8 | 12.8 | 13.6 | 8.3 | 10.0 | 14.5 | 15.9 | 6.3 |
| NORTH CENTRAL..... | 10.2 | 9.7 | 8.5 | 9.7 | 9.7 | 14.5 | 10.9 | 4.9 | 9.6 | 14.4 | 1.7 |
| SOUTH..... | 10.6 | 12.0 | 6.2 | 12.0 | 12.0 | 11.6 | 10.3 | 8.6 | 13.4 | 10.7 | 7.8 |
| WEST..... | 11.1 | 12.9 | 9.4 | 13.9 | 13.9 | 16.2 | 12.2 | 4.2 | 20.0 | 24.6 | 10.5 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 7.6 | 6.8 | 5.4 | 8.5 | 8.5 | 8.3 | 5.3 | 5.3 | 6.8 | 7.8 | 4.4 |
| NONSMSA..... | 8.2 | 10.8 | 6.2 | 10.0 | 10.0 | 11.9 | 14.1 | 6.3 | 14.2 | 15.0 | 6.5 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 37.7 | 35.4 | 16.9 | 33.9 | 33.9 | 22.5 | 12.5 | 6.5 | 36.1 | 23.9 | 4.9 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 13.2 | 10.2 | 9.3 | 12.5 | 12.5 | 12.4 | 6.3 | 5.3 | 12.0 | 12.5 | 2.0 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 25.5 | 18.3 | 12.2 | 21.4 | 21.4 | 16.4 | 13.1 | 10.0 | 20.5 | 20.3 | 7.4 |
| <2,000 CDD AND <4,000 HDD... | 30.9 | 26.5 | 18.4 | 34.9 | 34.9 | 20.0 | 13.8 | 18.8 | 32.2 | 19.2 | 6.9 |
| >2,000 CDD AND <4,000 HDD... | 44.4 | 37.0 | 15.9 | 36.6 | 36.6 | 17.6 | 7.1 | 8.9 | 41.0 | 10.7 | 8.1 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 12.5 | 12.4 | 6.6 | 13.5 | 13.5 | 21.2 | 18.8 | 18.4 | 11.5 | 20.2 | 5.1 |
| AUTOMOTIVE SALES & SERVICE... | 9.6 | 13.5 | 11.2 | 14.7 | 14.7 | 10.0 | 12.0 | 10.4 | 12.1 | 9.3 | 5.3 |
| EDUCATION..... | 14.2 | 10.1 | 11.9 | 16.7 | 16.7 | 17.3 | 12.0 | 10.7 | 15.3 | 16.2 | 3.5 |
| FOOD SALES..... | 7.3 | 8.6 | 6.4 | 11.6 | 11.6 | 9.6 | 10.7 | 8.7 | 14.4 | 13.3 | 8.1 |
| HEALTH CARE..... | 16.5 | 11.0 | 16.6 | 15.1 | 15.1 | 19.6 | 11.9 | 9.4 | 13.6 | 18.1 | 8.7 |
| LODGING..... | 13.4 | 12.8 | 15.8 | 24.9 | 24.9 | 27.8 | 22.0 | 16.8 | 21.8 | 24.0 | 6.5 |
| OFFICE..... | 6.1 | 7.0 | 6.4 | 11.4 | 11.4 | 9.5 | 8.2 | 9.9 | 17.0 | 15.3 | 7.8 |
| RESIDENTIAL..... | 9.4 | 11.9 | 7.0 | 15.5 | 15.5 | 12.6 | 11.6 | 15.6 | 12.7 | 9.9 | 5.5 |
| RETAIL/SERVICES..... | 8.9 | 11.6 | 6.8 | 18.7 | 18.7 | 13.6 | 12.5 | 8.9 | 19.6 | 14.2 | 4.3 |
| WAREHOUSE AND STORAGE..... | 8.2 | 8.0 | 7.1 | 13.0 | 13.0 | 14.0 | 13.1 | 15.1 | 11.0 | 11.7 | 6.1 |
| OTHER..... | 11.9 | 11.5 | 7.0 | 15.2 | 15.2 | 22.2 | 22.0 | 19.0 | 14.9 | 20.3 | 5.8 |
| VACANT..... | 13.4 | 22.4 | 17.3 | 25.0 | 25.0 | 28.7 | 25.4 | 9 | 23.2 | 26.6 | 4.6 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 10.1 | 9.3 | 3.3 | 18.3 | 18.3 | 15.0 | 15.1 | 15.7 | 17.0 | 12.2 | 5.3 |
| 1,001 TO 5,000..... | 5.9 | 5.7 | 1.4 | 9.7 | 9.7 | 8.8 | 8.5 | 8.5 | 11.4 | 10.3 | 6.8 |
| 5,001 TO 10,000..... | 7.2 | 6.9 | 1.6 | 11.3 | 11.3 | 9.3 | 9.5 | 11.1 | 11.7 | 9.7 | 3.1 |
| 10,001 TO 25,000..... | 8.5 | 7.9 | 1.4 | 11.1 | 11.1 | 10.4 | 9.8 | 8.7 | 12.6 | 12.1 | 3.3 |
| 25,001 TO 50,000..... | 8.8 | 9.1 | 1.3 | 16.6 | 16.6 | 14.8 | 14.7 | 11.9 | 22.9 | 22.3 | 12.3 |
| OVER 50,000..... | 8.4 | 7.7 | 4.1 | 8.5 | 8.5 | 8.9 | 6.8 | 5.2 | 8.5 | 9.6 | 3.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 6.6 | 6.5 | 4.6 | 8.7 | 8.7 | 5.7 | 6.6 | 6.2 | 10.6 | 7.0 | 5.1 |
| TWO FLOORS..... | 8.5 | 9.0 | 7.0 | 8.2 | 8.2 | 12.1 | 8.7 | 7.7 | 8.9 | 12.3 | 3.0 |
| THREE FLOORS..... | 12.6 | 8.8 | 6.9 | 12.7 | 12.7 | 17.3 | 13.0 | 11.3 | 11.6 | 16.4 | 2.9 |
| MORE THAN THREE..... | 9.0 | 7.7 | 7.4 | 10.4 | 10.4 | 10.1 | 5.9 | 7.9 | 12.8 | 11.3 | 7.2 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.5 | 11.4 | 7.9 | 35.8 | 35.8 | 36.9 | 35.4 | 31.9 | 0 | 0 | 22.5 |
| 1901 TO 1920..... | 10.8 | 10.8 | 6.4 | 22.3 | 22.3 | 20.2 | 16.9 | 19.6 | 18.4 | 16.5 | 10.7 |
| 1921 TO 1945..... | 7.5 | 10.9 | 9.9 | 13.2 | 13.2 | 15.2 | 11.4 | 9.2 | 12.5 | 14.3 | 3.6 |
| 1946 TO 1960..... | 8.3 | 8.9 | 5.7 | 9.3 | 9.3 | 8.2 | 8.7 | 5.9 | 12.7 | 11.0 | 4.4 |
| 1961 TO 1970..... | 7.1 | 8.0 | 6.4 | 11.0 | 11.0 | 9.9 | 8.5 | 7.4 | 9.7 | 8.2 | 3.3 |
| 1971 TO 1973..... | 7.7 | 12.3 | 11.5 | 12.5 | 12.5 | 10.5 | 7.5 | 9.7 | 12.1 | 8.7 | 3.9 |
| 1974 TO 1979..... | 9.1 | 8.2 | 8.2 | 12.9 | 12.9 | 8.2 | 10.1 | 6.8 | 15.2 | 9.5 | 5.8 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 17.8 | 13.5 | 8.1 | 21.2 | 21.2 | 10.9 | 10.4 | 11.4 | 26.3 | 10.1 | 7.0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 6.9 | 7.4 | 3.9 | 9.7 | 9.7 | 8.8 | 6.6 | 5.8 | 8.2 | 8.4 | 3.1 |
| ELEC., FUEL OIL/KEROSENE..... | 8.7 | 9.4 | 4.7 | 10.3 | 10.3 | 9.1 | 7.3 | 6.0 | 9.0 | 8.2 | 2.6 |
| ELEC., LPG..... | 12.4 | 13.3 | 5.2 | 16.1 | 16.1 | 13.4 | 13.0 | 10.1 | 14.0 | 13.1 | 7.5 |
| OTHER..... | 14.7 | 20.8 | 19.1 | 30.3 | 30.3 | 34.8 | 25.2 | 28.1 | 28.5 | 30.9 | 19.5 |
| THREE FUELS USED..... | 17.1 | 18.5 | 21.6 | 31.5 | 31.5 | 34.7 | 29.4 | 28.8 | 29.9 | 33.5 | 7.7 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 8.3 | 9.6 | 8.8 | 10.1 | 10.1 | 11.3 | 7.7 | 9.0 | 13.5 | 14.1 | 6.6 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 11.1 | 9.7 | 8.6 | 13.8 | 13.8 | 13.3 | 11.4 | 14.2 | 21.0 | 19.8 | 10.7 |
| ELEC., GAS, OTHER..... | 29.8 | 16.8 | 20.3 | 25.9 | 25.9 | 29.1 | 21.7 | 17.2 | 24.7 | 26.9 | 5.0 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 15.4 | 21.9 | 24.3 | 18.8 | 18.8 | 21.7 | 9.9 | 12.0 | 20.9 | 23.3 | 5.6 |
| OTHER..... | 37.5 | 37.5 | 46.4 | 0 | 0 | 0 | 45.1 | 22.1 | 47.5 | 0 | 10.2 |
| OTHER..... | 26.7 | 26.5 | 40.2 | 36.0 | 36.0 | 0 | 20.9 | 47.3 | 36.9 | 0 | 7.7 |
| FOUR OR MORE FUELS USED..... | 24.2 | 18.7 | 25.1 | 22.4 | 22.4 | 40.3 | 18.8 | 17.5 | 19.7 | 39.1 | 7.4 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 5.5 | 6.1 | 3.9 | 7.0 | 7.0 | 6.6 | 5.5 | 4.3 | 7.9 | 7.4 | 3.7 |
| NATURAL GAS..... | 7.8 | 7.5 | 5.0 | 8.1 | 8.1 | 8.4 | 5.8 | 5.7 | 7.9 | 9.1 | 4.0 |
| FUEL OIL/KEROSENE..... | 10.4 | 8.8 | 5.7 | 9.7 | 9.7 | 12.3 | 9.1 | 9.4 | 14.2 | 16.2 | 7.7 |
| LIQUID PETROLEUM GAS..... | 13.9 | 15.0 | 11.5 | 14.1 | 14.1 | 18.8 | 14.0 | 14.9 | 14.8 | 18.2 | 8.1 |
| WOOD..... | 20.5 | 21.8 | 27.5 | 42.8 | 42.8 | 0 | 27.4 | 31.7 | 30.1 | 0 | 13.1 |
| COAL..... | 22.3 | 22.7 | 23.6 | 41.5 | 41.5 | 0 | 0 | 34.2 | 33.2 | 0 | 10.1 |
| STEAM..... | 20.8 | 19.4 | 15.3 | 20.4 | 20.4 | 19.8 | 14.2 | 13.3 | 19.5 | 19.0 | 6.0 |
| OTHER..... | 25.2 | 21.6 | 19.7 | 19.5 | 19.5 | 24.1 | 14.9 | 25.3 | 18.1 | 26.1 | 4.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 7.4 | 5.4 | 9.9 | 9.9 | 7.3 | 5.4 | 5.3 | 11.0 | 8.0 | 5.3 |
| RADIANT..... | 13.5 | 15.8 | 18.9 | 24.5 | 24.5 | 27.3 | 20.8 | 20.3 | 20.4 | 24.5 | 8.3 |
| COMBINATION/OTHER..... | 8.8 | 11.3 | 9.5 | 17.0 | 17.0 | 13.8 | 12.6 | 9.8 | 19.7 | 17.1 | 6.3 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 7.1 | 6.0 | 5.4 | 9.8 | 9.8 | 9.7 | 7.7 | 8.1 | 9.0 | 10.0 | 3.8 |
| RADIANT..... | 9.9 | 10.4 | 6.6 | 15.3 | 15.3 | 15.1 | 10.7 | 9.7 | 14.3 | 14.6 | 5.9 |
| COMBINATION/OTHER..... | 10.1 | 8.1 | 8.0 | 12.0 | 12.0 | 15.6 | 11.2 | 9.4 | 11.2 | 15.6 | 3.5 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 14.3 | 21.7 | 16.3 | 30.1 | 30.1 | 27.8 | 18.2 | 18.9 | 33.2 | 29.1 | 9.9 |
| RADIANT..... | 19.1 | 24.7 | 19.5 | 76.2 | 0 | 0 | 0 | 0 | 0 | 0 | 26.9 |
| COMBINATION/OTHER..... | 13.4 | 13.4 | 10.3 | 10.2 | 10.2 | 12.2 | 12.0 | 12.0 | 10.5 | 13.2 | 3.5 |
| NONE..... | 16.1 | 15.6 | 14.4 | 26.0 | 26.0 | 22.1 | 28.8 | 22.5 | 26.8 | 18.3 | 11.9 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 8.6 | 9.4 | 7.1 | 12.8 | 12.8 | 10.2 | 7.8 | 14.3 | 12.4 | 7.6 | 7.1 |
| 26 TO 50..... | 11.0 | 10.9 | 9.2 | 14.0 | 14.0 | 18.5 | 16.6 | 15.4 | 14.3 | 18.8 | 4.8 |
| 51 TO 75..... | 10.9 | 10.5 | 11.5 | 15.6 | 15.6 | 25.2 | 15.8 | 10.9 | 16.1 | 25.4 | 4.6 |
| 76 TO 99..... | 12.9 | 11.3 | 13.1 | 16.5 | 16.5 | 17.0 | 9.8 | 8.8 | 17.0 | 18.6 | 6.9 |
| 100..... | 6.1 | 7.0 | 4.2 | 9.0 | 9.0 | 7.8 | 6.6 | 5.3 | 10.5 | 9.5 | 4.4 |
| NONE..... | 16.1 | 15.6 | 14.4 | 26.0 | 26.0 | 22.1 | 28.8 | 22.5 | 26.8 | 18.3 | 11.9 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 7.1 | 7.1 | 5.2 | 12.4 | 12.4 | 12.7 | 10.1 | 13.2 | 10.1 | 9.5 | 4.4 |
| 26 TO 50..... | 9.4 | 9.6 | 5.4 | 14.8 | 14.8 | 14.9 | 14.5 | 13.0 | 13.0 | 13.6 | 4.9 |
| 51 TO 75..... | 9.7 | 7.1 | 12.1 | 16.4 | 16.4 | 19.2 | 15.3 | 13.4 | 27.9 | 29.2 | 13.0 |
| 76 TO 99..... | 13.4 | 10.3 | 14.1 | 12.9 | 12.9 | 15.2 | 7.1 | 8.0 | 12.3 | 14.3 | 6.1 |
| 100..... | 12.7 | 11.2 | 8.5 | 13.2 | 13.2 | 6.6 | 6.2 | 3.6 | 14.5 | 5.6 | 3.7 |
| NONE..... | 9.4 | 10.6 | 5.7 | 13.1 | 13.1 | 10.8 | 11.5 | 13.0 | 10.9 | 9.2 | 5.9 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 8.2 | 10.9 | 7.8 | 13.7 | 13.7 | 12.4 | 15.2 | 13.7 | 12.9 | 10.6 | 3.8 |
| PACKAGE UNITS..... | 12.9 | 9.3 | 6.5 | 11.1 | 11.1 | 6.9 | 5.6 | 5.2 | 12.7 | 6.2 | 4.0 |
| CENTRAL SYSTEM..... | 7.2 | 8.4 | 7.4 | 10.5 | 10.5 | 8.5 | 7.6 | 7.4 | 9.8 | 7.8 | 5.0 |
| COMBINATION/OTHER..... | 10.3 | 9.5 | 12.7 | 13.3 | 13.3 | 16.4 | 11.2 | 11.1 | 16.8 | 19.1 | 8.3 |
| NO AIR CONDITIONING..... | 9.4 | 10.6 | 5.7 | 13.1 | 13.1 | 10.8 | 11.5 | 13.0 | 10.9 | 9.2 | 5.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.1 | 7.3 | 4.9 | 6.2 | 6.2 | 7.6 | 6.4 | 4.8 | 6.2 | 8.5 | 3.4 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 7.6 | 8.3 | 5.7 | 13.4 | 13.4 | 11.6 | 11.0 | 8.7 | 13.4 | 11.3 | 3.2 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 8.3 | 12.3 | 11.2 | 16.7 | 16.7 | 14.7 | 12.7 | 13.4 | 22.6 | 20.9 | 11.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.5 | 10.9 | 9.6 | 15.3 | 15.3 | 12.1 | 10.1 | 8.4 | 15.9 | 12.2 | 4.5 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 12.9 | 10.3 | 9.2 | 19.8 | 19.8 | 17.0 | 14.1 | 15.3 | 17.5 | 14.7 | 5.5 |
| NOT REPORTED..... | 17.2 | 20.6 | 24.3 | 47.0 | 47.0 | 2 | 2 | 2 | 44.5 | 2 | 7.6 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 6.0 | 7.3 | 4.1 | 7.5 | 7.5 | 6.2 | 8.9 | 6.3 | 7.9 | 7.9 | 3.6 |
| 10 TO 19..... | 12.0 | 10.0 | 8.0 | 11.2 | 11.2 | 8.8 | 8.1 | 8.8 | 13.7 | 8.6 | 4.5 |
| 20 TO 49..... | 9.1 | 8.1 | 6.2 | 10.8 | 10.8 | 8.5 | 9.4 | 8.7 | 11.4 | 7.8 | 3.7 |
| 50 TO 99..... | 11.6 | 9.2 | 8.0 | 12.5 | 12.5 | 7.5 | 8.5 | 7.0 | 12.3 | 7.4 | 3.3 |
| 100 OR MORE..... | 11.5 | 9.5 | 11.3 | 12.4 | 12.4 | 10.8 | 7.9 | 8.6 | 14.0 | 11.6 | 6.7 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 17.9 | 20.9 | 15.8 | 31.6 | 31.6 | 41.6 | 41.0 | 47.7 | 28.2 | 38.4 | 7.6 |
| 39 OR FEWER HOURS..... | 9.5 | 14.8 | 9.0 | 24.3 | 24.3 | 22.1 | 24.8 | 11.8 | 20.5 | 20.4 | 13.5 |
| 40 TO 48 HOURS..... | 6.7 | 8.8 | 5.5 | 14.5 | 14.5 | 13.6 | 14.0 | 14.7 | 20.6 | 19.9 | 9.6 |
| 49 TO 60 HOURS..... | 8.2 | 8.6 | 4.3 | 9.7 | 9.7 | 7.1 | 6.5 | 5.7 | 9.5 | 6.8 | 3.4 |
| 61 TO 84 HOURS..... | 6.6 | 9.9 | 8.8 | 11.5 | 11.5 | 10.7 | 6.8 | 8.3 | 11.5 | 10.2 | 4.3 |
| MORE THAN 84 HOURS..... | 7.4 | 6.1 | 6.3 | 7.5 | 7.5 | 7.8 | 6.7 | 4.9 | 8.8 | 7.9 | 3.8 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C7. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 5.9 | 7.1 | 4.2 | 9.7 | 9.7 | 9.5 | 8.6 | 6.8 | 11.4 | 11.5 | 5.8 |
| NO..... | 6.3 | 6.6 | 4.3 | 6.8 | 6.8 | 6.5 | 5.2 | 4.0 | 7.5 | 7.0 | 3.6 |
| DON'T KNOW/NOT REPORTED..... | 9.9 | 13.9 | 9.3 | 24.7 | 24.7 | 21.2 | 15.5 | 12.3 | 26.7 | 24.3 | 8.5 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 6.5 | 8.3 | 4.9 | 9.7 | 9.7 | 10.1 | 9.0 | 7.3 | 10.4 | 10.0 | 4.6 |
| NO..... | 5.9 | 6.3 | 4.6 | 7.8 | 7.8 | 7.2 | 6.5 | 5.2 | 9.2 | 8.7 | 4.3 |
| DON'T KNOW/NOT REPORTED..... | 10.7 | 12.1 | 12.4 | 12.6 | 12.6 | 9.5 | 7.5 | 7.0 | 11.2 | 9.2 | 4.0 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 6.4 | 8.5 | 5.7 | 12.0 | 12.0 | 11.6 | 10.9 | 8.7 | 11.8 | 10.9 | 4.3 |
| NO..... | 5.8 | 6.2 | 4.3 | 7.5 | 7.5 | 7.2 | 5.8 | 4.7 | 8.7 | 8.4 | 4.2 |
| DON'T KNOW/NOT REPORTED..... | 9.4 | 12.0 | 11.2 | 12.1 | 12.1 | 11.1 | 9.5 | 9.4 | 13.5 | 14.8 | 6.9 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 5.7 | 6.2 | 3.8 | 7.9 | 7.9 | 7.7 | 6.0 | 5.4 | 8.8 | 8.5 | 4.1 |
| NO..... | 7.6 | 8.9 | 6.8 | 9.6 | 9.6 | 10.8 | 8.5 | 5.4 | 10.1 | 11.8 | 2.8 |
| NOT REPORTED..... | 23.6 | 23.8 | 22.9 | 35.4 | 35.4 | 35.0 | 34.5 | 32.1 | 33.5 | 32.3 | 9.8 |
| NOT APPLICABLE..... | 16.1 | 15.6 | 14.4 | 26.0 | 26.0 | 22.1 | 28.8 | 22.5 | 26.8 | 18.3 | 11.9 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 7.8 | 7.4 | 5.1 | 8.2 | 8.2 | 6.9 | 5.4 | 5.3 | 8.5 | 6.2 | 3.8 |
| NO..... | 13.1 | 11.7 | 8.8 | 15.8 | 15.8 | 14.2 | 12.5 | 12.5 | 26.9 | 24.6 | 13.8 |
| NOT REPORTED..... | 24.2 | 20.9 | 22.5 | 35.4 | 35.4 | 39.6 | 35.0 | 34.7 | 31.9 | 33.7 | 15.5 |
| NOT APPLICABLE..... | 7.0 | 8.2 | 4.7 | 8.3 | 8.3 | 7.7 | 9.5 | 7.1 | 6.8 | 7.4 | 3.9 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 5.7 | 6.1 | 3.8 | 7.3 | 7.3 | 7.1 | 5.7 | 5.2 | 8.4 | 8.0 | 4.1 |
| NO..... | 8.6 | 11.0 | 7.5 | 12.7 | 12.7 | 13.4 | 10.5 | 7.3 | 12.6 | 13.5 | 2.4 |
| NOT REPORTED..... | 22.5 | 22.2 | 27.7 | 33.9 | 33.9 | 34.5 | 33.3 | 30.6 | 31.2 | 30.2 | 11.7 |
| NOT APPLICABLE..... | 14.6 | 17.7 | 16.7 | 21.6 | 21.6 | 18.9 | 25.3 | 23.4 | 22.9 | 18.5 | 8.9 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C8. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Heat With Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 13.0 | 12.1 | 6.7 | 14.3 | 14.3 | 7.3 | 7.9 | 5.6 | 17.1 | 6.8 | 4.5 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 12.6 | 13.4 | 11.1 | 20.5 | 20.5 | 18.9 | 15.0 | 14.0 | 23.9 | 22.4 | 5.8 |
| ELECTRICITY..... | 13.0 | 12.1 | 6.7 | 14.3 | 14.3 | 7.3 | 7.9 | 5.6 | 17.1 | 6.8 | 4.5 |
| FUEL OIL/KEROSENE..... | 35.2 | 31.0 | 21.0 | 27.7 | 27.7 | 43.8 | 31.9 | 32.1 | 34.1 | 42.6 | 11.3 |
| LIQUID PETROLEUM GAS..... | 34.3 | 27.3 | 22.2 | 39.0 | 39.0 | 22.8 | 15.1 | 9.8 | 36.4 | 23.9 | 4.1 |
| WOOD..... | 56.7 | 76.1 | 0 | 0 | 0 | 0 | 34.7 | 17.4 | 0 | 0 | 23.5 |
| OTHER..... | 41.3 | 13.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AIR CONDITIONING FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 18.0 | 14.7 | 7.8 | 15.8 | 15.8 | 8.9 | 7.6 | 6.1 | 18.8 | 7.0 | 4.7 |
| OTHER..... | 18.3 | 18.8 | 22.2 | 16.5 | 16.5 | 22.5 | 11.3 | 14.0 | 15.9 | 21.4 | 5.5 |
| NO AIR CONDITIONING FUEL..... | 17.1 | 18.6 | 14.2 | 19.7 | 19.7 | 17.3 | 20.4 | 17.0 | 20.3 | 18.8 | 7.9 |
| WATER-HEATING FUEL USED..... | 12.0 | 11.5 | 7.3 | 13.8 | 13.8 | 8.8 | 8.4 | 6.7 | 15.5 | 7.9 | 4.4 |
| NATURAL GAS..... | 13.4 | 14.5 | 16.3 | 22.3 | 22.3 | 24.9 | 18.0 | 13.3 | 22.8 | 25.4 | 6.5 |
| ELECTRICITY..... | 13.8 | 12.8 | 8.3 | 13.7 | 13.7 | 8.0 | 9.0 | 6.7 | 16.2 | 6.3 | 4.9 |
| FUEL OIL/KEROSENE..... | 31.0 | 36.0 | 0 | 0 | 0 | 0 | 23.2 | 11.9 | 0 | 0 | 15.0 |
| OTHER..... | 51.2 | 37.6 | 0 | 49.4 | 49.4 | 0 | 14.9 | 37.3 | 47.0 | 0 | 7.4 |
| NO WATER-HEATING FUEL..... | 18.1 | 22.1 | 9.9 | 37.2 | 37.2 | 25.0 | 21.7 | 22.1 | 40.9 | 26.6 | 6.7 |
| MANUFACTURING FUEL USED..... | 31.1 | 22.1 | 22.9 | 20.9 | 20.9 | 22.9 | 20.1 | 22.6 | 21.1 | 22.0 | 4.1 |
| ELECTRICITY..... | 32.4 | 21.7 | 24.0 | 20.7 | 20.7 | 25.3 | 22.5 | 24.0 | 20.9 | 24.5 | 3.6 |
| OTHER..... | 41.3 | 34.2 | 39.8 | 36.7 | 36.7 | 0 | 38.0 | 29.9 | 36.3 | 0 | 4.7 |
| NO MANUFACTURING DONE..... | 13.3 | 13.0 | 7.1 | 17.1 | 17.1 | 9.0 | 8.6 | 5.6 | 19.7 | 8.6 | 4.9 |
| COOKING FUEL USED..... | 16.7 | 15.6 | 9.5 | 19.0 | 19.0 | 15.1 | 12.8 | 6.8 | 20.1 | 14.5 | 4.8 |
| ELECTRICITY..... | 19.2 | 16.9 | 11.0 | 18.8 | 18.8 | 15.7 | 17.4 | 8.5 | 19.0 | 12.8 | 5.3 |
| NATURAL GAS..... | 12.7 | 25.0 | 26.2 | 29.9 | 29.9 | 32.2 | 16.6 | 13.0 | 29.8 | 32.1 | 8.4 |
| OTHER..... | 26.5 | 35.9 | 25.1 | 49.5 | 49.5 | 41.6 | 23.4 | 22.6 | 0 | 49.8 | 13.3 |
| NO COOKING FUEL..... | 12.9 | 12.9 | 5.4 | 17.7 | 17.7 | 8.4 | 8.5 | 8.7 | 21.3 | 9.6 | 5.4 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 18.7 | 16.5 | 17.8 | 31.1 | 31.1 | 24.8 | 21.4 | 19.3 | 30.1 | 26.0 | 7.3 |
| NORTH CENTRAL..... | 21.4 | 16.5 | 15.7 | 23.3 | 23.3 | 15.3 | 21.5 | 19.8 | 24.5 | 14.6 | 3.1 |
| SOUTH..... | 19.9 | 22.0 | 7.7 | 20.1 | 20.1 | 8.2 | 10.2 | 6.1 | 25.3 | 6.6 | 7.3 |
| WEST..... | 6.2 | 11.7 | 12.3 | 17.7 | 17.7 | 16.0 | 9.8 | 10.5 | 22.2 | 20.3 | 13.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER (MILLION DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|---|--|
| SHMSA/NONSHMSA | | | | | | | | | | | |
| SHMSA..... | 14.3 | 10.0 | 10.5 | 14.2 | 14.2 | 12.4 | 7.9 | 7.3 | 16.3 | 10.2 | 5.4 |
| NONSHMSA..... | 21.7 | 26.2 | 9.6 | 24.4 | 24.4 | 11.0 | 16.3 | 8.6 | 32.2 | 11.7 | 7.9 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 55.5 | 48.0 | 0 | 47.3 | 47.3 | 0 | 19.1 | 30.8 | 0 | 0 | 7.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 18.4 | 18.4 | 9.1 | 20.4 | 20.4 | 20.2 | 18.6 | 18.4 | 19.5 | 19.4 | 4.0 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 30.7 | 24.9 | 19.3 | 34.8 | 34.8 | 27.2 | 21.4 | 13.4 | 36.3 | 29.7 | 7.4 |
| <2,000 CDD AND <4,000 HDD... | 38.7 | 30.5 | 26.9 | 33.3 | 33.3 | 18.8 | 13.5 | 12.9 | 32.4 | 19.7 | 4.0 |
| >2,000 CDD AND <4,000 HDD... | 54.2 | 51.3 | 11.2 | 47.8 | 47.8 | 17.5 | 10.3 | 8.8 | 0 | 10.5 | 8.8 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 21.5 | 15.7 | 18.5 | 29.4 | 29.4 | 0 | 32.1 | 31.4 | 29.1 | 0 | 6.3 |
| AUTOMOTIVE SALES & SERVICE.. | 39.0 | 57.8 | 19.2 | 0 | 0 | 33.9 | 27.0 | 23.3 | 66.7 | 22.7 | 20.4 |
| EDUCATION..... | 34.3 | 18.3 | 22.2 | 25.9 | 25.9 | 34.8 | 40.9 | 16.3 | 24.2 | 32.4 | 6.4 |
| FOOD SALES..... | 16.1 | 26.0 | 14.6 | 27.2 | 27.2 | 13.2 | 19.6 | 9.7 | 36.8 | 21.8 | 9.1 |
| HEALTH CARE..... | 31.6 | 13.3 | 32.2 | 16.0 | 16.0 | 0 | 31.6 | 8.7 | 16.7 | 0 | 3.7 |
| LODGING..... | 20.6 | 19.6 | 24.1 | 42.6 | 42.6 | 41.4 | 33.8 | 22.9 | 37.4 | 35.1 | 9.7 |
| OFFICE..... | 16.1 | 14.9 | 7.4 | 15.4 | 15.4 | 7.7 | 4.6 | 6.9 | 18.8 | 6.9 | 6.3 |
| RESIDENTIAL..... | 20.7 | 29.3 | 16.2 | 35.2 | 35.2 | 28.1 | 27.4 | 18.0 | 36.3 | 27.8 | 6.9 |
| RETAIL/SERVICES..... | 23.3 | 27.6 | 16.8 | 30.8 | 30.8 | 24.6 | 20.1 | 15.9 | 32.4 | 24.6 | 6.7 |
| WAREHOUSE AND STORAGE..... | 19.0 | 18.9 | 18.8 | 25.3 | 25.3 | 26.7 | 14.0 | 17.7 | 21.7 | 23.3 | 7.0 |
| OTHER..... | 14.8 | 17.6 | 16.9 | 35.6 | 35.6 | 38.2 | 45.8 | 30.4 | 35.2 | 37.4 | 5.4 |
| VACANT..... | 24.6 | 31.1 | 44.4 | 0 | 0 | 0 | 0 | - | 0 | 0 | 26.7 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 10.7 | 12.1 | 7.1 | 39.8 | 39.8 | 33.4 | 29.6 | 38.7 | 31.4 | 24.2 | 15.4 |
| 1,001 TO 5,000..... | 15.3 | 16.9 | 3.7 | 24.9 | 24.9 | 12.5 | 12.5 | 6.9 | 29.3 | 15.9 | 6.3 |
| 5,001 TO 10,000..... | 23.2 | 21.0 | 3.1 | 26.3 | 26.3 | 11.4 | 11.7 | 11.0 | 30.2 | 11.8 | 6.6 |
| 10,001 TO 25,000..... | 19.5 | 19.6 | 3.2 | 25.1 | 25.1 | 16.8 | 16.1 | 12.6 | 28.1 | 18.1 | 6.0 |
| 25,001 TO 50,000..... | 10.8 | 10.2 | 2.4 | 20.1 | 20.1 | 17.2 | 17.0 | 13.1 | 18.1 | 13.8 | 5.8 |
| OVER 50,000..... | 12.9 | 12.2 | 10.5 | 15.9 | 15.9 | 17.1 | 13.5 | 10.6 | 19.0 | 20.8 | 5.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 15.6 | 16.8 | 7.3 | 20.8 | 20.8 | 8.4 | 11.6 | 8.7 | 26.1 | 10.6 | 6.0 |
| TWO FLOORS..... | 14.4 | 14.6 | 8.4 | 20.2 | 20.2 | 19.1 | 16.3 | 13.9 | 21.1 | 18.7 | 4.3 |
| THREE FLOORS..... | 9.5 | 13.5 | 13.3 | 29.2 | 29.2 | 30.1 | 29.9 | 20.3 | 24.5 | 25.2 | 6.5 |
| MORE THAN THREE..... | 18.1 | 16.5 | 14.8 | 20.9 | 20.9 | 19.3 | 7.6 | 7.9 | 26.8 | 26.3 | 8.5 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 24.5 | 21.1 | 20.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20.9 |
| 1901 TO 1920..... | 19.8 | 19.0 | 16.0 | 30.3 | 30.3 | 31.4 | 26.6 | 25.7 | 27.5 | 27.5 | 16.8 |
| 1921 TO 1945..... | 16.4 | 23.3 | 15.0 | 31.2 | 31.2 | 29.0 | 22.7 | 20.9 | 27.8 | 24.1 | 7.8 |
| 1946 TO 1960..... | 18.7 | 16.6 | 13.6 | 27.3 | 27.3 | 20.9 | 19.3 | 15.1 | 32.9 | 25.4 | 7.0 |
| 1961 TO 1970..... | 14.1 | 19.5 | 14.0 | 21.3 | 21.3 | 20.9 | 16.0 | 13.4 | 19.9 | 17.0 | 7.2 |
| 1971 TO 1973..... | 18.2 | 14.5 | 12.4 | 18.4 | 18.4 | 13.7 | 8.2 | 14.6 | 20.0 | 12.1 | 4.0 |
| 1974 TO 1979..... | 16.0 | 13.2 | 12.5 | 20.2 | 20.2 | 11.8 | 12.8 | 10.9 | 23.0 | 11.5 | 4.5 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 19.4 | 16.2 | 6.9 | 22.4 | 22.4 | 9.7 | 8.7 | 10.5 | 27.1 | 9.0 | 6.7 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 11.4 | 10.1 | 7.6 | 17.4 | 17.4 | 13.4 | 10.2 | 8.4 | 16.5 | 12.7 | 4.6 |
| ELEC., FUEL OIL/KEROSENE..... | 11.7 | 11.5 | 9.5 | 20.2 | 20.2 | 17.8 | 12.8 | 10.2 | 17.9 | 16.6 | 5.3 |
| ELEC., LPG..... | 25.0 | 22.6 | 18.9 | 33.4 | 33.4 | 34.4 | 26.2 | 33.1 | 32.0 | 31.1 | 17.4 |
| OTHER..... | 24.5 | 34.2 | 13.9 | 0 | 0 | 34.1 | 25.0 | 20.9 | 0 | 32.3 | 4.0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 50.7 | 52.5 | 24.7 | 0 | 0 | 43.1 | 21.1 | 0 | 0 | 0 | 24.1 |
| ELEC., GAS, LPG..... | 32.3 | 27.6 | 18.9 | 22.1 | 22.1 | 28.0 | 23.0 | 17.0 | 28.2 | 30.0 | 9.0 |
| ELEC., GAS, OTHER..... | 39.4 | 26.1 | 43.3 | 27.0 | 27.0 | 0 | 29.7 | 24.4 | 34.5 | 0 | 12.7 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 33.4 | 0 | 0 | 37.2 | 37.2 | 18.7 | 36.3 | 10.6 | 39.9 | 21.0 | 9.6 |
| OTHER..... | 61.2 | 38.9 | 32.8 | 75.4 | 75.4 | 37.8 | 40.6 | 0 | 75.4 | 35.6 | 18.7 |
| FOUR OR MORE FUELS USED..... | 67.3 | 56.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30.0 | 41.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 13.0 | 12.1 | 6.7 | 14.3 | 14.3 | 7.3 | 7.9 | 5.6 | 17.1 | 6.8 | 4.5 |
| NATURAL GAS..... | 10.6 | 13.1 | 11.5 | 17.0 | 17.0 | 15.9 | 11.3 | 9.1 | 17.6 | 16.9 | 4.4 |
| FUEL OIL/KEROSENE..... | 29.6 | 20.2 | 19.5 | 17.2 | 17.2 | 33.8 | 20.9 | 17.3 | 23.1 | 33.2 | 8.9 |
| LIQUID PETROLEUM GAS..... | 26.4 | 37.6 | 20.9 | 33.5 | 33.5 | 17.4 | 17.1 | 10.5 | 34.9 | 18.0 | 6.7 |
| WOOD..... | 37.2 | 54.1 | 0 | 0 | 0 | 0 | 31.3 | 39.0 | 0 | 0 | 18.9 |
| OTHER..... | 35.9 | 14.4 | 42.4 | 17.2 | 17.2 | 46.2 | 21.7 | 22.5 | 16.5 | 47.3 | 6.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 22.7 | 18.8 | 8.5 | 18.6 | 18.6 | 9.9 | 7.5 | 7.9 | 22.8 | 6.3 | 6.2 |
| RADIANT..... | 17.8 | 21.6 | 24.7 | 32.7 | 32.7 | 37.2 | 23.2 | 23.4 | 30.7 | 36.8 | 9.1 |
| COMBINATION/OTHER..... | 14.2 | 18.4 | 18.4 | 24.7 | 24.7 | 22.3 | 27.2 | 17.1 | 26.1 | 23.8 | 5.5 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 20.1 | 14.2 | 18.2 | 20.8 | 20.8 | 22.6 | 12.8 | 11.0 | 21.7 | 20.2 | 5.7 |
| RADIANT..... | 19.1 | 21.9 | 27.7 | 27.1 | 27.1 | 32.5 | 24.3 | 9.1 | 26.1 | 31.1 | 5.1 |
| COMBINATION/OTHER..... | 17.1 | 17.9 | 19.5 | 40.0 | 40.0 | 38.3 | 36.7 | 35.8 | 38.7 | 37.0 | 7.0 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 25.0 | 38.3 | 31.8 | 39.9 | 39.9 | 0 | 29.9 | 29.0 | 43.9 | 0 | 13.7 |
| RADIANT..... | 26.6 | 43.6 | 36.7 | 43.7 | 43.7 | 43.4 | 35.8 | 64.9 | 40.6 | 36.0 | 24.1 |
| COMBINATION/OTHER..... | 24.3 | 21.3 | 17.2 | 22.9 | 22.9 | 25.1 | 20.6 | 19.0 | 22.1 | 24.9 | 5.7 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 16.5 | 16.1 | 15.0 | 26.4 | 26.4 | 23.6 | 14.8 | 22.0 | 26.1 | 21.6 | 5.9 |
| 26 TO 50..... | 18.5 | 23.0 | 21.6 | 26.8 | 26.8 | 20.6 | 20.5 | 18.8 | 33.7 | 20.3 | 14.8 |
| 51 TO 75..... | 14.6 | 16.7 | 11.6 | 33.6 | 33.6 | 27.9 | 26.7 | 17.9 | 36.3 | 31.3 | 7.4 |
| 76 TO 99..... | 16.8 | 17.8 | 22.2 | 23.7 | 23.7 | 28.1 | 13.4 | 13.0 | 28.9 | 32.2 | 8.7 |
| 100..... | 14.5 | 16.2 | 7.9 | 17.7 | 17.7 | 10.5 | 11.0 | 8.5 | 19.5 | 8.9 | 4.8 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 17.7 | 14.6 | 10.8 | 27.9 | 27.9 | 27.1 | 17.1 | 17.6 | 25.7 | 23.9 | 5.0 |
| 26 TO 50..... | 20.4 | 16.8 | 10.7 | 36.3 | 36.3 | 38.2 | 33.6 | 31.1 | 35.1 | 36.0 | 12.7 |
| 51 TO 75..... | 12.9 | 12.5 | 14.5 | 28.0 | 28.0 | 26.2 | 19.4 | 14.7 | 32.8 | 29.0 | 7.3 |
| 76 TO 99..... | 17.7 | 17.7 | 21.3 | 21.8 | 21.8 | 26.5 | 10.4 | 13.9 | 27.1 | 30.9 | 8.1 |
| 100..... | 22.9 | 21.7 | 11.2 | 24.1 | 24.1 | 12.2 | 11.5 | 8.1 | 26.3 | 8.4 | 5.9 |
| NONE..... | 17.1 | 18.6 | 14.2 | 19.7 | 19.7 | 17.3 | 20.4 | 17.0 | 20.3 | 18.8 | 7.9 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 14.8 | 20.4 | 12.6 | 28.5 | 28.5 | 20.6 | 27.4 | 23.9 | 27.3 | 17.2 | 8.4 |
| PACKAGE UNITS..... | 25.7 | 18.3 | 12.4 | 20.5 | 20.5 | 13.7 | 11.4 | 8.8 | 23.6 | 9.9 | 5.0 |
| CENTRAL SYSTEM..... | 17.1 | 13.4 | 9.7 | 15.0 | 15.0 | 12.3 | 8.5 | 8.1 | 17.9 | 11.3 | 6.5 |
| COMBINATION/OTHER..... | 18.0 | 18.5 | 14.2 | 24.5 | 24.5 | 28.1 | 19.6 | 19.4 | 26.1 | 29.7 | 8.9 |
| NO AIR CONDITIONING..... | 17.1 | 18.6 | 14.2 | 19.7 | 19.7 | 17.3 | 20.4 | 17.0 | 20.3 | 18.8 | 7.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER SAND DOLLARS | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|----------------------------------|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 13.7 | 15.0 | 8.8 | 17.0 | 17.0 | 13.1 | 12.3 | 8.9 | 17.4 | 11.2 | 3.9 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 15.4 | 14.1 | 9.1 | 24.7 | 24.7 | 16.8 | 16.6 | 15.8 | 25.5 | 16.7 | 5.7 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 25.4 | 29.8 | 12.1 | 27.3 | 27.3 | 21.8 | 18.7 | 18.3 | 31.1 | 22.6 | 8.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 23.1 | 15.0 | 14.9 | 22.7 | 22.7 | 23.9 | 16.7 | 15.3 | 25.2 | 22.5 | 8.2 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 26.7 | 17.1 | 22.9 | 36.3 | 36.3 | 36.3 | 39.1 | 20.8 | 35.7 | 32.1 | 9.6 |
| NOT REPORTED..... | 29.6 | 44.8 | 33.9 | 46.6 | 46.6 | 0 | 0 | 0 | 45.6 | 0 | 7.9 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 10.5 | 11.5 | 6.4 | 21.9 | 21.9 | 13.6 | 16.9 | 14.5 | 23.4 | 13.8 | 5.2 |
| 10 TO 19..... | 25.8 | 20.4 | 9.9 | 21.3 | 21.3 | 17.9 | 16.7 | 18.4 | 24.7 | 16.2 | 6.9 |
| 20 TO 49..... | 23.2 | 14.0 | 12.4 | 21.6 | 21.6 | 9.5 | 14.1 | 9.9 | 25.5 | 10.3 | 6.4 |
| 50 TO 99..... | 19.9 | 14.9 | 11.1 | 19.6 | 19.6 | 16.8 | 11.2 | 16.0 | 20.4 | 15.3 | 6.0 |
| 100 OR MORE..... | 20.6 | 19.4 | 13.0 | 19.5 | 19.5 | 14.6 | 14.4 | 11.7 | 21.3 | 14.6 | 5.6 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 28.3 | 34.4 | 27.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20.6 |
| 39 OR FEWER HOURS..... | 11.7 | 17.2 | 12.5 | 41.0 | 41.0 | 37.0 | 30.2 | 48.1 | 40.7 | 36.5 | 8.3 |
| 40 TO 48 HOURS..... | 20.8 | 14.4 | 12.8 | 20.9 | 20.9 | 17.0 | 18.2 | 16.9 | 23.3 | 14.1 | 8.3 |
| 49 TO 60 HOURS..... | 17.9 | 18.4 | 8.8 | 15.2 | 15.2 | 12.9 | 11.1 | 10.0 | 16.2 | 10.2 | 6.6 |
| 61 TO 84 HOURS..... | 17.4 | 19.4 | 17.2 | 22.1 | 22.1 | 22.2 | 13.4 | 8.9 | 25.9 | 23.6 | 6.2 |
| MORE THAN 84 HOURS..... | 18.2 | 14.6 | 10.0 | 25.0 | 25.0 | 10.4 | 12.9 | 8.9 | 27.1 | 9.2 | 5.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C8. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 16.9 | 16.0 | 8.3 | 18.3 | 18.3 | 13.3 | 11.1 | 11.2 | 19.6 | 12.3 | 5.6 |
| NO..... | 11.2 | 11.1 | 7.7 | 15.4 | 15.4 | 9.2 | 10.4 | 6.9 | 18.1 | 9.0 | 4.8 |
| DON'T KNOW/NOT REPORTED..... | 26.1 | 24.8 | 15.6 | 39.4 | 39.4 | 30.5 | 22.8 | 22.4 | 43.2 | 33.2 | 10.7 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 19.4 | 26.0 | 11.6 | 26.4 | 26.4 | 20.2 | 17.9 | 15.8 | 27.6 | 18.6 | 8.4 |
| NO..... | 11.7 | 9.3 | 6.9 | 16.5 | 16.5 | 8.2 | 10.7 | 6.2 | 18.8 | 8.6 | 4.2 |
| DON'T KNOW/NOT REPORTED..... | 27.4 | 35.5 | 22.3 | 27.8 | 27.8 | 16.0 | 22.5 | 22.9 | 29.7 | 15.1 | 8.6 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 19.7 | 24.1 | 15.3 | 29.5 | 29.5 | 24.5 | 19.5 | 18.6 | 29.4 | 22.7 | 10.2 |
| NO..... | 12.2 | 11.2 | 6.7 | 15.9 | 15.9 | 7.7 | 9.7 | 6.0 | 18.6 | 8.0 | 4.5 |
| DON'T KNOW/NOT REPORTED..... | 27.9 | 27.4 | 16.1 | 30.1 | 30.1 | 19.6 | 17.1 | 19.2 | 31.8 | 18.4 | 7.5 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 15.2 | 12.9 | 7.3 | 14.3 | 14.3 | 8.9 | 7.4 | 6.4 | 17.6 | 8.0 | 5.3 |
| NO..... | 10.4 | 12.4 | 12.5 | 21.8 | 21.8 | 16.3 | 17.8 | 13.7 | 22.2 | 16.3 | 3.2 |
| NOT REPORTED/ NOT APPLICABLE..... | 23.2 | 39.6 | 0 | 0 | 0 | 0 | 0 | 40.1 | 0 | 0 | 9.2 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 20.2 | 16.6 | 9.3 | 15.4 | 15.4 | 11.1 | 7.0 | 7.0 | 18.5 | 8.6 | 5.5 |
| NO..... | 18.8 | 15.0 | 10.9 | 25.6 | 25.6 | 14.9 | 16.7 | 10.4 | 26.8 | 14.1 | 4.2 |
| NOT REPORTED/ NOT APPLICABLE..... | 11.1 | 12.7 | 10.0 | 17.9 | 17.9 | 15.0 | 18.4 | 15.1 | 18.5 | 15.0 | 6.3 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 15.0 | 13.2 | 7.3 | 14.0 | 14.0 | 8.3 | 6.8 | 5.9 | 17.3 | 7.2 | 5.1 |
| NO..... | 10.5 | 13.8 | 13.0 | 26.4 | 26.4 | 22.6 | 21.2 | 12.6 | 26.2 | 22.4 | 3.3 |
| NOT REPORTED..... | 28.7 | 30.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7.2 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C9. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Do Not Heat With Electricity but Air Condition With Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 7.8 | 7.4 | 4.7 | 8.2 | 8.2 | 8.1 | 5.9 | 6.8 | 9.1 | 10.2 | 5.2 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 8.5 | 7.5 | 5.3 | 8.5 | 8.5 | 8.4 | 6.0 | 7.0 | 9.2 | 10.7 | 5.2 |
| NATURAL GAS..... | 9.7 | 9.9 | 5.6 | 9.7 | 9.7 | 9.0 | 7.2 | 8.4 | 8.4 | 8.5 | 2.8 |
| FUEL OIL/KEROSENE..... | 12.0 | 10.9 | 6.1 | 18.3 | 18.3 | 14.5 | 13.5 | 16.9 | 27.8 | 26.4 | 12.9 |
| LIQUID PETROLEUM GAS..... | 16.5 | 20.9 | 23.3 | 30.4 | 30.4 | 24.2 | 26.6 | 33.8 | 20.5 | 21.1 | 24.6 |
| STEAM..... | 25.1 | 25.1 | 14.6 | 24.7 | 24.7 | 16.9 | 14.5 | 14.9 | 25.4 | 18.1 | 8.2 |
| COAL..... | 43.0 | 32.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 20.1 |
| OTHER..... | 32.4 | 30.3 | 35.5 | 42.5 | 42.5 | 2 | 31.3 | 40.9 | 40.0 | 2 | 10.4 |
| NO HEATING FUEL USED..... | 52.2 | 32.0 | 32.7 | 40.0 | 40.0 | 45.7 | 48.7 | 43.3 | 44.6 | 28.7 | 22.0 |
| AIR CONDITIONING FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 7.8 | 7.4 | 4.7 | 8.2 | 8.2 | 8.1 | 5.9 | 6.8 | 9.1 | 10.2 | 5.2 |
| OTHER..... | 27.2 | 21.9 | 23.2 | 20.6 | 20.6 | 29.9 | 20.3 | 12.1 | 20.4 | 29.6 | 3.0 |
| WATER-HEATING FUEL USED..... | 7.8 | 7.5 | 4.5 | 9.1 | 9.1 | 8.8 | 6.8 | 7.3 | 9.6 | 10.5 | 5.8 |
| NATURAL GAS..... | 9.3 | 9.0 | 5.8 | 9.7 | 9.7 | 10.9 | 8.6 | 8.7 | 8.3 | 10.1 | 3.1 |
| ELECTRICITY..... | 9.6 | 12.3 | 5.5 | 16.2 | 16.2 | 12.4 | 9.5 | 12.4 | 14.4 | 11.3 | 6.6 |
| FUEL OIL/KEROSENE..... | 16.6 | 13.4 | 12.2 | 29.2 | 29.2 | 23.8 | 24.5 | 30.6 | 41.6 | 37.1 | 16.9 |
| OTHER..... | 18.8 | 22.4 | 38.1 | 22.8 | 22.8 | 39.3 | 10.7 | 13.1 | 26.4 | 39.6 | 8.7 |
| NO WATER-HEATING FUEL..... | 10.5 | 11.1 | 9.5 | 17.2 | 17.2 | 19.4 | 16.0 | 21.3 | 15.4 | 16.9 | 6.7 |
| MANUFACTURING FUEL USED..... | 11.5 | 12.4 | 11.6 | 13.6 | 13.6 | 15.5 | 11.6 | 11.7 | 13.0 | 13.8 | 7.6 |
| ELECTRICITY..... | 13.9 | 14.3 | 12.7 | 16.9 | 16.9 | 15.8 | 13.3 | 13.9 | 16.4 | 15.0 | 8.9 |
| NATURAL GAS..... | 23.3 | 20.4 | 23.0 | 22.4 | 22.4 | 35.6 | 20.9 | 17.0 | 17.9 | 29.9 | 9.6 |
| OTHER..... | 17.4 | 23.0 | 22.5 | 25.2 | 25.2 | 41.5 | 28.9 | 43.8 | 22.5 | 42.9 | 23.5 |
| NO MANUFACTURING DONE..... | 8.1 | 7.5 | 5.3 | 8.6 | 8.6 | 8.7 | 6.6 | 7.0 | 10.1 | 11.2 | 5.5 |
| COOKING FUEL USED..... | 7.4 | 8.8 | 6.5 | 10.7 | 10.7 | 11.2 | 7.8 | 6.3 | 9.6 | 11.6 | 3.8 |
| ELECTRICITY..... | 10.8 | 10.1 | 10.2 | 14.1 | 14.1 | 14.3 | 10.3 | 9.3 | 12.8 | 15.2 | 5.3 |
| NATURAL GAS..... | 8.6 | 11.2 | 8.8 | 11.2 | 11.2 | 14.7 | 10.4 | 7.8 | 10.3 | 14.9 | 4.0 |
| OTHER..... | 19.5 | 16.5 | 12.3 | 29.9 | 29.9 | 26.3 | 27.1 | 16.8 | 29.8 | 25.0 | 6.4 |
| NO COOKING FUEL..... | 8.7 | 8.3 | 5.0 | 11.1 | 11.1 | 11.5 | 9.5 | 11.5 | 16.9 | 17.8 | 8.7 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 7.1 | 9.4 | 5.9 | 20.1 | 20.1 | 17.5 | 18.2 | 21.8 | 24.7 | 22.8 | 8.5 |
| NORTH CENTRAL..... | 12.7 | 11.3 | 10.2 | 10.5 | 10.5 | 14.7 | 8.9 | 7.8 | 10.7 | 14.4 | 1.6 |
| SOUTH..... | 14.4 | 16.2 | 7.4 | 17.6 | 17.6 | 16.1 | 10.6 | 11.2 | 14.3 | 18.2 | 7.3 |
| WEST..... | 16.0 | 16.2 | 16.1 | 15.2 | 15.2 | 11.6 | 7.4 | 4.7 | 24.2 | 19.1 | 9.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|-----------------------------------|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 8.9 | 8.3 | 5.6 | 9.7 | 9.7 | 10.5 | 7.2 | 8.2 | 10.9 | 11.9 | 5.8 |
| NONSMSA..... | 11.1 | 16.4 | 10.3 | 19.6 | 19.6 | 15.0 | 12.2 | 9.4 | 16.3 | 13.0 | 7.8 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 35.0 | 36.5 | 6.9 | 34.7 | 34.7 | 13.4 | 16.1 | 10.7 | 37.3 | 14.7 | 5.2 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 10.9 | 10.1 | 10.8 | 12.1 | 12.1 | 11.7 | 8.3 | 10.1 | 11.7 | 11.8 | 1.6 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 28.5 | 18.9 | 14.1 | 21.3 | 21.3 | 22.1 | 15.3 | 16.3 | 24.8 | 30.3 | 9.7 |
| <2,000 CDD AND <4,000 HDD... | 31.7 | 30.2 | 23.2 | 39.0 | 39.0 | 26.3 | 13.9 | 24.0 | 36.3 | 25.0 | 9.5 |
| >2,000 CDD AND <4,000 HDD... | 33.2 | 31.9 | 16.7 | 33.3 | 33.3 | 17.6 | 11.9 | 14.8 | 33.8 | 14.3 | 9.1 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 17.2 | 16.3 | 8.3 | 21.1 | 21.1 | 32.4 | 27.3 | 30.8 | 17.2 | 26.8 | 8.9 |
| AUTOMOTIVE SALES & SERVICE.. | 14.0 | 17.3 | 15.6 | 22.3 | 22.3 | 17.9 | 19.5 | 18.8 | 20.3 | 15.3 | 9.8 |
| EDUCATION..... | 14.3 | 13.1 | 10.6 | 24.9 | 24.9 | 18.0 | 16.1 | 16.3 | 22.4 | 16.1 | 5.0 |
| FOOD SALES..... | 12.0 | 15.1 | 10.0 | 19.6 | 19.6 | 14.2 | 15.1 | 14.5 | 15.4 | 13.3 | 9.7 |
| HEALTH CARE..... | 33.4 | 15.5 | 0 | 21.5 | 21.5 | 0 | 17.8 | 13.6 | 18.5 | 0 | 14.0 |
| LODGING..... | 28.0 | 24.0 | 31.1 | 31.5 | 31.5 | 40.2 | 22.6 | 28.6 | 30.6 | 43.1 | 14.4 |
| OFFICE..... | 6.2 | 8.0 | 9.4 | 14.7 | 14.7 | 14.7 | 12.1 | 14.7 | 23.7 | 23.7 | 11.4 |
| RESIDENTIAL..... | 9.7 | 12.6 | 7.1 | 16.7 | 16.7 | 13.0 | 11.5 | 13.2 | 13.8 | 10.5 | 8.0 |
| RETAIL/SERVICES..... | 10.0 | 10.9 | 6.1 | 14.6 | 14.6 | 11.5 | 12.4 | 9.5 | 13.5 | 9.8 | 4.7 |
| WAREHOUSE AND STORAGE..... | 14.4 | 12.0 | 10.6 | 20.6 | 20.6 | 17.3 | 17.6 | 19.3 | 17.6 | 14.5 | 10.2 |
| OTHER..... | 17.9 | 14.6 | 16.1 | 18.2 | 18.2 | 27.1 | 15.6 | 24.9 | 21.4 | 26.7 | 7.9 |
| VACANT..... | 29.3 | 32.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10.6 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 16.8 | 16.2 | 4.0 | 19.1 | 19.1 | 18.2 | 17.0 | 16.2 | 19.1 | 20.1 | 7.2 |
| 1,001 TO 5,000..... | 7.3 | 7.4 | 3.2 | 16.7 | 16.7 | 13.5 | 13.6 | 13.1 | 12.4 | 9.3 | 9.9 |
| 5,001 TO 10,000..... | 11.2 | 11.2 | 1.4 | 13.1 | 13.1 | 12.2 | 11.5 | 17.3 | 12.7 | 12.2 | 3.1 |
| 10,001 TO 25,000..... | 9.5 | 9.4 | 1.9 | 10.3 | 10.3 | 10.1 | 9.3 | 13.7 | 10.8 | 10.8 | 3.0 |
| 25,001 TO 50,000..... | 13.2 | 13.9 | 2.0 | 24.0 | 24.0 | 20.8 | 20.8 | 19.3 | 34.8 | 33.5 | 17.5 |
| OVER 50,000..... | 8.6 | 8.5 | 5.9 | 8.9 | 8.9 | 9.2 | 6.1 | 5.3 | 8.5 | 10.7 | 3.6 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.1 | 11.4 | 5.7 | 16.0 | 16.0 | 10.7 | 9.6 | 11.4 | 13.2 | 8.2 | 6.0 |
| TWO FLOORS..... | 11.2 | 10.8 | 9.6 | 9.0 | 9.0 | 18.0 | 11.0 | 12.4 | 8.1 | 16.5 | 3.8 |
| THREE FLOORS..... | 11.7 | 8.7 | 7.5 | 13.8 | 13.8 | 15.5 | 12.9 | 16.6 | 12.5 | 14.6 | 3.9 |
| MORE THAN THREE..... | 11.0 | 9.1 | 10.4 | 13.3 | 13.3 | 12.7 | 10.0 | 10.9 | 19.3 | 16.8 | 10.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.7 | 12.2 | 11.7 | 49.0 | 49.0 | 49.3 | 47.5 | 42.0 | 0 | 0 | 25.7 |
| 1901 TO 1920..... | 12.9 | 13.2 | 9.4 | 23.4 | 23.4 | 21.7 | 16.8 | 19.7 | 21.9 | 19.5 | 11.2 |
| 1921 TO 1945..... | 10.6 | 11.8 | 10.0 | 17.8 | 17.8 | 21.4 | 14.9 | 13.9 | 16.2 | 19.7 | 4.2 |
| 1946 TO 1960..... | 10.3 | 11.7 | 6.5 | 9.7 | 9.7 | 9.9 | 7.7 | 6.7 | 10.1 | 11.0 | 3.6 |
| 1961 TO 1970..... | 10.7 | 9.1 | 7.8 | 12.7 | 12.7 | 10.1 | 10.7 | 9.7 | 11.6 | 8.8 | 3.1 |
| 1971 TO 1973..... | 15.8 | 22.5 | 20.8 | 16.8 | 16.8 | 12.7 | 13.2 | 15.5 | 19.5 | 11.1 | 5.2 |
| 1974 TO 1979..... | 16.6 | 12.3 | 14.5 | 17.1 | 17.1 | 15.3 | 15.2 | 7.5 | 13.6 | 19.3 | 12.3 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 62.2 | 29.0 | 0 | 45.7 | 45.7 | 0 | 0 | 48.5 | 0 | 47.3 | 27.0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 10.3 | 11.8 | 5.8 | 10.8 | 10.8 | 9.5 | 8.6 | 9.0 | 9.9 | 8.6 | 2.2 |
| ELEC., FUEL OIL/KEROSENE.. | 15.8 | 15.2 | 7.2 | 18.7 | 18.7 | 12.9 | 16.0 | 16.6 | 15.6 | 11.2 | 7.9 |
| ELEC., LPG..... | 15.9 | 19.4 | 18.0 | 42.2 | 42.2 | 37.7 | 39.2 | 45.2 | 26.6 | 19.4 | 37.5 |
| OTHER..... | 22.5 | 26.2 | 36.6 | 37.2 | 37.2 | 40.2 | 31.9 | 35.6 | 35.7 | 39.9 | 12.9 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 14.9 | 10.9 | 11.4 | 21.2 | 21.2 | 16.5 | 15.2 | 20.1 | 33.1 | 28.6 | 15.3 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 27.5 | 23.5 | 23.0 | 30.8 | 30.8 | 40.6 | 27.9 | 20.1 | 30.0 | 36.9 | 6.1 |
| ELEC., GAS, OTHER..... | 18.5 | 25.8 | 19.2 | 22.3 | 22.3 | 23.4 | 11.5 | 14.0 | 27.9 | 25.3 | 9.5 |
| OTHER..... | 46.0 | 34.4 | 0 | 39.3 | 39.3 | 0 | 36.7 | 49.4 | 37.0 | 0 | 7.8 |
| FOUR OR MORE FUELS USED..... | 33.5 | 21.8 | 39.0 | 37.7 | 37.7 | 0 | 31.5 | 35.3 | 30.5 | 0 | 18.0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 7.8 | 7.4 | 4.7 | 8.2 | 8.2 | 8.1 | 5.9 | 6.8 | 9.1 | 10.2 | 5.2 |
| NATURAL GAS..... | 9.0 | 8.6 | 5.4 | 8.6 | 8.6 | 8.9 | 7.1 | 8.0 | 10.2 | 11.3 | 5.4 |
| FUEL OIL/KEROSENE..... | 11.8 | 9.7 | 6.4 | 15.3 | 15.3 | 11.7 | 10.6 | 13.7 | 23.7 | 22.5 | 12.2 |
| LIQUID PETROLEUM GAS..... | 16.1 | 16.5 | 11.7 | 28.3 | 28.3 | 19.1 | 20.8 | 24.5 | 20.4 | 13.8 | 17.0 |
| WOOD..... | 34.1 | 36.4 | 37.4 | 35.9 | 35.9 | 36.5 | 25.3 | 23.9 | 35.7 | 36.7 | 10.5 |
| COAL..... | 44.5 | 31.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19.5 |
| STEAM..... | 24.6 | 24.8 | 14.1 | 24.6 | 24.6 | 15.5 | 14.2 | 14.7 | 25.4 | 17.3 | 8.0 |
| OTHER..... | 39.5 | 36.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 15.1 | 13.8 | 7.2 | 16.1 | 16.1 | 11.4 | 10.2 | 14.2 | 13.9 | 9.5 | 5.5 |
| RADIANT..... | 20.7 | 26.2 | 25.6 | 20.7 | 20.7 | 19.7 | 26.3 | 29.5 | 25.1 | 24.4 | 9.0 |
| COMBINATION/OTHER..... | 16.7 | 20.5 | 17.5 | 24.7 | 24.7 | 21.9 | 14.3 | 18.4 | 29.5 | 29.7 | 14.9 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 9.2 | 7.3 | 6.2 | 12.8 | 12.8 | 12.6 | 11.0 | 11.2 | 11.1 | 13.3 | 4.9 |
| RADIANT..... | 10.3 | 11.8 | 9.3 | 17.9 | 17.9 | 17.4 | 13.9 | 12.9 | 17.1 | 15.7 | 6.1 |
| COMBINATION/OTHER..... | 14.8 | 9.5 | 12.1 | 9.0 | 9.0 | 20.3 | 6.0 | 7.2 | 9.6 | 21.8 | 3.7 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 19.6 | 17.0 | 23.2 | 29.9 | 29.9 | 37.5 | 24.7 | 26.1 | 26.1 | 31.5 | 9.7 |
| RADIANT..... | 32.8 | 28.7 | 40.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25.6 |
| COMBINATION/OTHER..... | 22.7 | 16.2 | 30.7 | 24.1 | 24.1 | 34.0 | 19.0 | 19.2 | 23.1 | 31.9 | 6.2 |
| NONE..... | 55.1 | 32.6 | 35.2 | 41.3 | 41.3 | 48.9 | 48.5 | 43.3 | 46.0 | 30.7 | 22.1 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 14.2 | 9.2 | 14.1 | 17.0 | 17.0 | 24.1 | 20.5 | 19.5 | 12.4 | 18.5 | 12.5 |
| 26 TO 50..... | 14.9 | 15.9 | 13.5 | 14.6 | 14.6 | 13.9 | 11.8 | 9.7 | 14.0 | 14.5 | 5.5 |
| 51 TO 75..... | 16.0 | 15.2 | 17.5 | 17.9 | 17.9 | 31.2 | 15.5 | 14.9 | 17.0 | 30.7 | 3.8 |
| 76 TO 99..... | 16.6 | 12.5 | 16.1 | 22.7 | 22.7 | 23.4 | 16.5 | 16.4 | 20.4 | 22.1 | 7.4 |
| 100..... | 9.4 | 8.2 | 6.0 | 9.3 | 9.3 | 9.6 | 6.8 | 7.4 | 12.1 | 13.5 | 6.6 |
| NONE..... | 55.1 | 32.6 | 35.2 | 41.3 | 41.3 | 48.9 | 48.5 | 43.3 | 46.0 | 30.7 | 22.1 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 8.1 | 9.1 | 6.6 | 16.4 | 16.4 | 17.9 | 13.0 | 18.2 | 12.7 | 13.6 | 5.9 |
| 26 TO 50..... | 10.2 | 10.6 | 6.2 | 9.5 | 9.5 | 10.7 | 11.2 | 6.6 | 9.2 | 11.5 | 3.8 |
| 51 TO 75..... | 11.7 | 8.2 | 14.9 | 21.3 | 21.3 | 25.4 | 21.4 | 20.3 | 35.1 | 38.1 | 15.8 |
| 76 TO 99..... | 16.1 | 10.8 | 17.9 | 16.9 | 16.9 | 21.5 | 12.0 | 13.1 | 14.7 | 21.2 | 7.8 |
| 100..... | 12.0 | 10.6 | 9.2 | 10.0 | 10.0 | 10.0 | 6.4 | 6.5 | 9.6 | 11.0 | 3.9 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 8.1 | 12.1 | 8.9 | 17.2 | 17.2 | 16.2 | 15.0 | 17.5 | 14.4 | 13.2 | 5.4 |
| PACKAGE UNITS..... | 13.3 | 10.8 | 7.2 | 10.4 | 10.4 | 8.2 | 9.0 | 8.9 | 10.2 | 8.1 | 3.9 |
| CENTRAL SYSTEM..... | 9.8 | 10.0 | 9.2 | 12.0 | 12.0 | 11.4 | 10.3 | 9.6 | 10.0 | 11.8 | 5.0 |
| COMBINATION/OTHER..... | 16.5 | 9.0 | 21.0 | 16.2 | 16.2 | 25.4 | 16.0 | 16.2 | 26.9 | 34.2 | 13.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.6 | 8.9 | 6.1 | 9.7 | 9.7 | 8.7 | 6.3 | 8.6 | 7.2 | 9.9 | 4.8 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 8.6 | 10.3 | 7.5 | 10.7 | 10.7 | 12.9 | 8.7 | 11.5 | 10.0 | 11.9 | 3.7 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 7.9 | 12.5 | 13.8 | 23.3 | 23.3 | 23.2 | 22.8 | 22.1 | 38.6 | 38.9 | 19.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.3 | 13.5 | 9.7 | 15.3 | 15.3 | 11.2 | 13.3 | 8.5 | 14.9 | 10.6 | 5.0 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| NOT REPORTED..... | 14.8 | 13.6 | 8.3 | 23.3 | 23.3 | 17.2 | 12.2 | 18.6 | 21.0 | 14.8 | 5.9 |
| | 24.7 | 29.8 | 35.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.3 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 8.1 | 10.0 | 4.8 | 13.0 | 13.0 | 9.2 | 8.7 | 9.5 | 11.1 | 8.6 | 6.8 |
| 10 TO 19..... | 12.1 | 14.0 | 6.4 | 14.5 | 14.5 | 10.2 | 10.0 | 10.1 | 17.7 | 12.3 | 7.1 |
| 20 TO 49..... | 8.8 | 10.4 | 5.8 | 12.9 | 12.9 | 13.4 | 14.3 | 13.5 | 12.3 | 12.6 | 3.7 |
| 50 TO 99..... | 15.1 | 10.8 | 10.7 | 13.2 | 13.2 | 7.9 | 9.2 | 7.9 | 12.7 | 8.9 | 3.7 |
| 100 OR MORE..... | 11.4 | 9.4 | 13.4 | 12.5 | 12.5 | 13.7 | 8.9 | 11.2 | 19.9 | 19.9 | 11.5 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 32.2 | 35.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16.1 |
| 39 OR FEWER HOURS..... | 16.6 | 19.0 | 12.3 | 41.2 | 41.2 | 33.9 | 37.3 | 20.5 | 25.9 | 17.7 | 31.6 |
| 40 TO 48 HOURS..... | 6.6 | 12.2 | 7.8 | 20.3 | 20.3 | 19.8 | 18.8 | 21.6 | 29.6 | 29.5 | 14.1 |
| 49 TO 60 HOURS..... | 9.7 | 9.6 | 6.8 | 11.1 | 11.1 | 9.6 | 8.9 | 6.0 | 11.2 | 9.7 | 3.4 |
| 61 TO 84 HOURS..... | 10.4 | 12.2 | 10.6 | 14.9 | 14.9 | 14.8 | 11.2 | 13.1 | 12.1 | 11.7 | 5.5 |
| MORE THAN 84 HOURS..... | 10.2 | 8.0 | 9.3 | 7.2 | 7.2 | 10.6 | 5.8 | 7.5 | 6.4 | 11.3 | 4.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C9. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 7.3 | 8.2 | 5.7 | 11.5 | 11.5 | 11.4 | 11.2 | 10.3 | 17.7 | 18.1 | 9.6 |
| NO..... | 9.1 | 9.1 | 5.7 | 9.4 | 9.4 | 10.0 | 6.5 | 7.7 | 7.7 | 9.7 | 3.7 |
| DON'T KNOW/NOT REPORTED..... | 16.9 | 18.8 | 13.8 | 26.7 | 26.7 | 21.8 | 20.9 | 15.8 | 28.5 | 26.8 | 11.9 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 6.8 | 7.8 | 4.0 | 7.4 | 7.4 | 6.7 | 6.7 | 5.7 | 8.3 | 8.7 | 5.1 |
| NO..... | 8.4 | 8.6 | 5.8 | 10.3 | 10.3 | 10.7 | 7.6 | 9.2 | 12.0 | 13.2 | 6.7 |
| DON'T KNOW/NOT REPORTED..... | 19.4 | 15.2 | 20.4 | 19.7 | 19.7 | 17.6 | 11.0 | 12.0 | 18.7 | 19.1 | 5.2 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 6.9 | 9.2 | 5.2 | 10.2 | 10.2 | 9.5 | 11.3 | 9.8 | 9.7 | 8.6 | 3.5 |
| NO..... | 8.6 | 8.2 | 5.8 | 10.2 | 10.2 | 10.6 | 7.4 | 8.7 | 11.2 | 12.4 | 6.2 |
| DON'T KNOW/NOT REPORTED..... | 16.4 | 15.2 | 17.3 | 21.9 | 21.9 | 23.0 | 14.9 | 12.5 | 25.4 | 31.2 | 9.5 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 9.3 | 8.5 | 5.4 | 9.5 | 9.5 | 9.0 | 6.7 | 7.8 | 11.3 | 12.1 | 5.9 |
| NO..... | 10.0 | 9.9 | 9.7 | 13.4 | 13.4 | 14.9 | 8.4 | 9.4 | 13.0 | 15.8 | 4.4 |
| NOT REPORTED..... | 39.4 | 44.3 | 25.4 | 45.1 | 45.1 | 0 | 0 | 0 | 40.8 | 46.2 | 18.7 |
| NOT APPLICABLE..... | 55.1 | 32.6 | 35.2 | 41.3 | 41.3 | 48.9 | 48.5 | 43.3 | 46.0 | 30.7 | 22.1 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 10.3 | 8.2 | 7.0 | 8.0 | 8.0 | 8.2 | 6.2 | 6.9 | 6.4 | 9.0 | 3.6 |
| NO..... | 13.5 | 13.6 | 8.9 | 22.1 | 22.1 | 21.7 | 17.3 | 19.5 | 38.2 | 37.7 | 20.2 |
| NOT REPORTED..... | 36.9 | 28.4 | 0 | 42.8 | 42.8 | 0 | 49.1 | 44.0 | 37.8 | 0 | 19.3 |
| NOT APPLICABLE..... | 8.1 | 12.1 | 8.9 | 17.2 | 17.2 | 16.2 | 15.0 | 17.5 | 14.4 | 13.2 | 5.4 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 9.0 | 8.2 | 5.1 | 8.6 | 8.6 | 8.7 | 6.5 | 7.5 | 10.4 | 11.8 | 5.7 |
| NO..... | 11.1 | 15.0 | 10.9 | 17.9 | 17.9 | 17.4 | 10.4 | 11.8 | 17.4 | 16.1 | 3.9 |
| NOT REPORTED..... | 31.3 | 31.0 | 27.5 | 41.5 | 41.5 | 49.8 | 49.0 | 50.6 | 36.6 | 42.4 | 18.6 |
| NOT APPLICABLE..... | 66.9 | 46.1 | 0 | 0 | 0 | 34.2 | 0 | 28.8 | 0 | 30.7 | 9.8 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C10. 1979 Electricity Consumption and Expenditures for Commercial Buildings That Do Not Heat or Air Condition with Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 8.5 | 8.4 | 4.8 | 10.4 | 10.4 | 12.3 | 12.3 | 10.1 | 8.0 | 11.0 | 4.1 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 10.7 | 9.6 | 4.6 | 11.1 | 11.1 | 14.4 | 13.3 | 10.2 | 8.8 | 13.7 | 4.2 |
| NATURAL GAS..... | 11.2 | 10.7 | 6.5 | 15.0 | 15.0 | 12.9 | 15.4 | 14.1 | 12.6 | 11.3 | 5.4 |
| FUEL OIL/KEROSENE..... | 16.3 | 12.6 | 7.6 | 17.5 | 17.5 | 17.9 | 15.3 | 11.5 | 17.3 | 18.1 | 7.5 |
| LIQUID PETROLEUM GAS..... | 29.0 | 18.7 | 40.1 | 19.6 | 19.6 | 0 | 11.3 | 36.9 | 22.6 | 0 | 6.4 |
| STEAM..... | 33.0 | 16.7 | 0 | 36.1 | 36.1 | 0 | 36.7 | 34.1 | 33.5 | 0 | 10.2 |
| COAL..... | 33.1 | 34.0 | 20.2 | 30.2 | 30.2 | 37.8 | 0 | 0 | 31.1 | 34.4 | 7.7 |
| OTHER..... | 22.8 | 14.8 | 20.6 | 18.2 | 18.2 | 26.6 | 10.8 | 22.3 | 20.6 | 31.5 | 11.4 |
| NO HEATING FUEL USED..... | 12.9 | 19.2 | 17.9 | 21.9 | 21.9 | 21.1 | 25.7 | 32.6 | 22.1 | 21.7 | 9.3 |
| AIR CONDITIONING FUEL USED.. | 11.0 | 11.0 | 11.6 | 18.6 | 18.6 | 23.3 | 19.4 | 15.4 | 15.9 | 21.2 | 5.2 |
| NATURAL GAS..... | 12.3 | 14.7 | 16.6 | 14.8 | 14.8 | 17.4 | 18.4 | 11.1 | 13.4 | 15.4 | 3.9 |
| OTHER..... | 24.2 | 11.9 | 29.9 | 31.6 | 31.6 | 0 | 30.9 | 30.3 | 25.3 | 0 | 13.0 |
| NO AIR CONDITIONING FUEL.... | 9.3 | 10.2 | 5.4 | 15.8 | 15.8 | 13.3 | 14.0 | 15.8 | 13.0 | 10.7 | 7.2 |
| WATER-HEATING FUEL USED..... | 12.0 | 10.0 | 5.5 | 11.9 | 11.9 | 16.1 | 15.6 | 11.3 | 9.6 | 15.0 | 4.2 |
| NATURAL GAS..... | 11.6 | 11.3 | 7.7 | 16.3 | 16.3 | 14.8 | 18.1 | 15.8 | 14.7 | 12.9 | 5.8 |
| ELECTRICITY..... | 17.0 | 19.0 | 11.5 | 13.7 | 13.7 | 16.1 | 13.7 | 11.8 | 13.8 | 17.9 | 4.5 |
| FUEL OIL/KEROSENE..... | 18.9 | 12.8 | 16.3 | 24.7 | 24.7 | 35.6 | 27.7 | 24.7 | 27.6 | 39.9 | 6.4 |
| OTHER..... | 27.8 | 15.3 | 27.7 | 39.3 | 39.3 | 0 | 43.9 | 39.5 | 33.9 | 0 | 15.1 |
| NO WATER-HEATING FUEL..... | 8.9 | 10.3 | 8.3 | 24.8 | 24.8 | 23.7 | 27.1 | 26.2 | 18.2 | 17.1 | 10.7 |
| MANUFACTURING FUEL USED..... | 14.6 | 21.6 | 23.7 | 27.0 | 27.0 | 29.1 | 37.6 | 25.0 | 20.0 | 21.5 | 12.6 |
| ELECTRICITY..... | 15.9 | 24.5 | 24.9 | 30.8 | 30.8 | 32.5 | 43.2 | 29.6 | 23.4 | 24.0 | 15.5 |
| NATURAL GAS..... | 24.1 | 20.5 | 34.3 | 26.6 | 26.6 | 0 | 19.8 | 19.6 | 23.3 | 46.2 | 9.6 |
| OTHER..... | 40.0 | 34.1 | 0 | 34.3 | 34.3 | 0 | 34.8 | 27.6 | 31.0 | 0 | 11.8 |
| NO MANUFACTURING DONE..... | 8.2 | 8.8 | 4.3 | 10.8 | 10.8 | 13.1 | 12.0 | 10.5 | 8.6 | 11.9 | 3.9 |
| COOKING FUEL USED..... | 14.7 | 10.7 | 9.7 | 16.8 | 16.8 | 24.3 | 20.1 | 15.5 | 13.4 | 21.1 | 5.4 |
| ELECTRICITY..... | 23.1 | 17.0 | 20.0 | 27.8 | 27.8 | 48.0 | 34.3 | 27.3 | 22.9 | 44.7 | 8.5 |
| NATURAL GAS..... | 13.1 | 12.5 | 9.9 | 17.6 | 17.6 | 16.0 | 20.7 | 18.3 | 13.4 | 11.7 | 6.5 |
| LIQUID PETROLEUM GAS..... | 36.8 | 24.8 | 34.8 | 16.9 | 16.9 | 41.0 | 14.9 | 13.7 | 15.0 | 30.9 | 15.0 |
| OTHER..... | 46.5 | 18.5 | 0 | 31.6 | 31.6 | 0 | 35.3 | 16.1 | 40.0 | 0 | 15.7 |
| NO COOKING FUEL..... | 7.2 | 8.3 | 5.3 | 14.0 | 14.0 | 14.1 | 14.0 | 13.9 | 11.5 | 12.7 | 6.1 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 29.1 | 14.3 | 14.2 | 19.6 | 19.6 | 26.3 | 17.6 | 15.4 | 14.6 | 23.2 | 7.9 |
| NORTH CENTRAL..... | 15.4 | 11.8 | 10.3 | 13.9 | 13.9 | 20.8 | 17.3 | 18.5 | 13.5 | 19.0 | 4.5 |
| SOUTH..... | 10.0 | 19.8 | 15.9 | 24.4 | 24.4 | 25.5 | 35.7 | 27.7 | 19.3 | 21.0 | 13.3 |
| WEST..... | 26.0 | 29.2 | 9.5 | 29.1 | 29.1 | 18.1 | 17.0 | 11.0 | 30.7 | 27.1 | 8.8 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LARS) | AVERAGE EXPEND. PER BUILDING SAND (DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|--------------------------|---|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 8.8 | 6.8 | 6.4 | 12.8 | 12.8 | 11.4 | 12.0 | 11.0 | 10.2 | 9.0 | 4.7 |
| NONSMSA..... | 16.9 | 19.3 | 8.9 | 23.0 | 23.0 | 23.7 | 26.4 | 19.4 | 17.7 | 19.6 | 11.9 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 47.0 | 35.1 | 22.0 | 32.0 | 32.0 | 37.6 | 20.0 | 22.8 | 33.9 | 36.5 | 7.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 17.2 | 14.6 | 10.1 | 18.2 | 18.2 | 23.8 | 20.5 | 15.9 | 15.3 | 21.7 | 5.1 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 23.4 | 17.2 | 16.1 | 19.4 | 19.4 | 18.4 | 18.2 | 14.6 | 18.0 | 21.4 | 6.3 |
| <2,000 CDD AND <4,000 HDD... | 26.0 | 20.8 | 27.6 | 37.2 | 37.2 | 40.4 | 35.2 | 38.2 | 32.5 | 38.2 | 16.2 |
| >2,000 CDD AND <4,000 HDD... | 48.3 | 32.6 | 26.0 | 37.6 | 37.6 | 28.8 | 20.3 | 41.9 | 39.7 | 30.2 | 6.9 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 20.7 | 24.4 | 16.8 | 34.7 | 34.7 | 39.6 | 49.6 | 42.6 | 28.8 | 32.7 | 13.7 |
| AUTOMOTIVE SALES & SERVICE.. | 10.4 | 12.9 | 12.9 | 20.0 | 20.0 | 20.4 | 15.0 | 10.8 | 17.1 | 17.0 | 7.1 |
| EDUCATION..... | 14.5 | 13.4 | 11.0 | 13.6 | 13.6 | 13.6 | 10.4 | 11.4 | 14.7 | 13.8 | 6.5 |
| FOOD SALES..... | 18.3 | 22.9 | 15.0 | 35.7 | 35.7 | 30.0 | 41.7 | 37.9 | 39.3 | 32.4 | 8.1 |
| HEALTH CARE..... | 44.6 | 21.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| LODGING..... | 15.3 | 22.0 | 19.9 | 40.0 | 40.0 | 40.1 | 24.0 | 2 | 38.3 | 37.7 | 5.3 |
| OFFICE..... | 14.2 | 9.8 | 15.8 | 35.5 | 35.5 | 37.9 | 29.7 | 31.3 | 29.8 | 31.7 | 14.3 |
| RESIDENTIAL..... | 19.4 | 18.2 | 12.3 | 36.1 | 36.1 | 35.8 | 35.8 | 2 | 27.3 | 25.5 | 22.2 |
| RETAIL/SERVICES..... | 11.1 | 13.9 | 9.3 | 16.1 | 16.1 | 13.8 | 12.3 | 14.5 | 14.1 | 14.6 | 7.9 |
| WAREHOUSE AND STORAGE..... | 10.8 | 12.9 | 14.0 | 30.7 | 30.7 | 29.9 | 37.0 | 39.1 | 27.6 | 27.0 | 12.0 |
| OTHER..... | 18.2 | 20.0 | 19.3 | 30.7 | 30.7 | 37.0 | 21.0 | 46.5 | 34.6 | 41.7 | 13.1 |
| VACANT..... | 18.5 | 22.6 | 17.1 | 44.3 | 44.3 | 49.1 | 47.3 | 2 | 41.6 | 45.1 | 9.6 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 12.4 | 12.4 | 5.3 | 20.7 | 20.7 | 17.4 | 17.9 | 23.6 | 21.1 | 18.0 | 3.2 |
| 1,001 TO 5,000..... | 9.2 | 9.1 | 3.1 | 22.2 | 22.2 | 23.5 | 23.0 | 24.5 | 18.6 | 20.8 | 10.0 |
| 5,001 TO 10,000..... | 10.7 | 11.1 | 2.7 | 23.7 | 23.7 | 21.4 | 20.6 | 26.8 | 21.6 | 19.3 | 10.2 |
| 10,001 TO 25,000..... | 16.4 | 15.9 | 4.1 | 17.6 | 17.6 | 19.0 | 19.3 | 18.8 | 14.9 | 19.5 | 6.6 |
| 25,001 TO 50,000..... | 15.7 | 15.5 | 3.2 | 24.3 | 24.3 | 29.0 | 29.9 | 19.6 | 23.8 | 29.0 | 5.3 |
| OVER 50,000..... | 16.3 | 9.8 | 9.2 | 18.0 | 18.0 | 29.0 | 22.7 | 18.9 | 14.2 | 24.7 | 7.5 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 6.5 | 9.5 | 7.5 | 14.0 | 14.0 | 12.7 | 18.0 | 15.1 | 12.0 | 11.3 | 6.0 |
| TWO FLOORS..... | 13.4 | 14.0 | 11.6 | 15.0 | 15.0 | 17.0 | 21.1 | 17.4 | 12.7 | 15.0 | 5.9 |
| THREE FLOORS..... | 26.0 | 18.2 | 14.6 | 31.2 | 31.2 | 31.2 | 26.2 | 25.1 | 25.4 | 24.9 | 14.8 |
| MORE THAN THREE..... | 10.6 | 8.2 | 8.9 | 21.2 | 21.2 | 26.1 | 20.3 | 19.2 | 16.9 | 22.9 | 6.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|----------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE | 27.8 | 20.5 | 17.3 | 33.9 | 33.9 | 41.0 | 46.5 | 45.3 | 31.1 | 34.2 | 8.3 |
| 1901 TO 1920 | 16.4 | 14.5 | 6.5 | 31.9 | 31.9 | 32.0 | 31.9 | 47.7 | 27.9 | 28.5 | 17.5 |
| 1921 TO 1945 | 9.6 | 15.8 | 17.2 | 16.5 | 16.5 | 11.3 | 16.7 | 10.0 | 18.3 | 14.9 | 7.4 |
| 1946 TO 1960 | 9.6 | 10.7 | 6.9 | 18.8 | 14.8 | 17.9 | 15.6 | 19.5 | 12.3 | 17.8 | 8.2 |
| 1961 TO 1970 | 11.9 | 12.1 | 11.4 | 23.4 | 23.4 | 24.3 | 23.4 | 20.6 | 20.3 | 20.6 | 6.5 |
| 1971 TO 1973 | 22.4 | 14.8 | 30.4 | 25.5 | 25.5 | 37.6 | 23.3 | 34.4 | 21.8 | 32.0 | 10.6 |
| 1974 TO 1979 | 11.6 | 20.4 | 19.2 | 18.7 | 18.7 | 23.2 | 23.6 | 17.3 | 20.2 | 24.0 | 7.0 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY | 14.0 | 23.7 | 23.8 | 24.8 | 24.8 | 21.0 | 30.1 | 46.6 | 21.0 | 15.8 | 12.8 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS | 9.6 | 8.7 | 5.5 | 13.9 | 13.9 | 16.5 | 15.7 | 12.9 | 11.2 | 14.5 | 5.0 |
| ELEC., FUEL OIL/KEROSENE | 16.4 | 14.0 | 8.7 | 19.9 | 19.9 | 23.5 | 20.4 | 23.4 | 24.2 | 28.9 | 5.4 |
| ELEC., LPG | 33.2 | 30.8 | 28.1 | 45.1 | 45.1 | 0 | 26.6 | 40.5 | 42.4 | 0 | 15.9 |
| OTHER | 20.9 | 18.0 | 21.8 | 0 | 0 | 0 | 0 | 0 | 46.6 | 0 | 15.1 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE | 17.4 | 14.4 | 12.5 | 26.1 | 26.1 | 20.1 | 23.2 | 20.6 | 24.1 | 22.3 | 7.5 |
| ELEC., FUEL OIL/KEROSENE, LPG | 53.0 | 25.5 | 35.0 | 32.6 | 32.6 | 24.7 | 15.6 | 21.2 | 32.8 | 24.6 | 2.6 |
| ELEC., GAS, OTHER | 31.9 | 18.8 | 0 | 22.0 | 22.0 | 0 | 18.2 | 19.9 | 23.4 | 0 | 13.0 |
| OTHER | 27.0 | 30.0 | 35.9 | 36.2 | 36.2 | 43.3 | 21.6 | 23.4 | 37.9 | 44.2 | 9.9 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 39.7 | 36.3 | 0 | 46.7 | 46.7 | 0 | 34.7 | 0 | 39.4 | 0 | 22.5 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY | 8.5 | 8.4 | 4.8 | 10.4 | 10.4 | 12.3 | 12.3 | 10.1 | 8.0 | 11.0 | 4.1 |
| NATURAL GAS | 10.1 | 9.4 | 5.6 | 13.1 | 13.1 | 10.7 | 12.8 | 12.6 | 10.8 | 9.1 | 4.8 |
| FUEL OIL/KEROSENE | 16.6 | 12.7 | 9.0 | 19.0 | 19.0 | 21.6 | 16.9 | 16.6 | 15.3 | 18.2 | 10.9 |
| LIQUID PETROLEUM GAS | 27.8 | 21.0 | 17.3 | 41.3 | 41.3 | 0 | 35.4 | 41.6 | 32.6 | 46.6 | 19.6 |
| WOOD | 25.9 | 22.9 | 16.2 | 43.2 | 43.2 | 0 | 29.3 | 47.0 | 43.2 | 0 | 13.8 |
| COAL | 34.0 | 35.0 | 25.1 | 32.6 | 32.6 | 40.1 | 42.0 | 0 | 32.3 | 38.6 | 7.1 |
| STEAM | 31.3 | 16.3 | 0 | 35.1 | 35.1 | 0 | 35.9 | 33.2 | 32.4 | 0 | 10.1 |
| OTHER | 32.8 | 27.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|-------------------------------------|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 13.6 | 16.4 | 16.5 | 14.7 | 14.7 | 22.0 | 27.1 | 17.6 | 15.1 | 24.1 | 5.5 |
| RADIANT..... | 19.2 | 32.1 | 29.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 10.5 | 15.2 | 14.0 | 28.9 | 28.9 | 24.3 | 22.1 | 18.2 | 27.1 | 24.1 | 6.0 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 15.1 | 11.2 | 11.3 | 22.5 | 22.5 | 26.4 | 20.4 | 20.0 | 20.5 | 23.6 | 8.4 |
| RADIANT..... | 16.7 | 14.6 | 9.0 | 24.1 | 24.1 | 24.4 | 23.1 | 22.6 | 18.3 | 20.3 | 11.5 |
| COMBINATION/OTHER..... | 12.8 | 14.3 | 14.5 | 29.6 | 29.6 | 33.6 | 31.6 | 25.6 | 23.7 | 27.7 | 9.7 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 36.9 | 37.7 | 29.0 | 49.7 | 49.7 | 0 | 0 | 45.2 | 45.0 | 0 | 13.9 |
| RADIANT..... | 41.8 | 47.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 27.9 | 23.7 | 24.5 | 30.7 | 30.7 | 33.8 | 31.1 | 24.5 | 28.8 | 17.2 | 19.8 |
| NONE..... | 12.9 | 19.2 | 17.9 | 22.0 | 22.0 | 21.2 | 25.9 | 32.7 | 22.1 | 21.7 | 9.3 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 24.7 | 24.2 | 18.9 | 29.3 | 29.3 | 35.1 | 28.6 | 37.1 | 26.8 | 25.0 | 12.8 |
| 26 TO 50..... | 20.6 | 22.1 | 8.2 | 41.5 | 41.5 | 43.8 | 44.2 | 41.3 | 44.6 | 47.3 | 9.1 |
| 51 TO 75..... | 20.4 | 23.2 | 16.3 | 21.1 | 21.1 | 24.4 | 26.8 | 17.8 | 20.9 | 25.4 | 7.9 |
| 76 TO 99..... | 30.1 | 21.0 | 28.5 | 24.3 | 24.3 | 41.2 | 20.8 | 26.6 | 25.3 | 40.5 | 7.8 |
| 100..... | 9.3 | 8.8 | 5.4 | 14.1 | 14.1 | 17.3 | 17.4 | 13.1 | 11.5 | 16.1 | 5.0 |
| NONE..... | 12.9 | 19.2 | 17.9 | 22.0 | 22.0 | 21.2 | 25.9 | 32.7 | 22.1 | 21.7 | 9.3 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 50..... | 24.9 | 14.4 | 25.3 | 23.4 | 23.4 | 0 | 25.3 | 18.1 | 29.3 | 0 | 10.3 |
| 51 TO 99..... | 21.7 | 18.1 | 28.6 | 16.3 | 16.3 | 34.1 | 14.9 | 18.9 | 21.8 | 36.8 | 10.0 |
| 100..... | 14.3 | 15.5 | 17.8 | 27.3 | 27.3 | 28.2 | 34.7 | 28.1 | 24.7 | 25.9 | 6.0 |
| NONE..... | 9.3 | 10.2 | 5.4 | 15.8 | 15.8 | 13.3 | 14.0 | 15.8 | 13.0 | 10.7 | 7.2 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 46.7 | 64.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PACKAGE UNITS..... | 21.3 | 33.0 | 32.8 | 28.5 | 28.5 | 31.1 | 0 | 44.4 | 32.2 | 36.1 | 7.6 |
| CENTRAL SYSTEM..... | 14.8 | 13.2 | 17.9 | 29.0 | 29.0 | 33.5 | 21.5 | 19.7 | 25.7 | 30.8 | 5.4 |
| COMBINATION/OTHER..... | 50.3 | 19.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING..... | 9.3 | 10.2 | 5.4 | 15.8 | 15.8 | 13.3 | 14.0 | 15.8 | 13.0 | 10.7 | 7.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|-----------------------------------|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 11.2 | 11.2 | 8.8 | 16.9 | 16.9 | 20.2 | 19.4 | 16.3 | 13.2 | 18.1 | 7.0 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 9.7 | 11.0 | 8.7 | 18.2 | 18.2 | 17.0 | 19.2 | 18.9 | 18.2 | 16.9 | 4.6 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 19.4 | 20.6 | 20.4 | 17.5 | 17.5 | 27.3 | 24.6 | 17.9 | 13.0 | 24.5 | 6.8 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 21.0 | 17.6 | 16.8 | 36.8 | 36.8 | 36.9 | 31.4 | 37.5 | 31.3 | 33.7 | 11.3 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 13.5 | 16.3 | 16.4 | 28.2 | 28.2 | 26.3 | 28.3 | 20.3 | 24.4 | 23.0 | 8.4 |
| NOT REPORTED..... | 40.4 | 41.1 | 0 | 49.3 | 49.3 | 0 | 0 | 0 | 44.0 | 0 | 18.0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 9.2 | 9.2 | 6.2 | 17.0 | 17.0 | 15.5 | 16.5 | 16.3 | 14.0 | 13.3 | 7.5 |
| 10 TO 19..... | 11.1 | 17.7 | 19.8 | 15.1 | 15.1 | 19.9 | 25.5 | 18.4 | 14.7 | 16.6 | 6.6 |
| 20 TO 49..... | 19.5 | 14.8 | 12.5 | 24.7 | 24.7 | 25.0 | 25.1 | 24.7 | 20.5 | 22.4 | 13.3 |
| 50 TO 99..... | 17.1 | 24.5 | 24.8 | 26.5 | 26.5 | 29.2 | 36.2 | 23.8 | 26.7 | 24.4 | 5.2 |
| 100 OR MORE..... | 14.5 | 10.6 | 11.4 | 24.9 | 24.9 | 21.9 | 20.7 | 21.1 | 20.0 | 18.2 | 7.1 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 19.3 | 22.4 | 15.7 | 27.0 | 27.0 | 22.2 | 28.0 | 0 | 25.2 | 21.1 | 8.4 |
| 39 OR FEWER HOURS..... | 15.1 | 19.4 | 12.2 | 26.4 | 26.4 | 39.2 | 48.1 | 33.0 | 30.9 | 44.5 | 8.8 |
| 40 TO 48 HOURS..... | 9.9 | 10.9 | 9.8 | 22.9 | 22.9 | 26.5 | 27.2 | 25.4 | 17.9 | 23.2 | 11.5 |
| 49 TO 60 HOURS..... | 10.4 | 11.0 | 9.7 | 28.1 | 28.1 | 27.7 | 25.7 | 26.6 | 24.4 | 23.3 | 10.9 |
| 61 TO 84 HOURS..... | 12.5 | 13.6 | 9.6 | 17.8 | 17.8 | 12.9 | 9.5 | 11.7 | 16.3 | 11.6 | 6.4 |
| MORE THAN 84 HOURS..... | 12.8 | 13.5 | 11.1 | 14.1 | 14.1 | 13.0 | 18.1 | 13.6 | 12.6 | 11.5 | 5.3 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 12.6 | 9.9 | 6.7 | 17.0 | 17.0 | 21.9 | 18.9 | 17.8 | 14.2 | 19.4 | 6.1 |
| NO..... | 8.3 | 9.4 | 6.6 | 13.0 | 13.0 | 11.1 | 10.9 | 11.9 | 10.4 | 9.9 | 5.6 |
| DON'T KNOW/HOT REPORTED..... | 14.6 | 22.1 | 28.2 | 48.3 | 48.3 | 48.1 | 33.4 | 33.6 | 41.3 | 40.5 | 13.5 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 16.1 | 15.3 | 12.6 | 20.4 | 20.4 | 27.2 | 21.5 | 21.8 | 19.0 | 24.9 | 8.9 |
| NO..... | 7.0 | 8.1 | 6.5 | 12.0 | 12.0 | 12.8 | 12.5 | 9.8 | 9.9 | 11.6 | 4.4 |
| DON'T KNOW/HOT REPORTED..... | 19.0 | 21.3 | 22.4 | 34.2 | 34.2 | 43.8 | 41.0 | 47.7 | 28.7 | 37.6 | 14.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C10. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 16.6 | 15.6 | 14.9 | 25.9 | 25.9 | 32.3 | 29.4 | 30.3 | 24.0 | 30.2 | 11.1 |
| NO..... | 7.6 | 8.3 | 5.8 | 10.6 | 10.6 | 12.6 | 11.9 | 9.1 | 8.3 | 11.6 | 4.1 |
| DON'T KNOW/NOT REPORTED..... | 16.6 | 19.2 | 23.3 | 41.6 | 41.6 | Q | 44.0 | Q | 40.6 | 49.2 | 18.2 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 10.9 | 9.9 | 5.8 | 12.5 | 12.5 | 15.2 | 14.0 | 10.9 | 10.0 | 14.5 | 5.1 |
| NO..... | 16.5 | 12.8 | 13.8 | 21.6 | 21.6 | 21.8 | 22.1 | 23.6 | 18.3 | 20.5 | 7.4 |
| NOT REPORTED/ NOT APPLICABLE..... | 12.9 | 17.7 | 16.6 | 22.7 | 22.7 | 21.5 | 24.1 | 30.6 | 22.3 | 21.6 | 8.2 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 13.7 | 13.4 | 16.4 | 23.3 | 23.3 | 31.1 | 24.7 | 17.6 | 18.7 | 26.9 | 6.9 |
| NO..... | 34.4 | 22.8 | 34.8 | 32.1 | 32.1 | 39.1 | 29.5 | 22.3 | 32.9 | 44.4 | 13.7 |
| NOT REPORTED/ NOT APPLICABLE..... | 9.2 | 10.1 | 5.4 | 14.9 | 14.9 | 13.0 | 13.8 | 15.2 | 12.2 | 11.0 | 6.9 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 10.8 | 9.8 | 5.8 | 12.5 | 12.5 | 15.3 | 14.1 | 10.8 | 9.9 | 14.5 | 5.0 |
| NO..... | 17.0 | 13.7 | 13.6 | 24.9 | 24.9 | 24.3 | 23.5 | 27.5 | 21.2 | 22.6 | 9.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 12.9 | 17.8 | 16.6 | 22.8 | 22.8 | 21.4 | 23.9 | 30.9 | 22.4 | 21.6 | 8.1 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C11. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Natural Gas or Electricity or Both: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| COMMERCIAL BUILDINGS..... | 5.9 | 5.5 | 2.0 | 7.4 | 5.6 | 6.1 | 9.5 | 6.7 | 7.1 | 9.3 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 5.8 | 5.5 | 2.0 | 8.1 | 5.5 | 6.2 | 9.6 | 8.2 | 7.3 | 8.9 |
| ELECTRICITY..... | 11.9 | 15.9 | 6.0 | 16.7 | 8.7 | 10.3 | 12.2 | 25.7 | 14.4 | 10.1 |
| NATURAL GAS..... | 8.4 | 8.9 | 2.6 | 11.5 | 8.2 | 9.0 | 9.6 | 10.2 | 7.1 | 5.0 |
| FUEL OIL/KEROSENE..... | 11.8 | 11.7 | 2.3 | 21.0 | 14.9 | 15.1 | 14.3 | 17.8 | 18.9 | 20.9 |
| LIQUID PETROLEUM GAS..... | 19.6 | 17.8 | 11.4 | 45.5 | 44.1 | 41.8 | 49.4 | 30.0 | 25.1 | 37.4 |
| WOOD..... | 25.1 | 25.0 | 6.7 | 37.1 | 25.6 | 26.6 | 22.4 | 40.3 | 29.1 | 12.7 |
| COAL..... | 27.0 | 29.0 | 16.3 | 32.2 | 0 | 0 | 0 | 41.9 | 0 | 10.1 |
| OTHER..... | 57.8 | 58.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 17.9 | 22.9 | 8.5 | 36.7 | 24.2 | 20.0 | 27.1 | 41.2 | 25.7 | 15.9 |
| AIR CONDITIONING FUEL USED.. | 7.4 | 7.2 | 2.8 | 8.2 | 5.7 | 7.1 | 9.7 | 10.9 | 6.5 | 10.1 |
| ELECTRICITY..... | 7.7 | 7.5 | 2.9 | 8.4 | 6.4 | 7.5 | 10.5 | 10.4 | 6.5 | 10.9 |
| NATURAL GAS..... | 16.7 | 16.2 | 5.1 | 22.4 | 13.4 | 14.5 | 14.0 | 24.2 | 16.1 | 5.9 |
| OTHER..... | 30.1 | 33.6 | 19.0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.5 |
| NO AIR CONDITIONING FUEL.... | 9.6 | 9.4 | 3.3 | 15.0 | 10.5 | 11.1 | 11.9 | 11.8 | 9.7 | 8.9 |
| WATER-HEATING FUEL USED..... | 6.3 | 6.1 | 2.1 | 8.5 | 7.9 | 8.6 | 10.2 | 8.6 | 7.0 | 9.7 |
| NATURAL GAS..... | 8.2 | 7.7 | 2.7 | 10.7 | 7.8 | 8.6 | 8.9 | 8.6 | 7.7 | 6.8 |
| ELECTRICITY..... | 9.5 | 10.5 | 3.7 | 11.1 | 10.8 | 11.4 | 14.0 | 16.0 | 10.7 | 11.7 |
| FUEL OIL/KEROSENE..... | 17.8 | 18.8 | 9.0 | 0 | 0 | 0 | 0 | 0 | 0 | 10.4 |
| OTHER..... | 21.6 | 23.8 | 11.3 | 32.4 | 32.0 | 40.8 | 31.6 | 31.3 | 28.2 | 14.4 |
| NO WATER-HEATING FUEL..... | 7.9 | 8.9 | 3.1 | 9.8 | 8.9 | 8.3 | 12.3 | 13.3 | 13.5 | 9.1 |
| MANUFACTURING FUEL USED..... | 12.5 | 13.8 | 6.1 | 18.8 | 14.9 | 14.2 | 12.4 | 17.3 | 11.7 | 9.8 |
| ELECTRICITY..... | 12.7 | 13.0 | 7.3 | 25.1 | 21.6 | 19.5 | 20.1 | 19.0 | 15.1 | 13.4 |
| NATURAL GAS..... | 18.6 | 19.1 | 11.8 | 27.9 | 28.1 | 24.9 | 25.5 | 32.8 | 32.5 | 15.6 |
| OTHER..... | 47.1 | 48.0 | 18.5 | 42.6 | 0 | 0 | 0 | 47.5 | 30.1 | 0 |
| NO MANUFACTURING DONE..... | 6.3 | 6.4 | 2.3 | 7.9 | 5.6 | 6.4 | 9.9 | 9.8 | 7.8 | 9.7 |
| COOKING FUEL USED..... | 8.3 | 8.8 | 2.4 | 12.9 | 11.9 | 11.6 | 13.7 | 10.4 | 9.8 | 9.2 |
| ELECTRICITY..... | 10.4 | 11.0 | 2.8 | 15.9 | 13.0 | 13.0 | 15.4 | 17.1 | 13.1 | 10.5 |
| NATURAL GAS..... | 7.9 | 9.7 | 3.9 | 13.2 | 11.4 | 12.0 | 13.7 | 10.8 | 11.4 | 8.7 |
| LIQUID PETROLEUM GAS..... | 21.2 | 20.4 | 7.7 | 22.4 | 19.3 | 25.6 | 44.2 | 28.9 | 23.9 | 8.0 |
| OTHER..... | 53.0 | 46.5 | 37.0 | 48.6 | 0 | 28.3 | 0 | 0 | 44.9 | 40.5 |
| NO COOKING FUEL..... | 6.3 | 5.7 | 2.3 | 7.3 | 5.8 | 6.4 | 8.4 | 9.9 | 9.0 | 10.7 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 18.1 | 17.0 | 4.0 | 15.6 | 16.4 | 13.6 | 9.4 | 12.8 | 20.3 | 9.3 |
| NORTH CENTRAL..... | 10.5 | 9.9 | 2.7 | 13.1 | 6.2 | 7.1 | 8.9 | 12.2 | 10.4 | 8.6 |
| SOUTH..... | 11.0 | 11.0 | 3.0 | 14.7 | 11.9 | 11.6 | 20.1 | 17.1 | 10.1 | 20.2 |
| WEST..... | 13.6 | 13.4 | 5.0 | 18.1 | 13.7 | 13.8 | 23.2 | 15.4 | 19.0 | 17.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLI- LARS) | AVERAGE EXPEND. PER BUILDING (THOU- SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL- LARS) |
|--|-----------------------------|------------------------------|--|--|--|--|--|-----------------------------|---|---|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 8.4 | 7.7 | 2.9 | 8.0 | 6.3 | 6.0 | 10.7 | 11.2 | 6.7 | 8.9 |
| NONSMSA..... | 8.7 | 8.4 | 2.3 | 15.0 | 10.6 | 11.5 | 13.3 | 16.3 | 14.0 | 19.6 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 42.0 | 39.9 | 7.8 | 41.3 | 27.3 | 21.6 | 27.9 | 41.4 | 27.6 | 20.1 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 15.8 | 14.1 | 3.9 | 13.6 | 11.3 | 9.7 | 12.1 | 14.4 | 11.3 | 3.9 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 28.2 | 29.0 | 3.0 | 31.2 | 8.5 | 9.4 | 9.6 | 27.9 | 11.0 | 12.8 |
| <2,000 CDD AND <4,000 HDD... | 32.8 | 30.6 | 6.1 | 35.5 | 11.7 | 14.0 | 28.8 | 35.3 | 10.2 | 8.4 |
| >2,000 CDD AND <4,000 HDD... | 45.8 | 46.4 | 4.6 | 37.8 | 15.6 | 12.0 | 15.5 | 0 | 11.1 | 18.3 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 13.4 | 14.0 | 6.9 | 26.2 | 24.7 | 22.6 | 23.3 | 26.8 | 26.2 | 18.2 |
| AUTOMOTIVE SALES & SERVICE... | 12.0 | 12.5 | 4.7 | 17.3 | 11.0 | 11.7 | 14.5 | 11.1 | 8.5 | 11.8 |
| EDUCATION..... | 32.3 | 38.3 | 11.3 | 33.3 | 35.9 | 31.0 | 37.0 | 29.5 | 36.0 | 28.4 |
| FOOD SALES..... | 8.0 | 8.3 | 3.3 | 14.1 | 11.5 | 11.2 | 11.3 | 15.8 | 12.1 | 12.1 |
| HEALTH CARE..... | 34.5 | 41.5 | 16.2 | 43.8 | 33.4 | 40.2 | 10.3 | 44.4 | 20.9 | 22.1 |
| LODGING..... | 22.5 | 22.9 | 11.1 | 30.5 | 22.4 | 20.5 | 40.4 | 34.3 | 22.1 | 29.6 |
| OFFICE..... | 8.0 | 8.5 | 5.3 | 11.4 | 12.7 | 12.7 | 16.6 | 11.6 | 9.3 | 17.5 |
| RESIDENTIAL..... | 9.6 | 10.5 | 4.4 | 17.6 | 14.1 | 14.9 | 12.5 | 15.8 | 12.4 | 6.8 |
| RETAIL/SERVICES..... | 9.2 | 12.4 | 6.1 | 10.2 | 11.4 | 11.2 | 17.2 | 14.6 | 10.5 | 11.4 |
| WAREHOUSE AND STORAGE..... | 14.0 | 15.9 | 7.2 | 25.6 | 22.7 | 21.0 | 28.4 | 27.1 | 23.0 | 30.7 |
| OTHER..... | 12.7 | 16.6 | 10.0 | 28.3 | 28.0 | 40.7 | 0 | 34.2 | 33.6 | 12.4 |
| VACANT..... | 16.9 | 24.4 | 13.7 | 42.8 | 44.1 | 0 | - | 49.7 | 0 | 29.0 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 1,000 OR LESS..... | 9.9 | 9.1 | 3.4 | 12.8 | 9.0 | 8.8 | 9.3 | 14.8 | 9.5 | 7.8 |
| 1,001 TO 5,000..... | 6.0 | 5.6 | 1.5 | 7.5 | 6.9 | 6.5 | 10.4 | 8.7 | 7.5 | 10.1 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 7.6 | 7.8 | 2.2 | 8.7 | 6.6 | 6.9 | 11.4 | 12.0 | 7.7 | 10.3 |
| TWO FLOORS..... | 10.0 | 10.4 | 5.7 | 17.2 | 10.3 | 12.8 | 11.2 | 12.9 | 10.6 | 12.0 |
| THREE FLOORS..... | 17.6 | 19.5 | 5.2 | 23.0 | 14.6 | 13.8 | 14.5 | 17.3 | 11.1 | 6.9 |
| MORE THAN THREE..... | 23.4 | 22.1 | 8.1 | 25.8 | 20.9 | 22.5 | 21.4 | 24.4 | 23.0 | 14.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|---|-----------------------------------|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 18.4 | 16.6 | 6.3 | 23.0 | 16.4 | 17.8 | 17.2 | 22.1 | 22.2 | 12.4 |
| 1901 TO 1920..... | 10.5 | 12.1 | 3.6 | 21.2 | 16.1 | 14.7 | 17.4 | 20.5 | 17.5 | 9.8 |
| 1921 TO 1945..... | 9.2 | 8.8 | 5.7 | 13.9 | 12.2 | 11.9 | 13.2 | 12.0 | 8.5 | 11.7 |
| 1946 TO 1960..... | 8.6 | 7.9 | 3.6 | 14.2 | 13.1 | 12.2 | 13.8 | 13.9 | 9.6 | 15.7 |
| 1961 TO 1970..... | 8.9 | 12.2 | 5.6 | 10.8 | 9.6 | 10.5 | 14.2 | 9.4 | 7.9 | 7.2 |
| 1971 TO 1973..... | 12.3 | 15.0 | 8.2 | 16.2 | 12.7 | 17.1 | 24.3 | 20.3 | 17.0 | 11.1 |
| 1974 TO 1979..... | 10.5 | 12.1 | 7.2 | 18.4 | 15.9 | 14.9 | 16.6 | 20.7 | 16.5 | 13.7 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | 16.8 | 22.7 | 7.0 | 33.7 | 15.9 | 12.7 | 6.3 | 37.4 | 18.6 | 5.9 |
| ELECTRICITY..... | 16.5 | 22.6 | 7.3 | 33.9 | 16.2 | 13.1 | 5.8 | 37.5 | 18.7 | 5.2 |
| NATURAL GAS..... | 122.3 | 77.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | 7.3 | 6.9 | 2.4 | 10.3 | 6.8 | 7.8 | 9.0 | 7.9 | 6.5 | 5.8 |
| ELEC., NATURAL GAS..... | 8.6 | 8.7 | 2.6 | 9.8 | 6.6 | 8.0 | 9.6 | 8.3 | 6.2 | 5.1 |
| ELEC., FUEL OIL/KEROSENE..... | 13.3 | 13.7 | 3.7 | 16.3 | 16.4 | 17.6 | 14.0 | 19.1 | 20.9 | 7.5 |
| ELEC., LPG..... | 18.1 | 14.8 | 11.8 | 45.5 | 49.7 | 45.3 | 0 | 26.9 | 27.0 | 47.3 |
| OTHER..... | 23.3 | 22.9 | 11.8 | 32.7 | 26.8 | 26.7 | 48.6 | 44.5 | 37.8 | 13.8 |
| THREE FUELS USED..... | 14.3 | 13.8 | 5.5 | 25.5 | 19.8 | 18.9 | 21.5 | 22.9 | 19.3 | 30.6 |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 20.4 | 19.9 | 7.9 | 33.5 | 25.4 | 27.8 | 26.8 | 32.8 | 22.9 | 47.6 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 36.2 | 29.6 | 11.0 | 27.0 | 40.4 | 40.4 | 0 | 27.2 | 41.5 | 5.2 |
| ELEC., GAS, OTHER..... | 30.2 | 30.7 | 11.7 | 26.3 | 25.3 | 37.3 | 25.6 | 33.4 | 25.3 | 19.0 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 42.8 | 40.2 | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| OTHER..... | 38.4 | 36.0 | 19.7 | 44.2 | 26.7 | 37.5 | 12.5 | 46.1 | 30.2 | 10.9 |
| FOUR OR MORE FUELS USED..... | 46.0 | 43.4 | 9.8 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 5.9 | 5.6 | 2.0 | 7.4 | 5.7 | 6.3 | 9.5 | 8.7 | 7.1 | 9.4 |
| NATURAL GAS..... | 7.8 | 7.4 | 2.0 | 9.7 | 6.2 | 7.0 | 9.5 | 8.0 | 5.8 | 5.8 |
| FUEL OIL/KEROSENE..... | 11.7 | 11.4 | 2.8 | 19.7 | 15.6 | 15.1 | 13.9 | 17.8 | 19.5 | 18.0 |
| LIQUID PETROLEUM GAS..... | 17.3 | 15.7 | 4.0 | 40.9 | 40.9 | 38.6 | 45.1 | 26.3 | 24.5 | 32.5 |
| WOOD..... | 25.0 | 25.8 | 5.7 | 36.0 | 31.1 | 32.0 | 27.8 | 35.5 | 26.0 | 19.8 |
| COAL..... | 27.3 | 28.1 | 14.0 | 37.5 | 49.0 | 0 | 0 | 47.7 | 0 | 13.5 |
| OTHER..... | 51.4 | 58.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 8.0 | 8.4 | 2.8 | 9.7 | 6.9 | 6.3 | 10.9 | 15.4 | 11.9 | 10.3 |
| RADIANT..... | 16.8 | 16.4 | 14.5 | 20.9 | 13.4 | 18.4 | 15.8 | 18.7 | 18.4 | 15.3 |
| COMBINATION/OTHER..... | 11.0 | 13.5 | 6.6 | 19.4 | 13.2 | 15.2 | 20.5 | 22.1 | 18.0 | 9.4 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 8.0 | 9.1 | 4.9 | 17.3 | 14.7 | 15.6 | 14.3 | 11.4 | 7.9 | 10.3 |
| RADIANT..... | 8.1 | 8.0 | 3.6 | 15.8 | 12.0 | 12.0 | 20.6 | 17.6 | 16.5 | 10.8 |
| COMBINATION/OTHER..... | 19.1 | 19.7 | 6.7 | 30.3 | 22.6 | 21.0 | 24.0 | 25.3 | 18.5 | 26.8 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 16.5 | 16.1 | 14.0 | 34.3 | 33.8 | 32.8 | 43.0 | 36.9 | 32.2 | 40.8 |
| RADIANT..... | 26.1 | 35.0 | 20.0 | 2 | 40.5 | 39.5 | 2 | 2 | 42.3 | 14.0 |
| COMBINATION/OTHER..... | 23.7 | 28.1 | 19.0 | 28.4 | 24.7 | 27.0 | 19.7 | 32.4 | 23.6 | 21.3 |
| NONE..... | 18.2 | 23.2 | 8.5 | 37.8 | 24.5 | 20.2 | 27.4 | 42.3 | 26.2 | 16.1 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 14.5 | 17.3 | 8.7 | 20.3 | 23.2 | 22.6 | 21.5 | 17.0 | 18.3 | 12.7 |
| 26 TO 50..... | 13.8 | 14.2 | 6.1 | 12.4 | 19.2 | 17.9 | 16.2 | 11.3 | 10.5 | 9.4 |
| 51 TO 75..... | 13.2 | 12.3 | 6.4 | 16.2 | 16.9 | 15.7 | 23.1 | 19.5 | 20.9 | 8.9 |
| 76 TO 99..... | 13.0 | 12.3 | 6.7 | 16.9 | 18.9 | 18.2 | 21.6 | 15.9 | 17.7 | 10.9 |
| 100..... | 6.2 | 6.7 | 2.5 | 9.2 | 7.4 | 8.4 | 12.3 | 9.6 | 7.6 | 10.9 |
| NONE..... | 18.2 | 23.2 | 8.5 | 37.8 | 24.5 | 20.2 | 27.4 | 42.3 | 25.2 | 16.1 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 9.6 | 9.5 | 5.9 | 20.3 | 18.9 | 21.5 | 19.5 | 14.3 | 12.0 | 11.7 |
| 26 TO 50..... | 9.8 | 11.6 | 4.6 | 16.3 | 14.6 | 16.5 | 13.8 | 12.7 | 9.1 | 10.9 |
| 51 TO 75..... | 14.0 | 13.8 | 5.2 | 12.1 | 14.3 | 13.4 | 18.9 | 14.5 | 19.8 | 8.7 |
| 76 TO 99..... | 18.7 | 15.5 | 10.3 | 18.4 | 16.7 | 14.1 | 15.3 | 19.6 | 14.2 | 9.8 |
| 100..... | 13.2 | 15.4 | 4.1 | 13.3 | 6.7 | 8.8 | 11.0 | 19.7 | 10.3 | 10.7 |
| NONE..... | 9.6 | 9.4 | 3.3 | 15.0 | 10.5 | 11.1 | 11.9 | 11.8 | 9.7 | 8.9 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 9.0 | 7.3 | 5.6 | 12.2 | 10.6 | 10.4 | 14.2 | 14.9 | 11.6 | 7.6 |
| PACKAGE UNITS..... | 14.3 | 17.2 | 4.5 | 15.0 | 7.1 | 9.6 | 11.0 | 21.4 | 10.1 | 11.5 |
| CENTRAL SYSTEM..... | 9.4 | 9.5 | 4.3 | 17.5 | 16.2 | 16.1 | 20.8 | 11.2 | 7.5 | 18.1 |
| COMBINATION/OTHER..... | 21.3 | 19.8 | 7.1 | 23.1 | 15.9 | 14.3 | 16.4 | 17.6 | 14.3 | 15.6 |
| NO AIR CONDITIONING..... | 9.6 | 9.4 | 3.3 | 15.0 | 10.5 | 11.1 | 11.9 | 11.8 | 9.7 | 8.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT | 7.5 | 6.2 | 3.1 | 9.8 | 5.7 | 5.8 | 7.8 | 8.7 | 7.6 | 8.8 |
| OWNER OR AGENT IS NOT OCCUPANT | 8.4 | 10.6 | 3.7 | 7.5 | 7.2 | 8.3 | 11.9 | 12.9 | 10.1 | 9.6 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT | 13.4 | 16.5 | 5.6 | 18.5 | 13.4 | 13.4 | 14.5 | 23.3 | 17.4 | 18.6 |
| OWNER OR AGENT IS NOT OCCUPANT | 18.1 | 20.2 | 6.7 | 22.6 | 16.4 | 15.6 | 20.0 | 25.3 | 21.0 | 7.7 |
| GOVERNMENT-OWNED AND OCCUPIED | | | | | | | | | | |
| NOT REPORTED | 17.1 | 18.9 | 13.1 | 36.5 | 37.3 | 36.9 | 40.2 | 32.1 | 29.7 | 30.3 |
| | 26.0 | 25.3 | 17.5 | 2 | 2 | 2 | 2 | 2 | 2 | 34.4 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10 | 6.5 | 6.2 | 2.0 | 10.0 | 7.0 | 7.7 | 7.1 | 8.2 | 6.4 | 9.4 |
| 10 TO 19 | 14.7 | 16.9 | 4.3 | 11.4 | 15.3 | 16.9 | 15.4 | 13.7 | 9.5 | 11.9 |
| 20 TO 49 | 23.4 | 21.6 | 4.4 | 28.5 | 17.5 | 19.2 | 15.4 | 32.6 | 19.4 | 9.9 |
| 50 OR MORE | 35.4 | 36.3 | 3.7 | 2 | 2 | 2 | 2 | 2 | 2 | 26.1 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE | 19.2 | 22.7 | 11.3 | 34.9 | 34.8 | 40.5 | 2 | 27.7 | 23.9 | 37.4 |
| 39 OR FEWER HOURS | 9.1 | 10.0 | 5.5 | 22.2 | 17.7 | 19.1 | 12.0 | 24.5 | 21.0 | 16.5 |
| 40 TO 48 HOURS | 6.7 | 8.2 | 3.1 | 11.6 | 10.6 | 10.9 | 12.6 | 14.2 | 10.4 | 13.0 |
| 49 TO 60 HOURS | 9.5 | 9.9 | 5.6 | 13.1 | 9.9 | 11.0 | 16.5 | 9.2 | 4.9 | 12.1 |
| 61 TO 84 HOURS | 7.1 | 7.9 | 6.6 | 9.1 | 8.2 | 11.5 | 13.3 | 8.8 | 6.8 | 11.0 |
| MORE THAN 84 HOURS | 9.5 | 8.0 | 4.3 | 11.9 | 10.5 | 10.1 | 11.1 | 17.1 | 12.6 | 8.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C11. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|-----------------------------------|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 5.9 | 5.9 | 2.9 | 8.5 | 6.4 | 6.5 | 7.6 | 9.1 | 8.3 | 7.7 |
| NO..... | 6.7 | 6.9 | 2.5 | 8.8 | 7.4 | 8.1 | 13.5 | 9.3 | 7.3 | 11.4 |
| DON'T KNOW/NOT REPORTED..... | 10.7 | 13.5 | 8.3 | 25.8 | 20.0 | 24.0 | 21.3 | 29.8 | 24.0 | 10.2 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 6.6 | 8.6 | 3.6 | 8.6 | 8.7 | 9.1 | 9.6 | 13.9 | 11.9 | 9.8 |
| NO..... | 7.1 | 6.5 | 2.2 | 9.2 | 7.6 | 8.1 | 12.2 | 8.3 | 5.9 | 10.2 |
| DON'T KNOW/NOT REPORTED..... | 12.9 | 12.9 | 6.9 | 17.6 | 18.9 | 19.5 | 21.2 | 21.4 | 24.7 | 13.1 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 7.0 | 9.6 | 4.0 | 12.7 | 10.6 | 10.2 | 11.9 | 17.2 | 13.7 | 10.9 |
| NO..... | 6.5 | 6.1 | 1.9 | 8.3 | 6.7 | 7.2 | 11.6 | 7.9 | 6.4 | 10.0 |
| DON'T KNOW/NOT REPORTED..... | 12.9 | 11.6 | 8.8 | 22.5 | 24.1 | 24.1 | 21.9 | 27.6 | 30.5 | 10.6 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 6.0 | 6.2 | 2.2 | 9.9 | 7.5 | 7.8 | 11.1 | 9.5 | 8.1 | 9.6 |
| NO..... | 9.6 | 10.5 | 5.3 | 14.4 | 11.3 | 10.1 | 12.5 | 16.0 | 17.1 | 11.2 |
| NOT REPORTED..... | 29.8 | 39.6 | 41.8 | 0 | 0 | 0 | 0 | 0 | 0 | 25.9 |
| NOT APPLICABLE..... | 18.2 | 23.2 | 8.5 | 37.8 | 24.5 | 20.2 | 27.4 | 42.3 | 26.2 | 16.1 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 8.4 | 8.8 | 3.0 | 11.5 | 10.5 | 10.3 | 15.6 | 9.8 | 5.8 | 12.4 |
| NO..... | 17.5 | 20.3 | 8.0 | 15.4 | 10.9 | 16.0 | 17.4 | 14.6 | 20.7 | 16.8 |
| NOT REPORTED..... | 42.3 | 0 | 25.3 | 0 | 44.8 | 0 | - | 0 | 0 | 22.5 |
| NOT APPLICABLE..... | 7.7 | 7.0 | 2.7 | 10.6 | 7.5 | 8.0 | 9.1 | 9.3 | 7.9 | 8.5 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 5.9 | 6.1 | 2.2 | 9.3 | 6.9 | 7.4 | 11.5 | 9.3 | 8.0 | 9.6 |
| NO..... | 10.0 | 11.6 | 5.9 | 14.5 | 11.8 | 11.4 | 11.9 | 15.8 | 18.4 | 12.1 |
| NOT REPORTED..... | 27.6 | 38.5 | 30.7 | 0 | 0 | 0 | 0 | 0 | 0 | 29.5 |
| NOT APPLICABLE..... | 17.6 | 23.0 | 9.2 | 28.7 | 20.7 | 14.6 | 28.5 | 29.0 | 15.6 | 17.8 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C12. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Natural Gas or Electricity or Both: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|--|--|--|----------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 7.2 | 6.9 | 1.6 | 8.1 | 8.5 | 8.0 | 11.2 | 8.9 | 7.2 | 7.9 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 7.0 | 6.8 | 1.6 | 8.5 | 8.5 | 7.9 | 11.1 | 9.5 | 7.3 | 8.1 |
| ELECTRICITY..... | 23.2 | 21.0 | 3.1 | 12.9 | 13.9 | 12.7 | 13.0 | 25.7 | 9.9 | 14.1 |
| NATURAL GAS..... | 11.7 | 11.4 | 1.2 | 11.3 | 11.7 | 11.4 | 11.5 | 11.6 | 11.2 | 5.5 |
| FUEL OIL/KEROSENE..... | 13.9 | 12.3 | 3.9 | 13.8 | 12.0 | 11.8 | 28.4 | 17.8 | 15.7 | 10.8 |
| LIQUID PETROLEUM GAS..... | 30.3 | 27.9 | 4.8 | 47.3 | 19.8 | 21.6 | 33.4 | 42.9 | 17.5 | 10.8 |
| WOOD..... | 67.2 | 61.8 | 10.0 | 0 | 29.6 | 22.1 | 0 | 0 | 35.5 | 25.0 |
| OTHER..... | 35.8 | 35.5 | 6.2 | 42.3 | 21.9 | 24.9 | 0 | 34.1 | 47.8 | 38.1 |
| NO HEATING FUEL USED..... | 27.0 | 29.4 | 5.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AIR CONDITIONING FUEL USED.. | 9.7 | 9.5 | 1.7 | 9.5 | 11.4 | 11.0 | 13.6 | 11.4 | 8.1 | 9.3 |
| ELECTRICITY..... | 10.8 | 10.6 | 1.7 | 10.6 | 11.8 | 11.4 | 14.6 | 12.9 | 8.2 | 10.2 |
| NATURAL GAS..... | 26.2 | 28.0 | 6.0 | 34.9 | 27.7 | 30.4 | 29.6 | 33.8 | 24.6 | 14.9 |
| OTHER..... | 64.2 | 59.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 11.4 | 10.9 | 3.2 | 21.3 | 18.3 | 16.6 | 22.8 | 22.3 | 18.0 | 15.3 |
| WATER-HEATING FUEL USED..... | 7.1 | 7.0 | 1.5 | 9.5 | 9.5 | 9.2 | 11.3 | 9.9 | 8.3 | 7.7 |
| NATURAL GAS..... | 12.0 | 11.8 | 1.6 | 13.4 | 14.9 | 14.8 | 16.4 | 12.8 | 12.4 | 6.7 |
| ELECTRICITY..... | 7.8 | 7.2 | 2.4 | 11.6 | 11.9 | 11.2 | 10.1 | 13.1 | 10.7 | 11.1 |
| FUEL OIL/KEROSENE..... | 18.7 | 19.3 | 5.1 | 48.0 | 44.5 | 41.7 | 36.3 | 28.9 | 19.3 | 0 |
| OTHER..... | 40.6 | 40.0 | 7.1 | 0 | 0 | 0 | 0 | 0 | 0 | 12.4 |
| NO WATER-HEATING FUEL..... | 12.1 | 11.6 | 2.6 | 21.0 | 20.3 | 19.3 | 30.4 | 15.9 | 9.9 | 23.1 |
| MANUFACTURING FUEL USED..... | 32.2 | 27.7 | 4.9 | 0 | 43.7 | 42.6 | 37.8 | 41.2 | 29.2 | 26.3 |
| ELECTRICITY..... | 37.0 | 31.5 | 5.3 | 0 | 46.8 | 44.9 | 40.1 | 43.8 | 31.3 | 27.9 |
| OTHER..... | 40.4 | 41.2 | 8.1 | 0 | 0 | 0 | 0 | 0 | 0 | 41.7 |
| NO MANUFACTURING DONE..... | 7.0 | 7.0 | 1.4 | 7.9 | 7.9 | 7.5 | 11.5 | 8.8 | 7.7 | 8.2 |
| COOKING FUEL USED..... | 11.1 | 10.0 | 2.3 | 12.0 | 13.0 | 11.8 | 16.4 | 11.9 | 11.5 | 7.1 |
| ELECTRICITY..... | 17.5 | 16.0 | 3.4 | 20.6 | 18.1 | 16.6 | 19.3 | 16.8 | 11.3 | 18.2 |
| NATURAL GAS..... | 14.2 | 13.8 | 2.5 | 16.4 | 17.4 | 17.1 | 20.9 | 16.3 | 18.3 | 5.3 |
| LIQUID PETROLEUM GAS..... | 42.4 | 40.1 | 7.2 | 0 | 0 | 0 | 21.0 | 0 | 0 | 14.9 |
| OTHER..... | 79.1 | 79.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 7.6 | 7.7 | 1.7 | 10.9 | 11.0 | 10.8 | 13.3 | 12.6 | 10.0 | 9.5 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 14.3 | 14.8 | 3.0 | 18.6 | 16.1 | 15.6 | 22.7 | 14.4 | 11.6 | 15.6 |
| NORTH CENTRAL..... | 11.4 | 10.4 | 1.8 | 10.4 | 15.9 | 13.6 | 17.7 | 15.1 | 20.6 | 10.1 |
| SOUTH..... | 15.1 | 16.0 | 3.8 | 14.5 | 12.6 | 11.5 | 16.0 | 17.5 | 6.7 | 15.1 |
| WEST..... | 7.4 | 6.5 | 6.3 | 26.5 | 24.8 | 24.9 | 22.3 | 21.9 | 17.5 | 18.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL- LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD- RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL- LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU- SAND DOLLARS) | AVERAGE EXPEND. PER (DOL- LARS) |
|--|-----------------------------|--------------------------------|--|---|--|--|--|------------------------------------|---|---------------------------------|
| SMSA/MONSMSA | | | | | | | | | | |
| SMSA..... | 9.4 | 9.5 | 1.7 | 12.4 | 12.1 | 11.9 | 12.3 | 10.2 | 8.6 | 7.2 |
| MONSMSA..... | 10.3 | 9.1 | 2.7 | 8.9 | 15.1 | 12.8 | 18.3 | 15.9 | 15.4 | 20.3 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 35.2 | 33.2 | 4.8 | 26.1 | 21.3 | 17.6 | 20.6 | 26.7 | 24.1 | 13.9 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 14.6 | 14.9 | 1.8 | 16.8 | 11.1 | 10.7 | 14.9 | 13.9 | 11.3 | 7.1 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 30.7 | 29.8 | 1.5 | 38.7 | 17.7 | 17.6 | 27.6 | 37.1 | 21.8 | 9.9 |
| <2,000 CDD AND <4,000 HDD... | 29.6 | 30.0 | 2.1 | 41.9 | 0 | 0 | 39.0 | 32.2 | 32.1 | 22.8 |
| >2,000 CDD AND <4,000 HDD... | 56.5 | 56.0 | 5.0 | 49.3 | 32.1 | 31.3 | 25.4 | 0 | 13.1 | 20.8 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 16.3 | 17.8 | 4.7 | 18.7 | 20.2 | 20.7 | 0 | 17.6 | 20.2 | 10.9 |
| AUTOMOTIVE SALES & SERVICE.. | 36.7 | 33.1 | 3.9 | 23.4 | 25.2 | 22.2 | 32.3 | 29.9 | 18.6 | 10.1 |
| EDUCATION..... | 46.0 | 44.0 | 5.4 | 42.9 | 47.3 | 43.3 | 29.7 | 36.1 | 31.2 | 31.5 |
| FOOD SALES..... | 17.3 | 17.6 | 3.9 | 25.5 | 20.3 | 20.2 | 24.6 | 22.6 | 18.3 | 17.1 |
| HEALTH CARE..... | 39.0 | 41.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 16.2 | 14.7 | 4.8 | 40.8 | 46.2 | 45.0 | 0 | 33.5 | 38.1 | 27.8 |
| OFFICE..... | 8.4 | 9.3 | 2.6 | 15.8 | 11.9 | 12.3 | 10.2 | 15.2 | 10.9 | 11.7 |
| RESIDENTIAL..... | 18.7 | 19.1 | 4.6 | 41.8 | 40.0 | 39.7 | 0 | 36.5 | 36.6 | 28.5 |
| RETAIL/SERVICES..... | 13.0 | 13.6 | 2.6 | 32.4 | 30.2 | 29.9 | 27.6 | 26.5 | 19.6 | 24.1 |
| WAREHOUSE AND STORAGE..... | 21.4 | 23.6 | 5.1 | 40.6 | 36.1 | 33.9 | 48.1 | 48.4 | 48.4 | 14.6 |
| OTHER..... | 25.0 | 22.2 | 6.3 | 0 | 49.8 | 45.6 | 41.0 | 47.4 | 41.0 | 16.4 |
| VACANT..... | 36.1 | 37.5 | 9.5 | 44.6 | 42.5 | 48.2 | - | 0 | 0 | 49.8 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 5,001 TO 10,000..... | 7.2 | 6.9 | 1.6 | 8.1 | 8.5 | 8.0 | 11.2 | 8.9 | 7.2 | 7.9 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 10.2 | 9.5 | 1.5 | 15.1 | 12.3 | 11.9 | 13.3 | 15.5 | 9.2 | 10.3 |
| TWO FLOORS..... | 14.1 | 14.4 | 3.0 | 14.9 | 18.7 | 17.8 | 25.6 | 15.2 | 17.1 | 8.9 |
| THREE FLOORS..... | 19.1 | 18.9 | 2.6 | 21.1 | 15.0 | 13.9 | 19.3 | 19.0 | 13.9 | 12.0 |
| MORE THAN THREE..... | 20.7 | 21.3 | 2.9 | 25.4 | 28.7 | 28.7 | 31.2 | 30.2 | 31.9 | 30.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE | 21.8 | 22.7 | 4.2 | 30.4 | 20.7 | 20.5 | 19.4 | 33.2 | 16.7 | 19.2 |
| 1901 TO 1920 | 19.1 | 17.1 | 4.3 | 20.2 | 19.4 | 16.3 | 19.4 | 24.5 | 24.2 | 20.3 |
| 1921 TO 1945 | 15.7 | 15.4 | 2.2 | 31.4 | 35.4 | 35.0 | 34.6 | 17.4 | 22.7 | 22.5 |
| 1946 TO 1960 | 15.2 | 15.8 | 2.6 | 17.2 | 17.4 | 18.4 | 16.7 | 17.7 | 15.6 | 11.8 |
| 1961 TO 1970 | 9.5 | 9.5 | 2.8 | 14.8 | 13.0 | 12.2 | 17.3 | 16.1 | 12.7 | 6.7 |
| 1971 TO 1973 | 22.3 | 20.2 | 5.3 | 49.6 | 47.4 | 42.1 | 32.5 | 39.7 | 37.3 | 15.5 |
| 1974 TO 1979 | 22.2 | 20.8 | 3.1 | 23.4 | 24.1 | 23.6 | 34.6 | 33.8 | 17.1 | 27.0 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED | 34.7 | 32.5 | 3.5 | 40.0 | 20.1 | 19.7 | 11.3 | 47.1 | 19.1 | 11.1 |
| ELECTRICITY | 34.8 | 32.7 | 3.5 | 40.3 | 20.1 | 19.7 | 11.4 | 47.2 | 19.0 | 11.1 |
| NATURAL GAS | 79.1 | 79.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | 8.0 | 8.0 | 1.2 | 11.4 | 8.1 | 8.1 | 12.1 | 9.3 | 6.0 | 6.7 |
| ELEC., NATURAL GAS | 11.5 | 11.3 | 1.2 | 12.4 | 10.3 | 10.2 | 12.2 | 11.1 | 8.1 | 6.2 |
| ELEC., FUEL OIL/KEROSENE | 15.2 | 15.6 | 3.8 | 21.6 | 18.8 | 18.0 | 0 | 22.1 | 19.5 | 5.9 |
| ELEC., LPG | 26.8 | 29.3 | 4.9 | 45.8 | 32.9 | 29.8 | 38.8 | 48.6 | 33.0 | 7.9 |
| OTHER | 74.1 | 68.6 | 9.4 | 0 | 48.2 | 48.0 | 0 | 0 | 47.3 | - |
| THREE FUELS USED | 16.7 | 14.7 | 4.4 | 39.9 | 41.4 | 39.0 | 38.6 | 34.0 | 30.0 | 19.7 |
| ELEC., GAS, FUEL OIL/KEROSENE | 18.4 | 18.9 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 23.7 |
| ELEC., FUEL OIL/KEROSENE, LPG | 56.3 | 44.8 | 13.1 | 0 | 46.3 | 0 | 12.2 | 0 | 32.3 | 22.9 |
| ELEC., GAS, OTHER | 33.8 | 35.8 | 5.3 | 35.6 | 22.9 | 25.6 | 24.7 | 39.3 | 18.7 | 37.0 |
| OTHER | 74.5 | 80.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOUR OR MORE FUELS USED | 31.9 | 38.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY | 7.2 | 6.9 | 1.6 | 8.1 | 8.5 | 8.0 | 11.2 | 8.9 | 7.2 | 7.9 |
| NATURAL GAS | 10.6 | 10.4 | 1.2 | 10.4 | 11.2 | 10.9 | 11.6 | 9.3 | 9.7 | 5.6 |
| FUEL OIL/KEROSENE | 13.7 | 12.5 | 3.8 | 38.6 | 32.7 | 31.4 | 49.5 | 29.1 | 22.7 | 17.7 |
| LIQUID PETROLEUM GAS | 26.4 | 23.8 | 4.8 | 39.4 | 22.7 | 21.0 | 24.3 | 39.4 | 22.8 | 8.4 |
| WOOD | 62.5 | 58.9 | 9.6 | 0 | 32.9 | 24.0 | 0 | 0 | 34.4 | 24.6 |
| OTHER | 24.9 | 26.9 | 5.5 | 0 | 0 | 0 | 0 | 37.0 | 35.3 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 12.1 | 10.7 | 2.9 | 14.6 | 15.4 | 14.2 | 13.4 | 13.0 | 3.6 | 13.0 |
| RADIANT..... | 16.9 | 17.2 | 3.7 | 42.2 | 45.6 | 44.7 | 2 | 35.3 | 39.8 | 16.7 |
| COMBINATION/OTHER..... | 24.4 | 23.8 | 5.1 | 46.1 | 38.0 | 39.5 | 37.5 | 42.3 | 35.3 | 17.6 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 9.9 | 9.9 | 2.3 | 22.3 | 21.0 | 20.6 | 29.5 | 20.0 | 19.3 | 13.0 |
| RADIANT..... | 16.8 | 16.2 | 2.1 | 23.7 | 20.8 | 19.8 | 22.1 | 18.1 | 18.4 | 17.1 |
| COMBINATION/OTHER..... | 18.0 | 18.7 | 2.7 | 26.8 | 47.0 | 48.2 | 48.8 | 26.1 | 33.8 | 23.2 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 31.7 | 32.9 | 5.6 | 32.6 | 20.4 | 20.0 | 24.8 | 2 | 23.6 | 27.7 |
| RADIANT..... | 53.9 | 53.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| COMBINATION/OTHER..... | 27.4 | 25.1 | 3.2 | 26.2 | 26.0 | 23.6 | 31.6 | 24.3 | 24.8 | 13.9 |
| NONE..... | 27.0 | 29.4 | 5.6 | 2 | 2 | 2 | 47.1 | 45.0 | 49.6 | 2 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 15.8 | 16.9 | 4.9 | 2 | 2 | 2 | 2 | 36.1 | 35.5 | 2 |
| 26 TO 50..... | 17.7 | 17.4 | 3.0 | 24.0 | 26.1 | 24.9 | 23.5 | 37.6 | 36.2 | 25.7 |
| 51 TO 75..... | 12.8 | 13.5 | 3.9 | 15.6 | 12.9 | 13.4 | 15.9 | 15.1 | 9.8 | 17.3 |
| 76 TO 99..... | 28.4 | 28.7 | 3.4 | 29.0 | 21.3 | 20.5 | 8.8 | 35.7 | 26.9 | 12.9 |
| 100..... | 9.5 | 8.9 | 1.7 | 8.7 | 11.8 | 10.9 | 14.6 | 10.6 | 8.7 | 8.9 |
| NONE..... | 27.0 | 29.4 | 5.6 | 2 | 2 | 2 | 47.1 | 45.0 | 49.6 | 2 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 15.7 | 15.8 | 3.5 | 31.0 | 33.0 | 32.2 | 30.8 | 21.9 | 21.5 | 17.6 |
| 26 TO 50..... | 14.2 | 14.5 | 2.3 | 21.4 | 16.0 | 15.5 | 15.6 | 19.4 | 12.3 | 11.3 |
| 51 TO 75..... | 15.0 | 15.1 | 4.4 | 21.9 | 19.5 | 18.7 | 19.7 | 19.2 | 14.3 | 14.5 |
| 76 TO 99..... | 28.5 | 29.2 | 4.1 | 31.8 | 16.3 | 16.9 | 16.2 | 37.6 | 19.5 | 11.8 |
| 100..... | 14.4 | 14.3 | 2.4 | 18.7 | 18.5 | 17.6 | 24.9 | 20.4 | 13.7 | 12.1 |
| NONE..... | 11.4 | 10.9 | 3.2 | 21.3 | 18.3 | 16.6 | 22.8 | 22.3 | 18.0 | 15.3 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS | | | | | | | | | | |
| WINDOW UNITS..... | 13.3 | 12.6 | 2.8 | 15.0 | 19.7 | 19.1 | 20.7 | 12.0 | 13.6 | 11.0 |
| PACKAGE UNITS | | | | | | | | | | |
| PACKAGE UNITS..... | 19.2 | 19.2 | 2.7 | 25.6 | 19.9 | 19.2 | 17.7 | 22.9 | 11.5 | 15.2 |
| CENTRAL SYSTEM | | | | | | | | | | |
| CENTRAL SYSTEM..... | 12.1 | 13.2 | 3.0 | 13.9 | 18.9 | 17.7 | 19.8 | 12.3 | 17.0 | 11.5 |
| COMBINATION/OTHER | | | | | | | | | | |
| COMBINATION/OTHER..... | 16.1 | 16.9 | 3.6 | 21.0 | 29.0 | 28.2 | 44.8 | 18.0 | 23.2 | 16.6 |
| NO AIR CONDITIONING | | | | | | | | | | |
| NO AIR CONDITIONING..... | 11.4 | 10.9 | 3.2 | 21.3 | 18.3 | 16.6 | 22.8 | 22.3 | 18.0 | 15.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-BILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE ((MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU ((DOLLARS) |
|--|-----------------------------|------------------------------|--|--|--|--|---|---------------------------------|---|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 9.3 | 10.1 | 1.7 | 8.9 | 9.6 | 9.9 | 10.7 | 5.5 | 9.3 | 9.0 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.3 | 12.3 | 2.9 | 27.5 | 25.1 | 24.8 | 28.8 | 24.4 | 19.1 | 16.3 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 13.4 | 13.3 | 3.5 | 16.8 | 13.0 | 11.8 | 17.9 | 15.7 | 14.9 | 17.6 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 21.9 | 20.6 | 2.8 | 27.1 | 24.0 | 24.1 | 23.6 | 24.3 | 16.6 | 23.5 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 23.2 | 22.3 | 3.4 | 0 | 0 | 48.6 | 39.1 | 47.7 | 39.9 | 16.8 |
| NOT REPORTED..... | 31.4 | 33.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 6.9 | 7.3 | 2.0 | 13.5 | 12.2 | 11.4 | 12.2 | 13.4 | 12.1 | 10.2 |
| 10 TO 19..... | 18.4 | 17.1 | 2.9 | 18.0 | 12.6 | 12.3 | 13.0 | 20.7 | 8.6 | 9.4 |
| 20 TO 49..... | 14.0 | 14.4 | 2.6 | 22.6 | 22.4 | 22.3 | 23.6 | 17.7 | 13.9 | 16.9 |
| 50 OR MORE..... | 29.5 | 30.3 | 4.4 | 37.2 | 24.4 | 23.8 | 44.5 | 35.9 | 25.8 | 10.7 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 40.4 | 41.6 | 8.6 | 42.1 | 0 | 0 | - | 40.7 | 0 | 49.3 |
| 39 OR FEWER HOURS..... | 17.0 | 16.7 | 3.0 | 24.6 | 25.7 | 25.7 | 0 | 18.4 | 19.1 | 17.1 |
| 40 TO 48 HOURS..... | 10.7 | 10.1 | 2.1 | 11.6 | 9.6 | 9.0 | 9.7 | 18.8 | 14.0 | 13.0 |
| 49 TO 60 HOURS..... | 11.9 | 11.1 | 3.1 | 33.7 | 28.3 | 28.7 | 23.7 | 26.6 | 20.0 | 20.3 |
| 61 TO 84 HOURS..... | 16.7 | 14.7 | 2.9 | 16.1 | 17.9 | 17.0 | 15.7 | 14.8 | 11.9 | 11.5 |
| MORE THAN 84 HOURS..... | 11.3 | 11.3 | 3.3 | 19.3 | 23.8 | 23.5 | 27.6 | 15.0 | 18.7 | 15.3 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 10.3 | 9.6 | 1.9 | 15.5 | 11.4 | 10.6 | 16.1 | 15.7 | 10.6 | 6.6 |
| NO..... | 9.0 | 8.9 | 1.8 | 11.9 | 10.8 | 10.8 | 14.0 | 9.8 | 8.5 | 11.0 |
| DON'T KNOW/NOT REPORTED..... | 22.7 | 23.0 | 4.3 | 43.9 | 49.5 | 49.1 | 37.9 | 33.1 | 36.4 | 48.2 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 9.8 | 10.0 | 2.0 | 13.1 | 12.4 | 11.7 | 17.9 | 12.3 | 12.2 | 7.2 |
| NO..... | 6.6 | 6.4 | 1.6 | 10.0 | 10.6 | 10.5 | 14.0 | 11.0 | 9.2 | 10.4 |
| DON'T KNOW/NOT REPORTED..... | 30.0 | 26.6 | 6.2 | 25.7 | 26.4 | 25.6 | 37.7 | 26.2 | 15.4 | 22.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C12. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 9.7 | 9.9 | 2.6 | 20.1 | 17.3 | 16.7 | 23.2 | 19.2 | 17.7 | 8.1 |
| NO..... | 6.4 | 6.1 | 1.5 | 8.7 | 10.0 | 9.6 | 11.8 | 8.8 | 9.2 | 9.0 |
| DON'T KNOW/NOT REPORTED..... | 30.7 | 26.9 | 7.7 | 29.9 | 35.1 | 33.1 | 47.0 | 29.9 | 20.9 | 32.6 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 8.2 | 8.1 | 1.9 | 8.0 | 7.9 | 7.0 | 10.2 | 8.7 | 5.5 | 7.8 |
| NO..... | 11.4 | 11.6 | 2.7 | 24.1 | 23.5 | 23.3 | 24.0 | 23.7 | 19.9 | 16.2 |
| NOT REPORTED/ NOT APPLICABLE..... | 25.0 | 27.3 | 4.9 | 0 | 0 | 0 | 42.1 | 42.2 | 47.5 | 0 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 10.8 | 11.1 | 2.1 | 13.7 | 13.1 | 12.7 | 14.1 | 11.0 | 8.7 | 11.4 |
| NO..... | 26.9 | 26.4 | 2.6 | 48.8 | 26.1 | 25.2 | 33.2 | 45.5 | 15.0 | 18.2 |
| NOT REPORTED/ NOT APPLICABLE..... | 9.1 | 9.0 | 2.4 | 15.2 | 12.8 | 11.6 | 16.1 | 15.1 | 12.7 | 10.7 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 8.2 | 8.0 | 1.8 | 10.1 | 9.5 | 8.9 | 10.8 | 8.6 | 5.3 | 8.5 |
| NO..... | 13.5 | 13.4 | 2.3 | 26.7 | 20.7 | 20.5 | 26.0 | 30.3 | 22.8 | 19.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 25.5 | 27.5 | 4.8 | 0 | 0 | 0 | 41.7 | 42.8 | 48.5 | 0 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C13. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Natural Gas or Electricity or Both: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-------------------------------|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 7.3 | 6.7 | 2.9 | 7.6 | 6.7 | 5.2 | 5.1 | 7.8 | 7.1 | 4.9 |
| END USE BY FUEL TYPE | | | | | | | | | | |
| HEATING FUEL USED..... | 7.3 | 6.6 | 3.0 | 7.6 | 6.9 | 5.0 | 5.0 | 7.8 | 7.3 | 5.0 |
| ELECTRICITY..... | 14.4 | 12.0 | 4.7 | 19.9 | 17.2 | 15.8 | 12.3 | 15.7 | 10.8 | 10.4 |
| NATURAL GAS..... | 10.7 | 9.0 | 4.3 | 9.1 | 11.1 | 8.2 | 6.6 | 9.1 | 9.5 | 4.8 |
| FUEL OIL/KEROSENE..... | 11.5 | 10.0 | 5.5 | 12.0 | 12.5 | 8.3 | 12.0 | 18.0 | 17.7 | 12.7 |
| LIQUID PETROLEUM GAS..... | 24.4 | 19.1 | 11.9 | 30.5 | 31.6 | 21.7 | 18.3 | 32.8 | 30.8 | 11.3 |
| WOOD..... | 49.6 | 43.9 | 45.5 | 0 | 0 | 0 | 0 | 0 | 0 | 17.3 |
| STEAM..... | 24.7 | 19.6 | 15.4 | 20.0 | 20.9 | 13.7 | 13.6 | 19.1 | 22.4 | 8.1 |
| COAL..... | 26.9 | 24.2 | 18.4 | 32.1 | 0 | 49.1 | 24.2 | 36.6 | 0 | 8.9 |
| OTHER..... | 48.4 | 34.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 19.2 | 20.0 | 12.4 | 37.6 | 38.3 | 43.4 | 41.1 | 33.4 | 31.8 | 16.8 |
| AIR CONDITIONING FUEL USED.. | 8.2 | 7.2 | 3.1 | 8.5 | 6.8 | 5.1 | 5.4 | 8.6 | 6.3 | 5.3 |
| ELECTRICITY..... | 8.3 | 7.5 | 3.2 | 8.2 | 6.7 | 5.1 | 5.7 | 8.7 | 6.5 | 5.5 |
| NATURAL GAS..... | 11.3 | 13.7 | 11.8 | 37.1 | 44.3 | 39.5 | 34.1 | 19.0 | 24.2 | 17.7 |
| OTHER..... | 20.9 | 9.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL..... | 15.7 | 13.2 | 6.6 | 15.8 | 11.6 | 11.1 | 13.5 | 15.3 | 12.8 | 6.1 |
| WATER-HEATING FUEL USED..... | 7.9 | 7.0 | 3.4 | 8.5 | 7.8 | 5.5 | 4.9 | 8.5 | 8.0 | 5.1 |
| NATURAL GAS..... | 10.2 | 8.7 | 4.8 | 8.2 | 7.8 | 4.0 | 4.7 | 9.6 | 9.0 | 4.4 |
| ELECTRICITY..... | 9.0 | 9.7 | 3.3 | 18.1 | 15.9 | 14.9 | 13.6 | 11.5 | 9.1 | 11.2 |
| FUEL OIL/KEROSENE..... | 18.2 | 11.9 | 14.0 | 17.2 | 23.2 | 13.6 | 21.1 | 26.3 | 24.1 | 17.9 |
| OTHER..... | 17.3 | 17.5 | 20.6 | 17.2 | 23.0 | 14.4 | 16.7 | 18.0 | 24.6 | 8.5 |
| NO WATER-HEATING FUEL..... | 11.3 | 8.9 | 7.8 | 14.7 | 18.7 | 16.5 | 20.6 | 19.0 | 19.6 | 10.8 |
| MANUFACTURING FUEL USED..... | 18.4 | 12.0 | 10.9 | 11.4 | 23.1 | 16.2 | 17.0 | 8.1 | 18.6 | 8.4 |
| ELECTRICITY..... | 20.9 | 14.0 | 11.6 | 13.2 | 23.6 | 17.4 | 18.6 | 10.2 | 19.5 | 9.0 |
| NATURAL GAS..... | 26.0 | 16.2 | 18.4 | 20.4 | 27.9 | 18.4 | 17.3 | 18.8 | 26.4 | 11.8 |
| OTHER..... | 29.8 | 20.1 | 27.6 | 26.7 | 0 | 35.4 | 39.3 | 18.8 | 46.2 | 28.1 |
| NO MANUFACTURING DONE..... | 7.5 | 6.9 | 3.6 | 8.5 | 7.6 | 6.2 | 5.1 | 9.0 | 8.1 | 5.5 |
| COOKING FUEL USED..... | 9.5 | 9.2 | 5.1 | 13.7 | 13.3 | 8.9 | 7.7 | 12.5 | 11.7 | 5.6 |
| ELECTRICITY..... | 11.2 | 10.6 | 5.8 | 17.1 | 16.8 | 12.4 | 12.4 | 13.6 | 12.2 | 8.0 |
| NATURAL GAS..... | 11.6 | 11.6 | 7.1 | 12.4 | 11.1 | 5.5 | 4.2 | 14.6 | 14.4 | 4.9 |
| LIQUID PETROLEUM GAS..... | 23.4 | 19.1 | 14.1 | 41.5 | 0 | 38.8 | 19.0 | 38.2 | 41.9 | 13.4 |
| OTHER..... | 30.4 | 27.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 6.5 | 5.7 | 3.6 | 8.7 | 8.8 | 6.5 | 11.4 | 12.6 | 12.3 | 9.8 |
| CENSUS REGION | | | | | | | | | | |
| NORTHEAST..... | 11.1 | 9.4 | 5.1 | 13.2 | 10.1 | 7.9 | 9.1 | 14.9 | 12.8 | 9.1 |
| NORTH CENTRAL..... | 13.9 | 11.3 | 6.9 | 13.2 | 15.0 | 10.1 | 9.2 | 11.3 | 13.1 | 6.5 |
| SOUTH..... | 13.4 | 12.5 | 5.6 | 11.4 | 15.7 | 10.3 | 10.4 | 11.8 | 15.5 | 9.9 |
| WEST..... | 20.3 | 15.5 | 11.9 | 17.9 | 24.2 | 14.1 | 8.9 | 21.8 | 29.9 | 7.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | |
| SMSA..... | 8.6 | 7.2 | 4.1 | 8.5 | 4.9 | 3.7 | 4.7 | 9.1 | 5.9 | 5.0 |
| NONSMSA..... | 13.6 | 13.5 | 5.7 | 21.1 | 24.0 | 21.6 | 21.4 | 12.7 | 19.0 | 15.9 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 39.8 | 37.1 | 9.2 | 42.1 | 12.3 | 12.3 | 14.7 | 42.0 | 12.9 | 9.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 10.2 | 10.2 | 5.5 | 16.9 | 15.0 | 10.8 | 9.1 | 13.2 | 11.0 | 6.8 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 22.2 | 17.0 | 8.1 | 25.0 | 15.3 | 14.4 | 13.2 | 21.1 | 19.9 | 13.1 |
| <2,000 CDD AND <4,000 HDD... | 28.7 | 26.3 | 13.2 | 31.3 | 12.5 | 9.8 | 15.8 | 32.7 | 11.6 | 4.9 |
| >2,000 CDD AND <4,000 HDD... | 35.6 | 33.9 | 6.1 | 29.4 | 17.7 | 12.6 | 18.8 | 33.1 | 10.0 | 15.1 |
| BUILDING TYPE | | | | | | | | | | |
| ASSEMBLY..... | 20.9 | 13.1 | 13.5 | 16.0 | 28.0 | 17.5 | 17.6 | 15.2 | 32.1 | 8.1 |
| AUTOMOTIVE SALES & SERVICE.. | 28.5 | 25.3 | 9.7 | 23.1 | 27.7 | 21.7 | 16.5 | 23.1 | 27.6 | 10.5 |
| EDUCATION..... | 11.5 | 10.5 | 5.6 | 14.9 | 10.4 | 10.1 | 8.5 | 14.7 | 8.5 | 6.2 |
| FOOD SALES..... | 16.9 | 15.3 | 10.8 | 23.3 | 19.4 | 17.0 | 18.4 | 24.7 | 20.6 | 12.5 |
| HEALTH CARE..... | 18.1 | 11.6 | 17.1 | 12.0 | 21.9 | 13.1 | 11.0 | 12.0 | 22.1 | 6.7 |
| LODGING..... | 17.7 | 14.8 | 12.6 | 21.4 | 15.8 | 17.1 | 17.5 | 23.5 | 19.0 | 7.3 |
| OFFICE..... | 10.8 | 7.9 | 7.9 | 10.1 | 9.2 | 7.2 | 11.1 | 17.5 | 15.8 | 11.1 |
| RESIDENTIAL..... | 17.9 | 14.8 | 9.7 | 20.8 | 21.6 | 16.9 | 23.5 | 17.5 | 16.3 | 11.1 |
| RETAIL/SERVICES..... | 10.7 | 13.1 | 7.9 | 18.1 | 14.4 | 12.8 | 10.3 | 21.2 | 17.9 | 7.6 |
| WAREHOUSE AND STORAGE..... | 10.1 | 9.1 | 5.6 | 23.6 | 22.1 | 24.4 | 23.8 | 13.0 | 12.4 | 15.2 |
| OTHER..... | 17.1 | 13.1 | 9.5 | 14.6 | 25.0 | 15.8 | 20.3 | 16.0 | 28.6 | 11.4 |
| VACANT..... | 28.2 | 27.1 | 12.1 | 24.4 | 41.3 | 25.2 | 2 | 29.6 | 46.4 | 12.0 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | |
| 10,001 TO 25,000..... | 8.5 | 7.9 | 1.4 | 17.9 | 16.6 | 16.6 | 16.8 | 11.8 | 10.7 | 11.1 |
| 25,001 TO 50,000..... | 8.8 | 9.1 | 1.3 | 13.0 | 10.2 | 9.9 | 7.9 | 20.3 | 19.4 | 13.2 |
| OVER 50,000..... | 8.4 | 7.7 | 4.1 | 7.2 | 6.1 | 4.8 | 5.8 | 7.7 | 8.2 | 4.4 |
| NUMBER OF FLOORS | | | | | | | | | | |
| ONE FLOOR..... | 10.0 | 8.5 | 4.7 | 10.7 | 10.1 | 8.5 | 7.3 | 10.9 | 11.1 | 5.1 |
| TWO FLOORS..... | 10.8 | 10.5 | 5.7 | 9.8 | 7.4 | 6.6 | 8.4 | 10.1 | 8.2 | 5.5 |
| THREE FLOORS..... | 9.3 | 8.3 | 4.5 | 9.0 | 11.9 | 8.8 | 10.6 | 10.6 | 12.4 | 5.6 |
| MORE THAN THREE..... | 9.8 | 7.9 | 6.8 | 13.2 | 13.8 | 9.9 | 9.5 | 11.9 | 9.9 | 10.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.2 | 11.9 | 7.5 | 25.8 | 22.4 | 20.9 | 22.6 | 0 | 0 | 37.8 |
| 1901 TO 1920..... | 14.0 | 11.3 | 9.3 | 20.4 | 19.3 | 13.6 | 17.8 | 19.8 | 20.7 | 13.8 |
| 1921 TO 1945..... | 11.8 | 13.1 | 7.1 | 27.9 | 30.9 | 25.5 | 25.5 | 16.8 | 17.5 | 15.5 |
| 1946 TO 1960..... | 10.8 | 9.8 | 6.5 | 10.9 | 10.1 | 7.6 | 7.8 | 13.2 | 11.7 | 7.0 |
| 1961 TO 1970..... | 9.4 | 8.7 | 6.4 | 11.3 | 7.2 | 7.9 | 7.0 | 10.5 | 7.8 | 3.9 |
| 1971 TO 1973..... | 14.8 | 13.5 | 12.1 | 17.8 | 18.8 | 11.2 | 11.9 | 13.0 | 15.8 | 8.3 |
| 1974 TO 1979..... | 12.6 | 9.9 | 11.1 | 13.9 | 13.8 | 10.4 | 9.0 | 14.5 | 13.7 | 6.6 |
| FUEL COMBINATIONS USED | | | | | | | | | | |
| ONE FUEL USED..... | | | | | | | | | | |
| ELECTRICITY..... | 17.5 | 11.1 | 8.2 | 19.2 | 13.2 | 14.2 | 15.6 | 22.3 | 11.4 | 7.3 |
| NATURAL GAS..... | 158.1 | 158.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED..... | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 9.3 | 8.3 | 3.9 | 11.0 | 10.2 | 8.6 | 7.1 | 10.5 | 9.3 | 4.7 |
| ELEC., FUEL OIL/KEROSENE.. | 11.7 | 10.3 | 4.9 | 11.8 | 12.7 | 10.7 | 8.4 | 11.3 | 10.5 | 5.2 |
| ELEC., LPG..... | 15.9 | 14.5 | 8.3 | 19.0 | 20.9 | 15.6 | 10.1 | 15.7 | 19.9 | 9.4 |
| OTHER..... | 31.2 | 31.7 | 9.7 | 0 | 35.9 | 26.0 | 27.3 | 0 | 38.1 | 5.2 |
| THREE FUELS USED..... | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 25.1 | 21.3 | 16.2 | 34.0 | 0 | 36.1 | 33.8 | 31.3 | 0 | 12.3 |
| ELEC., GAS, FUEL OIL/KEROSENE, LPG..... | 9.4 | 10.2 | 7.9 | 10.3 | 6.7 | 7.1 | 9.6 | 13.1 | 9.8 | 8.3 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 12.1 | 9.8 | 9.8 | 11.7 | 9.0 | 7.6 | 12.1 | 19.4 | 14.4 | 13.5 |
| ELEC., GAS, OTHER..... | 26.1 | 18.3 | 21.3 | 25.0 | 33.7 | 23.6 | 22.0 | 24.7 | 31.1 | 5.6 |
| OTHER..... | 22.5 | 23.5 | 17.4 | 16.4 | 14.3 | 13.1 | 11.1 | 20.4 | 17.7 | 9.7 |
| FOUR OR MORE FUELS USED..... | | | | | | | | | | |
| OTHER..... | 33.9 | 24.2 | 40.6 | 32.8 | 0 | 18.8 | 34.3 | 32.2 | 0 | 5.6 |
| OTHER..... | 36.0 | 19.8 | 30.6 | 25.5 | 0 | 24.7 | 19.2 | 19.7 | 49.5 | 15.1 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | |
| ELECTRICITY..... | 7.3 | 6.7 | 2.9 | 7.6 | 6.7 | 5.2 | 5.1 | 7.8 | 7.1 | 5.0 |
| NATURAL GAS..... | 9.6 | 8.0 | 4.7 | 8.4 | 8.8 | 5.6 | 5.7 | 8.5 | 8.7 | 5.3 |
| FUEL OIL/KEROSENE..... | 11.0 | 8.9 | 6.5 | 9.4 | 12.5 | 8.1 | 9.5 | 14.2 | 14.9 | 10.2 |
| LIQUID PETROLEUM GAS..... | 19.2 | 17.3 | 12.0 | 20.3 | 24.3 | 21.6 | 24.2 | 15.9 | 16.3 | 17.9 |
| WOOD..... | 33.4 | 35.1 | 31.3 | 0 | 0 | 0 | 0 | 0 | 0 | 13.8 |
| COAL..... | 32.5 | 24.6 | 24.3 | 30.9 | 0 | 41.7 | 25.0 | 33.9 | 79.6 | 12.7 |
| STEAM..... | 23.9 | 19.6 | 15.8 | 19.9 | 21.1 | 13.0 | 12.9 | 19.2 | 22.4 | 7.7 |
| OTHER..... | 30.0 | 22.5 | 15.7 | 24.8 | 48.8 | 28.7 | 38.5 | 18.0 | 37.3 | 15.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|-----------------------------------|-----------------------------|------------------------------|--|--|--|--|--|---------------------------------|---|---|
| HEATING SYSTEM | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | |
| FORCED-AIR..... | 11.1 | 9.2 | 6.2 | 13.0 | 11.1 | 9.3 | 11.2 | 10.4 | 7.0 | 9.8 |
| RADIANT..... | 23.0 | 22.5 | 12.1 | 28.0 | 27.7 | 19.2 | 42.1 | 28.1 | 28.5 | 10.9 |
| COMBINATION/OTHER..... | 13.7 | 13.7 | 6.8 | 31.2 | 31.3 | 30.7 | 29.4 | 25.7 | 21.8 | 18.2 |
| CENTRAL SYSTEM | | | | | | | | | | |
| FORCED-AIR..... | 6.2 | 6.4 | 6.0 | 9.1 | 9.2 | 6.2 | 6.5 | 10.2 | 9.1 | 5.2 |
| RADIANT..... | 11.9 | 10.9 | 7.6 | 13.9 | 8.9 | 9.0 | 12.7 | 14.6 | 12.5 | 8.7 |
| COMBINATION/OTHER..... | 11.4 | 8.4 | 6.9 | 10.9 | 9.2 | 6.2 | 8.1 | 10.2 | 12.0 | 7.1 |
| COMBINATION/OTHER | | | | | | | | | | |
| FORCED-AIR..... | 30.5 | 26.7 | 23.3 | 9 | 9 | 9 | 9 | 38.6 | 9 | 32.8 |
| RADIANT..... | 27.0 | 27.1 | 27.4 | 9 | 9 | 9 | 9 | 9 | 9 | 42.1 |
| COMBINATION/OTHER..... | 19.8 | 14.4 | 12.3 | 10.5 | 22.9 | 11.1 | 13.3 | 9.8 | 25.8 | 5.7 |
| NONE..... | 19.2 | 20.1 | 12.5 | 38.1 | 38.7 | 43.9 | 41.4 | 33.6 | 31.9 | 17.6 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | |
| 1 TO 25..... | 13.5 | 11.1 | 7.4 | 20.8 | 26.3 | 23.1 | 33.0 | 15.4 | 13.8 | 24.0 |
| 26 TO 50..... | 14.2 | 13.9 | 8.0 | 9 | 9 | 9 | 9 | 30.4 | 30.3 | 42.9 |
| 51 TO 75..... | 15.0 | 12.5 | 16.1 | 20.3 | 29.9 | 15.8 | 13.9 | 19.8 | 34.9 | 11.2 |
| 76 TO 99..... | 15.5 | 12.9 | 16.7 | 18.3 | 20.6 | 10.4 | 13.8 | 18.8 | 23.4 | 11.4 |
| 100..... | 8.6 | 7.6 | 3.6 | 8.3 | 6.7 | 5.2 | 4.2 | 10.5 | 9.9 | 5.8 |
| NONE..... | 19.2 | 20.1 | 12.5 | 38.1 | 38.7 | 43.9 | 41.4 | 33.6 | 31.9 | 17.6 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | |
| 1 TO 25..... | 9.1 | 7.8 | 4.5 | 16.4 | 17.3 | 16.2 | 18.7 | 10.6 | 9.9 | 10.5 |
| 26 TO 50..... | 14.1 | 10.2 | 9.4 | 16.8 | 22.4 | 16.1 | 14.3 | 16.1 | 22.1 | 8.7 |
| 51 TO 75..... | 10.0 | 7.8 | 11.3 | 13.1 | 16.2 | 11.2 | 11.4 | 28.3 | 29.0 | 18.8 |
| 76 TO 99..... | 13.4 | 11.2 | 15.1 | 14.9 | 16.8 | 8.7 | 9.0 | 13.9 | 17.4 | 7.1 |
| 100..... | 14.8 | 11.7 | 6.5 | 13.5 | 7.2 | 7.2 | 6.8 | 14.3 | 5.3 | 3.9 |
| NONE..... | 15.7 | 13.2 | 6.6 | 15.9 | 11.6 | 11.2 | 13.5 | 15.3 | 12.8 | 6.2 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | |
| WINDOW UNITS..... | 11.9 | 13.6 | 5.8 | 17.5 | 13.7 | 12.7 | 16.2 | 17.8 | 15.0 | 7.4 |
| PACKAGE UNITS..... | 11.2 | 8.8 | 5.2 | 10.1 | 6.2 | 6.4 | 8.2 | 10.3 | 5.9 | 6.4 |
| CENTRAL SYSTEM..... | 10.7 | 9.3 | 6.6 | 7.4 | 9.3 | 5.8 | 6.9 | 9.3 | 9.2 | 6.2 |
| COMBINATION/OTHER..... | 10.5 | 10.4 | 8.7 | 18.4 | 19.6 | 15.3 | 15.6 | 16.1 | 13.0 | 15.0 |
| NO AIR CONDITIONING..... | 15.7 | 13.2 | 6.6 | 15.9 | 11.6 | 11.2 | 13.5 | 15.3 | 12.8 | 6.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 9.8 | 8.5 | 3.0 | 8.8 | 9.5 | 7.5 | 8.3 | 7.8 | 8.5 | 5.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.3 | 9.8 | 7.4 | 15.7 | 13.2 | 8.6 | 11.4 | 15.7 | 14.8 | 7.2 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.9 | 14.4 | 10.1 | 14.0 | 10.5 | 10.7 | 12.4 | 22.2 | 19.1 | 13.7 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 15.1 | 11.6 | 9.0 | 15.7 | 16.0 | 9.3 | 10.7 | 16.7 | 13.9 | 7.1 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | |
| | 16.0 | 10.5 | 11.1 | 12.9 | 17.6 | 9.3 | 9.8 | 15.3 | 17.6 | 6.0 |
| NOT REPORTED..... | 32.6 | 23.9 | 35.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | |
| LESS THAN 10..... | 10.7 | 10.1 | 6.0 | 12.9 | 14.6 | 14.6 | 11.4 | 12.3 | 16.1 | 7.3 |
| 10 TO 19..... | 11.9 | 12.0 | 7.6 | 13.4 | 9.8 | 8.0 | 9.3 | 15.0 | 13.3 | 10.3 |
| 20 TO 49..... | 9.6 | 8.8 | 4.6 | 16.6 | 13.8 | 14.8 | 13.7 | 11.7 | 7.6 | 9.5 |
| 50 TO 99..... | 13.6 | 9.4 | 7.6 | 13.8 | 11.7 | 12.6 | 11.1 | 13.1 | 8.2 | 6.2 |
| 100 OR MORE..... | 11.2 | 9.5 | 10.2 | 10.9 | 10.6 | 7.5 | 8.1 | 12.8 | 10.1 | 7.4 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | |
| NONE..... | 22.8 | 23.8 | 14.9 | 37.9 | 0 | 46.8 | - | 41.4 | 0 | 12.4 |
| 39 OR FEWER HOURS..... | 30.7 | 22.4 | 17.7 | 26.5 | 35.1 | 19.4 | 22.4 | 31.8 | 39.8 | 9.4 |
| 40 TO 48 HOURS..... | 11.7 | 10.7 | 4.4 | 12.9 | 11.7 | 11.2 | 13.8 | 22.0 | 22.8 | 14.6 |
| 49 TO 60 HOURS..... | 9.8 | 9.3 | 3.6 | 11.5 | 10.4 | 9.6 | 11.1 | 10.8 | 7.9 | 7.0 |
| 61 TO 84 HOURS..... | 12.4 | 11.8 | 8.0 | 13.9 | 10.1 | 6.9 | 8.3 | 14.9 | 12.5 | 5.6 |
| MORE THAN 84 HOURS..... | 10.5 | 7.0 | 6.4 | 10.6 | 13.4 | 9.9 | 10.9 | 7.8 | 9.2 | 7.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C13. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|--|--|--|---------------------------------|---|---|
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | |
| YES..... | 8.7 | 7.6 | 5.4 | 8.6 | 9.7 | 6.0 | 6.3 | 11.6 | 13.0 | 7.1 |
| NO..... | 7.5 | 7.2 | 3.1 | 9.3 | 9.8 | 8.7 | 8.0 | 7.5 | 6.8 | 6.2 |
| DON'T KNOW/NOT REPORTED..... | 21.6 | 16.7 | 8.0 | 28.6 | 15.7 | 18.6 | 15.6 | 32.1 | 22.5 | 14.3 |
| INSULATION ADDED | | | | | | | | | | |
| YES..... | 10.0 | 9.6 | 5.4 | 14.2 | 15.3 | 12.1 | 11.8 | 11.8 | 12.4 | 8.6 |
| NO..... | 8.0 | 7.0 | 4.4 | 7.5 | 5.7 | 4.8 | 5.3 | 9.1 | 8.9 | 5.5 |
| DON'T KNOW/NOT REPORTED..... | 15.2 | 15.2 | 10.4 | 13.0 | 11.4 | 8.3 | 12.8 | 13.9 | 10.5 | 6.0 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | |
| YES..... | 9.6 | 9.9 | 5.9 | 11.8 | 13.1 | 8.6 | 8.7 | 13.6 | 14.4 | 5.4 |
| NO..... | 8.0 | 7.0 | 3.7 | 8.5 | 8.2 | 6.5 | 6.0 | 8.6 | 8.4 | 6.3 |
| DON'T KNOW/NOT REPORTED..... | 16.8 | 14.7 | 9.6 | 11.7 | 13.2 | 9.3 | 12.2 | 17.0 | 18.9 | 9.2 |
| REDUCED HEATING | | | | | | | | | | |
| YES..... | 8.3 | 6.9 | 3.8 | 8.1 | 8.6 | 5.9 | 6.0 | 8.8 | 9.0 | 5.8 |
| NO..... | 8.2 | 9.7 | 5.6 | 12.5 | 7.3 | 6.9 | 8.4 | 11.8 | 8.2 | 4.3 |
| NOT REPORTED..... | 28.6 | 24.1 | 14.6 | 30.4 | 23.8 | 25.0 | 24.8 | 33.1 | 27.9 | 13.4 |
| NOT APPLICABLE..... | 19.2 | 20.1 | 12.5 | 38.1 | 38.7 | 43.9 | 41.4 | 33.6 | 31.9 | 17.6 |
| REDUCED COOLING | | | | | | | | | | |
| YES..... | 9.6 | 7.7 | 4.7 | 8.5 | 8.7 | 5.4 | 6.4 | 8.3 | 7.2 | 5.1 |
| NO..... | 10.0 | 11.7 | 8.1 | 15.2 | 9.2 | 8.2 | 9.9 | 26.1 | 22.7 | 19.2 |
| NOT REPORTED/NOT APPLICABLE..... | 9.7 | 9.6 | 4.2 | 12.2 | 8.9 | 8.5 | 8.6 | 12.2 | 11.0 | 5.1 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | |
| YES..... | 8.1 | 6.7 | 3.6 | 7.5 | 7.6 | 5.1 | 5.8 | 8.3 | 8.3 | 5.5 |
| NO..... | 10.0 | 12.3 | 7.3 | 16.5 | 9.6 | 9.4 | 10.8 | 15.5 | 9.3 | 4.7 |
| NOT REPORTED..... | 25.6 | 23.0 | 20.9 | 28.3 | 25.1 | 26.3 | 24.6 | 32.0 | 28.1 | 15.2 |
| NOT APPLICABLE..... | 21.8 | 24.7 | 10.8 | 36.8 | 36.9 | 43.9 | 47.7 | 36.4 | 37.0 | 11.8 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C14. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Natural Gas: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 7.8 | 7.4 | 2.0 | 10.7 | 10.7 | 7.3 | 8.0 | 10.4 | 9.1 | 5.8 | 3.5 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 8.0 | 8.0 | 2.2 | 11.1 | 11.1 | 7.4 | 8.0 | 10.7 | 9.4 | 5.8 | 3.5 |
| NATURAL GAS..... | 8.4 | 8.9 | 2.6 | 11.7 | 11.7 | 8.4 | 9.2 | 9.4 | 10.0 | 6.6 | 3.7 |
| ELECTRICITY..... | 14.6 | 14.8 | 5.3 | 15.7 | 15.7 | 13.0 | 14.8 | 21.0 | 15.7 | 14.6 | 4.2 |
| FUEL OIL/KEROSENE..... | 23.4 | 22.8 | 8.3 | 0 | 0 | 0 | 0 | 0 | 34.7 | 22.8 | 0 |
| LIQUID PETROLEUM GAS..... | 56.6 | 59.1 | 35.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| OTHER..... | 38.0 | 43.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 28.8 | 35.2 | 15.9 | 49.5 | 49.5 | 36.8 | 29.9 | 0 | 0 | 37.5 | 7.5 |
| AIR CONDITIONING FUEL USED.. | 8.4 | 8.2 | 3.3 | 11.6 | 11.6 | 7.4 | 9.1 | 10.6 | 9.5 | 6.7 | 3.9 |
| ELECTRICITY..... | 9.0 | 8.9 | 3.6 | 12.7 | 12.7 | 8.5 | 9.8 | 11.8 | 10.2 | 7.4 | 4.2 |
| NATURAL GAS..... | 16.7 | 16.2 | 5.1 | 21.6 | 21.8 | 12.5 | 13.7 | 13.0 | 20.4 | 12.8 | 4.4 |
| OTHER..... | 46.7 | 70.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 10.5 | 10.8 | 4.0 | 16.2 | 16.2 | 10.9 | 12.4 | 14.2 | 14.2 | 9.3 | 7.7 |
| WATER-HEATING FUEL USED..... | 8.1 | 7.4 | 2.6 | 11.3 | 11.3 | 7.6 | 8.2 | 9.1 | 9.4 | 5.5 | 4.0 |
| NATURAL GAS..... | 8.2 | 7.7 | 2.7 | 11.5 | 11.5 | 8.2 | 8.9 | 9.5 | 9.3 | 5.9 | 4.6 |
| ELECTRICITY..... | 13.5 | 13.0 | 5.3 | 16.0 | 16.0 | 12.0 | 12.8 | 15.2 | 15.6 | 12.0 | 3.7 |
| FUEL OIL/KEROSENE..... | 39.2 | 42.2 | 19.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| OTHER..... | 71.7 | 70.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO WATER-HEATING FUEL..... | 13.2 | 13.7 | 3.3 | 16.6 | 16.6 | 11.7 | 13.6 | 26.2 | 15.8 | 11.6 | 2.9 |
| MANUFACTURING FUEL USED..... | 14.5 | 15.3 | 6.5 | 19.7 | 19.7 | 15.4 | 15.8 | 15.9 | 18.5 | 11.5 | 13.0 |
| ELECTRICITY..... | 20.1 | 20.8 | 9.2 | 30.2 | 30.2 | 20.9 | 21.2 | 23.8 | 28.6 | 15.8 | 14.8 |
| NATURAL GAS..... | 18.6 | 19.1 | 11.8 | 25.7 | 25.7 | 26.0 | 29.8 | 30.9 | 25.0 | 22.7 | 15.5 |
| OTHER..... | 44.2 | 45.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO MANUFACTURING DONE..... | 8.4 | 8.2 | 2.2 | 11.3 | 11.3 | 8.1 | 9.0 | 11.9 | 10.3 | 6.8 | 3.2 |
| COOKING FUEL USED..... | 8.7 | 10.0 | 3.3 | 14.3 | 14.3 | 9.8 | 10.9 | 15.2 | 12.4 | 9.0 | 3.6 |
| ELECTRICITY..... | 12.3 | 13.6 | 4.4 | 17.8 | 18.1 | 15.2 | 15.7 | 19.6 | 16.0 | 13.5 | 4.0 |
| NATURAL GAS..... | 7.9 | 9.7 | 3.9 | 15.4 | 15.4 | 12.5 | 13.3 | 15.1 | 13.4 | 11.4 | 4.2 |
| OTHER..... | 56.6 | 51.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 8.5 | 7.7 | 3.0 | 13.3 | 13.3 | 11.9 | 12.0 | 11.2 | 11.4 | 9.5 | 5.2 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 22.3 | 21.3 | 2.7 | 23.1 | 23.1 | 7.0 | 8.6 | 13.3 | 22.2 | 9.0 | 3.6 |
| NORTH CENTRAL..... | 11.0 | 10.3 | 4.5 | 15.8 | 15.8 | 12.0 | 11.8 | 13.2 | 14.1 | 9.5 | 4.6 |
| SOUTH..... | 19.7 | 19.5 | 2.1 | 25.0 | 24.9 | 18.2 | 18.2 | 23.2 | 21.3 | 17.7 | 9.0 |
| WEST..... | 20.7 | 20.6 | 4.1 | 31.5 | 32.6 | 24.3 | 27.8 | 37.2 | 29.5 | 24.1 | 6.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| SMSA/NOHMSA | | | | | | | | | | | |
| SMSA..... | 9.8 | 9.6 | 3.1 | 10.8 | 10.8 | 5.6 | 6.7 | 11.1 | 10.8 | 5.9 | 2.2 |
| NOHMSA..... | 14.3 | 14.2 | 2.6 | 22.6 | 22.8 | 18.4 | 17.1 | 18.0 | 18.1 | 13.7 | 8.2 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 38.3 | 40.1 | 9.1 | 42.5 | 42.9 | 19.0 | 16.6 | 21.3 | 40.5 | 8.0 | 16.6 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 12.7 | 12.1 | 3.1 | 13.2 | 13.2 | 8.0 | 8.4 | 9.4 | 12.8 | 7.8 | 2.2 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 31.3 | 32.2 | 3.4 | 33.9 | 33.9 | 16.9 | 16.6 | 17.1 | 28.8 | 14.4 | 10.5 |
| <2,000 CDD AND <4,000 HDD... | 28.8 | 28.1 | 4.1 | 33.1 | 33.1 | 17.9 | 18.5 | 29.7 | 35.0 | 22.6 | 9.3 |
| >2,000 CDD AND <4,000 HDD... | 30.2 | 31.7 | 5.3 | 30.5 | 30.5 | 15.8 | 14.9 | 25.0 | 33.5 | 16.7 | 14.4 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 17.6 | 17.1 | 9.2 | 26.5 | 26.5 | 27.8 | 22.8 | 19.5 | 22.2 | 23.2 | 9.8 |
| AUTOMOTIVE SALES & SERVICE... | 17.2 | 16.1 | 6.6 | 22.6 | 22.6 | 12.6 | 13.3 | 13.7 | 20.1 | 10.8 | 6.2 |
| EDUCATION..... | 30.1 | 36.7 | 9.8 | 0 | 0 | 31.2 | 30.0 | 42.1 | 49.4 | 31.7 | 13.0 |
| FOOD SALES..... | 10.7 | 12.2 | 5.1 | 15.8 | 16.0 | 13.8 | 14.8 | 12.9 | 15.5 | 14.6 | 3.4 |
| HEALTH CARE..... | 53.0 | 58.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 30.6 | 31.3 | 16.3 | 40.6 | 40.6 | 27.2 | 28.8 | 0 | 41.8 | 33.1 | 12.3 |
| OFFICE..... | 12.5 | 12.9 | 6.1 | 20.6 | 20.6 | 20.9 | 19.2 | 20.4 | 17.8 | 17.9 | 6.1 |
| RESIDENTIAL..... | 12.2 | 10.7 | 4.9 | 20.1 | 20.1 | 13.5 | 14.8 | 11.4 | 18.0 | 12.0 | 4.1 |
| RETAIL/SERVICES..... | 10.5 | 13.6 | 8.3 | 12.8 | 12.8 | 11.5 | 12.3 | 25.3 | 14.3 | 11.1 | 5.4 |
| WAREHOUSE AND STORAGE..... | 21.9 | 23.6 | 9.4 | 37.1 | 37.1 | 35.7 | 34.8 | 42.3 | 28.8 | 29.8 | 38.5 |
| OTHER..... | 25.9 | 32.5 | 16.2 | 25.9 | 25.9 | 32.0 | 35.7 | 0 | 25.1 | 30.8 | 6.9 |
| VACANT..... | 22.3 | 26.2 | 15.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18.5 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 11.1 | 11.2 | 3.3 | 19.9 | 19.8 | 13.7 | 13.8 | 17.2 | 19.5 | 13.9 | 2.8 |
| 1,001 TO 5,000..... | 8.0 | 7.5 | 1.7 | 10.8 | 10.8 | 8.6 | 8.4 | 11.1 | 9.1 | 7.0 | 3.8 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.2 | 10.0 | 2.4 | 12.0 | 12.1 | 9.0 | 9.9 | 12.0 | 11.4 | 9.1 | 3.4 |
| TWO FLOORS..... | 11.9 | 12.5 | 3.6 | 20.8 | 20.8 | 14.3 | 14.9 | 14.4 | 18.7 | 11.2 | 7.7 |
| THREE FLOORS..... | 17.5 | 21.2 | 6.8 | 24.5 | 24.5 | 12.6 | 13.3 | 15.1 | 21.5 | 10.6 | 3.7 |
| MORE THAN THREE..... | 24.4 | 22.8 | 7.5 | 29.4 | 29.4 | 21.9 | 24.3 | 27.7 | 29.9 | 25.1 | 10.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE | 17.3 | 15.8 | 5.2 | 26.9 | 26.9 | 13.5 | 15.8 | 18.7 | 25.3 | 11.6 | 4.7 |
| 1901 TO 1920 | 17.0 | 14.8 | 6.6 | 21.3 | 21.3 | 13.0 | 12.4 | 16.1 | 19.0 | 10.4 | 7.3 |
| 1921 TO 1945 | 9.6 | 11.6 | 5.1 | 15.5 | 15.5 | 16.8 | 18.0 | 19.4 | 12.5 | 12.0 | 10.5 |
| 1946 TO 1960 | 12.6 | 13.2 | 6.1 | 21.5 | 21.7 | 17.0 | 16.3 | 17.8 | 20.6 | 16.3 | 4.2 |
| 1961 TO 1970 | 12.5 | 12.5 | 4.8 | 14.5 | 14.5 | 8.8 | 9.0 | 16.5 | 14.1 | 10.3 | 4.5 |
| 1971 TO 1973 | 23.0 | 22.8 | 14.0 | 27.7 | 27.7 | 31.3 | 33.1 | 32.6 | 24.6 | 28.0 | 10.5 |
| 1974 TO 1979 | 15.8 | 15.4 | 5.1 | 23.6 | 23.6 | 17.7 | 19.2 | 31.9 | 22.6 | 15.2 | 7.3 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS | 122.3 | 77.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS | 8.6 | 8.7 | 2.6 | 10.4 | 10.4 | 7.1 | 8.4 | 10.0 | 9.2 | 6.5 | 3.0 |
| OTHER | 100.0 | 100.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE | 17.5 | 17.8 | 7.4 | 36.9 | 38.1 | 32.6 | 33.7 | 35.6 | 23.5 | 18.3 | 40.4 |
| ELEC., GAS, OTHER | 20.4 | 19.9 | 7.9 | 41.4 | 41.4 | 35.7 | 37.9 | 38.6 | 27.3 | 23.4 | 52.9 |
| FOUR OR MORE FUELS USED | 30.2 | 30.7 | 11.7 | 33.8 | 45.4 | 44.2 | 0 | 0 | 28.0 | 33.6 | 22.2 |
| 74.3 | 72.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY | 7.7 | 7.5 | 2.1 | 10.8 | 10.8 | 7.5 | 8.3 | 10.5 | 9.2 | 5.9 | 3.6 |
| NATURAL GAS | 7.8 | 7.4 | 2.0 | 10.7 | 10.7 | 7.3 | 8.0 | 10.4 | 9.1 | 5.8 | 3.5 |
| FUEL OIL/KEROSENE | 21.0 | 20.8 | 7.7 | 41.1 | 41.1 | 35.6 | 38.0 | 38.7 | 27.5 | 23.0 | 0 |
| WOOD | 42.5 | 50.4 | 19.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36.0 |
| OTHER | 42.0 | 41.6 | 16.0 | 25.0 | 39.7 | 0 | 0 | 0 | 34.3 | 0 | 20.1 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR | 11.6 | 12.1 | 4.9 | 12.4 | 12.5 | 11.0 | 11.0 | 13.4 | 13.0 | 11.8 | 3.9 |
| RADIANT | 20.6 | 19.4 | 8.9 | 28.1 | 28.1 | 21.1 | 24.8 | 32.0 | 22.4 | 16.7 | 14.9 |
| COMBINATION/OTHER | 16.8 | 20.9 | 9.4 | 21.1 | 21.1 | 16.0 | 18.7 | 37.0 | 19.9 | 16.5 | 3.2 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR | 8.5 | 11.4 | 6.4 | 16.4 | 16.4 | 15.0 | 17.1 | 16.4 | 14.1 | 12.7 | 4.1 |
| RADIANT | 8.9 | 8.9 | 4.1 | 14.9 | 14.9 | 11.2 | 11.5 | 20.8 | 13.2 | 10.1 | 3.5 |
| COMBINATION/OTHER | 24.8 | 24.6 | 7.5 | 35.7 | 35.7 | 20.1 | 19.3 | 23.4 | 30.7 | 16.8 | 14.0 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR | 18.0 | 19.0 | 10.5 | 38.9 | 39.0 | 40.5 | 38.4 | 0 | 31.7 | 32.3 | 37.4 |
| RADIANT | 55.1 | 66.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER | 28.5 | 33.0 | 20.5 | 37.3 | 37.3 | 36.8 | 32.2 | 30.7 | 36.0 | 37.4 | 6.4 |
| NONE | 29.3 | 35.8 | 15.6 | 49.5 | 49.5 | 33.2 | 28.4 | 0 | 0 | 33.9 | 7.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|-----------------------------------|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 24.7 | 24.5 | 11.7 | 28.6 | 28.9 | 29.6 | 31.5 | 2 | 31.4 | 30.9 | 14.2 |
| 26 TO 50..... | 17.6 | 19.6 | 6.8 | 16.9 | 16.9 | 20.0 | 22.6 | 22.1 | 18.1 | 22.2 | 4.6 |
| 51 TO 75..... | 14.6 | 14.5 | 6.4 | 17.9 | 18.0 | 17.7 | 18.6 | 34.7 | 19.8 | 19.7 | 5.6 |
| 76 TO 99..... | 13.5 | 14.0 | 7.8 | 22.6 | 22.6 | 20.5 | 24.1 | 39.9 | 21.6 | 18.7 | 4.3 |
| 100..... | 10.0 | 10.6 | 2.8 | 13.2 | 13.2 | 10.6 | 11.6 | 11.7 | 11.1 | 7.8 | 4.3 |
| NONE..... | 29.3 | 35.8 | 15.6 | 49.5 | 49.5 | 33.2 | 28.4 | 2 | 2 | 33.9 | 7.5 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 14.3 | 14.3 | 9.2 | 27.7 | 27.7 | 23.2 | 29.6 | 22.0 | 24.6 | 19.6 | 8.2 |
| 26 TO 50..... | 11.3 | 12.1 | 3.8 | 19.9 | 19.9 | 19.1 | 19.7 | 19.3 | 18.1 | 16.8 | 5.8 |
| 51 TO 75..... | 16.0 | 17.5 | 7.6 | 15.7 | 15.7 | 15.3 | 16.5 | 31.0 | 17.2 | 17.8 | 5.6 |
| 76 TO 99..... | 23.6 | 25.0 | 13.0 | 24.5 | 25.0 | 25.7 | 24.4 | 32.5 | 24.1 | 19.9 | 8.2 |
| 100..... | 14.7 | 15.2 | 4.8 | 16.2 | 16.2 | 9.8 | 10.4 | 9.3 | 15.0 | 10.5 | 4.2 |
| NONE..... | 10.5 | 10.8 | 4.0 | 16.2 | 16.2 | 10.9 | 12.4 | 14.2 | 14.2 | 9.3 | 7.7 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 7.9 | 8.5 | 5.8 | 13.3 | 13.3 | 11.4 | 12.7 | 16.5 | 12.5 | 11.0 | 2.6 |
| PACKAGE UNITS..... | 14.2 | 13.8 | 5.0 | 15.8 | 15.8 | 12.0 | 11.6 | 13.3 | 13.7 | 11.8 | 4.9 |
| CENTRAL SYSTEM..... | 11.3 | 11.0 | 5.3 | 21.4 | 21.4 | 17.3 | 17.6 | 21.6 | 18.8 | 15.1 | 5.8 |
| COMBINATION/OTHER..... | 25.5 | 26.1 | 7.2 | 30.9 | 31.3 | 23.7 | 22.9 | 23.9 | 28.9 | 23.8 | 11.0 |
| NO AIR CONDITIONING..... | 10.5 | 10.8 | 4.0 | 16.2 | 16.2 | 10.9 | 12.4 | 14.2 | 14.2 | 9.3 | 7.7 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.2 | 9.0 | 4.1 | 12.2 | 12.3 | 6.1 | 7.0 | 6.6 | 10.7 | 5.1 | 4.0 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 10.4 | 12.3 | 3.5 | 10.8 | 10.8 | 9.3 | 10.8 | 17.9 | 12.2 | 9.6 | 4.8 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 15.4 | 16.0 | 4.8 | 26.0 | 26.0 | 22.4 | 21.7 | 23.9 | 23.7 | 19.8 | 6.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 17.6 | 18.8 | 6.0 | 26.2 | 26.2 | 23.7 | 25.1 | 29.6 | 26.2 | 22.3 | 4.7 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| 28.4 | 33.2 | 20.1 | 43.4 | 43.4 | 46.9 | 48.8 | 2 | 2 | 41.5 | 44.0 | 8.2 |
| 55.8 | 57.2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 8.5 | 8.4 | 2.1 | 12.4 | 12.4 | 9.0 | 9.4 | 7.5 | 10.5 | 6.7 | 4.2 |
| 10 TO 19..... | 12.1 | 12.0 | 4.4 | 16.6 | 16.6 | 14.6 | 15.9 | 14.4 | 16.1 | 14.3 | 3.0 |
| 20 TO 49..... | 30.1 | 28.1 | 7.6 | 28.0 | 28.0 | 20.6 | 20.5 | 22.2 | 28.4 | 19.6 | 5.6 |
| 50 OR MORE..... | 40.5 | 42.8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 28.3 | 28.7 | 13.2 | 45.4 | 45.4 | 9 | 9 | - | 48.8 | 9 | 16.1 |
| 39 OR FEWER HOURS..... | 13.6 | 12.8 | 5.7 | 22.4 | 22.4 | 15.1 | 14.0 | 13.8 | 19.6 | 14.0 | 6.4 |
| 40 TO 48 HOURS..... | 7.5 | 9.3 | 3.8 | 16.5 | 16.5 | 14.2 | 13.6 | 17.0 | 13.9 | 11.4 | 4.9 |
| 49 TO 60 HOURS..... | 12.7 | 13.0 | 5.6 | 18.2 | 18.2 | 10.7 | 13.0 | 15.4 | 16.2 | 8.4 | 3.7 |
| 61 TO 84 HOURS..... | 11.3 | 13.0 | 6.2 | 13.8 | 13.8 | 12.5 | 15.4 | 16.1 | 12.5 | 10.0 | 9.5 |
| MORE THAN 84 HOURS..... | 12.1 | 10.0 | 5.1 | 12.6 | 12.8 | 14.7 | 13.2 | 16.3 | 12.4 | 15.0 | 4.9 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 7.0 | 6.7 | 4.2 | 11.3 | 11.2 | 7.2 | 7.0 | 8.5 | 10.0 | 5.9 | 4.8 |
| NO..... | 8.8 | 8.9 | 1.9 | 13.0 | 13.1 | 10.1 | 10.5 | 16.0 | 11.0 | 8.8 | 4.2 |
| DON'T KNOW/NOT REPORTED..... | 17.8 | 20.1 | 10.9 | 22.5 | 22.5 | 17.4 | 23.0 | 15.0 | 20.5 | 16.7 | 4.9 |
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 8.0 | 10.2 | 4.0 | 10.6 | 10.7 | 10.8 | 12.1 | 9.2 | 10.2 | 10.1 | 3.7 |
| NO..... | 9.5 | 9.1 | 1.9 | 13.1 | 13.1 | 9.6 | 10.3 | 14.7 | 11.2 | 7.9 | 4.6 |
| DON'T KNOW/NOT REPORTED..... | 18.0 | 17.4 | 9.3 | 19.9 | 19.9 | 22.5 | 22.4 | 35.9 | 19.4 | 20.2 | 4.0 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 8.0 | 10.5 | 4.5 | 15.6 | 15.6 | 12.2 | 12.0 | 14.5 | 14.0 | 10.7 | 4.2 |
| NO..... | 8.8 | 8.3 | 1.9 | 12.2 | 12.3 | 9.1 | 9.5 | 13.4 | 10.2 | 7.4 | 4.2 |
| DON'T KNOW/NOT REPORTED..... | 17.1 | 15.4 | 8.4 | 18.9 | 18.9 | 25.7 | 23.1 | 33.0 | 17.7 | 22.1 | 5.4 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 9.7 | 9.8 | 2.3 | 12.2 | 12.3 | 7.5 | 8.3 | 10.0 | 10.5 | 6.2 | 3.7 |
| NO..... | 12.1 | 14.8 | 4.8 | 19.9 | 19.9 | 12.1 | 11.5 | 19.9 | 16.2 | 9.1 | 7.1 |
| NOT REPORTED/ NOT APPLICABLE..... | 27.2 | 33.9 | 14.2 | 32.0 | 32.0 | 21.2 | 17.1 | 9 | 33.3 | 21.7 | 3.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C14. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|---------------------------|--|--|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 12.1 | 11.4 | 3.5 | 15.5 | 15.5 | 10.6 | 10.9 | 12.5 | 12.7 | 8.6 | 5.1 |
| NO..... | 19.9 | 24.3 | 8.3 | 25.6 | 25.9 | 16.6 | 20.6 | 29.4 | 21.9 | 13.8 | 9.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 8.4 | 8.0 | 2.8 | 12.7 | 12.7 | 8.9 | 9.7 | 11.3 | 11.4 | 7.5 | 4.7 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 9.6 | 9.6 | 2.3 | 12.0 | 12.0 | 7.4 | 8.3 | 11.5 | 10.3 | 6.2 | 3.6 |
| NO..... | 12.6 | 15.9 | 5.6 | 20.6 | 20.6 | 13.4 | 12.7 | 18.9 | 16.2 | 9.9 | 8.1 |
| NOT REPORTED/ NOT APPLICABLE..... | 29.3 | 36.4 | 15.3 | 32.2 | 32.2 | 20.4 | 38.5 | Q | 33.8 | 20.6 | 3.3 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C15. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Natural Gas: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 13.0 | 12.8 | 13.0 | 11.0 | 12.9 | 2.8 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 10.7 | 10.4 | 1.2 | 11.7 | 11.7 | 12.8 | 12.6 | 13.0 | 11.2 | 12.5 | 2.8 |
| NATURAL GAS..... | 11.7 | 11.4 | 1.2 | 11.7 | 11.7 | 13.2 | 12.9 | 12.6 | 11.4 | 13.3 | 3.1 |
| ELECTRICITY..... | 18.2 | 18.4 | 2.6 | 25.5 | 25.5 | 29.1 | 29.9 | 26.2 | 24.2 | 26.2 | 7.0 |
| FUEL OIL/KEROSENE..... | 19.0 | 19.3 | 3.7 | 25.0 | 25.0 | 47.9 | 44.1 | 37.9 | 19.6 | 31.2 | 41.8 |
| OTHER..... | 36.9 | 40.2 | 5.9 | 42.0 | 42.0 | 33.4 | 39.2 | 2 | 41.8 | 34.8 | 13.0 |
| NO HEATING FUEL USED..... | 53.3 | 53.8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| AIR CONDITIONING FUEL USED.. | 12.5 | 12.2 | 1.5 | 13.5 | 13.5 | 16.7 | 16.4 | 16.0 | 13.6 | 16.5 | 3.2 |
| ELECTRICITY..... | 13.4 | 13.1 | 1.6 | 15.2 | 15.2 | 17.6 | 17.3 | 18.1 | 15.2 | 17.1 | 3.5 |
| NATURAL GAS..... | 26.2 | 28.0 | 6.0 | 36.4 | 36.4 | 31.1 | 34.3 | 35.7 | 36.7 | 32.4 | 6.7 |
| OTHER..... | 100.0 | 100.0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO AIR CONDITIONING FUEL.... | 15.9 | 16.9 | 3.0 | 25.5 | 25.5 | 17.3 | 15.7 | 17.5 | 23.6 | 15.6 | 6.1 |
| WATER-HEATING FUEL USED..... | 10.7 | 10.5 | 1.3 | 12.6 | 12.6 | 14.9 | 14.9 | 14.5 | 12.1 | 14.4 | 1.5 |
| NATURAL GAS..... | 12.0 | 11.8 | 1.6 | 14.8 | 14.8 | 17.3 | 17.2 | 18.0 | 14.1 | 16.6 | 2.4 |
| ELECTRICITY..... | 16.4 | 16.6 | 2.6 | 20.6 | 20.6 | 22.0 | 22.4 | 19.6 | 21.1 | 23.8 | 3.4 |
| FUEL OIL/KEROSENE..... | 24.0 | 26.9 | 9.8 | 2 | 2 | 2 | 2 | 2 | 42.8 | 43.4 | 2 |
| OTHER..... | 100.0 | 100.0 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO WATER-HEATING FUEL..... | 16.2 | 15.7 | 2.1 | 29.2 | 29.2 | 26.3 | 25.5 | 27.6 | 23.8 | 20.4 | 17.4 |
| MANUFACTURING FUEL USED..... | 23.5 | 23.5 | 4.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4.5 |
| ELECTRICITY..... | 23.4 | 23.2 | 5.4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 4.8 |
| OTHER..... | 41.3 | 42.3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| NO MANUFACTURING DONE..... | 10.8 | 10.6 | 1.3 | 11.7 | 11.7 | 12.3 | 12.0 | 13.2 | 10.9 | 11.8 | 3.6 |
| COOKING FUEL USED..... | 12.0 | 11.8 | 1.9 | 13.5 | 13.5 | 13.1 | 12.9 | 16.7 | 12.2 | 11.1 | 3.5 |
| ELECTRICITY..... | 21.8 | 21.9 | 3.3 | 31.9 | 31.9 | 18.0 | 17.8 | 24.1 | 31.2 | 16.4 | 7.8 |
| NATURAL GAS..... | 14.2 | 13.8 | 2.5 | 14.4 | 14.4 | 15.5 | 15.3 | 20.3 | 12.5 | 12.8 | 4.3 |
| NO COOKING FUEL..... | 11.6 | 11.3 | 1.7 | 15.1 | 15.1 | 16.0 | 16.6 | 15.8 | 15.1 | 17.2 | 4.2 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 16.1 | 16.8 | 2.9 | 24.3 | 24.3 | 24.6 | 25.0 | 31.8 | 20.9 | 17.0 | 11.5 |
| NORTH CENTRAL..... | 15.3 | 13.8 | 2.4 | 11.4 | 11.4 | 20.4 | 17.4 | 17.6 | 12.1 | 20.6 | 1.9 |
| SOUTH..... | 28.8 | 29.5 | 2.3 | 23.7 | 23.7 | 25.5 | 27.6 | 24.8 | 27.2 | 30.4 | 10.8 |
| WEST..... | 22.5 | 23.4 | 3.8 | 35.0 | 35.0 | 40.4 | 42.5 | 36.8 | 35.0 | 42.6 | 5.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING SAND (DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|---|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 12.9 | 12.6 | 1.2 | 15.3 | 15.3 | 17.7 | 17.4 | 16.0 | 15.1 | 16.7 | 3.4 |
| NONSMSA..... | 18.3 | 18.2 | 2.8 | 24.2 | 24.2 | 17.4 | 16.2 | 18.0 | 22.2 | 16.3 | 5.6 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 38.4 | 37.4 | 5.8 | 29.8 | 29.8 | 22.8 | 19.1 | 20.3 | 30.1 | 21.6 | 1.9 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 14.2 | 14.5 | 1.7 | 18.5 | 18.5 | 14.0 | 13.7 | 18.0 | 16.8 | 12.0 | 5.5 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 32.1 | 31.4 | 2.0 | 37.6 | 37.6 | 23.3 | 21.7 | 22.7 | 32.6 | 21.8 | 10.3 |
| <2,000 CDD AND <4,000 HDD... | 29.2 | 29.0 | 2.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.5 |
| >2,000 CDD AND <4,000 HDD... | 66.2 | 67.9 | 6.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11.9 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 19.2 | 19.7 | 4.0 | 20.0 | 20.0 | 26.0 | 25.5 | 48.2 | 19.0 | 24.4 | 7.2 |
| AUTOMOTIVE SALES & SERVICE.. | 21.9 | 20.4 | 4.0 | 21.3 | 21.3 | 15.9 | 14.8 | 19.1 | 22.8 | 17.2 | 4.0 |
| EDUCATION..... | 39.5 | 41.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FOOD SALES..... | 25.8 | 25.7 | 3.9 | 32.9 | 32.9 | 30.1 | 29.0 | 25.4 | 31.3 | 28.5 | 5.7 |
| HEALTH CARE..... | 43.8 | 46.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING..... | 24.3 | 26.9 | 6.6 | 47.9 | 47.9 | 0 | 0 | 0 | 38.6 | 41.7 | 28.8 |
| OFFICE..... | 11.7 | 12.0 | 3.4 | 21.2 | 21.2 | 17.9 | 18.1 | 17.8 | 22.6 | 19.7 | 7.0 |
| RESIDENTIAL..... | 20.0 | 20.6 | 5.2 | 37.4 | 37.4 | 33.3 | 32.5 | 43.5 | 31.0 | 25.4 | 17.6 |
| RETAIL/SERVICES..... | 19.9 | 20.8 | 3.0 | 40.8 | 40.8 | 41.9 | 41.4 | 34.1 | 39.4 | 41.2 | 9.8 |
| WAREHOUSE AND STORAGE..... | 34.6 | 36.3 | 7.2 | 33.5 | 33.5 | 48.1 | 42.3 | 0 | 33.0 | 47.3 | 9.1 |
| OTHER..... | 24.2 | 21.5 | 6.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6.8 |
| VACANT..... | 44.1 | 45.6 | 12.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 5,001 TO 10,000..... | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 13.0 | 12.8 | 13.0 | 11.0 | 12.9 | 2.8 |
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.9 | 10.6 | 1.7 | 19.5 | 19.5 | 22.1 | 22.2 | 20.8 | 18.5 | 21.8 | 3.0 |
| TWO FLOORS..... | 18.9 | 18.5 | 2.1 | 17.4 | 17.4 | 24.9 | 23.9 | 20.2 | 17.6 | 23.7 | 7.2 |
| THREE FLOORS..... | 17.6 | 17.0 | 3.2 | 24.2 | 24.2 | 18.1 | 17.8 | 24.3 | 22.8 | 15.6 | 5.0 |
| MORE THAN THREE..... | 19.4 | 19.6 | 3.3 | 31.0 | 31.0 | 28.6 | 27.3 | 30.2 | 21.3 | 16.9 | 25.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE | 26.8 | 26.7 | 5.8 | 32.7 | 32.7 | 23.8 | 23.1 | 20.1 | 30.3 | 19.3 | 17.7 |
| 1901 TO 1920 | 20.7 | 18.2 | 5.2 | 26.2 | 26.2 | 27.9 | 24.9 | 26.5 | 21.9 | 23.9 | 11.2 |
| 1921 TO 1945 | 19.5 | 19.0 | 2.7 | 43.3 | 43.3 | 49.0 | 47.7 | 45.9 | 40.8 | 46.5 | 6.9 |
| 1946 TO 1960 | 16.3 | 17.2 | 2.0 | 22.2 | 22.2 | 23.0 | 23.7 | 15.3 | 23.3 | 23.8 | 3.0 |
| 1961 TO 1970 | 15.4 | 15.7 | 2.8 | 15.1 | 15.1 | 19.8 | 21.1 | 24.9 | 16.5 | 22.4 | 3.6 |
| 1971 TO 1973 | 25.0 | 23.9 | 6.2 | 0 | 0 | 49.7 | 45.3 | 32.2 | 0 | 43.9 | 9.8 |
| 1974 TO 1979 | 16.5 | 16.0 | 2.9 | 39.4 | 39.4 | 33.0 | 34.3 | 37.4 | 29.5 | 20.4 | 25.6 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS | 79.1 | 79.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS | 11.5 | 11.3 | 1.2 | 13.7 | 13.7 | 12.7 | 12.6 | 14.0 | 13.3 | 12.7 | 3.4 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE | 18.4 | 18.9 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.2 |
| ELEC., GAS, OTHER | 33.8 | 35.8 | 5.3 | 42.4 | 42.4 | 39.1 | 42.0 | 38.2 | 38.5 | 36.7 | 15.2 |
| FOUR OR MORE FUELS USED | 50.5 | 54.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 13.0 | 12.8 | 13.0 | 11.0 | 12.9 | 2.8 |
| NATURAL GAS | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 13.0 | 12.8 | 13.0 | 11.0 | 12.9 | 2.8 |
| FUEL OIL/KEROSENE | 18.2 | 18.7 | 3.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29.2 |
| OTHER | 32.4 | 34.0 | 3.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.5 |
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR | 14.4 | 14.0 | 2.4 | 23.0 | 23.0 | 19.6 | 19.8 | 21.6 | 23.1 | 21.2 | 3.4 |
| RADIANT | 23.9 | 24.9 | 6.0 | 38.6 | 38.6 | 0 | 0 | 0 | 35.0 | 0 | 7.4 |
| COMBINATION/OTHER | 36.7 | 36.6 | 4.3 | 0 | 0 | 44.1 | 44.8 | 33.6 | 0 | 36.5 | 12.8 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR | 14.6 | 14.2 | 2.7 | 30.0 | 30.0 | 31.7 | 31.5 | 28.9 | 30.4 | 32.0 | 3.5 |
| RADIANT | 18.2 | 17.6 | 2.5 | 26.2 | 26.2 | 22.4 | 21.3 | 25.6 | 22.1 | 14.8 | 12.3 |
| COMBINATION/OTHER | 31.2 | 29.9 | 4.1 | 35.0 | 35.0 | 49.1 | 49.5 | 0 | 31.3 | 44.6 | 9.8 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR | 26.6 | 27.8 | 6.8 | 30.6 | 30.6 | 23.9 | 26.1 | 38.2 | 30.0 | 24.5 | 5.7 |
| RADIANT | 59.0 | 59.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER | 41.5 | 40.4 | 4.3 | 37.0 | 37.0 | 48.8 | 45.5 | 0 | 37.3 | 0 | 15.3 |
| NONE | 53.3 | 53.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---------------------------------------|
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 26.4 | 27.4 | 4.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.7 |
| 26 TO 50..... | 20.8 | 19.7 | 3.9 | 27.4 | 27.4 | 39.9 | 37.0 | 29.0 | 29.1 | 43.5 | 5.5 |
| 51 TO 75..... | 19.7 | 19.3 | 5.6 | 24.9 | 24.4 | 19.8 | 20.8 | 23.3 | 22.1 | 17.4 | 12.9 |
| 76 TO 99..... | 26.5 | 27.5 | 4.4 | 28.8 | 28.8 | 26.7 | 26.1 | 18.8 | 30.6 | 27.2 | 4.7 |
| 100..... | 11.6 | 11.4 | 1.4 | 12.2 | 12.2 | 15.3 | 15.1 | 16.0 | 10.7 | 13.2 | 4.1 |
| NONE..... | 53.3 | 53.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 17.9 | 18.9 | 3.0 | 38.2 | 38.2 | 40.7 | 40.8 | 38.0 | 38.3 | 40.0 | 6.1 |
| 26 TO 50..... | 18.3 | 18.9 | 2.7 | 25.6 | 25.6 | 24.2 | 23.6 | 19.6 | 26.6 | 24.8 | 2.6 |
| 51 TO 75..... | 19.1 | 18.7 | 5.8 | 27.6 | 27.6 | 25.8 | 25.5 | 27.4 | 32.4 | 33.4 | 13.5 |
| 76 TO 99..... | 29.3 | 29.8 | 4.4 | 30.1 | 30.1 | 24.0 | 24.9 | 24.2 | 29.6 | 24.6 | 4.7 |
| 100..... | 17.0 | 16.6 | 2.2 | 23.9 | 23.9 | 28.7 | 27.5 | 32.3 | 21.3 | 25.5 | 9.6 |
| NONE..... | 15.9 | 16.9 | 3.0 | 25.5 | 25.5 | 17.3 | 15.7 | 17.5 | 23.6 | 15.6 | 6.1 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 12.8 | 13.6 | 2.7 | 17.1 | 17.1 | 22.4 | 22.5 | 21.1 | 20.1 | 24.9 | 14.3 |
| PACKAGE UNITS..... | 20.2 | 19.9 | 2.3 | 32.9 | 32.9 | 30.2 | 29.8 | 27.0 | 31.5 | 29.1 | 3.7 |
| CENTRAL SYSTEM..... | 17.9 | 17.6 | 3.0 | 21.9 | 21.9 | 25.8 | 24.3 | 22.5 | 21.5 | 22.9 | 4.8 |
| COMBINATION/OTHER..... | 25.7 | 24.9 | 6.2 | 31.1 | 31.1 | 0 | 48.2 | 0 | 36.0 | 0 | 7.1 |
| NO AIR CONDITIONING..... | 15.9 | 16.9 | 3.0 | 25.5 | 25.5 | 17.3 | 15.7 | 17.5 | 23.6 | 15.6 | 6.1 |
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 13.8 | 13.7 | 1.6 | 13.8 | 13.8 | 13.5 | 13.7 | 16.3 | 11.7 | 12.9 | 5.7 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 16.6 | 16.3 | 2.3 | 33.6 | 33.6 | 37.8 | 37.8 | 34.8 | 32.4 | 36.6 | 3.5 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 21.5 | 21.2 | 3.7 | 24.8 | 24.8 | 19.6 | 19.6 | 28.3 | 23.9 | 16.9 | 6.1 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 19.6 | 18.8 | 3.2 | 37.9 | 37.9 | 35.6 | 36.1 | 33.3 | 39.1 | 36.1 | 5.3 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 29.3 | 29.8 | 4.6 | 5 | 0 | 0 | 49.0 | 46.8 | 0 | 45.3 | 9.2 |
| NOT REPORTED..... | 72.2 | 74.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10 | 12.5 | 12.8 | 1.7 | 15.9 | 15.9 | 12.8 | 12.2 | 13.5 | 12.7 | 10.7 | 6.0 |
| 10 TO 19 | 15.7 | 15.3 | 2.8 | 20.6 | 20.6 | 20.5 | 21.3 | 21.6 | 22.4 | 23.5 | 5.1 |
| 20 TO 49 | 14.5 | 15.2 | 3.4 | 31.6 | 31.6 | 28.5 | 28.9 | 29.7 | 31.1 | 27.9 | 4.2 |
| 50 TO 99 | 31.9 | 30.9 | 5.5 | 43.2 | 43.2 | 22.4 | 19.0 | 24.7 | 44.9 | 25.6 | 5.9 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE | 49.5 | 50.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 39 OR FEWER HOURS | 21.4 | 21.3 | 2.5 | 30.6 | 30.6 | 36.1 | 35.7 | 45.9 | 29.3 | 35.8 | 5.2 |
| 40 TO 48 HOURS | 12.7 | 12.8 | 2.1 | 12.4 | 12.4 | 11.0 | 10.5 | 15.5 | 9.3 | 9.8 | 7.0 |
| 49 TO 60 HOURS | 14.6 | 14.7 | 3.4 | 44.2 | 44.2 | 41.7 | 40.7 | 35.4 | 41.5 | 38.6 | 5.1 |
| 61 TO 84 HOURS | 15.4 | 15.2 | 3.3 | 25.7 | 25.7 | 24.6 | 25.8 | 26.6 | 26.2 | 26.9 | 4.1 |
| MORE THAN 84 HOURS | 15.1 | 15.4 | 3.3 | 27.7 | 27.7 | 28.0 | 27.3 | 32.0 | 24.4 | 23.2 | 8.3 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES | 13.6 | 13.1 | 2.0 | 15.2 | 15.2 | 13.9 | 12.9 | 14.8 | 14.7 | 12.2 | 4.4 |
| NO | 12.8 | 12.8 | 1.5 | 17.2 | 17.2 | 16.6 | 16.9 | 17.7 | 16.9 | 17.7 | 5.0 |
| DON'T KNOW/NOT REPORTED | 27.8 | 27.4 | 6.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13.8 |
| INSULATION ADDED | | | | | | | | | | | |
| YES | 15.7 | 15.2 | 2.2 | 12.9 | 12.9 | 15.4 | 14.3 | 20.9 | 11.1 | 15.6 | 4.8 |
| NO | 8.9 | 8.8 | 1.5 | 14.4 | 14.4 | 17.2 | 17.3 | 16.3 | 13.9 | 16.8 | 3.5 |
| DON'T KNOW/NOT REPORTED | 30.1 | 29.3 | 4.8 | 33.5 | 33.5 | 39.5 | 39.9 | 40.3 | 30.3 | 36.9 | 7.4 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES | 15.1 | 14.8 | 2.9 | 17.5 | 17.5 | 17.0 | 16.2 | 20.5 | 16.3 | 16.4 | 2.7 |
| NO | 10.6 | 10.3 | 1.4 | 12.8 | 12.8 | 15.4 | 15.2 | 14.2 | 12.5 | 15.5 | 3.5 |
| DON'T KNOW/NOT REPORTED | 31.9 | 31.8 | 5.3 | 42.8 | 42.8 | 0 | 0 | 37.3 | 41.0 | 0 | 6.8 |
| REDUCED HEATING | | | | | | | | | | | |
| YES | 11.7 | 11.6 | 1.3 | 12.0 | 12.0 | 10.7 | 10.7 | 11.5 | 11.3 | 10.7 | 3.2 |
| NO | 15.8 | 16.5 | 2.7 | 28.6 | 28.6 | 33.0 | 32.7 | 29.4 | 29.7 | 36.4 | 6.8 |
| NOT REPORTED/ NOT APPLICABLE | 49.5 | 51.7 | 12.9 | 0 | 0 | 0 | 0 | - | 0 | 0 | - |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C15. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (TRILLION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|---|--|--|--|---------------------------------|---|---|
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 17.0 | 16.6 | 2.1 | 20.3 | 20.3 | 21.6 | 21.3 | 20.0 | 19.2 | 21.6 | 3.6 |
| NO..... | 27.9 | 27.7 | 4.3 | 0 | 0 | 40.9 | 38.5 | 47.0 | 0 | 34.7 | 8.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 11.2 | 12.2 | 2.2 | 17.7 | 17.7 | 13.1 | 12.3 | 13.7 | 17.2 | 13.6 | 7.8 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 11.6 | 11.4 | 1.3 | 14.7 | 14.7 | 14.1 | 14.1 | 13.4 | 13.8 | 13.9 | 3.1 |
| NO..... | 16.1 | 16.5 | 2.3 | 29.2 | 29.2 | 26.4 | 25.7 | 28.0 | 26.3 | 24.9 | 10.6 |
| NOT REPORTED/ NOT APPLICABLE..... | 49.7 | 49.7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C16. 1979 Natural Gas Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Natural Gas: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 9.6 | 8.0 | 4.7 | 10.1 | 10.2 | 11.4 | 8.5 | 8.6 | 9.2 | 9.7 | 3.1 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 9.7 | 7.9 | 4.9 | 10.1 | 10.2 | 11.7 | 8.6 | 8.6 | 9.2 | 10.0 | 3.1 |
| NATURAL GAS..... | 10.7 | 9.0 | 4.3 | 10.8 | 10.8 | 14.2 | 11.6 | 9.7 | 9.4 | 12.3 | 3.2 |
| ELECTRICITY..... | 15.6 | 15.1 | 7.8 | 41.6 | 41.7 | 43.1 | 39.4 | 35.9 | 29.7 | 30.0 | 11.0 |
| FUEL OIL/KEROSENE..... | 13.0 | 10.5 | 7.6 | 18.4 | 18.5 | 16.7 | 11.4 | 15.8 | 18.7 | 17.2 | 6.2 |
| OTHER..... | 24.3 | 19.9 | 10.2 | 21.4 | 21.5 | 24.7 | 21.1 | 19.7 | 23.1 | 25.5 | 3.9 |
| NO HEATING FUEL USED..... | 64.0 | 42.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AIR CONDITIONING FUEL USED.. | 10.2 | 9.0 | 4.5 | 11.4 | 11.4 | 12.3 | 9.6 | 9.8 | 10.4 | 10.0 | 3.3 |
| ELECTRICITY..... | 10.5 | 9.2 | 4.8 | 11.2 | 11.2 | 12.3 | 9.9 | 10.2 | 9.9 | 9.6 | 3.7 |
| NATURAL GAS..... | 11.3 | 13.7 | 11.8 | 0 | 0 | 0 | 0 | 0 | 40.2 | 47.2 | 9.3 |
| OTHER..... | 37.5 | 16.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 17.3 | 13.6 | 8.8 | 16.7 | 16.7 | 14.9 | 12.4 | 14.8 | 17.1 | 15.9 | 3.7 |
| WATER-HEATING FUEL USED..... | 9.6 | 8.1 | 4.8 | 10.9 | 10.9 | 12.4 | 9.1 | 8.9 | 9.9 | 10.4 | 3.2 |
| NATURAL GAS..... | 10.2 | 8.7 | 4.8 | 8.9 | 8.9 | 9.1 | 6.1 | 7.7 | 9.2 | 9.3 | 2.3 |
| ELECTRICITY..... | 13.0 | 13.4 | 6.0 | 37.3 | 37.4 | 40.4 | 37.8 | 34.4 | 27.5 | 29.2 | 10.8 |
| FUEL OIL/KEROSENE..... | 20.7 | 13.4 | 20.4 | 23.2 | 23.3 | 40.2 | 18.5 | 26.1 | 24.9 | 40.3 | 9.5 |
| OTHER..... | 22.2 | 22.5 | 25.9 | 32.0 | 32.0 | 38.5 | 34.2 | 37.3 | 33.2 | 43.0 | 5.7 |
| NO WATER-HEATING FUEL..... | 16.7 | 12.9 | 11.9 | 17.2 | 17.2 | 21.1 | 17.1 | 23.2 | 16.3 | 20.7 | 4.4 |
| MANUFACTURING FUEL USED..... | 14.8 | 11.5 | 12.3 | 17.4 | 17.4 | 22.0 | 15.2 | 15.7 | 15.8 | 20.0 | 5.7 |
| ELECTRICITY..... | 16.7 | 13.0 | 12.8 | 19.8 | 19.8 | 23.0 | 17.2 | 17.3 | 17.5 | 19.2 | 7.3 |
| NATURAL GAS..... | 26.0 | 16.2 | 18.4 | 22.6 | 22.6 | 30.1 | 18.4 | 21.1 | 21.8 | 31.0 | 7.7 |
| OTHER..... | 45.0 | 23.7 | 38.3 | 38.6 | 38.6 | 0 | 34.5 | 46.9 | 35.2 | 0 | 14.2 |
| NO MANUFACTURING DONE..... | 10.0 | 8.3 | 5.8 | 11.8 | 11.8 | 14.0 | 11.1 | 10.6 | 10.3 | 11.7 | 3.3 |
| COOKING FUEL USED..... | 11.0 | 10.3 | 6.8 | 17.0 | 17.0 | 18.8 | 13.5 | 13.8 | 14.1 | 15.0 | 4.3 |
| ELECTRICITY..... | 12.9 | 10.7 | 8.9 | 25.7 | 25.7 | 29.4 | 21.7 | 25.8 | 19.0 | 21.7 | 6.9 |
| NATURAL GAS..... | 11.6 | 11.6 | 7.1 | 11.3 | 11.3 | 9.3 | 5.1 | 6.2 | 11.8 | 10.0 | 2.2 |
| OTHER..... | 43.9 | 29.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 9.9 | 9.0 | 5.6 | 14.0 | 14.0 | 12.4 | 8.5 | 13.6 | 12.7 | 11.2 | 3.6 |
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 11.9 | 10.6 | 7.1 | 13.9 | 13.9 | 13.3 | 8.4 | 9.1 | 12.0 | 13.2 | 5.7 |
| NORTH CENTRAL..... | 15.1 | 11.8 | 7.3 | 17.0 | 17.0 | 19.9 | 14.5 | 15.4 | 15.6 | 16.9 | 4.3 |
| SOUTH..... | 26.0 | 19.8 | 15.0 | 19.3 | 19.3 | 28.9 | 18.6 | 19.7 | 17.0 | 26.5 | 5.4 |
| WEST..... | 16.0 | 13.8 | 14.3 | 22.0 | 22.0 | 23.3 | 12.1 | 13.9 | 16.6 | 18.2 | 6.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 10.4 | 8.9 | 5.0 | 10.5 | 10.5 | 7.2 | 6.1 | 6.5 | 10.8 | 6.4 | 2.4 |
| NONSMSA..... | 22.2 | 17.6 | 11.7 | 34.3 | 34.3 | 45.6 | 37.3 | 32.1 | 29.5 | 42.2 | 6.6 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 48.6 | 43.8 | 13.8 | 45.9 | 46.0 | 15.3 | 13.4 | 20.5 | 49.0 | 15.9 | 10.6 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 9.1 | 9.9 | 6.0 | 21.2 | 21.3 | 20.9 | 16.4 | 17.2 | 16.2 | 16.0 | 5.5 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 28.2 | 20.4 | 13.6 | 31.9 | 31.9 | 16.2 | 15.3 | 15.8 | 32.2 | 17.9 | 6.3 |
| <2,000 CDD AND <4,000 HDD... | 30.3 | 26.2 | 18.8 | 23.8 | 23.8 | 24.1 | 12.9 | 18.9 | 27.4 | 24.8 | 7.2 |
| >2,000 CDD AND <4,000 HDD... | 35.8 | 38.6 | 9.5 | 36.1 | 36.1 | 19.4 | 22.2 | 28.1 | 35.2 | 19.6 | 5.4 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 24.4 | 16.0 | 16.0 | 18.6 | 18.7 | 27.2 | 16.0 | 23.8 | 18.7 | 27.7 | 2.5 |
| AUTOMOTIVE SALES & SERVICE... | 33.7 | 28.6 | 17.0 | 26.5 | 26.5 | 21.8 | 21.3 | 18.5 | 26.1 | 21.7 | 6.6 |
| EDUCATION..... | 12.0 | 11.8 | 6.9 | 18.0 | 18.0 | 20.1 | 14.2 | 15.0 | 16.3 | 18.2 | 3.0 |
| FOOD SALES..... | 24.4 | 21.9 | 16.0 | 36.1 | 36.1 | 32.5 | 23.3 | 27.1 | 36.3 | 32.4 | 3.5 |
| HEALTH CARE..... | 14.8 | 11.6 | 15.0 | 14.1 | 14.1 | 18.0 | 18.5 | 14.6 | 15.5 | 19.9 | 3.3 |
| LODGING..... | 15.7 | 16.2 | 15.4 | 17.6 | 17.6 | 16.3 | 17.2 | 23.4 | 17.6 | 16.4 | 3.4 |
| OFFICE..... | 11.0 | 10.2 | 11.4 | 14.0 | 14.0 | 15.4 | 12.2 | 15.9 | 14.7 | 16.5 | 3.9 |
| RESIDENTIAL..... | 17.9 | 14.5 | 10.1 | 25.4 | 25.4 | 27.4 | 22.2 | 28.6 | 25.7 | 27.0 | 8.2 |
| RETAIL/SERVICES..... | 11.9 | 12.6 | 11.3 | 20.0 | 20.0 | 21.6 | 18.2 | 23.3 | 18.4 | 18.7 | 4.9 |
| WAREHOUSE AND STORAGE..... | 14.0 | 9.6 | 9.9 | 37.1 | 37.1 | 34.1 | 37.6 | 35.5 | 28.2 | 24.8 | 11.3 |
| OTHER..... | 19.5 | 16.6 | 11.1 | 21.6 | 21.6 | 28.6 | 20.5 | 26.9 | 22.7 | 29.7 | 6.2 |
| VACANT..... | 37.9 | 37.1 | 19.0 | 26.1 | 26.1 | 33.1 | 29.3 | 2 | 17.6 | 30.0 | 14.1 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 10,001 TO 25,000..... | 11.7 | 11.0 | 1.5 | 27.1 | 27.1 | 29.2 | 29.2 | 26.8 | 19.4 | 20.2 | 8.5 |
| 25,001 TO 50,000..... | 11.6 | 11.7 | 1.3 | 12.7 | 12.8 | 8.4 | 8.3 | 8.2 | 12.3 | 9.2 | 2.8 |
| OVER 50,000..... | 8.6 | 8.7 | 4.6 | 9.5 | 9.5 | 7.4 | 6.8 | 9.3 | 9.5 | 6.6 | 2.9 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|----------------------------------|--|--|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 15.9 | 11.8 | 9.1 | 14.4 | 14.4 | 20.7 | 15.4 | 12.4 | 13.6 | 18.5 | 3.2 |
| TWO FLOORS..... | 12.1 | 11.5 | 7.3 | 14.4 | 14.4 | 11.4 | 11.5 | 14.1 | 14.7 | 12.0 | 2.6 |
| THREE FLOORS..... | 9.7 | 8.4 | 4.9 | 11.0 | 11.1 | 15.0 | 11.2 | 16.6 | 11.6 | 15.8 | 2.3 |
| MORE THAN THREE..... | 10.6 | 9.1 | 7.7 | 20.6 | 20.6 | 23.0 | 19.0 | 18.8 | 16.3 | 18.4 | 6.2 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 15.3 | 13.1 | 8.3 | 24.0 | 24.0 | 21.0 | 17.3 | 20.8 | 23.0 | 22.8 | 9.3 |
| 1901 TO 1920..... | 18.8 | 12.5 | 12.8 | 23.4 | 23.4 | 24.3 | 18.4 | 21.5 | 21.5 | 23.1 | 6.1 |
| 1921 TO 1945..... | 13.1 | 11.9 | 9.4 | 38.4 | 38.4 | 47.0 | 38.9 | 41.7 | 27.6 | 34.8 | 10.6 |
| 1946 TO 1960..... | 11.5 | 12.3 | 7.5 | 14.1 | 14.1 | 12.3 | 11.4 | 14.1 | 14.2 | 11.1 | 3.2 |
| 1961 TO 1970..... | 13.2 | 10.1 | 9.9 | 13.7 | 13.7 | 7.8 | 8.4 | 9.4 | 14.6 | 8.7 | 2.8 |
| 1971 TO 1973..... | 19.0 | 18.6 | 16.2 | 25.0 | 25.2 | 23.0 | 15.4 | 18.5 | 23.7 | 21.1 | 5.2 |
| 1974 TO 1979..... | 17.6 | 14.3 | 16.0 | 21.1 | 21.1 | 30.5 | 16.9 | 12.8 | 19.5 | 25.0 | 6.4 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| NATURAL GAS..... | 158.1 | 158.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 11.7 | 10.3 | 4.9 | 13.7 | 13.7 | 16.4 | 14.6 | 12.6 | 12.4 | 14.0 | 3.2 |
| OTHER..... | 84.0 | 57.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/ KEROSENE..... | 12.1 | 9.8 | 9.8 | 13.5 | 13.5 | 12.7 | 9.0 | 13.2 | 14.7 | 13.8 | 5.5 |
| ELEC., GAS, OTHER..... | 22.5 | 23.5 | 17.4 | 19.7 | 19.7 | 19.9 | 23.4 | 18.2 | 17.1 | 18.4 | 5.7 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| | 45.3 | 23.2 | 29.0 | 35.2 | 35.3 | 0 | 30.1 | 24.3 | 31.5 | 0 | 10.9 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 9.6 | 8.0 | 4.7 | 10.3 | 10.3 | 11.7 | 8.8 | 8.8 | 9.2 | 9.9 | 3.1 |
| NATURAL GAS..... | 9.6 | 8.0 | 4.7 | 10.1 | 10.2 | 11.4 | 8.5 | 8.6 | 9.2 | 9.7 | 3.1 |
| FUEL OIL/KEROSENE..... | 11.5 | 9.2 | 8.7 | 12.1 | 12.1 | 13.6 | 9.2 | 11.9 | 13.4 | 14.6 | 4.8 |
| LIQUID PETROLEUM GAS..... | 47.7 | 30.6 | 42.9 | 39.0 | 39.3 | 0 | 41.7 | 37.5 | 33.8 | 48.8 | 12.3 |
| COAL..... | 31.5 | 21.8 | 30.3 | 31.9 | 31.9 | 27.8 | 22.5 | 45.4 | 29.5 | 33.4 | 6.3 |
| STEAM..... | 33.0 | 25.6 | 21.3 | 32.9 | 32.9 | 27.9 | 26.7 | 28.9 | 35.3 | 28.3 | 5.0 |
| OTHER..... | 36.6 | 27.3 | 24.4 | 46.0 | 46.0 | 0 | 0 | 0 | 44.1 | 0 | 6.3 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 15.2 | 12.1 | 8.3 | 19.8 | 19.8 | 14.8 | 13.5 | 14.4 | 16.9 | 11.7 | 5.7 |
| RADIANT..... | 32.9 | 28.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| COMBINATION/OTHER..... | 21.8 | 16.9 | 11.3 | 2 | 2 | 2 | 2 | 2 | 43.4 | 48.7 | 11.7 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 6.6 | 7.6 | 7.7 | 12.5 | 12.5 | 15.1 | 9.7 | 10.5 | 12.3 | 14.9 | 1.6 |
| RADIANT..... | 14.7 | 12.3 | 10.1 | 16.0 | 16.0 | 11.2 | 10.4 | 11.7 | 16.2 | 11.6 | 3.9 |
| COMBINATION/OTHER..... | 14.5 | 10.4 | 9.7 | 15.9 | 15.9 | 12.8 | 10.0 | 13.4 | 15.9 | 12.3 | 4.7 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 37.8 | 30.8 | 34.6 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 20.7 |
| RADIANT..... | 30.0 | 30.4 | 44.8 | 27.9 | 27.9 | 2 | 46.5 | 2 | 27.7 | 41.3 | 11.9 |
| COMBINATION/OTHER..... | 20.3 | 15.8 | 13.4 | 14.0 | 14.0 | 22.6 | 12.6 | 12.7 | 13.0 | 23.4 | 2.3 |
| NONE..... | 64.1 | 43.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 14.5 | 12.5 | 10.8 | 35.1 | 35.2 | 38.3 | 33.1 | 40.0 | 31.6 | 35.1 | 13.6 |
| 26 TO 50..... | 15.5 | 17.3 | 9.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 22.6 |
| 51 TO 75..... | 16.1 | 15.2 | 15.6 | 29.8 | 29.8 | 29.4 | 22.4 | 26.7 | 28.6 | 29.4 | 6.0 |
| 76 TO 99..... | 15.5 | 14.1 | 18.2 | 23.2 | 23.2 | 23.8 | 18.1 | 23.1 | 24.2 | 27.1 | 9.8 |
| 100..... | 11.2 | 8.8 | 5.9 | 9.6 | 9.6 | 10.1 | 7.1 | 5.9 | 9.6 | 9.4 | 2.2 |
| NONE..... | 64.1 | 43.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 8.9 | 9.2 | 4.8 | 22.2 | 22.2 | 23.5 | 23.8 | 25.7 | 16.6 | 17.0 | 7.7 |
| 26 TO 50..... | 18.2 | 13.3 | 13.0 | 19.9 | 19.9 | 27.5 | 21.1 | 23.0 | 18.0 | 24.8 | 4.3 |
| 51 TO 75..... | 11.4 | 9.4 | 12.5 | 17.8 | 17.8 | 22.2 | 16.2 | 17.7 | 18.8 | 22.6 | 3.3 |
| 76 TO 99..... | 14.1 | 12.6 | 16.2 | 17.4 | 17.4 | 21.0 | 14.8 | 14.9 | 18.9 | 22.3 | 5.1 |
| 100..... | 16.0 | 13.3 | 10.1 | 15.6 | 15.6 | 14.2 | 11.0 | 10.1 | 15.8 | 11.8 | 3.5 |
| NONE..... | 17.3 | 13.6 | 8.8 | 16.8 | 16.8 | 14.9 | 12.4 | 14.8 | 17.1 | 15.8 | 3.7 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 12.8 | 14.9 | 7.2 | 19.7 | 19.7 | 15.0 | 12.4 | 19.5 | 19.2 | 14.3 | 2.7 |
| PACKAGE UNITS..... | 15.1 | 11.9 | 7.9 | 14.0 | 14.0 | 9.5 | 8.7 | 8.4 | 12.9 | 8.2 | 4.3 |
| CENTRAL SYSTEM..... | 12.9 | 11.7 | 9.0 | 13.3 | 13.3 | 18.2 | 14.4 | 13.9 | 12.2 | 16.4 | 3.7 |
| COMBINATION/OTHER..... | 11.2 | 10.4 | 10.7 | 28.9 | 28.9 | 35.8 | 27.5 | 31.4 | 22.1 | 28.1 | 7.8 |
| NO AIR CONDITIONING..... | 17.3 | 13.6 | 8.8 | 16.8 | 16.8 | 14.9 | 12.4 | 14.8 | 17.1 | 15.8 | 3.7 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|--|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.6 | 9.2 | 4.5 | 11.9 | 11.9 | 10.6 | 8.3 | 11.8 | 11.5 | 10.5 | 2.6 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 18.4 | 12.7 | 10.6 | 17.8 | 17.8 | 18.8 | 11.3 | 12.9 | 17.9 | 18.4 | 4.9 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 11.1 | 14.2 | 10.6 | 11.5 | 11.5 | 9.5 | 9.5 | 11.5 | 12.1 | 9.4 | 2.5 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 17.2 | 13.6 | 9.9 | 17.8 | 17.8 | 15.2 | 12.9 | 15.8 | 17.8 | 12.3 | 5.2 |
| GOVERNMENT-OWNED AND OCCUPIED..... | | | | | | | | | | | |
| NOT REPORTED..... | 16.5 | 12.5 | 14.5 | 12.6 | 12.6 | 23.9 | 11.5 | 15.8 | 13.9 | 22.9 | 3.8 |
| | 45.1 | 31.7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 15.3 | 12.8 | 7.5 | 16.0 | 16.0 | 16.8 | 14.5 | 11.8 | 15.8 | 16.5 | 3.6 |
| 10 TO 19..... | 14.0 | 12.9 | 6.4 | 16.7 | 16.7 | 9.3 | 11.6 | 9.0 | 16.2 | 9.1 | 3.7 |
| 20 TO 49..... | 10.8 | 10.3 | 3.7 | 26.1 | 26.2 | 25.9 | 26.4 | 25.4 | 19.1 | 17.3 | 7.8 |
| 50 TO 99..... | 16.8 | 10.7 | 9.2 | 19.0 | 19.0 | 18.6 | 18.6 | 18.0 | 19.1 | 17.8 | 3.6 |
| 100 OR MORE..... | 11.7 | 10.3 | 10.9 | 11.7 | 11.7 | 14.7 | 9.2 | 11.9 | 12.0 | 14.0 | 3.2 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 35.1 | 39.0 | 23.4 | 32.2 | 32.2 | 31.2 | 34.0 | - | 30.9 | 27.0 | 13.0 |
| 39 OR FEWER HOURS..... | 36.2 | 25.6 | 22.2 | 21.8 | 21.8 | 42.4 | 18.4 | 19.8 | 22.2 | 41.6 | 3.3 |
| 40 TO 48 HOURS..... | 11.6 | 11.7 | 6.2 | 13.9 | 14.0 | 9.8 | 10.2 | 12.8 | 13.5 | 9.8 | 3.0 |
| 49 TO 60 HOURS..... | 9.0 | 9.4 | 5.5 | 18.1 | 18.1 | 19.2 | 17.2 | 18.1 | 17.8 | 18.0 | 2.7 |
| 61 TO 84 HOURS..... | 15.3 | 14.0 | 11.6 | 15.7 | 15.7 | 11.0 | 8.0 | 9.5 | 15.8 | 11.7 | 4.2 |
| MORE THAN 84 HOURS..... | 12.2 | 8.3 | 7.5 | 16.0 | 16.0 | 21.8 | 16.2 | 17.1 | 12.5 | 17.6 | 5.1 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 10.7 | 8.5 | 7.3 | 9.9 | 9.9 | 11.1 | 6.5 | 8.0 | 10.7 | 11.7 | 1.7 |
| NO..... | 10.5 | 9.2 | 5.0 | 15.1 | 15.1 | 19.0 | 16.3 | 16.2 | 12.3 | 14.9 | 5.0 |
| DON'T KNOW/NOT REPORTED..... | 24.4 | 19.0 | 11.7 | 30.5 | 30.5 | 18.5 | 23.4 | 18.8 | 31.5 | 17.5 | 8.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C16. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (TRIL-LION CUBIC FEET) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOL-LARS) |
|---|-----------------------------|-------------------------------|--|--|--|--|--|--|-----------------------------------|--|--|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 8.7 | 9.6 | 6.9 | 21.2 | 21.2 | 22.3 | 19.2 | 21.1 | 16.5 | 17.3 | 6.5 |
| NO..... | 11.8 | 8.9 | 6.7 | 8.7 | 8.7 | 9.0 | 5.1 | 5.3 | 9.2 | 9.2 | 2.1 |
| DON'T KNOW/NOT REPORTED..... | 16.7 | 16.6 | 13.6 | 14.2 | 14.2 | 16.3 | 13.8 | 19.3 | 14.5 | 15.6 | 2.9 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 9.4 | 10.0 | 7.0 | 12.5 | 12.5 | 11.4 | 7.8 | 12.6 | 13.4 | 12.3 | 2.3 |
| NO..... | 11.4 | 8.7 | 6.4 | 12.2 | 12.2 | 15.5 | 11.4 | 10.9 | 10.5 | 12.8 | 3.7 |
| DON'T KNOW/NOT REPORTED..... | 19.5 | 16.4 | 12.6 | 11.4 | 11.4 | 16.7 | 12.9 | 19.6 | 13.1 | 16.3 | 4.0 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 11.1 | 8.5 | 5.7 | 10.7 | 10.7 | 13.5 | 9.6 | 10.1 | 9.5 | 11.2 | 3.8 |
| NO..... | 9.4 | 9.1 | 7.5 | 15.4 | 15.4 | 13.1 | 11.3 | 12.3 | 15.5 | 13.1 | 2.2 |
| NOT REPORTED/ NOT APPLICABLE..... | 29.2 | 20.7 | 14.4 | 38.5 | 38.5 | 32.2 | 33.0 | 26.0 | 38.9 | 32.4 | 7.7 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 12.6 | 10.0 | 7.4 | 12.0 | 12.0 | 16.7 | 11.0 | 12.1 | 10.6 | 13.6 | 4.4 |
| NO..... | 13.7 | 13.1 | 10.7 | 20.3 | 20.3 | 14.5 | 12.4 | 14.2 | 21.2 | 15.5 | 2.6 |
| NOT REPORTED/ NOT APPLICABLE..... | 10.7 | 9.6 | 5.2 | 12.5 | 12.5 | 8.5 | 7.9 | 10.8 | 11.8 | 8.6 | 2.8 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 10.9 | 8.4 | 5.6 | 10.1 | 10.1 | 12.5 | 8.6 | 9.4 | 9.3 | 10.5 | 3.7 |
| NO..... | 10.5 | 11.7 | 9.9 | 20.1 | 20.1 | 16.2 | 14.9 | 15.8 | 20.1 | 16.3 | 2.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 30.2 | 20.0 | 21.2 | 32.1 | 32.1 | 35.0 | 30.2 | 27.0 | 30.3 | 33.3 | 11.5 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C17. 1979 Electricity Consumption and Expenditures for Commercial Buildings of 5,000 Square Feet or Less That Use Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 5.9 | 5.6 | 2.0 | 9.5 | 9.5 | 7.7 | 8.0 | 7.7 | 11.1 | 9.8 | 5.6 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 5.8 | 5.6 | 2.1 | 9.6 | 9.6 | 8.2 | 8.3 | 8.1 | 10.4 | 10.0 | 5.6 |
| NATURAL GAS..... | 8.5 | 9.0 | 2.7 | 13.3 | 13.3 | 11.1 | 11.9 | 13.0 | 11.2 | 8.5 | 5.0 |
| ELECTRICITY..... | 11.9 | 15.9 | 6.0 | 25.4 | 25.4 | 14.4 | 13.6 | 7.1 | 28.4 | 16.7 | 4.3 |
| FUEL OIL/KEROSENE..... | 11.8 | 11.8 | 2.3 | 14.3 | 14.3 | 15.9 | 16.5 | 14.0 | 17.8 | 19.8 | 6.6 |
| LIQUID PETROLEUM GAS..... | 19.6 | 17.8 | 11.4 | 45.8 | 45.8 | 44.5 | 42.4 | 49.7 | 30.0 | 25.1 | 38.6 |
| WOOD..... | 25.1 | 25.0 | 6.7 | 38.5 | 38.5 | 28.0 | 28.8 | 20.9 | 40.7 | 30.1 | 8.6 |
| COAL..... | 27.0 | 29.0 | 16.3 | 32.2 | 32.2 | 0 | 0 | 0 | 41.9 | 0 | 10.1 |
| OTHER..... | 57.8 | 58.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 16.9 | 21.5 | 8.5 | 40.9 | 40.9 | 26.2 | 25.1 | 26.5 | 42.8 | 27.4 | 3.4 |
| AIR CONDITIONING FUEL USED.. | 7.4 | 7.3 | 2.8 | 11.2 | 11.2 | 6.7 | 8.0 | 7.0 | 13.5 | 9.2 | 5.9 |
| ELECTRICITY..... | 7.7 | 7.5 | 2.9 | 11.0 | 11.0 | 7.0 | 7.9 | 7.3 | 13.0 | 9.2 | 6.3 |
| NATURAL GAS..... | 17.6 | 17.9 | 5.1 | 29.7 | 29.7 | 22.9 | 24.3 | 23.8 | 27.9 | 20.2 | 5.1 |
| OTHER..... | 30.1 | 33.6 | 19.0 | 0 | 0 | 0 | 0 | - | 0 | 0 | 23.5 |
| NO AIR CONDITIONING FUEL.... | 10.0 | 9.6 | 3.5 | 18.7 | 18.7 | 17.3 | 17.5 | 18.3 | 12.7 | 11.9 | 10.0 |
| WATER-HEATING FUEL USED..... | 6.3 | 6.1 | 2.1 | 10.6 | 10.6 | 9.2 | 9.7 | 9.0 | 11.2 | 9.5 | 6.6 |
| NATURAL GAS..... | 8.2 | 7.7 | 2.7 | 12.2 | 12.2 | 11.6 | 12.2 | 11.8 | 9.6 | 9.9 | 6.4 |
| ELECTRICITY..... | 9.5 | 10.5 | 3.7 | 16.5 | 16.5 | 13.4 | 12.9 | 13.9 | 18.5 | 12.7 | 9.6 |
| FUEL OIL/KEROSENE..... | 17.8 | 18.8 | 9.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12.9 |
| OTHER..... | 21.6 | 23.8 | 11.3 | 29.1 | 29.1 | 27.0 | 35.2 | 24.3 | 31.1 | 27.5 | 10.4 |
| NO WATER-HEATING FUEL..... | 7.9 | 8.8 | 3.2 | 13.7 | 13.7 | 13.6 | 14.3 | 10.0 | 15.3 | 15.8 | 4.2 |
| MANUFACTURING FUEL USED..... | 12.5 | 13.8 | 6.1 | 22.2 | 22.2 | 17.8 | 16.2 | 14.2 | 19.5 | 14.5 | 7.1 |
| ELECTRICITY..... | 12.7 | 13.0 | 7.3 | 22.0 | 22.0 | 20.0 | 17.0 | 13.2 | 19.5 | 17.2 | 8.0 |
| NATURAL GAS..... | 18.6 | 19.1 | 11.8 | 42.5 | 42.5 | 46.1 | 35.3 | 33.9 | 39.3 | 41.4 | 11.6 |
| OTHER..... | 47.1 | 48.0 | 18.5 | 0 | 0 | 35.8 | 36.6 | 0 | 0 | 31.5 | 23.2 |
| NO MANUFACTURING DONE..... | 6.2 | 6.4 | 2.4 | 10.6 | 10.6 | 8.3 | 8.1 | 8.1 | 12.5 | 10.8 | 5.8 |
| COOKING FUEL USED..... | 8.2 | 8.7 | 2.5 | 14.8 | 14.8 | 13.5 | 13.4 | 14.5 | 11.7 | 11.0 | 9.7 |
| ELECTRICITY..... | 10.4 | 11.0 | 2.8 | 22.7 | 22.7 | 19.0 | 18.8 | 19.7 | 19.4 | 15.1 | 14.5 |
| NATURAL GAS..... | 7.6 | 9.6 | 4.2 | 14.3 | 14.3 | 15.2 | 15.8 | 16.3 | 12.0 | 13.7 | 9.3 |
| LIQUID PETROLEUM GAS..... | 21.2 | 20.4 | 7.7 | 23.0 | 23.0 | 19.8 | 27.1 | 45.0 | 29.1 | 24.0 | 8.3 |
| OTHER..... | 53.0 | 46.5 | 37.0 | 0 | 0 | 43.8 | 45.2 | 31.0 | 0 | 49.1 | 27.0 |
| NO COOKING FUEL..... | 6.3 | 5.7 | 2.4 | 10.2 | 10.2 | 9.5 | 9.0 | 6.0 | 12.9 | 12.3 | 3.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST..... | 18.3 | 17.9 | 4.5 | 12.0 | 12.0 | 22.9 | 22.0 | 11.0 | 13.4 | 23.3 | 5.6 |
| NORTH CENTRAL..... | 10.7 | 10.1 | 2.8 | 14.0 | 14.0 | 14.4 | 12.3 | 11.1 | 13.5 | 14.0 | 2.2 |
| SOUTH..... | 11.0 | 11.0 | 3.0 | 16.4 | 16.4 | 9.4 | 10.4 | 14.4 | 20.7 | 14.0 | 11.9 |
| WEST..... | 13.6 | 13.4 | 5.0 | 17.2 | 17.2 | 25.6 | 21.4 | 16.4 | 19.5 | 26.8 | 6.0 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA..... | 8.5 | 7.8 | 3.0 | 12.2 | 12.2 | 9.0 | 9.9 | 9.3 | 14.3 | 10.1 | 4.7 |
| NONSMSA..... | 8.8 | 8.5 | 2.3 | 19.7 | 19.7 | 16.5 | 17.0 | 13.7 | 21.0 | 19.3 | 10.6 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD... | 42.0 | 39.9 | 7.8 | 44.9 | 44.9 | 26.7 | 20.9 | 19.1 | 43.0 | 27.8 | 8.8 |
| <2,000 CDD AND 5,500 TO 7,000 HDD..... | 15.9 | 14.2 | 4.2 | 17.3 | 17.3 | 12.6 | 12.4 | 9.9 | 16.2 | 12.1 | 3.3 |
| <2,000 CDD AND 4,000 TO 5,499 HDD..... | 27.8 | 28.7 | 3.1 | 30.4 | 30.4 | 9.5 | 8.5 | 11.4 | 28.7 | 13.9 | 7.3 |
| <2,000 CDD AND <4,000 HDD... | 32.8 | 30.6 | 6.1 | 42.1 | 42.1 | 21.8 | 24.1 | 36.5 | 36.7 | 12.7 | 17.7 |
| >2,000 CDD AND <4,000 HDD... | 45.8 | 46.4 | 4.6 | 0 | 0 | 13.8 | 15.1 | 11.0 | 0 | 15.0 | 6.7 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY..... | 13.4 | 14.0 | 6.9 | 42.8 | 42.8 | 43.3 | 42.5 | 42.5 | 31.9 | 32.2 | 32.6 |
| AUTOMOTIVE SALES & SERVICE... | 12.0 | 12.4 | 4.6 | 13.1 | 13.1 | 11.6 | 12.7 | 14.8 | 10.1 | 10.9 | 6.8 |
| EDUCATION..... | 32.3 | 38.3 | 11.3 | 25.6 | 25.6 | 34.1 | 40.2 | 34.1 | 31.9 | 41.2 | 13.4 |
| FOOD SALES..... | 8.0 | 8.3 | 3.3 | 18.0 | 18.0 | 13.5 | 14.0 | 14.7 | 17.8 | 13.5 | 12.6 |
| HEALTH CARE..... | 34.5 | 41.5 | 16.2 | 46.0 | 46.0 | 26.4 | 21.2 | 24.2 | 47.4 | 21.4 | 9.8 |
| LODGING..... | 22.5 | 22.9 | 11.1 | 36.3 | 36.3 | 25.6 | 34.7 | 0 | 40.7 | 29.4 | 7.6 |
| OFFICE..... | 8.0 | 8.5 | 5.3 | 11.6 | 11.6 | 10.5 | 9.1 | 11.3 | 16.1 | 13.6 | 8.2 |
| RESIDENTIAL..... | 9.4 | 10.4 | 4.5 | 14.9 | 14.9 | 12.5 | 13.0 | 12.7 | 16.2 | 13.3 | 3.4 |
| RETAIL/SERVICES..... | 9.3 | 12.8 | 6.2 | 20.6 | 20.6 | 16.3 | 12.8 | 17.6 | 19.4 | 14.4 | 4.7 |
| WAREHOUSE AND STORAGE..... | 14.0 | 15.9 | 7.2 | 36.2 | 36.2 | 34.4 | 32.9 | 17.7 | 31.5 | 27.9 | 13.6 |
| OTHER..... | 12.7 | 16.6 | 10.0 | 0 | 0 | 0 | 0 | 0 | 39.5 | 38.7 | 13.6 |
| VACANT..... | 14.3 | 20.9 | 14.2 | 0 | 0 | 0 | 0 | - | 0 | 0 | 42.6 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 1,000 OR LESS..... | 10.1 | 9.3 | 3.3 | 18.3 | 18.3 | 15.0 | 15.1 | 15.7 | 17.0 | 12.2 | 5.3 |
| 1,001 TO 5,000..... | 5.9 | 5.7 | 1.4 | 9.7 | 9.7 | 8.8 | 8.5 | 8.5 | 11.4 | 10.3 | 6.8 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 7.5 | 7.6 | 2.2 | 11.5 | 11.5 | 7.7 | 7.9 | 9.3 | 14.4 | 10.1 | 7.2 |
| TWO FLOORS..... | 10.0 | 10.4 | 5.7 | 13.5 | 13.5 | 12.6 | 13.2 | 10.9 | 12.8 | 13.3 | 3.8 |
| THREE FLOORS..... | 18.0 | 19.6 | 4.8 | 20.1 | 20.1 | 13.3 | 12.2 | 10.6 | 15.6 | 11.5 | 6.5 |
| MORE THAN THREE..... | 23.0 | 20.9 | 8.1 | 28.9 | 28.9 | 27.2 | 28.4 | 21.7 | 28.3 | 27.2 | 8.6 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 18.3 | 16.3 | 6.6 | 29.9 | 29.9 | 34.2 | 34.2 | 29.9 | 26.0 | 30.2 | 7.4 |
| 1901 TO 1920..... | 10.9 | 12.1 | 4.1 | 37.6 | 37.6 | 36.5 | 36.3 | 37.9 | 25.0 | 23.4 | 24.1 |
| 1921 TO 1945..... | 9.2 | 8.8 | 5.5 | 15.1 | 15.1 | 12.1 | 12.4 | 12.8 | 13.4 | 10.3 | 6.9 |
| 1946 TO 1960..... | 8.6 | 7.9 | 3.6 | 14.4 | 14.4 | 10.7 | 11.7 | 9.3 | 18.0 | 13.8 | 5.3 |
| 1961 TO 1970..... | 8.9 | 12.2 | 5.6 | 8.9 | 8.9 | 9.7 | 10.9 | 11.9 | 9.8 | 8.9 | 4.9 |
| 1971 TO 1973..... | 12.3 | 15.0 | 8.2 | 18.3 | 18.3 | 15.0 | 18.1 | 21.0 | 21.8 | 18.7 | 5.4 |
| 1974 TO 1979..... | 10.5 | 12.1 | 7.2 | 22.2 | 22.2 | 18.4 | 17.1 | 16.0 | 22.0 | 17.7 | 12.5 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 16.5 | 22.6 | 7.3 | 33.9 | 33.9 | 16.2 | 13.1 | 5.8 | 37.5 | 18.7 | 5.2 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 8.6 | 8.7 | 2.6 | 10.7 | 10.7 | 8.8 | 9.9 | 11.0 | 9.2 | 7.8 | 4.6 |
| ELEC., FUEL OIL/KEROSENE..... | 13.3 | 13.7 | 3.7 | 16.3 | 16.3 | 16.4 | 17.6 | 14.0 | 19.1 | 20.9 | 7.5 |
| ELEC., LPG..... | 18.1 | 14.8 | 11.8 | 45.5 | 45.5 | 49.7 | 45.3 | 0 | 26.9 | 27.0 | 47.3 |
| OTHER..... | 23.5 | 22.4 | 11.6 | 34.3 | 34.3 | 28.6 | 27.6 | 0 | 46.1 | 38.8 | 13.3 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 20.4 | 19.9 | 7.9 | 34.8 | 34.8 | 26.9 | 29.9 | 23.7 | 37.7 | 28.3 | 14.7 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 36.2 | 29.6 | 11.0 | 27.0 | 27.0 | 40.4 | 40.4 | 0 | 27.2 | 41.5 | 5.2 |
| ELEC., GAS, OTHER..... | 30.2 | 30.7 | 11.7 | 44.3 | 44.3 | 40.9 | 0 | 16.2 | 39.8 | 31.8 | 12.5 |
| ELEC., FUEL OIL/KEROSENE, OTHER..... | 42.8 | 40.2 | 40.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| OTHER..... | 38.4 | 36.0 | 19.7 | 44.2 | 44.2 | 26.7 | 37.5 | 12.5 | 46.1 | 30.2 | 10.9 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| OTHER..... | 46.0 | 43.4 | 9.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 5.9 | 5.6 | 2.0 | 9.5 | 9.5 | 7.7 | 8.0 | 7.7 | 11.1 | 9.8 | 5.6 |
| NATURAL GAS..... | 7.7 | 7.5 | 2.1 | 9.9 | 9.9 | 8.0 | 8.7 | 10.1 | 8.8 | 7.7 | 4.4 |
| FUEL OIL/KEROSENE..... | 11.8 | 11.4 | 2.9 | 14.7 | 14.7 | 16.6 | 16.8 | 14.3 | 17.9 | 20.2 | 6.3 |
| LIQUID PETROLEUM GAS..... | 17.3 | 15.7 | 4.0 | 41.6 | 41.6 | 42.0 | 39.7 | 45.9 | 26.2 | 24.6 | 33.9 |
| WOOD..... | 25.0 | 25.8 | 5.7 | 34.9 | 34.9 | 25.1 | 26.2 | 15.9 | 36.5 | 27.2 | 6.0 |
| COAL..... | 27.3 | 28.1 | 14.0 | 38.2 | 38.2 | 0 | 0 | 0 | 48.0 | 0 | 9.9 |
| OTHER..... | 51.4 | 58.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 8.0 | 8.4 | 2.8 | 15.6 | 15.6 | 12.1 | 11.9 | 7.6 | 18.7 | 15.2 | 5.8 |
| RADIANT..... | 16.8 | 16.4 | 14.5 | 19.2 | 19.2 | 15.8 | 17.2 | 15.6 | 19.7 | 20.9 | 9.3 |
| COMBINATION/OTHER..... | 11.0 | 13.6 | 6.7 | 31.6 | 31.6 | 27.5 | 32.1 | 29.6 | 25.9 | 22.3 | 7.7 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 8.0 | 9.1 | 4.9 | 19.7 | 19.7 | 16.7 | 17.5 | 16.0 | 11.4 | 7.8 | 13.7 |
| RADIANT..... | 8.2 | 8.4 | 4.5 | 33.7 | 33.7 | 33.1 | 33.1 | 38.9 | 23.6 | 23.5 | 22.9 |
| COMBINATION/OTHER..... | 19.1 | 19.7 | 6.7 | 34.4 | 34.4 | 30.1 | 33.3 | 32.7 | 29.2 | 25.5 | 19.2 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 16.5 | 16.1 | 14.0 | 44.1 | 44.1 | 39.2 | 37.3 | 2 | 44.5 | 38.9 | 9.0 |
| RADIANT..... | 26.1 | 35.0 | 20.0 | 2 | 2 | 46.1 | 42.9 | 2 | 2 | 44.3 | 15.2 |
| COMBINATION/OTHER..... | 23.7 | 28.1 | 19.0 | 33.6 | 33.6 | 24.7 | 37.8 | 24.9 | 37.2 | 28.6 | 6.8 |
| NONE..... | 17.2 | 21.7 | 8.5 | 42.8 | 42.8 | 27.0 | 25.9 | 27.3 | 44.0 | 28.0 | 2.8 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 14.5 | 17.3 | 8.7 | 22.7 | 22.7 | 27.5 | 26.6 | 22.4 | 17.5 | 19.6 | 13.9 |
| 26 TO 50..... | 13.7 | 13.9 | 6.1 | 14.8 | 14.8 | 25.3 | 24.6 | 18.2 | 13.6 | 22.7 | 5.8 |
| 51 TO 75..... | 13.2 | 12.3 | 6.4 | 25.3 | 25.3 | 27.6 | 23.3 | 26.3 | 23.1 | 24.9 | 6.0 |
| 76 TO 99..... | 12.9 | 12.4 | 6.2 | 17.4 | 17.4 | 19.5 | 18.3 | 16.8 | 18.0 | 20.2 | 7.5 |
| 100..... | 6.2 | 6.7 | 2.6 | 10.6 | 10.6 | 8.8 | 9.5 | 9.2 | 12.2 | 10.6 | 6.6 |
| NONE..... | 17.2 | 21.7 | 8.5 | 42.8 | 42.8 | 27.0 | 25.9 | 27.3 | 44.0 | 28.0 | 2.8 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 9.9 | 9.4 | 5.4 | 14.1 | 14.1 | 16.1 | 14.8 | 19.5 | 12.7 | 11.7 | 9.6 |
| 26 TO 50..... | 9.8 | 11.6 | 4.6 | 14.6 | 14.6 | 9.2 | 10.5 | 10.0 | 13.1 | 8.5 | 4.6 |
| 51 TO 75..... | 14.0 | 13.8 | 5.2 | 17.4 | 17.4 | 23.3 | 21.9 | 19.8 | 16.8 | 23.2 | 5.2 |
| 76 TO 99..... | 18.7 | 15.5 | 10.3 | 22.5 | 22.5 | 15.5 | 18.1 | 16.1 | 20.7 | 14.9 | 6.7 |
| 100..... | 13.2 | 15.4 | 4.1 | 18.2 | 18.2 | 10.0 | 12.0 | 10.4 | 21.9 | 12.4 | 9.0 |
| NONE..... | 10.0 | 9.6 | 3.5 | 18.7 | 18.7 | 17.3 | 17.5 | 18.3 | 12.7 | 11.9 | 10.0 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 9.0 | 7.3 | 5.6 | 17.0 | 17.0 | 15.2 | 15.2 | 17.9 | 17.4 | 13.9 | 5.7 |
| PACKAGE UNITS..... | 14.3 | 17.2 | 4.5 | 22.9 | 22.9 | 10.8 | 11.3 | 7.2 | 24.8 | 13.2 | 5.3 |
| CENTRAL SYSTEM..... | 9.5 | 9.7 | 4.3 | 16.6 | 16.6 | 13.9 | 14.8 | 18.3 | 12.6 | 8.5 | 16.3 |
| COMBINATION/OTHER..... | 21.3 | 19.8 | 7.1 | 18.4 | 18.4 | 12.9 | 14.8 | 14.6 | 19.3 | 17.9 | 7.1 |
| NO AIR CONDITIONING..... | 10.0 | 9.6 | 3.5 | 18.7 | 18.7 | 17.3 | 17.5 | 18.3 | 12.7 | 11.9 | 10.0 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT | 7.5 | 6.2 | 3.1 | 12.2 | 12.2 | 9.4 | 9.6 | 9.5 | 10.4 | 10.0 | 8.1 |
| OWNER OR AGENT IS NOT OCCUPANT | 8.0 | 10.5 | 3.9 | 14.3 | 14.3 | 11.6 | 13.2 | 9.7 | 16.0 | 13.3 | 3.7 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT | 13.4 | 16.5 | 5.6 | 23.2 | 23.2 | 18.8 | 15.0 | 13.0 | 29.1 | 23.9 | 10.5 |
| OWNER OR AGENT IS NOT OCCUPANT | 18.1 | 20.2 | 6.7 | 27.2 | 27.2 | 21.0 | 18.1 | 22.9 | 27.0 | 23.3 | 7.4 |
| GOVERNMENT-OWNED AND OCCUPIED | 17.1 | 18.9 | 13.1 | 2 | 2 | 48.4 | 46.6 | 2 | 37.6 | 33.9 | 36.1 |
| NOT REPORTED | 26.0 | 25.3 | 17.5 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 24.4 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10 | 6.5 | 6.3 | 2.1 | 11.0 | 11.0 | 9.0 | 10.2 | 9.6 | 9.9 | 9.0 | 7.1 |
| 10 TO 19 | 14.7 | 16.9 | 4.3 | 13.2 | 13.2 | 9.5 | 11.2 | 9.3 | 16.4 | 9.4 | 6.1 |
| 20 TO 49 | 23.4 | 21.6 | 4.4 | 36.4 | 36.4 | 22.7 | 25.2 | 18.9 | 35.3 | 21.5 | 6.4 |
| 50 OR MORE | 35.4 | 36.3 | 3.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 10.3 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE | 18.8 | 21.8 | 11.5 | 30.6 | 30.6 | 24.2 | 31.9 | 2 | 31.4 | 26.7 | 8.2 |
| 39 OR FEWER HOURS | 9.1 | 10.0 | 5.6 | 37.1 | 37.1 | 34.6 | 36.8 | 28.5 | 30.9 | 28.4 | 27.3 |
| 40 TO 48 HOURS | 6.7 | 8.2 | 3.1 | 17.3 | 17.3 | 13.7 | 11.9 | 12.0 | 19.3 | 15.4 | 4.7 |
| 49 TO 60 HOURS | 9.5 | 9.9 | 5.5 | 11.1 | 11.1 | 5.8 | 8.5 | 11.8 | 10.5 | 7.2 | 5.7 |
| 61 TO 84 HOURS | 7.1 | 7.9 | 6.6 | 11.2 | 11.2 | 10.0 | 10.1 | 11.1 | 11.7 | 10.1 | 5.2 |
| MORE THAN 84 HOURS | 9.5 | 8.0 | 4.3 | 17.9 | 17.9 | 12.7 | 13.4 | 14.2 | 19.4 | 14.2 | 6.0 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES | 6.1 | 6.3 | 3.0 | 9.5 | 9.5 | 8.8 | 9.9 | 7.4 | 11.0 | 10.5 | 4.0 |
| NO | 6.7 | 6.9 | 2.5 | 11.1 | 11.1 | 9.0 | 9.1 | 11.1 | 12.2 | 10.4 | 7.3 |
| DON'T KNOW/NOT REPORTED | 10.7 | 13.5 | 8.3 | 34.6 | 34.6 | 30.1 | 33.2 | 29.9 | 33.5 | 28.1 | 9.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C17. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| INSULATION ADDED | | | | | | | | | | | |
| YES | 6.6 | 8.6 | 3.6 | 13.4 | 13.4 | 11.9 | 11.3 | 5.9 | 17.3 | 15.0 | 5.2 |
| NO | 7.0 | 6.4 | 2.3 | 10.4 | 10.4 | 8.4 | 9.2 | 11.1 | 10.3 | 8.4 | 6.9 |
| DON'T KNOW/NOT REPORTED | 12.9 | 12.9 | 6.9 | 26.8 | 26.8 | 30.3 | 30.9 | 31.3 | 25.0 | 29.4 | 7.5 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES | 7.0 | 9.6 | 4.0 | 17.5 | 17.5 | 14.1 | 14.2 | 9.7 | 21.0 | 17.3 | 5.2 |
| NO | 6.5 | 6.1 | 2.0 | 9.4 | 9.4 | 7.9 | 8.2 | 9.9 | 10.1 | 9.0 | 6.3 |
| DON'T KNOW/NOT REPORTED | 12.9 | 11.6 | 8.8 | 33.1 | 33.1 | 35.5 | 35.1 | 33.9 | 31.6 | 35.1 | 7.1 |
| REDUCED HEATING | | | | | | | | | | | |
| YES | 6.0 | 6.3 | 2.3 | 12.1 | 12.1 | 10.5 | 10.2 | 11.1 | 11.6 | 10.6 | 7.4 |
| NO | 9.6 | 10.6 | 5.3 | 19.8 | 19.8 | 22.5 | 22.2 | 18.1 | 19.3 | 21.6 | 3.4 |
| NOT REPORTED | 29.8 | 39.6 | 41.8 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 21.5 |
| NOT APPLICABLE | 17.2 | 21.7 | 8.5 | 42.8 | 42.8 | 27.0 | 25.9 | 27.3 | 44.0 | 28.0 | 2.8 |
| REDUCED COOLING | | | | | | | | | | | |
| YES | 8.5 | 9.0 | 3.0 | 12.4 | 12.4 | 9.8 | 9.3 | 12.2 | 11.9 | 7.7 | 9.7 |
| NO | 17.5 | 20.3 | 8.0 | 14.0 | 14.0 | 22.1 | 25.3 | 16.3 | 17.6 | 26.1 | 7.7 |
| NOT REPORTED | 42.3 | 57.3 | 25.3 | 2 | 2 | 2 | 2 | - | 2 | 2 | 24.2 |
| NOT APPLICABLE | 7.9 | 7.1 | 2.7 | 12.2 | 12.2 | 10.8 | 11.4 | 13.6 | 10.8 | 10.2 | 6.0 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES | 5.9 | 6.1 | 2.3 | 11.3 | 11.3 | 9.8 | 9.6 | 10.6 | 11.4 | 10.6 | 7.1 |
| NO | 10.1 | 11.7 | 5.9 | 20.3 | 20.3 | 24.8 | 25.8 | 22.6 | 19.5 | 23.4 | 4.1 |
| NOT REPORTED | 27.6 | 38.5 | 30.7 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 16.6 |
| NOT APPLICABLE | 16.4 | 21.3 | 9.2 | 27.2 | 27.2 | 15.7 | 17.0 | 22.0 | 30.2 | 17.3 | 5.4 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 2 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C18. 1979 Electricity Consumption and Expenditures for Commercial Buildings of Between 5,001 and 10,000 Square Feet That Use Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| COMMERCIAL BUILDINGS..... | 7.2 | 6.9 | 1.6 | 11.3 | 11.3 | 9.3 | 9.5 | 11.1 | 11.7 | 9.7 | 3.1 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 7.0 | 6.8 | 1.6 | 12.0 | 12.0 | 9.6 | 9.9 | 11.8 | 12.4 | 10.1 | 3.1 |
| NATURAL GAS..... | 11.7 | 11.4 | 1.2 | 14.8 | 14.8 | 13.0 | 12.7 | 13.4 | 13.8 | 12.6 | 4.6 |
| ELECTRICITY..... | 23.2 | 21.0 | 3.1 | 26.3 | 26.3 | 11.4 | 11.7 | 11.0 | 30.2 | 11.8 | 6.6 |
| FUEL OIL/KEROSENE..... | 13.9 | 12.3 | 3.9 | 21.5 | 21.5 | 15.3 | 16.7 | 31.0 | 18.4 | 15.3 | 6.2 |
| LIQUID PETROLEUM GAS..... | 30.3 | 27.9 | 4.8 | 49.6 | 49.6 | 21.5 | 23.6 | 38.6 | 43.4 | 18.0 | 9.9 |
| WOOD..... | 67.2 | 61.8 | 10.0 | 0 | 0 | 38.6 | 43.5 | 39.3 | 0 | 35.6 | 0 |
| OTHER..... | 35.8 | 35.5 | 6.2 | 45.9 | 45.9 | 48.1 | 47.2 | 0 | 36.1 | 0 | 34.4 |
| NO HEATING FUEL USED..... | 27.0 | 29.4 | 5.6 | 41.1 | 41.1 | 39.7 | 44.1 | 42.1 | 40.6 | 38.3 | 7.5 |
| AIR CONDITIONING FUEL USED.. | 9.7 | 9.5 | 1.7 | 12.9 | 12.9 | 9.5 | 9.5 | 12.6 | 14.7 | 9.9 | 3.6 |
| ELECTRICITY..... | 10.8 | 10.6 | 1.7 | 14.0 | 14.0 | 9.5 | 9.5 | 13.7 | 16.3 | 10.1 | 3.7 |
| NATURAL GAS..... | 26.2 | 28.0 | 6.1 | 37.4 | 37.4 | 27.8 | 28.1 | 20.3 | 35.7 | 25.4 | 13.6 |
| OTHER..... | 64.2 | 59.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 11.4 | 10.9 | 3.2 | 29.3 | 29.3 | 23.2 | 23.5 | 23.7 | 26.1 | 21.7 | 10.6 |
| WATER-HEATING FUEL USED..... | 7.1 | 7.0 | 1.5 | 12.3 | 12.3 | 10.8 | 10.8 | 11.3 | 12.6 | 10.8 | 3.7 |
| NATURAL GAS..... | 12.0 | 11.8 | 1.6 | 16.4 | 16.4 | 15.8 | 15.5 | 18.8 | 15.2 | 13.8 | 6.1 |
| ELECTRICITY..... | 7.8 | 7.2 | 2.4 | 14.4 | 14.4 | 12.3 | 13.1 | 9.3 | 16.6 | 13.8 | 6.1 |
| FUEL OIL/KEROSENE..... | 18.7 | 19.3 | 5.1 | 31.7 | 31.7 | 19.1 | 17.9 | 24.6 | 29.0 | 19.0 | 12.8 |
| OTHER..... | 40.6 | 40.0 | 7.1 | 0 | 0 | 0 | 0 | 37.3 | 0 | 0 | 12.4 |
| NO WATER-HEATING FUEL..... | 12.1 | 11.6 | 2.6 | 17.3 | 17.3 | 10.5 | 12.2 | 22.5 | 18.9 | 11.7 | 6.1 |
| MANUFACTURING FUEL USED..... | 32.2 | 27.7 | 4.9 | 39.8 | 39.8 | 18.2 | 19.3 | 11.6 | 36.9 | 19.7 | 6.0 |
| ELECTRICITY..... | 37.0 | 31.5 | 5.3 | 43.4 | 43.4 | 17.4 | 17.5 | 13.0 | 40.4 | 19.6 | 6.3 |
| OTHER..... | 40.4 | 41.2 | 8.1 | 0 | 0 | 0 | 47.7 | 36.6 | 0 | 0 | 11.6 |
| NO MANUFACTURING DONE..... | 7.0 | 7.0 | 1.4 | 11.2 | 11.2 | 10.2 | 10.1 | 12.3 | 11.7 | 10.7 | 3.2 |
| COOKING FUEL USED..... | 11.1 | 10.0 | 2.3 | 17.9 | 17.9 | 14.7 | 14.7 | 17.0 | 14.8 | 13.4 | 7.2 |
| ELECTRICITY..... | 17.5 | 16.0 | 3.4 | 21.9 | 21.9 | 15.1 | 14.2 | 10.8 | 20.6 | 15.5 | 6.7 |
| NATURAL GAS..... | 14.2 | 13.8 | 2.5 | 24.0 | 24.0 | 25.2 | 24.8 | 26.5 | 19.3 | 21.8 | 10.8 |
| LIQUID PETROLEUM GAS..... | 42.4 | 40.1 | 7.2 | 0 | 0 | 0 | 0 | 21.0 | 0 | 0 | 14.9 |
| OTHER..... | 79.1 | 79.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 7.6 | 7.8 | 1.7 | 15.0 | 15.0 | 11.9 | 12.0 | 13.6 | 15.9 | 12.6 | 3.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|-------------------------------------|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST | 14.3 | 14.8 | 3.0 | 15.5 | 15.5 | 13.3 | 12.1 | 17.2 | 16.2 | 15.0 | 3.1 |
| NORTH CENTRAL | 11.4 | 10.4 | 1.8 | 21.4 | 21.4 | 27.2 | 25.0 | 22.2 | 21.0 | 26.2 | 5.4 |
| SOUTH | 15.1 | 16.0 | 3.8 | 14.5 | 14.5 | 6.1 | 6.6 | 18.8 | 19.8 | 8.3 | 7.5 |
| WEST | 7.4 | 6.5 | 6.3 | 13.6 | 13.6 | 4.2 | 9.2 | 9.4 | 19.5 | 12.7 | 9.7 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA | 9.4 | 9.5 | 1.7 | 11.4 | 11.4 | 9.6 | 9.3 | 11.3 | 10.7 | 8.9 | 5.3 |
| NONSMSA | 10.3 | 9.1 | 2.7 | 20.7 | 20.7 | 19.8 | 20.1 | 20.4 | 24.7 | 22.4 | 5.4 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD | 35.2 | 33.2 | 4.8 | 39.3 | 39.3 | 31.0 | 30.5 | 17.3 | 33.6 | 31.6 | 17.7 |
| <2,000 CDD AND 5,500 TO 7,000 HDD | 14.6 | 14.9 | 1.8 | 17.3 | 17.3 | 16.9 | 16.4 | 20.3 | 14.2 | 14.3 | 6.1 |
| <2,000 CDD AND 4,000 TO 5,499 HDD | 30.7 | 29.8 | 1.5 | 42.2 | 42.2 | 25.8 | 25.6 | 36.2 | 38.8 | 25.1 | 6.7 |
| <2,000 CDD AND <4,000 HDD | 29.6 | 30.0 | 2.1 | 31.6 | 31.6 | 21.0 | 20.5 | 28.7 | 29.7 | 20.5 | 7.2 |
| >2,000 CDD AND <4,000 HDD | 56.5 | 56.0 | 5.0 | 0 | 0 | 16.7 | 11.9 | 6.5 | 0 | 13.7 | 8.2 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY | 16.3 | 17.8 | 4.7 | 18.1 | 18.1 | 18.2 | 19.1 | 0 | 18.7 | 22.1 | 8.1 |
| AUTOMOTIVE SALES & SERVICE | 36.7 | 33.1 | 3.9 | 47.9 | 47.9 | 16.5 | 17.1 | 12.1 | 38.3 | 14.8 | 11.0 |
| EDUCATION | 46.0 | 44.0 | 5.4 | 41.6 | 41.6 | 17.6 | 17.9 | 22.9 | 37.7 | 22.6 | 8.4 |
| FOOD SALES | 17.3 | 17.6 | 3.9 | 24.6 | 24.6 | 17.5 | 14.8 | 16.3 | 24.1 | 21.2 | 9.8 |
| HEALTH CARE | 39.0 | 41.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LODGING | 16.2 | 14.7 | 4.8 | 36.2 | 36.2 | 41.2 | 40.5 | 0 | 35.1 | 39.6 | 9.1 |
| OFFICE | 8.4 | 9.3 | 2.6 | 15.1 | 15.1 | 10.8 | 11.2 | 9.9 | 16.9 | 13.4 | 5.3 |
| RESIDENTIAL | 18.7 | 19.1 | 4.6 | 0 | 0 | 0 | 0 | 0 | 40.5 | 42.5 | 31.5 |
| RETAIL/SERVICES | 13.0 | 13.7 | 2.6 | 32.2 | 32.2 | 22.8 | 23.1 | 19.7 | 31.2 | 21.5 | 6.5 |
| WAREHOUSE AND STORAGE | 21.4 | 23.6 | 5.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11.0 |
| OTHER | 25.0 | 22.2 | 6.3 | 0 | 0 | 45.3 | 41.1 | 34.4 | 46.7 | 40.7 | 7.4 |
| VACANT | 36.1 | 37.5 | 9.5 | 0 | 0 | 0 | 0 | - | 0 | 0 | 43.8 |
| TOTAL SQUARE FOOTAGE 5,001 TO 10,000 | 7.2 | 6.9 | 1.6 | 11.3 | 11.3 | 9.3 | 9.5 | 11.1 | 11.7 | 9.7 | 3.1 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.2 | 9.5 | 1.5 | 19.4 | 19.4 | 11.6 | 11.8 | 11.9 | 18.8 | 11.6 | 2.9 |
| TWO FLOORS..... | 14.1 | 14.4 | 3.0 | 15.7 | 15.7 | 16.8 | 16.2 | 21.3 | 16.8 | 18.1 | 5.6 |
| THREE FLOORS..... | 19.1 | 18.9 | 2.6 | 21.7 | 21.7 | 21.5 | 19.1 | 19.2 | 20.3 | 17.7 | 9.2 |
| MORE THAN THREE..... | 20.8 | 21.4 | 2.9 | 29.4 | 29.4 | 28.1 | 28.1 | 30.4 | 37.6 | 39.5 | 21.4 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 21.8 | 22.7 | 4.2 | 31.6 | 31.6 | 14.4 | 14.1 | 14.1 | 35.8 | 18.6 | 7.3 |
| 1901 TO 1920..... | 19.1 | 17.1 | 4.3 | 30.4 | 30.4 | 33.3 | 30.0 | 38.0 | 30.8 | 31.4 | 8.8 |
| 1921 TO 1945..... | 15.7 | 15.4 | 2.2 | 17.2 | 17.2 | 20.7 | 20.7 | 20.3 | 14.1 | 18.6 | 11.9 |
| 1946 TO 1960..... | 15.2 | 15.8 | 2.6 | 21.3 | 21.3 | 15.4 | 17.3 | 11.0 | 22.1 | 18.3 | 7.0 |
| 1961 TO 1970..... | 9.5 | 9.5 | 2.8 | 20.0 | 20.0 | 16.7 | 16.0 | 20.0 | 19.1 | 14.9 | 6.2 |
| 1971 TO 1973..... | 22.3 | 20.2 | 5.3 | 41.2 | 41.2 | 40.7 | 36.4 | 26.0 | 37.7 | 35.8 | 8.1 |
| 1974 TO 1979..... | 22.2 | 20.8 | 3.1 | 38.2 | 38.2 | 17.9 | 18.5 | 34.9 | 41.7 | 20.0 | 4.3 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 34.8 | 32.7 | 3.5 | 40.3 | 40.3 | 20.1 | 19.7 | 11.4 | 47.2 | 19.0 | 11.1 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 8.0 | 8.0 | 1.2 | 11.0 | 11.0 | 8.0 | 7.7 | 12.2 | 10.2 | 8.0 | 3.7 |
| ELEC., FUEL OIL/KEROSENE..... | 11.5 | 11.3 | 1.2 | 13.3 | 13.3 | 9.1 | 8.8 | 11.7 | 12.3 | 8.8 | 4.9 |
| ELEC., LPG..... | 15.2 | 15.6 | 3.8 | 21.6 | 21.6 | 18.8 | 18.0 | 0 | 22.1 | 19.5 | 5.9 |
| OTHER..... | 26.8 | 29.3 | 4.9 | 45.8 | 45.8 | 32.9 | 29.8 | 38.8 | 48.6 | 33.0 | 7.9 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 74.1 | 68.6 | 9.4 | 0 | 0 | 48.2 | 48.0 | 0 | 0 | 49.3 | - |
| ELEC., GAS, LPG..... | 16.7 | 14.7 | 4.4 | 45.6 | 45.6 | 35.7 | 36.4 | 30.9 | 35.8 | 27.9 | 12.3 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 18.4 | 18.9 | 3.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18.6 |
| OTHER..... | 56.3 | 44.8 | 13.1 | 0 | 0 | 46.3 | 0 | 12.2 | 0 | 32.3 | 22.9 |
| FOUR OR MORE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, OTHER..... | 33.8 | 35.8 | 5.3 | 36.9 | 36.9 | 17.4 | 16.1 | 32.4 | 44.3 | 25.9 | 19.4 |
| OTHER..... | 74.5 | 80.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 7.2 | 6.9 | 1.6 | 11.3 | 11.3 | 9.3 | 9.5 | 11.1 | 11.7 | 9.7 | 3.1 |
| NATURAL GAS..... | 10.6 | 10.4 | 1.2 | 11.5 | 11.5 | 10.4 | 10.1 | 11.9 | 10.6 | 10.4 | 4.6 |
| FUEL OIL/KEROSENE..... | 13.7 | 12.5 | 3.8 | 32.8 | 32.8 | 24.0 | 24.6 | 39.2 | 27.9 | 20.7 | 6.9 |
| LIQUID PETROLEUM GAS..... | 26.4 | 23.8 | 4.8 | 45.1 | 45.1 | 25.5 | 24.7 | 25.2 | 40.7 | 23.5 | 7.1 |
| WOOD..... | 62.5 | 58.9 | 9.6 | 0 | 0 | 40.5 | 44.0 | 41.1 | 0 | 34.6 | 0 |
| OTHER..... | 24.9 | 26.9 | 5.5 | 36.0 | 36.0 | 26.0 | 25.0 | 34.9 | 27.8 | 23.9 | 17.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LIONS DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOL-LARS) |
|-----------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|------------------------------------|--|------------------------------------|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 12.1 | 10.7 | 2.9 | 14.9 | 14.9 | 7.5 | 7.5 | 12.5 | 16.6 | 9.2 | 4.5 |
| RADIANT..... | 16.9 | 17.2 | 3.7 | 49.1 | 49.1 | 0 | 0 | 0 | 36.5 | 42.1 | 22.7 |
| COMBINATION/OTHER..... | 24.4 | 23.8 | 5.1 | 48.2 | 48.2 | 43.0 | 44.1 | 42.4 | 43.5 | 37.7 | 12.8 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 9.9 | 9.9 | 2.3 | 21.4 | 21.4 | 21.0 | 20.7 | 29.3 | 22.1 | 22.4 | 6.4 |
| RADIANT..... | 16.8 | 16.2 | 2.1 | 22.7 | 22.7 | 25.5 | 24.1 | 18.9 | 21.6 | 25.1 | 11.1 |
| COMBINATION/OTHER..... | 18.0 | 18.7 | 2.7 | 31.1 | 31.1 | 34.3 | 36.3 | 27.9 | 31.4 | 33.4 | 5.4 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 31.7 | 32.9 | 5.6 | 0 | 0 | 26.4 | 22.6 | 11.3 | 0 | 31.0 | 10.1 |
| RADIANT..... | 53.9 | 53.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| COMBINATION/OTHER..... | 27.4 | 25.1 | 3.2 | 32.2 | 32.2 | 39.3 | 35.4 | 39.2 | 24.7 | 27.6 | 19.1 |
| NONE..... | 27.0 | 29.4 | 5.6 | 41.1 | 41.1 | 39.7 | 44.1 | 42.1 | 40.6 | 38.3 | 7.5 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 15.8 | 16.9 | 4.9 | 42.5 | 42.5 | 35.2 | 33.1 | 16.7 | 28.0 | 22.8 | 15.0 |
| 26 TO 50..... | 17.7 | 17.4 | 3.0 | 44.4 | 44.4 | 42.7 | 42.0 | 44.5 | 49.0 | 48.5 | 10.9 |
| 51 TO 75..... | 12.8 | 13.5 | 3.9 | 19.5 | 19.5 | 13.4 | 15.0 | 11.5 | 19.1 | 15.2 | 8.6 |
| 76 TO 99..... | 28.4 | 28.7 | 3.4 | 37.7 | 37.7 | 31.0 | 29.4 | 15.5 | 39.4 | 31.1 | 5.2 |
| 100..... | 9.5 | 8.9 | 1.7 | 14.4 | 14.4 | 11.0 | 10.9 | 15.2 | 14.3 | 10.7 | 4.0 |
| NONE..... | 27.0 | 29.4 | 5.6 | 41.1 | 41.1 | 39.7 | 44.1 | 42.1 | 40.6 | 38.3 | 7.5 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 15.7 | 15.8 | 3.5 | 30.9 | 30.9 | 23.5 | 21.1 | 15.5 | 21.7 | 16.0 | 9.2 |
| 26 TO 50..... | 14.2 | 14.5 | 2.3 | 18.2 | 18.2 | 10.2 | 10.0 | 11.8 | 19.5 | 12.0 | 12.5 |
| 51 TO 75..... | 15.0 | 15.1 | 4.4 | 22.9 | 22.9 | 15.8 | 15.2 | 15.6 | 19.5 | 11.6 | 9.4 |
| 76 TO 99..... | 28.5 | 29.2 | 4.1 | 40.4 | 40.4 | 21.7 | 21.9 | 24.9 | 41.0 | 22.2 | 7.8 |
| 100..... | 14.4 | 14.3 | 2.4 | 21.8 | 21.8 | 15.4 | 14.5 | 22.7 | 22.4 | 14.3 | 5.6 |
| NONE..... | 11.4 | 10.9 | 3.2 | 29.3 | 29.3 | 23.2 | 23.5 | 23.7 | 26.1 | 21.7 | 10.6 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 13.3 | 12.6 | 2.8 | 18.2 | 18.2 | 17.8 | 18.0 | 23.0 | 14.8 | 12.2 | 6.5 |
| PACKAGE UNITS..... | 19.2 | 19.2 | 2.7 | 22.8 | 22.8 | 12.6 | 11.2 | 12.2 | 24.5 | 11.2 | 6.0 |
| CENTRAL SYSTEM..... | 12.1 | 13.2 | 3.0 | 15.8 | 15.8 | 19.3 | 18.9 | 21.6 | 15.1 | 19.4 | 4.7 |
| COMBINATION/OTHER..... | 16.1 | 16.9 | 3.6 | 18.5 | 18.5 | 21.5 | 21.2 | 34.9 | 21.3 | 22.9 | 7.2 |
| NO AIR CONDITIONING..... | 11.4 | 10.9 | 3.2 | 29.3 | 29.3 | 23.2 | 23.5 | 23.7 | 26.1 | 21.7 | 10.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 9.3 | 10.1 | 1.7 | 7.5 | 7.5 | 9.6 | 9.4 | 11.7 | 7.2 | 11.2 | 4.4 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.3 | 12.3 | 2.9 | 26.7 | 26.7 | 19.7 | 20.0 | 30.6 | 26.3 | 19.9 | 4.4 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 13.4 | 13.3 | 3.5 | 24.5 | 24.5 | 28.3 | 28.4 | 17.7 | 21.7 | 24.2 | 9.2 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 21.9 | 20.6 | 2.8 | 29.7 | 29.7 | 23.9 | 24.3 | 23.7 | 31.6 | 23.8 | 7.8 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 23.2 | 22.3 | 3.4 | 0 | 0 | 42.1 | 40.0 | 25.9 | 47.1 | 37.5 | 6.8 |
| NOT REPORTED..... | 31.4 | 33.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 6.9 | 7.3 | 2.0 | 18.0 | 18.0 | 15.9 | 16.1 | 15.6 | 16.2 | 15.0 | 6.0 |
| 10 TO 19..... | 18.4 | 17.1 | 2.9 | 23.5 | 23.5 | 8.0 | 9.5 | 7.3 | 23.8 | 8.6 | 4.7 |
| 20 TO 49..... | 14.0 | 14.4 | 2.6 | 20.2 | 20.2 | 15.2 | 14.6 | 16.0 | 20.7 | 14.6 | 4.6 |
| 50 OR MORE..... | 29.5 | 30.3 | 4.4 | 37.6 | 37.6 | 28.5 | 25.8 | 43.9 | 35.6 | 27.2 | 15.3 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 40.4 | 41.6 | 8.6 | 43.8 | 43.8 | 0 | 0 | - | 42.7 | 0 | 27.2 |
| 39 OR FEWER HOURS..... | 17.0 | 16.7 | 3.0 | 21.9 | 21.9 | 24.4 | 26.2 | 0 | 20.4 | 22.6 | 4.6 |
| 40 TO 48 HOURS..... | 10.7 | 10.1 | 2.1 | 22.7 | 22.7 | 18.8 | 19.5 | 14.6 | 24.3 | 19.3 | 5.2 |
| 49 TO 60 HOURS..... | 11.9 | 11.1 | 3.1 | 26.7 | 26.7 | 20.5 | 21.2 | 21.7 | 27.6 | 21.8 | 6.5 |
| 61 TO 84 HOURS..... | 16.7 | 14.7 | 2.9 | 16.9 | 16.9 | 10.1 | 8.7 | 17.9 | 18.0 | 11.2 | 5.5 |
| MORE THAN 84 HOURS..... | 11.3 | 11.3 | 3.3 | 17.0 | 17.0 | 19.4 | 17.4 | 19.5 | 16.5 | 19.9 | 4.6 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 10.3 | 9.6 | 1.9 | 19.5 | 19.5 | 14.1 | 14.0 | 17.2 | 17.1 | 11.9 | 6.0 |
| NO..... | 9.0 | 8.9 | 1.8 | 10.4 | 10.4 | 10.2 | 10.8 | 11.5 | 12.3 | 11.8 | 3.7 |
| DON'T KNOW/NOT REPORTED..... | 22.7 | 23.0 | 4.3 | 35.8 | 35.8 | 36.7 | 37.9 | 34.4 | 33.5 | 32.3 | 13.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C18. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|---|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 9.8 | 10.0 | 2.0 | 17.0 | 17.0 | 15.2 | 14.8 | 19.9 | 13.7 | 13.5 | 8.0 |
| NO..... | 6.6 | 6.4 | 1.6 | 13.8 | 13.8 | 12.0 | 12.2 | 13.6 | 15.2 | 13.1 | 3.7 |
| DON'T KNOW/NOT REPORTED..... | 30.0 | 26.6 | 6.2 | 35.6 | 35.6 | 16.7 | 19.8 | 29.5 | 32.9 | 15.6 | 12.4 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 9.7 | 9.9 | 2.6 | 24.8 | 24.8 | 21.3 | 20.9 | 25.9 | 20.6 | 19.1 | 10.3 |
| NO..... | 6.4 | 6.2 | 1.5 | 10.6 | 10.6 | 11.6 | 11.6 | 12.0 | 12.0 | 12.3 | 3.4 |
| DON'T KNOW/NOT REPORTED..... | 30.7 | 26.9 | 7.7 | 41.7 | 41.7 | 22.1 | 25.5 | 44.3 | 40.0 | 20.3 | 8.9 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 8.2 | 8.1 | 1.9 | 9.3 | 9.3 | 6.2 | 6.4 | 11.3 | 11.2 | 7.7 | 3.3 |
| NO..... | 11.4 | 11.6 | 2.7 | 32.0 | 32.0 | 26.3 | 28.2 | 21.9 | 28.6 | 22.7 | 8.7 |
| NOT REPORTED/ NOT APPLICABLE..... | 25.0 | 27.3 | 4.9 | 38.8 | 38.8 | 38.9 | 43.3 | 39.5 | 37.9 | 37.6 | 7.4 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 10.8 | 11.1 | 2.1 | 10.4 | 10.4 | 8.9 | 7.9 | 13.2 | 12.8 | 10.1 | 4.6 |
| NO..... | 26.9 | 26.4 | 2.6 | 45.7 | 45.7 | 15.5 | 14.6 | 16.2 | 47.2 | 15.4 | 6.0 |
| NOT REPORTED/ NOT APPLICABLE..... | 9.1 | 9.0 | 2.4 | 21.3 | 21.3 | 17.4 | 17.7 | 18.5 | 18.2 | 16.2 | 7.7 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 8.2 | 8.0 | 1.8 | 8.6 | 8.6 | 5.8 | 6.0 | 10.9 | 10.3 | 6.8 | 3.1 |
| NO..... | 13.5 | 13.4 | 2.3 | 38.0 | 38.0 | 31.1 | 32.5 | 24.3 | 35.5 | 28.2 | 9.4 |
| NOT REPORTED/ NOT APPLICABLE..... | 25.5 | 27.5 | 4.8 | 39.4 | 39.4 | 42.7 | 47.5 | 41.3 | 40.4 | 45.2 | 12.0 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. Q = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.
SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.



Relative Standard Errors (Continued)

Table C19. 1979 Electricity Consumption and Expenditures for Commercial Buildings of Greater Than 10,000 Square Feet That Use Electricity: Relative Standard Errors (Percent)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MIL-LIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUAD-RILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MIL-LION DOL-LARS) | AVERAGE EXPEND. PER BUILDING (THOU-SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOL-LARS) |
|------------------------------|-----------------------------|-------------------------------|--|--|-------------------------------------|--|--|--|-----------------------------------|--|--|
| COMMERCIAL BUILDINGS..... | 7.3 | 6.7 | 2.9 | 8.1 | 8.1 | 6.9 | 6.1 | 5.2 | 8.7 | 8.0 | 3.9 |
| END USE BY FUEL TYPE | | | | | | | | | | | |
| HEATING FUEL USED..... | 7.3 | 6.6 | 3.0 | 8.1 | 8.1 | 7.1 | 5.8 | 5.1 | 8.6 | 8.2 | 3.9 |
| NATURAL GAS..... | 10.7 | 9.0 | 4.3 | 10.3 | 10.3 | 9.2 | 7.0 | 6.7 | 10.3 | 9.9 | 2.9 |
| ELECTRICITY..... | 14.4 | 12.0 | 4.7 | 13.8 | 13.8 | 10.2 | 9.4 | 7.4 | 15.6 | 10.2 | 4.4 |
| FUEL OIL/KEROSENE..... | 11.5 | 10.0 | 5.5 | 13.0 | 13.0 | 14.6 | 12.1 | 14.9 | 19.6 | 19.4 | 9.8 |
| LIQUID PETROLEUM GAS..... | 24.5 | 19.4 | 11.8 | 32.1 | 32.1 | 30.8 | 19.5 | 25.9 | 34.1 | 31.8 | 5.6 |
| WOOD..... | 49.6 | 43.9 | 45.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24.6 |
| STEAM..... | 24.7 | 19.6 | 15.4 | 20.2 | 20.2 | 24.6 | 14.9 | 13.9 | 19.3 | 23.6 | 6.3 |
| COAL..... | 26.9 | 24.2 | 18.4 | 0 | 0 | 0 | 0 | 42.8 | 42.8 | 0 | 11.2 |
| OTHER..... | 48.4 | 34.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO HEATING FUEL USED..... | 19.2 | 20.0 | 12.4 | 33.0 | 33.0 | 35.0 | 39.7 | 37.0 | 32.0 | 30.5 | 19.4 |
| AIR CONDITIONING FUEL USED.. | 8.2 | 7.2 | 3.1 | 8.9 | 8.9 | 6.4 | 5.6 | 5.5 | 9.3 | 7.2 | 4.1 |
| ELECTRICITY..... | 8.3 | 7.5 | 3.2 | 8.9 | 8.9 | 6.5 | 5.8 | 5.9 | 9.6 | 7.5 | 4.3 |
| NATURAL GAS..... | 11.3 | 13.7 | 11.8 | 15.6 | 15.6 | 19.3 | 13.9 | 7.6 | 15.1 | 18.4 | 2.4 |
| OTHER..... | 20.9 | 9.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO AIR CONDITIONING FUEL.... | 15.7 | 13.2 | 6.6 | 21.3 | 21.3 | 18.1 | 18.6 | 19.0 | 17.2 | 15.6 | 9.6 |
| WATER-HEATING FUEL USED..... | 7.9 | 7.0 | 3.4 | 9.5 | 9.5 | 8.3 | 6.7 | 5.9 | 9.4 | 9.0 | 4.1 |
| NATURAL GAS..... | 10.2 | 8.7 | 4.8 | 11.8 | 11.8 | 11.2 | 8.9 | 7.4 | 11.4 | 10.7 | 3.2 |
| ELECTRICITY..... | 9.0 | 9.7 | 3.3 | 11.0 | 11.0 | 7.3 | 7.3 | 7.3 | 11.2 | 8.9 | 3.9 |
| FUEL OIL/KEROSENE..... | 18.1 | 11.9 | 14.0 | 20.3 | 20.3 | 20.8 | 17.1 | 24.0 | 28.7 | 25.4 | 13.2 |
| OTHER..... | 17.3 | 17.5 | 20.7 | 20.4 | 20.4 | 25.5 | 13.5 | 14.5 | 19.1 | 25.3 | 6.8 |
| NO WATER-HEATING FUEL..... | 11.3 | 8.9 | 7.8 | 23.0 | 23.0 | 24.4 | 24.2 | 22.7 | 22.8 | 22.3 | 7.0 |
| MANUFACTURING FUEL USED..... | 18.4 | 12.0 | 10.9 | 9.4 | 9.4 | 19.2 | 13.8 | 14.7 | 9.4 | 17.7 | 4.3 |
| ELECTRICITY..... | 20.9 | 14.0 | 11.6 | 11.6 | 11.6 | 21.3 | 16.4 | 17.1 | 11.3 | 19.4 | 4.6 |
| NATURAL GAS..... | 26.0 | 16.2 | 18.4 | 25.1 | 25.1 | 30.4 | 28.6 | 21.5 | 22.7 | 28.6 | 6.1 |
| OTHER..... | 29.8 | 20.1 | 27.6 | 19.8 | 19.8 | 40.9 | 17.3 | 25.4 | 21.1 | 44.5 | 12.7 |
| NO MANUFACTURING DONE..... | 7.5 | 6.9 | 3.6 | 9.4 | 9.4 | 7.5 | 6.8 | 5.2 | 9.9 | 9.1 | 4.3 |
| COOKING FUEL USED..... | 9.5 | 9.2 | 5.1 | 13.1 | 13.1 | 11.6 | 7.6 | 5.2 | 13.0 | 12.1 | 3.2 |
| ELECTRICITY..... | 11.2 | 10.6 | 5.8 | 15.0 | 15.0 | 12.8 | 10.3 | 7.7 | 14.0 | 12.3 | 3.7 |
| NATURAL GAS..... | 11.6 | 11.6 | 7.1 | 16.1 | 16.1 | 15.6 | 9.9 | 7.1 | 16.2 | 16.4 | 4.5 |
| LIQUID PETROLEUM GAS..... | 23.4 | 19.2 | 14.1 | 39.8 | 39.8 | 44.0 | 32.5 | 16.2 | 38.4 | 41.2 | 5.1 |
| OTHER..... | 30.4 | 27.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NO COOKING FUEL..... | 6.5 | 5.7 | 3.6 | 9.5 | 9.5 | 9.2 | 8.4 | 10.1 | 14.5 | 14.2 | 7.5 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| CENSUS REGION | | | | | | | | | | | |
| NORTHEAST | 11.1 | 9.4 | 5.1 | 14.2 | 14.2 | 10.7 | 9.3 | 11.8 | 16.2 | 14.0 | 7.4 |
| NORTH CENTRAL | 13.9 | 11.3 | 6.9 | 11.8 | 11.8 | 14.4 | 10.4 | 6.6 | 12.0 | 14.4 | 1.2 |
| SOUTH | 13.4 | 12.5 | 5.6 | 14.3 | 14.3 | 17.2 | 13.2 | 10.0 | 13.6 | 16.9 | 6.8 |
| WEST | 20.3 | 15.5 | 11.9 | 18.6 | 18.6 | 19.3 | 12.9 | 4.7 | 24.7 | 32.5 | 13.1 |
| SMSA/NONSMSA | | | | | | | | | | | |
| SMSA | 8.6 | 7.2 | 4.1 | 9.8 | 9.8 | 7.0 | 5.8 | 5.8 | 9.9 | 7.4 | 4.7 |
| NONSMSA | 13.6 | 13.5 | 5.7 | 13.0 | 13.0 | 19.3 | 17.3 | 11.5 | 13.5 | 20.2 | 6.3 |
| HEATING AND COOLING DEGREE-DAYS | | | | | | | | | | | |
| <2,000 CDD AND >7,000 HDD | 39.8 | 37.1 | 9.2 | 36.1 | 36.1 | 15.2 | 12.1 | 6.4 | 39.4 | 15.3 | 4.7 |
| <2,000 CDD AND 5,500 TO 7,000 HDD | 10.2 | 10.2 | 5.4 | 13.9 | 13.9 | 11.1 | 7.3 | 6.5 | 13.5 | 11.1 | 1.9 |
| <2,000 CDD AND 4,000 TO 5,499 HDD | 22.2 | 17.0 | 8.1 | 21.0 | 21.0 | 17.6 | 14.7 | 12.1 | 20.6 | 21.9 | 8.8 |
| <2,000 CDD AND <4,000 HDD | 28.7 | 26.3 | 13.3 | 35.6 | 35.6 | 14.2 | 15.7 | 18.5 | 33.7 | 11.6 | 5.9 |
| >2,000 CDD AND <4,000 HDD | 35.6 | 33.9 | 6.1 | 32.8 | 32.8 | 11.7 | 8.4 | 11.8 | 35.4 | 10.4 | 7.8 |
| BUILDING TYPE | | | | | | | | | | | |
| ASSEMBLY | 20.9 | 13.1 | 13.5 | 19.8 | 19.8 | 38.6 | 26.5 | 20.4 | 17.0 | 36.1 | 5.0 |
| AUTOMOTIVE SALES & SERVICE | 28.5 | 25.3 | 9.7 | 25.8 | 25.8 | 34.1 | 28.4 | 25.1 | 24.7 | 29.9 | 12.6 |
| EDUCATION | 11.5 | 10.5 | 5.6 | 17.6 | 17.6 | 11.1 | 12.9 | 11.3 | 16.4 | 10.1 | 3.6 |
| FOOD SALES | 16.9 | 15.3 | 10.8 | 23.6 | 23.6 | 20.3 | 21.7 | 18.0 | 26.4 | 22.6 | 6.2 |
| HEALTH CARE | 18.1 | 11.6 | 17.2 | 15.6 | 15.6 | 14.1 | 13.0 | 9.6 | 13.7 | 21.1 | 8.9 |
| LODGING | 17.7 | 14.8 | 12.6 | 29.5 | 29.5 | 24.2 | 25.3 | 18.1 | 26.1 | 21.9 | 7.0 |
| OFFICE | 10.8 | 7.9 | 7.9 | 12.9 | 12.9 | 10.4 | 9.3 | 11.6 | 19.3 | 17.4 | 9.0 |
| RESIDENTIAL | 17.9 | 14.8 | 9.7 | 17.1 | 17.1 | 16.1 | 10.5 | 20.4 | 17.2 | 15.0 | 8.4 |
| RETAIL/SERVICES | 10.7 | 13.1 | 7.9 | 21.2 | 21.2 | 17.1 | 14.5 | 9.2 | 22.7 | 19.4 | 4.8 |
| WAREHOUSE AND STORAGE | 10.1 | 9.1 | 5.6 | 14.9 | 14.9 | 15.8 | 14.7 | 16.9 | 13.0 | 13.4 | 6.9 |
| OTHER | 17.1 | 13.1 | 9.5 | 19.6 | 19.6 | 34.7 | 25.0 | 23.3 | 19.0 | 32.4 | 7.9 |
| VACANT | 28.2 | 27.1 | 12.1 | 32.9 | 32.9 | 0 | 31.5 | 0 | 33.0 | 49.8 | 3.8 |
| TOTAL SQUARE FOOTAGE | | | | | | | | | | | |
| 10,001 TO 25,000 | 8.5 | 7.9 | 1.4 | 11.1 | 11.1 | 10.4 | 9.8 | 8.7 | 12.6 | 12.1 | 3.3 |
| 25,001 TO 50,000 | 8.8 | 9.1 | 1.3 | 16.6 | 16.6 | 14.8 | 14.7 | 11.9 | 22.9 | 22.3 | 12.3 |
| OVER 50,000 | 8.4 | 7.7 | 4.1 | 8.5 | 8.5 | 8.9 | 6.8 | 5.2 | 8.5 | 9.6 | 3.2 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|-----------------------------------|
| NUMBER OF FLOORS | | | | | | | | | | | |
| ONE FLOOR..... | 10.0 | 6.5 | 4.7 | 10.8 | 10.8 | 10.5 | 9.2 | 9.3 | 11.3 | 11.8 | 4.8 |
| TWO FLOORS..... | 10.8 | 10.5 | 5.7 | 10.8 | 10.8 | 10.8 | 10.1 | 8.8 | 11.4 | 10.2 | 3.2 |
| THREE FLOORS..... | 9.3 | 8.4 | 4.5 | 13.6 | 13.6 | 14.6 | 13.6 | 12.0 | 12.9 | 13.9 | 2.9 |
| MORE THAN THREE..... | 9.8 | 7.9 | 6.8 | 10.6 | 10.6 | 9.7 | 6.1 | 8.0 | 13.1 | 10.6 | 7.3 |
| YEAR CONSTRUCTED | | | | | | | | | | | |
| 1900 OR BEFORE..... | 14.2 | 11.9 | 7.5 | 41.1 | 41.1 | 41.2 | 39.8 | 36.4 | 0 | 0 | 27.0 |
| 1901 TO 1920..... | 14.0 | 11.3 | 9.3 | 24.0 | 24.0 | 23.5 | 18.1 | 21.1 | 22.4 | 23.9 | 12.1 |
| 1921 TO 1945..... | 11.8 | 13.1 | 7.1 | 18.0 | 18.0 | 18.5 | 15.2 | 11.9 | 17.0 | 16.8 | 4.2 |
| 1946 TO 1960..... | 10.8 | 9.8 | 6.5 | 10.5 | 10.5 | 11.3 | 8.9 | 6.4 | 14.4 | 13.4 | 5.4 |
| 1961 TO 1970..... | 9.4 | 8.6 | 6.4 | 12.7 | 12.7 | 11.1 | 10.4 | 8.2 | 11.2 | 9.7 | 3.1 |
| 1971 TO 1973..... | 14.8 | 13.6 | 12.2 | 12.8 | 12.8 | 16.4 | 8.7 | 8.9 | 12.0 | 15.8 | 3.8 |
| 1974 TO 1979..... | 12.6 | 9.9 | 11.1 | 13.1 | 13.1 | 11.3 | 10.5 | 8.9 | 14.9 | 14.1 | 5.0 |
| FUEL COMBINATIONS USED | | | | | | | | | | | |
| ONE FUEL USED | | | | | | | | | | | |
| ELECTRICITY..... | 17.5 | 11.1 | 8.3 | 19.0 | 19.0 | 12.9 | 13.9 | 15.3 | 22.2 | 11.4 | 7.2 |
| TWO FUELS USED | | | | | | | | | | | |
| ELEC., NATURAL GAS..... | 11.7 | 10.3 | 4.9 | 13.2 | 13.2 | 11.0 | 9.2 | 6.8 | 12.5 | 11.0 | 2.1 |
| ELEC., FUEL OIL/KEROSENE..... | 15.9 | 14.5 | 8.3 | 19.0 | 19.0 | 20.9 | 15.6 | 10.1 | 15.7 | 19.9 | 9.4 |
| ELEC., LPG..... | 31.2 | 31.7 | 9.7 | 0 | 0 | 35.9 | 26.0 | 27.3 | 0 | 38.1 | 5.2 |
| OTHER..... | 25.2 | 21.5 | 16.2 | 33.0 | 33.0 | 0 | 33.9 | 31.3 | 31.2 | 0 | 8.1 |
| THREE FUELS USED | | | | | | | | | | | |
| ELEC., GAS, FUEL OIL/KEROSENE..... | 12.1 | 9.8 | 9.8 | 14.4 | 14.4 | 10.9 | 12.4 | 15.4 | 22.3 | 17.6 | 11.5 |
| ELEC., FUEL OIL/KEROSENE, LPG..... | 26.1 | 18.3 | 21.3 | 25.0 | 25.0 | 33.7 | 23.6 | 22.0 | 24.7 | 31.1 | 5.6 |
| ELEC., GAS, OTHER..... | 22.5 | 23.5 | 17.4 | 19.8 | 19.8 | 16.2 | 10.8 | 12.8 | 22.0 | 18.8 | 6.0 |
| OTHER..... | 33.9 | 24.2 | 40.6 | 32.8 | 32.8 | 0 | 18.8 | 34.3 | 32.2 | 0 | 5.6 |
| FOUR OR MORE FUELS USED..... | 36.0 | 19.8 | 30.6 | 23.1 | 23.1 | 49.6 | 19.2 | 18.6 | 20.7 | 0 | 7.7 |
| ENERGY SOURCES SUPPLIED TO THE BUILDING | | | | | | | | | | | |
| ELECTRICITY..... | 7.3 | 6.7 | 2.9 | 8.1 | 8.1 | 6.9 | 6.1 | 5.2 | 8.7 | 8.0 | 3.9 |
| NATURAL GAS..... | 9.6 | 8.0 | 4.7 | 9.3 | 9.3 | 8.4 | 6.4 | 6.2 | 9.6 | 9.7 | 4.5 |
| FUEL OIL/KEROSENE..... | 11.0 | 8.9 | 6.5 | 10.6 | 10.6 | 12.8 | 9.8 | 10.9 | 16.0 | 16.3 | 8.8 |
| LIQUID PETROLEUM GAS..... | 19.2 | 17.3 | 12.0 | 16.3 | 16.3 | 17.2 | 13.2 | 16.7 | 17.2 | 16.2 | 6.9 |
| WOOD..... | 33.4 | 35.1 | 31.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21.0 |
| COAL..... | 32.5 | 24.6 | 24.3 | 0 | 0 | 0 | 0 | 40.6 | 40.6 | 0 | 10.7 |
| STEAM..... | 23.9 | 19.6 | 15.8 | 20.4 | 20.4 | 24.6 | 14.4 | 13.5 | 19.5 | 23.6 | 6.1 |
| OTHER..... | 30.0 | 22.5 | 15.7 | 19.6 | 19.6 | 30.3 | 15.9 | 25.9 | 18.2 | 32.7 | 4.4 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING SAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLAR) LARS) |
|-----------------------------------|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|--|--|
| HEATING SYSTEM | | | | | | | | | | | |
| SELF-CONTAINED UNITS | | | | | | | | | | | |
| FORCED-AIR..... | 11.1 | 9.2 | 6.2 | 10.9 | 10.9 | 7.6 | 6.6 | 8.4 | 11.1 | 7.6 | 5.3 |
| RADIANT..... | 23.0 | 22.5 | 12.1 | 33.8 | 33.8 | 34.7 | 25.7 | 2 | 29.9 | 31.0 | 12.3 |
| COMBINATION/OTHER..... | 13.7 | 13.7 | 6.8 | 22.8 | 22.8 | 20.0 | 17.2 | 16.3 | 25.9 | 21.8 | 10.7 |
| CENTRAL SYSTEM | | | | | | | | | | | |
| FORCED-AIR..... | 6.2 | 6.4 | 6.0 | 13.0 | 13.0 | 11.5 | 10.4 | 10.0 | 12.0 | 10.4 | 3.5 |
| RADIANT..... | 11.9 | 10.9 | 7.6 | 17.0 | 17.0 | 16.2 | 12.9 | 10.9 | 17.0 | 16.5 | 5.7 |
| COMBINATION/OTHER..... | 11.4 | 8.4 | 6.9 | 12.4 | 12.4 | 15.5 | 11.6 | 9.7 | 11.7 | 15.1 | 3.7 |
| COMBINATION/OTHER | | | | | | | | | | | |
| FORCED-AIR..... | 30.5 | 26.7 | 23.3 | 33.5 | 33.5 | 2 | 22.2 | 23.2 | 37.3 | 2 | 11.2 |
| RADIANT..... | 27.0 | 27.1 | 27.4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 29.2 |
| COMBINATION/OTHER..... | 19.8 | 14.5 | 12.2 | 11.1 | 11.1 | 24.2 | 13.5 | 13.3 | 10.8 | 27.0 | 4.0 |
| NONE..... | 19.2 | 20.1 | 12.5 | 33.2 | 33.2 | 35.1 | 39.9 | 37.2 | 32.1 | 30.5 | 19.4 |
| PERCENT OF BUILDING HEATED | | | | | | | | | | | |
| 1 TO 25..... | 13.5 | 11.1 | 7.4 | 16.9 | 16.9 | 11.8 | 10.4 | 20.4 | 18.0 | 11.4 | 7.7 |
| 26 TO 50..... | 14.2 | 13.9 | 8.0 | 18.6 | 18.6 | 13.8 | 14.5 | 19.4 | 17.4 | 12.5 | 6.4 |
| 51 TO 75..... | 15.0 | 12.5 | 16.1 | 19.4 | 19.4 | 36.2 | 20.2 | 12.3 | 21.0 | 37.9 | 5.0 |
| 76 TO 99..... | 15.5 | 12.8 | 16.8 | 18.9 | 18.9 | 20.0 | 11.1 | 10.7 | 19.9 | 24.0 | 7.8 |
| 100..... | 8.6 | 7.6 | 3.6 | 10.2 | 10.2 | 9.1 | 7.4 | 6.5 | 11.9 | 11.6 | 5.0 |
| NONE..... | 19.2 | 20.1 | 12.5 | 33.2 | 33.2 | 35.1 | 39.9 | 37.2 | 32.1 | 30.5 | 19.4 |
| PERCENT OF BUILDING COOLED | | | | | | | | | | | |
| 1 TO 25..... | 9.1 | 7.8 | 4.5 | 14.1 | 14.1 | 13.3 | 11.4 | 14.6 | 11.8 | 10.7 | 4.6 |
| 26 TO 50..... | 14.1 | 10.2 | 9.4 | 20.2 | 20.2 | 26.0 | 20.9 | 18.1 | 18.5 | 24.5 | 5.9 |
| 51 TO 75..... | 10.0 | 7.8 | 11.3 | 18.7 | 18.7 | 20.4 | 17.8 | 16.1 | 32.1 | 32.9 | 15.1 |
| 76 TO 99..... | 13.4 | 11.2 | 15.1 | 14.6 | 14.6 | 16.9 | 8.2 | 9.2 | 13.8 | 17.6 | 6.7 |
| 100..... | 14.8 | 11.7 | 6.5 | 14.3 | 14.3 | 6.2 | 7.3 | 5.3 | 14.6 | 5.5 | 2.3 |
| NONE..... | 15.7 | 13.2 | 6.6 | 21.4 | 21.4 | 18.1 | 18.6 | 19.1 | 17.2 | 15.6 | 9.6 |
| AIR CONDITIONING SYSTEM | | | | | | | | | | | |
| WINDOW UNITS..... | 11.9 | 13.6 | 5.8 | 22.5 | 22.5 | 20.5 | 21.3 | 20.8 | 19.7 | 17.6 | 5.0 |
| PACKAGE UNITS..... | 11.2 | 8.8 | 5.2 | 10.8 | 10.8 | 6.8 | 6.2 | 6.9 | 11.2 | 7.5 | 3.6 |
| CENTRAL SYSTEM..... | 10.7 | 9.3 | 6.6 | 12.1 | 12.1 | 11.0 | 9.1 | 8.6 | 11.2 | 10.4 | 4.2 |
| COMBINATION/OTHER..... | 10.5 | 10.3 | 8.7 | 14.3 | 14.3 | 10.9 | 12.0 | 11.9 | 18.2 | 14.4 | 9.2 |
| NO AIR CONDITIONING..... | 15.7 | 13.2 | 6.6 | 21.4 | 21.4 | 18.1 | 18.6 | 19.1 | 17.2 | 15.6 | 9.6 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (QUADRILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION BTU (DOLLARS) |
|--|-----------------------------|------------------------------|--|---|-------------------------------------|--|--|--|---------------------------------|---|---|
| OCCUPANCY CHARACTERISTICS | | | | | | | | | | | |
| SINGLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 9.8 | 8.5 | 3.0 | 8.9 | 8.9 | 9.2 | 8.1 | 7.2 | 8.3 | 9.0 | 2.8 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 13.3 | 9.8 | 7.4 | 17.3 | 17.3 | 16.2 | 13.1 | 9.2 | 16.7 | 16.5 | 3.3 |
| MULTIPLE ESTABLISHMENT BUILDING | | | | | | | | | | | |
| OWNER OR AGENT IS OCCUPANT..... | 10.9 | 14.4 | 10.1 | 17.8 | 17.8 | 14.4 | 14.1 | 15.1 | 24.2 | 21.3 | 12.3 |
| OWNER OR AGENT IS NOT OCCUPANT..... | 15.1 | 11.6 | 9.0 | 17.4 | 17.4 | 15.3 | 11.4 | 10.2 | 17.8 | 14.5 | 4.9 |
| GOVERNMENT-OWNED AND OCCUPIED..... | 16.0 | 10.5 | 11.1 | 19.1 | 19.1 | 17.5 | 13.1 | 13.6 | 17.3 | 18.0 | 5.1 |
| NOT REPORTED..... | 32.6 | 23.9 | 35.4 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 9.1 |
| NUMBER OF PEOPLE WORKING IN THE BUILDING | | | | | | | | | | | |
| LESS THAN 10..... | 10.7 | 10.1 | 6.0 | 15.1 | 15.1 | 20.9 | 20.5 | 18.9 | 13.6 | 18.7 | 5.7 |
| 10 TO 19..... | 11.9 | 12.0 | 7.6 | 16.7 | 16.7 | 15.8 | 14.9 | 15.3 | 17.7 | 17.2 | 5.8 |
| 20 TO 49..... | 9.6 | 8.8 | 4.6 | 12.7 | 12.7 | 9.7 | 10.6 | 10.2 | 12.2 | 8.5 | 4.1 |
| 50 TO 99..... | 13.6 | 9.4 | 7.6 | 13.1 | 13.1 | 7.8 | 9.3 | 7.4 | 13.3 | 7.6 | 3.4 |
| 100 OR MORE..... | 11.2 | 9.5 | 10.3 | 12.4 | 12.4 | 10.3 | 8.0 | 8.6 | 14.0 | 10.8 | 6.7 |
| HOURS OF OPERATION FOR A TYPICAL WEEK | | | | | | | | | | | |
| NONE..... | 22.8 | 23.8 | 14.9 | 45.7 | 45.7 | 2 | 2 | - | 43.8 | 2 | 8.5 |
| 39 OR FEWER HOURS..... | 30.7 | 22.4 | 17.7 | 39.3 | 39.3 | 45.7 | 33.9 | 32.1 | 36.6 | 44.1 | 4.2 |
| 40 TO 48 HOURS..... | 11.7 | 10.7 | 4.4 | 16.8 | 16.8 | 17.5 | 17.0 | 18.4 | 24.7 | 25.8 | 12.4 |
| 49 TO 60 HOURS..... | 9.8 | 9.3 | 3.6 | 12.0 | 12.0 | 9.0 | 8.6 | 6.9 | 11.9 | 8.9 | 3.7 |
| 61 TO 84 HOURS..... | 12.4 | 11.8 | 8.0 | 14.5 | 14.5 | 12.5 | 8.6 | 9.9 | 15.3 | 13.5 | 5.0 |
| MORE THAN 84 HOURS..... | 10.5 | 7.0 | 6.4 | 7.8 | 7.8 | 8.7 | 6.2 | 5.3 | 8.5 | 9.1 | 3.9 |
| WEATHERSTRIPPING OR CAULKING ADDED SINCE 1974 | | | | | | | | | | | |
| YES..... | 8.7 | 7.6 | 5.4 | 11.1 | 11.1 | 12.1 | 9.5 | 8.7 | 13.3 | 14.7 | 6.8 |
| NO..... | 7.5 | 7.2 | 3.1 | 8.5 | 8.5 | 6.8 | 6.4 | 5.0 | 8.3 | 7.3 | 3.0 |
| DON'T KNOW/NOT REPORTED..... | 21.6 | 16.7 | 8.0 | 33.0 | 33.0 | 22.2 | 22.6 | 15.6 | 35.2 | 27.5 | 9.8 |

SEE NOTES AT END OF TABLE



Relative Standard Errors (Continued)

Table C19. (Continued)

| BUILDING CHARACTERISTICS | TOTAL BUILDINGS (THOUSANDS) | TOTAL SQUARE FEET (MILLIONS) | AVERAGE SQUARE FEET PER BUILDING (THOUSANDS) | TOTAL AMOUNT CONSUMED (BILLION BTU) | TOTAL AMOUNT CONSUMED (BILLION KWH) | AVERAGE AMOUNT CONSUMED PER BUILDING (MILLION BTU) | AVERAGE AMOUNT CONSUMED PER SQUARE FOOT (THOUSAND BTU) | AVERAGE AMOUNT CONSUMED PER EMPLOYEE (MILLION BTU) | TOTAL EXPEND. (MILLION DOLLARS) | AVERAGE EXPEND. PER BUILDING (THOUSAND DOLLARS) | AVERAGE EXPEND. PER MILLION (DOLLAR) BTU |
|---|-----------------------------|------------------------------|--|-------------------------------------|-------------------------------------|--|--|--|---------------------------------|---|--|
| INSULATION ADDED | | | | | | | | | | | |
| YES..... | 10.0 | 9.6 | 5.4 | 12.2 | 12.2 | 14.2 | 10.8 | 9.0 | 12.8 | 13.4 | 5.2 |
| NO..... | 8.0 | 7.0 | 4.4 | 8.8 | 8.8 | 7.6 | 7.1 | 6.0 | 10.2 | 10.2 | 4.8 |
| DON'T KNOW/NOT REPORTED..... | 15.2 | 15.2 | 10.4 | 17.5 | 17.5 | 12.4 | 10.8 | 11.1 | 15.7 | 11.7 | 4.1 |
| WEATHERSTRIPPING OR CAULKING, AND INSULATION ADDED | | | | | | | | | | | |
| YES..... | 9.6 | 9.9 | 5.9 | 14.8 | 14.8 | 16.3 | 13.0 | 10.5 | 14.9 | 15.6 | 5.2 |
| NO..... | 8.0 | 6.9 | 3.7 | 8.6 | 8.6 | 7.4 | 6.3 | 5.5 | 9.7 | 9.6 | 4.6 |
| DON'T KNOW/NOT REPORTED..... | 16.8 | 14.7 | 9.6 | 17.8 | 17.8 | 18.4 | 15.3 | 11.9 | 20.0 | 22.1 | 8.3 |
| REDUCED HEATING | | | | | | | | | | | |
| YES..... | 8.3 | 6.8 | 3.8 | 9.1 | 9.1 | 8.9 | 7.0 | 6.4 | 9.8 | 10.0 | 4.3 |
| NO..... | 8.2 | 9.7 | 5.6 | 11.5 | 11.5 | 8.0 | 7.5 | 8.4 | 12.0 | 9.4 | 3.1 |
| NOT REPORTED..... | 28.6 | 24.1 | 14.6 | 36.8 | 36.8 | 33.4 | 35.8 | 32.8 | 35.4 | 31.4 | 9.5 |
| NOT APPLICABLE..... | 19.2 | 20.1 | 12.5 | 33.2 | 33.2 | 35.1 | 39.9 | 37.2 | 32.1 | 30.5 | 19.4 |
| REDUCED COOLING | | | | | | | | | | | |
| YES..... | 9.6 | 7.7 | 4.7 | 9.1 | 9.1 | 8.1 | 6.2 | 5.9 | 9.0 | 7.9 | 3.5 |
| NO..... | 10.0 | 11.7 | 8.1 | 17.1 | 17.1 | 13.9 | 14.0 | 15.0 | 30.5 | 27.6 | 16.3 |
| NOT REPORTED..... | 29.3 | 22.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NOT APPLICABLE..... | 9.8 | 9.8 | 4.4 | 14.1 | 14.1 | 13.4 | 14.3 | 11.0 | 12.0 | 12.9 | 5.4 |
| REDUCED HEATING OR REDUCED COOLING | | | | | | | | | | | |
| YES..... | 8.1 | 6.7 | 3.6 | 8.4 | 8.4 | 8.1 | 6.5 | 6.2 | 9.3 | 9.4 | 4.4 |
| NO..... | 10.0 | 12.3 | 7.3 | 15.2 | 15.2 | 10.1 | 9.5 | 10.6 | 15.4 | 10.2 | 2.5 |
| NOT REPORTED..... | 25.6 | 23.0 | 20.9 | 36.7 | 36.7 | 33.6 | 36.1 | 33.2 | 34.8 | 31.2 | 10.3 |
| NOT APPLICABLE..... | 21.8 | 24.7 | 10.8 | 34.6 | 34.6 | 37.2 | 41.8 | 49.9 | 35.8 | 36.9 | 17.8 |

NOTE: A "-" REPRESENTS OR ROUNDS TO ZERO. 0 = DATA WITHHELD BECAUSE OF A LARGE VARIANCE. DATA MAY NOT SUM TO TOTALS DUE TO ROUNDING OR MULTIPLE ENERGY SOURCES. SEE GLOSSARY FOR DEFINITIONS OF TERMS USED IN THIS TABLE. SEE APPENDIX B FOR DISCUSSION OF LIMITATIONS OF DATA.

SOURCE: RESIDENTIAL AND COMMERCIAL BRANCH, ENERGY END USE DIVISION, OFFICE OF ENERGY MARKETS AND END USE, ENERGY INFORMATION ADMINISTRATION, U.S. DEPARTMENT OF ENERGY, THE 1979 NONRESIDENTIAL BUILDINGS ENERGY CONSUMPTION SURVEY.

Appendix D

Building Questionnaire





Building Questionnaire (Continued)

Time Began _____

BOX 1

BASED UPON YOUR OBSERVATION, CHECK ONE BOX AND FOLLOW INSTRUCTION:

IF BUILDING IS FREE-STANDING, IS A SHOPPING CENTER/MALL, OR IS SAMPLED FROM SPECIAL BUILDING LIST, SKIP TO THE TOP OF PAGE 2.

IF BUILDING IS ATTACHED ON ANY SIDE TO ANOTHER BUILDING, CONTINUE.

22

First of all I need to be able to distinguish, or separate, one building from another.

1. Is the building at [MENTION ADDRESS(ES)], and the building at [MENTION ADDRESS(ES)] owned by the same person or persons?

YES.....1

NO.....2

or

DON'T KNOW.....8

• DEFINITION: CONSIDER EACH SEPARATELY OWNED BUILDING AS A SEPARATE BUILDING.

• IF THE BUILDING IDENTIFIED ON THE LABEL TURNS OUT TO BE TWO OR MORE SEPARATE BUILDINGS AS DEFINED ABOVE, OBTAIN AN INTERVIEW FOR EACH BUILDING.

GO TO BOX 2

23

2. Are there permanent walls that extend from the ground level to the top story of the building, at [MENTION ADDRESS(ES)] which totally separate it from the building at [MENTION ADDRESS(ES)]?

YES.....1

NO.....2

• DEFINITION: CONSIDER EACH BUILDING SEPARATED BY A PERMANENT WALL AS A SEPARATE BUILDING.

• IF THE BUILDING IDENTIFIED ON THE LABEL TURNS OUT TO BE TWO OR MORE SEPARATE BUILDINGS AS DEFINED ABOVE, OBTAIN AN INTERVIEW FOR EACH BUILDING.

GO TO BOX 2

• CONSIDER CONNECTED BUILDINGS AS ONE BUILDING.

• OBTAIN INTERVIEW AND INCLUDE ALL PARTS THAT ARE TO BE CONSIDERED AS "ONE" BUILDING.

GO TO BOX 2

24

BOX 2

ORIGINAL LISTING IS:

CORRECT INCORRECT

25



Building Questionnaire (Continued)

The questions I will be asking you will all be about this building. By this building, I am referring to (the structure(s) at [USE NUMBER(S) OR NAME]/the entire shopping center or mall at [USE NUMBER(S) OR NAME]).

3. (IF NAME OF BUILDING IS NOT KNOWN, ASK): What is the correct name and address of this building? (IF KNOWN, SAY): Is the correct name and address of the building: (MENTION NAME AND ADDRESS)? (IF BUILDING HAS NO NAME, ASK, OR VERIFY, NAME OF MAJOR ESTABLISHMENT THAT OCCUPIES BUILDING)

(CHECK ONE)

NAME: _____ Name of Building

ADDRESS: _____ Name of Major Establishment in Building

4. What is the phone number of the building (establishment)?

()
Area Code

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | |
| 2 | 6 | 2 | 7 | 2 | 8 | 2 | 9 | 3 | 0 | 3 | 1 | 5 | 2 | 3 | 3 |

5. What is the building's Zip Code?

_____ Zip Code

BOX 3 • IF AREA LISTING: CHECK TO SEE IF YOUR ASSIGNED ZIP CODE AGREES WITH THE BUILDING'S ZIP (CHECK ONE BOX)

AGREES - CONTINUE WITH INTERVIEW

DOES NOT AGREE - CHECK THAT YOU ARE AT THE CORRECT ADDRESS AND WITHIN THE SEGMENT BOUNDARIES. IF SO, CONTINUE WITH INTERVIEW.

• IF SPECIAL BUILDING LIST, CHECK THAT YOU ARE AT CORRECT ADDRESS AND CONTINUE WITH INTERVIEW.

36

6. Is the building occupied by one, or more than one, organization, company or agency?

One.....1 (Q11) 37

More than one.....2 (Q7)

7. Is there any establishment in this building that receives its mail through any other ZIP code?

Yes.....1 (Q8)

NO.....2 (Q11) 38

Don't know.....8 (Q11)

Building Questionnaire (Continued)



8. Does the establishment that has a different ZIP code occupy 75% or more of the space in this building?

Yes.....1 (Q9)
 NO.....2 (Q11)
 Don't Know.....8 (Q11)

39

9. What is the name of that establishment?

 (Name)

10. What is the ZIP Code for (MENTION NAME OF ESTABLISHMENT)?

 (Zip Code)

11. Is (any part of) the building occupied by: (READ CATEGORIES)

| | YES | NO | DK |
|-----------------------------------|-----|----|----|
| A Federal Government Agency.....1 | 2 | 8 | |
| A State Government Agency.....1 | 2 | 8 | |
| A Local Government Agency.....1 | 2 | 8 | |

| | |
|--------------------------|----|
| <input type="checkbox"/> | 40 |
| <input type="checkbox"/> | 41 |
| <input type="checkbox"/> | 42 |

- IF YES IS ANSWERED TO ANY PART OF Q11, ASK Q12.
- OTHERWISE, SKIP TO Q13.

12. Is the building owned by an agency of the Federal, State or local government?

Yes.....1 (BOX 4)
 NO.....2 (Q13)
 Don't know.....8 (Q13)

43

13. Is the building owner, or his agent, an occupant of this building?

Yes.....1
 NO.....2

44

BOX 4

IF YOU KNOW THE NAME, ADDRESS, TELEPHONE NUMBER, AND ZIP CODE OF THE MANAGEMENT OFFICE RECORD THE INFORMATION IN Q14 AND 15, AND THEN SKIP TO Q16, OTHERWISE CONTINUE.

14. Is there a management office that supervises the building?

Yes.....1 (Q15)
 NO.....2 (Q16)
 Don't know.....8 (Q16)

45



Building Questionnaire (Continued)

15. (What is/let me verify) the name, address, ZIP code, and phone number of the management office?

Name: _____

Address: _____

ZIP Code: _____ Telephone: () _____

46

16. I would now like to ask you some questions about the physical characteristics of the building. When was the major or largest portion of the building constructed?

_____ Year (Q18)
 Don't know..... 998 (Q17)
47 48 49

17. Here is a card which has several categories of years. Which category in your estimation best applies to the year the largest portion of the building was constructed?

HAND
CARD
1

Before 1900..... 01
 1901-1920..... 02
 1921-1945..... 03
 1946-1960..... 04
 1961-1970..... 05
 1971-1973..... 06
 1974 to present..... 07
 Don't know..... 98

50-51

18. (IF BUILDING BUILT BEFORE 1974, ASK): In the last five years has any weather stripping or caulking been added to the building shell?
 (IF BUILDING BUILT 1974 TO PRESENT, ASK): Since the building was constructed, has any weather stripping or caulking been added to the building shell?

Yes.....1 (Q19)
 No.....2 (Q20) 52
 Don't know.....8 (Q20)

19. In what year was it last added?

_____ Year
 Don't know.....998 53 54 55

20. Has any additional insulation been installed in the roof or walls since the building was constructed?

Yes.....1 (Q21)
 No.....2 (Q22) 56
 Don't know.....8 (Q22)

21. In what year was the insulation last added?

_____ Year
 Don't know.....998 57 58 59

60-80 blank

Building Questionnaire (Continued)



Begin card 02

22. Thinking of the amount of glass on the exterior surface of the building, would you estimate that glass covers 50% or more of the exterior surface of this building?
- Yes.....1
 ↓
 Is it 75% or more?
- No.....2
 ↓
 Is it 25% or more?
- Yes.....1
 No.....2
- Yes.....3
 No.....4
- 17
- 18
23. Is any of the exterior glass considered to be tinted, reflective, insulated, or the thermal pane type of glass?
- Yes.....1 (Q24)
 NO.....2 (Q26)
 Don't know.....8 (Q26)
- 19
24. Was the tinted, reflective, insulated or thermal pane type of glass installed at the time of construction or added since the building was constructed?
- Time of construction.....1 (Q26)
 Since construction.....2 (Q25)
 Both.....3 (Q25)
 Don't know.....8 (Q26)
- 20
25. In approximately what year was the tinted, reflective, insulated, or the thermal pane glass most recently installed?
- _____ Year
- Don't know.....998
- 21 22 23
26. Are there any window awnings or other window-shadings on the outside of the building?
- Yes.....1 (Q27a)
 NO.....2 (Q28)
 Don't know.....8 (Q28)
- 24
- 27a. Were these window awnings or other shadings installed at the time of construction or added since that time?
- Time of construction.....1 (Q28)
 Since construction.....2 (Q27b)
 Both.....3 (Q27b)
 Don't know.....8 (Q28)
- 25
- 27b. In approximately what year were these window awnings or shadings most recently installed?
- _____ Year
- Don't know.....998
- 26 27 28
28. Are there any window shadings on the inside of the building such as shades, drapes, or venetian blinds?
- Yes.....1
 NO.....2
 Don't know.....8
- 29



Building Questionnaire (Continued)

29. How many floors are in the tallest section of the building?
Please include any floors that may be used as a parking garage, basements, or any other floors below ground level.

_____ # of floors

30 31 32

30. What is the total square footage of all the space enclosed within the exterior walls of this building? Again, please include indoor parking facilities and basements, and all space such as hallways, lobbies, stairways and elevator shafts.

_____ # of Sq. Feet (INTRO- D U C T I O N A B O V E Q 3 2)

Don't know.....99999998 (Q31)

31. Here is a card that has several broad categories of total square feet. Which category in your estimation best applies to the total square feet in this building?

HAND CARD 2

- 1,000 or less.....01
 - 1,001 to 5,000 sq. ft.....02
 - 5,001 to 10,000 sq. ft.....03
 - 10,001 to 25,000 sq. ft.....04
 - 25,001 to 50,000 sq. ft.....05
 - 50,001 to 100,000 sq. ft.....06
 - 100,001 to 200,000 sq. ft.....07
 - 200,001 to 500,000 sq. ft.....08
 - 500,001 to 1 million sq. ft.....09
 - Over 1 million sq. ft.....10
 - Don't know.....98
- 41-42

The purpose of the next few questions is to find out about the kinds of activities that occur within this building.

By "activities" we mean the building's purpose. What is it used for? For example, space in a building may be used for office work, retail sales, as residential living quarters, for manufacturing, warehousing, laundering, classroom activities, or any number of other purposes.

32. First of all, is any part of the building used for residential purposes? By residential we mean individual housekeeping units with kitchen facilities.

Yes..... 1 (Q33) 43

No.....2 (BOX 6)

33. Approximately what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in the building is used for residential purposes?

_____ % (BOX 5)

Don't Know.....998 (Q34)

BOX 5

CIRCLE CODE AND FOLLOW SKIP INSTRUCTION :

25% OR OVER.....1 (Q39)

NONE OR LESS THAN 25% RESIDENTIAL.....2 (BOX 6)

44 45 46

47

Building Questionnaire (Continued)



34. Would you estimate that 50% or more of the (MENTION SQUARE FEET FROM Q30 or 31) square feet is used for residential purposes?

Yes.....1

No.....2

Is it 75% or more?

Is it 25% or more?

48

Yes.....1 (Q39)
No.....2 (Q39)

Yes.....3 (Q39)
No.....4 (BOX 6)

49

BOX 6

IF BUILDING APPEARS TO BE: (CIRCLE CODE AND FOLLOW SKIP INSTRUCTION.)

OFFICE OR PROFESSIONAL BUILDING..... 1 (Q35)
SHOPPING CENTER/MALL..... 2 (Q36)
ANYTHING ELSE..... 3 (Q37)

50

35. Considering all of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building, would you estimate that over 75% of this space is used as offices for establishments or professionals?

Yes.....1(Q41)
No.....2(Q37) 51

36. Would you classify this (building/complex of stores) as being a shopping center or mall?

Yes.....1(Q41) 52
No.....2(Q37)

37. Considering all of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is there one main activity that occupies over 75% of the space?

Yes.....1(Q38) 53
No.....2(Q39)

38. Could you describe that activity? A general description such as office work, laundry, restaurant, manufacturing, etc., is what I need.

SKIP TO Q41

54-80 blank



Building Questionnaire (Continued)

Begin Card 03

39. Could you describe all the activities that occur within this building (other than residential)? A general description such as office work, laundry, restaurant, manufacturing, etc., is what I need.

| | |
|----|----|
| 17 | 18 |
|----|----|

| ACTIVITIES |
|------------|
| |
| |
| |
| |

40. You have named the following activities (READ ACTIVITIES MENTIONED IN Q39.)

A. Which of these activities occupies most space in this building?

ACTIVITY: _____

| | | | |
|----|----|----|----|
| 19 | 20 | 21 | 22 |
|----|----|----|----|

B. About what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is used for (ACTIVITY MENTIONED IN "A")?

_____ %

| | | |
|----|----|----|
| 23 | 24 | 25 |
|----|----|----|

C. Which activity occupies the next most space in this building?

ACTIVITY: _____

| | | | |
|----|----|----|----|
| 26 | 27 | 28 | 29 |
|----|----|----|----|

D. About what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is used for (ACTIVITY MENTIONED IN "C")?

_____ %

| | | |
|----|----|----|
| 30 | 31 | 32 |
|----|----|----|

41. My next few questions are about the establishments in this building. Approximately, how many people work in (all of the establishments that occupy/the establishment that occupies) this building? (IF NUMBER VARIES THROUGHOUT THE YEAR, ASK FOR WHAT OCCURS MOST OF THE YEAR.)

| | | | |
|----|----|----|----|
| 33 | 34 | 35 | 36 |
|----|----|----|----|

Number or range

Don't know or won't estimate.... 99998 (Q42)

| | | | | |
|----|----|----|----|----|
| 37 | 38 | 39 | 40 | 41 |
|----|----|----|----|----|

42. Here is a card which shows categories. Which category in your estimation best applies to the number of people who work in the building?

| |
|-------------------|
| HAND CARD 3 |
|-------------------|

- Less than 10..... 01
- 10-19..... 02
- 20-49..... 03
- 50-99..... 04
- 100-249..... 05
- 250-499..... 06
- 500-999..... 07
- 1,000-2,499..... 08
- 2,500-4,999..... 09
- 5,000 or more..... 10
- Don't know..... 98

42-43

Building Questionnaire (Continued)



43. I would now like to ask you about the hours the building is "in operation". By "in operation" we mean the total hours people normally work in the building. For this building, what are the total number of hours each day that (the establishment is/most of the establishments are) "in operation"? Lets start with:
(READ EACH DAY)

SCHEDULE

| DAY | HOURS FOR MOST ESTABLISHMENT(S) | | | |
|-----------|---------------------------------|------------------|-------------------|--|
| | In oper- ation | 24 Hrs. (✓) | Not open (✓) | |
| MONDAY | | | | <input type="text"/> <input type="text"/> 44 45 |
| TUESDAY | | | | <input type="text"/> <input type="text"/> 46 47 |
| WEDNESDAY | | | | <input type="text"/> <input type="text"/> 48 49 |
| THURSDAY | | | | <input type="text"/> <input type="text"/> 50 51 |
| FRIDAY | | | | <input type="text"/> <input type="text"/> 52 53 |
| SATURDAY | | | | <input type="text"/> <input type="text"/> 54 55 |
| SUNDAY | | | | <input type="text"/> <input type="text"/> 56 57 |

44. Are the hours you just mentioned the same throughout the year?

Yes..... 1 (Q46a)
 No..... 2 (Q45)
 Don't know..... 8 (Q46a)

58

59 60

61-80 blank



Building Questionnaire (Continued)

45. During what months are the hours of operation changed, and what are the hours at those times?

Months _____

Months _____

| DAY | HOURS FOR MOST ESTABLISHMENT(S) | | | DAY | HOURS FOR MOST ESTABLISHMENT(S) | | |
|-----------|---------------------------------|----------------|-----------------|-----------|---------------------------------|----------------|-----------------|
| | In oper- ation | 24 Hrs. (✓) | Not open (✓) | | In oper- ation | 24 Hrs. (✓) | Not open (✓) |
| MONDAY | | | | MONDAY | | | |
| TUESDAY | | | | TUESDAY | | | |
| WEDNESDAY | | | | WEDNESDAY | | | |
| THURSDAY | | | | THURSDAY | | | |
| FRIDAY | | | | FRIDAY | | | |
| SATURDAY | | | | SATURDAY | | | |
| SUNDAY | | | | SUNDAY | | | |

46a. My next few questions are about the heating and cooling system or systems that serve the building. Approximately, what percentage of the (MENTION SQUARE FEET FROM Q30 OR Q31) square feet in this building is heated?

_____ % heated

IF ZERO PERCENT IS HEATED,
SKIP TO Q53; OTHERWISE CONTINUE.

Building Questionnaire (Continued)



Begin card 05

(46a)
17 18 19

46b. The process of heating a building may be thought of in two parts: one, the system used to convert energy into heat, and two, the system that is used to distribute the heat throughout the building. First of all, just think of the system, or systems, that convert energy into heat; then look at this card, and pick the ONE choice that most nearly describes the energy conversion system for this building.

HAND
CARD
4

- a. Self-contained unit(s) that may be installed either in the building or on the roof. These units both generate and deliver the heat to the area each unit serves..... 1
- b. A central system [furnace or boiler(s)] which is located within the building. This system generates the heat, but depends on an additional system for distribution of the heat..... 2
20 21
- c. A central system located outside of the building. This system converts energy to a heated substance (water or steam) which is then delivered to the building. The heated substance (water or steam) is then distributed through another system to specific areas within the building..... 3
- d. Something else or a combination of the above. (PLEASE SPECIFY)
..... 4

46c. Here is a second card. This card shows various heat distribution systems. Which distribution system on this card most nearly describes the heat distribution system in use in this building?

HAND
CARD
5

- I. Forced hot air (with fans) using:
 - a. Air handling unit(s) with self-contained fan(s) which distribute heat to only part of the building.....01
 - b. Single central air handling unit separate from the energy conversion system, which distributes air throughout the building through ducts.... 02
22 23
- II. Radiant or naturally circulated air using:
 - c. Electric baseboards..... 11
 - d. Baseboard heating using hot water..... 12
 - e. Baseboard heating using steam..... 13
 - f. Radiators or convectors..... 14
 - g. Heating panels in the walls or floor..... 15
 - h. Something else (PLEASE SPECIFY)
..... 16



Building Questionnaire (Continued)

IF BUILDING: (CIRCLE CODE AND FOLLOW INSTRUCTION)

- HAS ANY RESIDENTIAL UNITS..... 1 (Q47)
- IS TOTALLY NON-RESIDENTIAL..... 2 (Q50)

47. Do the residential occupants have control over the heating system; that is, are they able to turn the heat on or off or to set the temperature in their area?

Yes.....1 (Q50) 25
 NO.....2 (Q48a)

48a. During normal daytime hours, what interior temperature will you try to maintain in the residential part of this building when the heating system is operating this (coming) winter?

_____ °F
 (Interior Temperature) 26 27 28
 Don't know.....998

48b. As far as you know, what interior temperature was maintained in the residential part of the building last winter?

_____ °F
 (Interior Temperature) 29 30 31
 Don't know.....998

49. As part of the building's standard operating procedure for the residential portion of this building, is there a manual or an automatic reduction in the heat produced by the heating system at night?

Yes.....1 32
 NO.....2

50. Do employees of (the establishment/the establishments) in the building have control over the heating system; that is, are they able to turn the heat on or off or to set the temperature in their area?

Yes.....1 (Q52) 33
 NO.....2 (Q51a)

51a. During normal working hours for this building, what interior temperature will you try to maintain when the heating system is operating this (coming) winter?

_____ °F
 (Interior Temperature) 34 35 36
 Don't know.....998

51b. As far as you know, what interior temperature was maintained last winter?

_____ °F
 (Interior Temperature) 37 38 39
 Don't know.....998

Building Questionnaire (Continued)



52. As part of the building's standard operating procedure, is there a manual or an automatic reduction in the heat produced by the heating system during the hours when the building is not in full use?

Yes.....1 *
 No.....2

53. Now thinking of the cooling system or systems that serve the building. Approximately, what percentage of the (MENTION SQUARE FEET FROM Q30 or 31) square feet in this building is air conditioned for cooling purposes?

% Air Conditioned

| | | |
|----|----|----|
| | | |
| 41 | 42 | 43 |

IF "ZERO" PERCENT IS AIR CONDITIONED SKIP TO Q61, OTHERWISE CONTINUE.

54. What kind of cooling system or systems supply the air conditioning for this building? Please look at this card and pick the ONE choice that most nearly describes the air conditioning system here.

HAND
 CARD
 6

a. Window units only.....1 (Q61)

b. One or more packaged units (i.e. built and assembled at a factory and installed as a unit at the building) which cool all, or portions, of this building.....2 (BOX 7)

| | |
|----|----|
| | |
| 44 | 45 |

c. A single central system which serves all areas of the building that are air-conditioned and which was specially constructed for this building.....3 (BOX 7)

d. Something else or any combination of the above (SPECIFY)

..... 4 (BOX 7)

BOX 7

IF BUILDING: (CIRCLE CODE AND FOLLOW INSTRUCTION)

- HAS ANY RESIDENTIAL UNITS.....1 (Q55)
- IS TOTALLY NON-RESIDENTIAL2 (Q58)

55. Do the residential occupants have control over the central or packaged unit air conditioning system; that is, are they able to turn the air conditioning on or off or to set the temperature in their area?

Yes.....1 (Q58) *
 No.....2 (Q56a) *



Building Questionnaire (Continued)

56a During normal daytime hours, what interior temperature did you try to maintain in the residential part of this building this past summer?

(Interior Temperature) °F
Don't know.....998

| | | |
|----|----|----|
| 47 | 48 | 49 |
|----|----|----|

56b As far as you know, what interior temperature did you try to maintain in the residential part of the building the summer before; that is, the summer of 1978?

(Interior Temperature) °F
Don't know.....998

| | | |
|----|----|----|
| 50 | 51 | 52 |
|----|----|----|

57. As part of the building's standard operating procedure for the residential portion of this building, is there a manual or an automatic reduction in the cooling produced by the air conditioning system at night?

Yes.....1 53
NO.....2

58. Do employees of (the establishment/the establishments) in the building have control over the central or package unit air conditioning system; that is, are they able to turn the air conditioning on or off or to set the temperature in their area?

Yes.....1 (Q60) 54
NO.....2 (Q59a)

59a During normal working hours for this building, what interior temperature did you try to maintain this past summer?

(Interior Temperature) °F
Don't know.....998

| | | |
|----|----|----|
| 55 | 56 | 57 |
|----|----|----|

59b As far as you know, what interior temperature did you try to maintain the summer before; that is, the summer of 1978?

(Interior Temperature) °F
Don't know.....998

| | | |
|----|----|----|
| 58 | 59 | 60 |
|----|----|----|

60. As part of the building's standard operating procedure, is there a manual or an automatic reduction in the cooling produced by the air conditioning system during the hours when the building is not in full use?

Yes.....1 61
NO.....2

61. Has any of the space in the building which is normally in use been vacant or unoccupied for at least 3 months in the past 12 months?

Yes.....1 (Q62) 62
NO.....2 (Q64)

62. Approximately, what percentage of the (MENTION SQUARE FEET FROM Q30 and Q31) square feet in the building would you estimate has been vacant or unoccupied for at least 3 months during the past 12 months?

% Unoccupied
Don't know.....998

| | | |
|----|----|----|
| 63 | 64 | 65 |
|----|----|----|

Building Questionnaire (Continued)



63. During that time, was there a reduction in the amount of heat and/or cooling supplied to the vacant or unoccupied area?

Yes.....1 66
No.....2

64. The next few questions concern the actual equipment that supplies heating (and air conditioning) to the building. Is there a regular maintenance program for the heating (and air conditioning) system; that is, is the equipment checked at least once a year even if there are no apparent problems?

Yes.....1
No.....2
Don't know.....8 67

65. Are there any features that are part of the building's heating or cooling system which are specifically designed to help conserve energy?

Yes.....1 (Q66)
No.....2 (Q67) 68
Don't know.....8 (Q67)

66. Could you describe those features?

| COLUMN A | COLUMN B | COLUMN C |
|--------------------------|--------------------------------------|--|
| SPECIFY FEATURE(S) BELOW | READ: In what year was it installed? | IF "1977" READ: what month in 1977 was it installed? |
| | | |
| | | |
| | | |

| | | |
|--|--|--|
| | | |
|--|--|--|

69 70 71

67. Are there any features that are part of the building's lighting system which are specifically designed to help conserve energy?

Yes.....1 (Q68) 72
No.....2 (Q69)
Don't know.....3 (Q69)

68. Could you describe those features?

| COLUMN A | COLUMN B | COLUMN C |
|--------------------------|--------------------------------------|--|
| SPECIFY FEATURE(S) BELOW | READ: In what year was it installed? | IF "1977" READ: What month in 1977 was it installed? |
| | | |
| | | |
| | | |

| | | |
|--|--|--|
| | | |
|--|--|--|

73 74 75

76-80 blank



Building Questionnaire (Continued)

69. Here is a card which lists various types of fuels or energy sources. Which of these fuels or energy sources are brought into this building?

HAND CARD
7

RECORD ENERGY SOURCES IN COLUMN HEADINGS ON TOP OF FACING PAGE. IF ADDITIONAL COLUMNS ARE NEEDED TO RECORD ENERGY SOURCES, USE CONTINUATION BOOKLET.

IF FUEL OIL MENTIONED, ASK Q69a; OTHERWISE SKIP TO Q70.

69a. In how many tanks is the fuel oil stored? _____ (Q69b)
Don't know.....98(Q70)

ASK QUESTIONS 69b-69c IN SEQUENCE FOR EACH TANK. IF MORE THAN 4 TANKS, USE CONTINUATION BOOKLET.

| | 69b. How many gallons of fuel oil does (the/each) tank hold? | 69c. At the present time, approximately how many gallons of fuel oil are in (the/each) tank? | 69d. Would you estimate the tank is: (READ CATEGORIES) |
|---------|--|---|--|
| Tank #1 | _____ gal. Don't know..999998 | _____ gal. (Tank 2 or Q70) Don't know...999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2 | Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8 |
| Tank #2 | _____ gal. Don't know..999998 | _____ gal. (Tank 3 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2 | Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8 |
| Tank #3 | _____ gal. Don't know..999998 | _____ gal. (Tank 4 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2 | Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8 |
| Tank #4 | _____ gal. Don't know..999998 | _____ gal. (Tank 5 or Q70) Don't know..999998 (Q69d) FROM YOUR OBSERVATION Actual..... 1 Estimated.. 2 | Completely full..... 1 3/4 full..... 2 1/2 full..... 3 1/4 full..... 4 Empty..... 5 Don't know..... 8 |

Building Questionnaire (Continued)



ENERGY SOURCES

Type of Energy | Type of Energy | Type of Energy | Type of Energy



Building Questionnaire (Continued)

70. Which fuels or energy sources are used to supply the building's need for: (RECORD RESPONSES BY CHECKING APPROPRIATE COLUMN(S) ON FACING PAGE.)

NOT PERFORMED
IN BUILDING

- a. Heating.....
- b. Air conditioning for cooling purposes.....
- c. Water heating other than for heating the building.....
- d. Electricity generation.....
- e. Manufacturing or any other type of industrial activity...
- f. Cooking.....

70a. Have you converted from fuel oil to some other energy source since January 1, 1979 for: (READ CATEGORIES)

- | | YES | NO |
|--|-----|----|
| a. Heating..... | 1 | 2 |
| b. Air conditioning for cooling purposes..... | 1 | 2 |
| c. Water heating other than for heating the building..... | 1 | 2 |
| d. Electricity generation..... | 1 | 2 |
| e. Manufacturing or any other type of industrial activity. | 1 | 2 |
| f. Cooking..... | 1 | 2 |

71. Are there any boilers in the building?

- Yes.....1 (Q72)
- No.....2 (Q74)
- Don't know.....8 (Q74)

72. How many boilers are there?

- (NUMBER OF BOILERS)
- Don't know.....8

73. Which fuels or energy sources are used to fire the boiler(s)?

Building Questionnaire (Continued)



ENERGY SOURCES

Type of Energy

Type of Energy

Type of Energy

Type of Energy

70.

...

...

...

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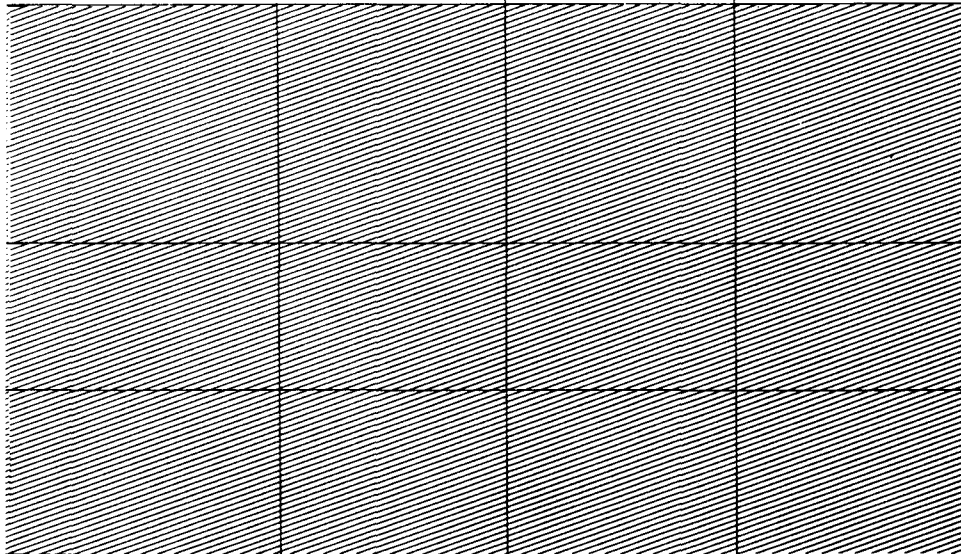
...

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73.

...

...

...

...



Building Questionnaire (Continued)

ASK Q74-84 CONSECUTIVELY FOR EACH ENERGY SOURCE.

The following questions deal with specific companies that supply fuel to this building. The Department of Energy would like specific information on energy consumption that can only be collected by going directly to energy companies and suppliers. For this reason, I would like to find out who supplies the building's fuels or other types of energy.

74. In the past year, who has supplied the building's (MENTION ENERGY SOURCE)? IF MORE THAN ONE SUPPLIER IS MENTIONED, RECORD ADDITIONAL SUPPLIERS IN CONTINUATION BOOKLET.

Name.....

Address.....

Zip Code.....

FOR ELECTRICITY AND NATURAL GAS ENERGY SOURCES, SKIP TO BOX 8. FOR OTHER SOURCES CONTINUE.

75. Has the same supplier been used for the past year?

Yes.....

No.....

DK.....

76. How many suppliers have been used in the past year?

77. What (is/are) the name(s) and address(es) of the other company(ies) that supplied (MENTION ENERGY SOURCE) in the past year? RECORD INFORMATION IN CONTINUATION BOOKLET.

BOX 8
IF MULTI-TENANT BUILDING, CONTINUE WITH Q78; OTHERWISE SKIP TO Q81.

78. How is the (MENTION ENERGY SOURCE) from (NAME OF SUPPLIER FROM Q74) billed; that is, are any of the tenants billed separately by the (NAME OF SUPPLIER) or is there just one bill for the entire building?

One bill.....

More than one bill.....

Building Questionnaire (Continued)



ENERGY SOURCES

| Type of Energy | Type of Energy | Type of Energy | Type of Energy |
|-----------------|-----------------|-----------------|-----------------|
| 74. | | | |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| 75. | | | |
| 1 (BOX 8) | 1 (BOX 8) | 1 (BOX 8) | 1 (BOX 8) |
| 2 (Q76) | 2 (Q76) | 2 (Q76) | 2 (Q76) |
| 8 (BOX 8) | 8 (BOX 8) | 8 (BOX 8) | 8 (BOX 8) |
| 76. | | | |
| # of suppliers | # of suppliers | # of suppliers | # of suppliers |
| | | | |
| 78. | | | |
| 1 (Q81) | 1 (Q81) | 1 (Q81) | 1 (Q81) |
| 2 (Q79) | 2 (Q79) | 2 (Q79) | 2 (Q79) |



Building Questionnaire (Continued)

79. How many separate bills are there?

80. We would like to contact each tenant who receives a bill from (NAME OF SUPPLIER) to obtain information about their energy consumption. Could you tell me the name of each tenant who is billed separately?

IF LIST IS NOT PROVIDED, RECORD NAME AND ADDRESS OF EACH TENANT WHO RECEIVES A SEPARATE BILL ON PAGES 28-31.

81. What is the name and address of the person or company who receives the bill for this building's use of (MENTION ENERGY SOURCE) from the (NAME OF SUPPLIER)?

Name:.....

Address:.....

Zip Code:.....

82. Does the bill you receive from (NAME OF SUPPLIER) cover just the square footage in this building or does it cover more than this building?

Just this building.....

More than building.....

Don't know.....

83. What is the name and address of the other building or facility that the bill covers?

Name:.....

Address:.....

Zip Code:.....

IF BILLING ARRANGEMENT INCLUDES OTHER BUILDING, OBTAIN AS MUCH INFORMATION AS POSSIBLE. RECORD THIS INFORMATION ON THE PAGES 28-31 AND CONTACT SUPERVISOR

84. Could you tell me how many meters you have for the (ENERGY SOURCE) coming into the building?

RETURN TO QUESTION 74 FOR OTHER ENERGY SOURCES; IF NO OTHER ENERGY SOURCES, CONTINUE.

Building Questionnaire (Continued)



ENERGY SOURCES

| Type of Energy | Type of Energy | Type of Energy | Type of Energy |
|-----------------|----------------|----------------|----------------|
| 79. # of bills | # of bills | # of bills | # of bills |
| [Hatched area] | | | |
| 81. | | | |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| 82. | | | |
| 1 (Q84) | 1 (Q84) | 1 (Q84) | 1 (Q84) |
| 2 (Q83) | 2 (Q83) | 2 (Q83) | 2 (Q83) |
| 8 (Q84) | 8 (Q84) | 8 (Q84) | 8 (Q84) |
| 83. | | | |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| 84. # of meters | # of meters | # of meters | # of meters |

IF NEEDED, GO TO CONTINUATION BOOKLET



Building Questionnaire (Continued)

The President has issued a set of new Federal regulations which are designed to reduce the temperature in buildings. I have a few questions to find out if information about this program has been received by buildings across the country.

85. Informational booklets which look like this and contain information about the President's program are being sent to building managers nationwide. Have you, or has anyone else in this building received such a packet?

SHOW
INFORMA-
TIONAL
BOOKLET

Yes..... 1 (Q86)
No..... 2 (BOX 9)
Don't know..... 8 (BOX 9)

86. The informational booklet contains a certificate which is to be displayed in the building. Has a certificate, which looks like this, been posted in this building?

SHOW
CERTIFI-
CATE

Yes..... 1 (Q87)
No..... 2 (BOX 9)
Don't know..... 8 (BOX 9)

87. Which of these three boxes on this certificate has been checked?

POINT
OUT
BOXES ON
CERTIFI-
CATE

READ CATEGORIES

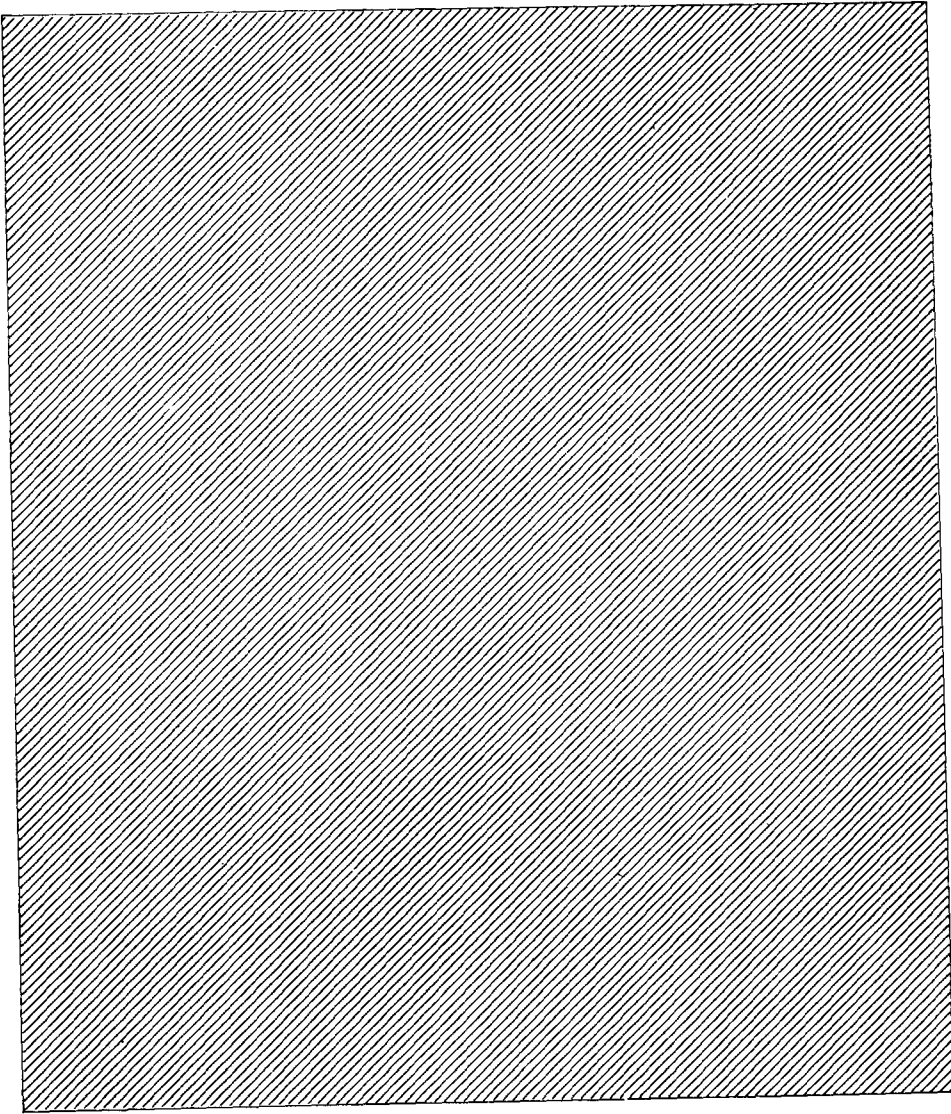
Full compliance..... 1 (BOX 9)
Exempted compliance..... 2 (BOX 9)
Excepted from compliance..... 3 (BOX 9)
Don't know..... 8 (BOX 9)

IF ASKED ABOUT COMPLIANCE WITH THE TEMPERATURE SETBACK PROGRAM, READ CONFIDENTIALITY STATEMENT ON COVER PLUS STATEMENT BELOW:

The purpose of this survey is to collect information which is necessary to evaluate the effectiveness of energy conservation programs. Information on participation in any of these programs by individuals will not be released to anyone for any purpose.

TIME ENDED

Building Questionnaire (Continued)





Building Questionnaire (Continued)

BOX 9

WAIVER INSTRUCTIONS FOR EACH SUPPLIER --

- One bill for entire building, obtain one waiver.
Obtained.....
Not obtained.....

- Three bills or less, obtain waiver for each.
Obtained.....
Not obtained.....

- Four bills or more, obtain waiver from building owner/manager only.
Obtained.....
Not obtained.....

Building Questionnaire (Continued)



ENERGY SOURCES

| Type of Energy | Type of Energy | Type of Energy | Type of Energy |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| RECORD BELOW WAIVER RESULTS | | | |
| 01 _____ (Reason) | 01 _____ (Reason) | 01 _____ (Reason) | 01 _____ (Reason) |
| 11 _____ (Explain) | 11 _____ (Explain) | 11 _____ (Explain) | 11 _____ (Explain) |
| 21 _____ (Reason) | 21 _____ (Reason) | 21 _____ (Reason) | 21 _____ (Reason) |
| 11 _____ (# not obtained) | 11 _____ (# not obtained) | 11 _____ (# not obtained) | 11 _____ (# not obtained) |



Building Questionnaire (Continued)

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

| Q. 80 LIST OF TENANTS RECEIVING SEPARATE BILLS | WAIVERS OBTAINED | | | ADDITIONAL INFORMATION TO EXPLAIN BILLING |
|--|------------------|----|------------------|---|
| | YES | NO | NOT NECESSARY | |
| 1) Name _____ Address _____ | | | | |
| 2) Name _____ Address _____ | | | | |
| 3) Name _____ Address _____ | | | | |
| 4) Name _____ Address _____ | | | | |
| 5) Name _____ Address _____ | | | | |
| 6) Name _____ Address _____ | | | | |
| 7) Name _____ Address _____ | | | | |
| 8) Name _____ Address _____ | | | | |

Use additional pages as needed to list separately billed tenants.

Building Questionnaire (Continued)



ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

| Q. 80 LIST OF TENANTS RECEIVING SEPARATE BILLS | WAIVERS OBTAINED | | | ADDITIONAL INFORMATION TO EXPLAIN BILLING |
|--|------------------|----|------------------|---|
| | YES | NO | NOT NECESSARY | |
| 1) Name _____ Address _____ | | | | _____ |
| 2) Name _____ Address _____ | | | | _____ |
| 3) Name _____ Address _____ | | | | _____ |
| 4) Name _____ Address _____ | | | | _____ |
| 5) Name _____ Address _____ | | | | _____ |
| 6) Name _____ Address _____ | | | | _____ |
| 7) Name _____ Address _____ | | | | _____ |
| 8) Name _____ Address _____ | | | | _____ |

Use additional pages as needed to list separately billed tenants.



Building Questionnaire (Continued)

Begin card 08

INTERVIEWER OBSERVATIONS

IF LISTING DISAGREES WITH INTERVIEW DEFINITION OF BUILDING (I.E., IF BOX 2 IS CHECKED "INCORRECT" ON PAGE 1 OF QUESTIONNAIRE), COMPLETE QUESTION 1; OTHERWISE, SKIP TO QUESTION 2.

1. A. Please indicate the name and address(es) of the building from the listing sheet.

Name _____

Address _____

- B. Please indicate the name and address of the building as defined for the interview.

Name _____

Address _____

- C. Please explain the circumstances of the disagreement between listing and interview definition of the building.

2. Did you contact any other respondent than the person recorded on the front cover of the questionnaire?

YES..... 1 (Q3) 17

NO..... 2 (Q4)

3. Please list all respondents.

Name: _____

Title: _____

Location: _____ Phone No. () _____

| | |
|----|----|
| | |
| 18 | 19 |

Name: _____

Title: _____

Location: _____ Phone No. () _____

| | |
|----|----|
| | |
| 20 | 21 |

4. What is your observation of the type of building or kind of business that occurs within the building? Please be thorough in your description.

Building Questionnaire (Continued)



5. Is this building free standing or attached to another building?
- | | | |
|--------------------|---|----|
| Free standing..... | 1 | 22 |
| Attached..... | 2 | |

6. Please describe any unusual circumstances you may have encountered in obtaining the waiver.
-
-
-
-

7. IF SHOPPING CENTER/MALL:
- A. Is this a strip shopping center or enclosed mall?
- | | | |
|----------------------------|---|----|
| Strip shopping center..... | 1 | 25 |
| Enclosed mall..... | 2 | |
- B. Approximately how many establishments are in this shopping center/mall?
- | | | |
|-------------------|---|----|
| Less than 10..... | 1 | |
| 10-24..... | 2 | |
| 25-49..... | 3 | 26 |
| 50-74..... | 4 | |
| 75-100..... | 5 | |
| Over 100..... | 6 | |



Building Questionnaire (Continued)

NON-INTERVIEW REPORT

1. Please explain in detail the reason you were unable to complete the interview.

2. What is your observation of the type of building or kind of business that occurs within the building?

| | | | |
|----|----|----|----|
| | | | |
| 27 | 28 | 29 | 30 |

3. Approximately how many square feet would you estimate to be in this building?

- 1,000 or less..... 01
- 1001 to 5,000..... 02
- 5,001 to 10,000..... 03 31-32
- 10,001 to 25,000..... 04
- 25,001 to 50,000..... 05
- 50,001 to 100,000..... 06
- 100,001 to 200,000..... 07
- 200,001 to 500,000..... 08
- 500,001 to 1 million..... 09
- Over 1 million..... 10
- Don't know..... 98

| Date | # Contacts Int. | # Contacts Waiver | Time | Disp. | Batch# |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| 33 34 35 36 | 37 38 39 | 40 41 42 | 43 44 45 | 46 47 | 48 49 50 51 |

52-80 blank

Appendix E

Utility Forms





Utility Forms

This appendix contains samples of the survey forms used to obtain consumption and expenditures data from the buildings' energy suppliers. The actual forms used were color-coded by fuel type. The color is indicated by a letter in the form number, i.e., "Y" stands for yellow (electricity), "B" for blue (natural gas), "P" for pink (fuel oil), and "G" for green (all other fuels). The electricity and natural gas forms are included here.

Form 1 is for an individual building with a single occupant. Form 2 is for an individual building with multiple occupants where a single waiver was obtained for the entire building. Form 3 covers individual buildings with multiple occupants where a waiver was obtained for each occupant. Form 4 covers individual buildings with multiple occupants where waivers were obtained for some, but not all occupants. Form 5 is for a group of buildings in the supplier's service area for which no waivers were obtained.



Utility Forms

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 01 Y



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

Consumption data is to be provided for the building described above.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

Y

ELECTRICITY USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Indicate in the box below the code name of the rate structure applicable to this customer.

CODE NAME OF RATE SCHEDULE:

| Time Period | Consumption Period | | Billing A - Actual E - Estimated (Circle One) | Number of Kw hr. used | KW Demand | TOTAL DOLLAR AMOUNT* |
|-------------|--------------------|-------------|--|--------------------------|--------------|----------------------------|
| | Beginning Date | Ending Date | | | | |
| 1 | | | A E | | | |
| 2 | | | A E | | | |
| 3 | | | A E | | | |
| 4 | | | A E | | | |
| 5 | | | A E | | | |
| 6 | | | A E | | | |
| 7 | | | A E | | | |
| 8 | | | A E | | | |
| 9 | | | A E | | | |
| 10 | | | A E | | | |
| 11 | | | A E | | | |
| 12 | | | A E | | | |
| 13 | | | A E | | | |
| 14 | | | A E | | | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF THIS CUSTOMER IS ON A BUDGETED BILL, DO NOT PROVIDE THE BUDGETED BILL, PROVIDE INSTEAD THE DOLLAR AMOUNT THAT IS THE COST OF THE ACTUAL CONSUMPTION IN THE PERIOD.

According to your records, how many customers do you supply in this building?

Form completed by: _____ (Name) _____ (Telephone) _____ (Date)

Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
 Authorization Form For
 Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | |
|---------------------------------|--|
| BUILDING NAME | |
| ADDRESS | |
| CITY | STATE ZIP CODE |
| SIGNATURE OF PERSON AUTHORIZING | |
| EMPLOYED BY | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: |
| TITLE | ADDRESS |
| () | CITY STATE ZIP CODE |
| TELEPHONE # | |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|---|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|---|



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 02 Y



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Neber Street • Rockville, Maryland 20852 • 301 881-5310

A list of the customers in this building is stapled inside this folder along with a copy of an authorization form from an agent of, or the building owner/manager.

Please aggregate the consumption data for these customers.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 94-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

Y

AGGREGATE ELECTRICITY USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to Jan. 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | CONSUMPTION DATA | | TOTAL DOLLAR AMOUNT* | |
|-------------|--|-------------|--|------------------------|----------------------|--|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | AGGREGATE KW HOUR USED | | KW HOUR AGGREGATE A - All Actual E - Some or All Estimated (Circle One) |
| | Beginning Date | Ending Date | | | | |
| 1 | | | | | A E | |
| 2 | | | | | A E | |
| 3 | | | | | A E | |
| 4 | | | | | A E | |
| 5 | | | | | A E | |
| 6 | | | | | A E | |
| 7 | | | | | A E | |
| 8 | | | | | A E | |
| 9 | | | | | A E | |
| 10 | | | | | A E | |
| 11 | | | | | A E | |
| 12 | | | | | A E | |
| 13 | | | | | A E | |
| 14 | | | | | A E | |

*TOTAL DOLLAR AMOUNT should include: *TOTAL DOLLAR AMOUNT should exclude:

- | | |
|--|--|
| <ul style="list-style-type: none"> • State and Local taxes, • Fuel adjustment charges, • System charges, and • Demand charges. | <ul style="list-style-type: none"> • Merchandise, • Repair charges, • Service charges, and • Any other charges not specifically requested. |
|--|--|

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|-------|--|
| _____ | | |
| BUILDING NAME | | |
| _____ | | |
| ADDRESS | | |
| _____ | | |
| CITY | STATE | ZIP CODE |
| _____ | | |
| SIGNATURE OF PERSON AUTHORIZING | | |
| _____ | | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: |
| EMPLOYED BY | | _____ |
| _____ | | _____ |
| TITLE | | ADDRESS |
| () | | _____ |
| TELEPHONE # | | CITY STATE ZIP CODE |
| _____ | | _____ |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|--|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|--|



Utility Forms (Continued)



EIA NO.: 143
OMB NO.: 038-S78042
FORM: 03 Y

U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11800 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

A list of the customers in this building is stapled inside this folder along with copies of the authorization forms signed by each of these customers.

Since a waiver from each customer is included, you may provide the data for this building in either aggregate or individual form, whichever method is best suited to your needs.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 13B of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended),
Emergency Petroleum Allocation Act (PL 93-159),
and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

Y

AGGREGATE ELECTRICITY USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to Jan. 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | AGGREGATE KW HOUR USED | CONSUMPTION DATA | | TOTAL DOLLAR AMOUNT* |
|-------------|--|-------------|--|------------------------|--|---|----------------------|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | | | KW HOUR AGGREGATE A - All Actual E - Some or All Estimated (Circle One) | | |
| | Beginning Date | Ending Date | | | | | |
| 1 | | | | | A | E | |
| 2 | | | | | A | E | |
| 3 | | | | | A | E | |
| 4 | | | | | A | E | |
| 5 | | | | | A | E | |
| 6 | | | | | A | E | |
| 7 | | | | | A | E | |
| 8 | | | | | A | E | |
| 9 | | | | | A | E | |
| 10 | | | | | A | E | |
| 11 | | | | | A | E | |
| 12 | | | | | A | E | |
| 13 | | | | | A | E | |
| 14 | | | | | A | E | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|--|----------------|
| BUILDING NAME | | |
| ADDRESS | | |
| CITY | STATE | ZIP CODE |
| SIGNATURE OF PERSON AUTHORIZING | | |
| EMPLOYED BY | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: | |
| TITLE | ADDRESS | |
| () | CITY | STATE ZIP CODE |
| TELEPHONE # | | |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 04 Y



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

Each of your customers in this building is identified on the "Customer Listing Form" which, along with the waiver(s), is stapled inside this folder.

If you feel the confidentiality of the customer(s) who did not sign the waiver(s) can be maintained by supplying us aggregate data for all customers, please do so. If, however, this is not the case, just supply us data for the customer(s) who did sign the waiver.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 13B of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

Y

AGGREGATE ELECTRICITY USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to Jan. 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | CONSUMPTION DATA | | TOTAL DOLLAR AMOUNT* | |
|-------------|--|-------------|--|------------------------|----------------------|--|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | AGGREGATE KW HOUR USED | | KW HOUR AGGREGATE A - All Actual E - Some or All Estimated (Circle One) |
| | Beginning Date | Ending Date | | | | |
| 1 | | | | | A E | |
| 2 | | | | | A E | |
| 3 | | | | | A E | |
| 4 | | | | | A E | |
| 5 | | | | | A E | |
| 6 | | | | | A E | |
| 7 | | | | | A E | |
| 8 | | | | | A E | |
| 9 | | | | | A E | |
| 10 | | | | | A E | |
| 11 | | | | | A E | |
| 12 | | | | | A E | |
| 13 | | | | | A E | |
| 14 | | | | | A E | |

- *TOTAL DOLLAR AMOUNT should include:
- State and Local taxes,
 - Fuel adjustment charges,
 - System charges, and
 - Demand charges.
- *TOTAL DOLLAR AMOUNT should exclude:
- Merchandise,
 - Repair charges,
 - Service charges, and
 - Any other charges not specifically requested.

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|--|----------|
| BUILDING NAME | | |
| ADDRESS | | |
| CITY | STATE | ZIP CODE |
| SIGNATURE OF PERSON AUTHORIZING | | |
| EMPLOYED BY | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: | |
| TITLE | ADDRESS | |
| () | CITY | STATE |
| TELEPHONE # | ZIP CODE | |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042

WORKSHEET INSTRUCTIONS

This worksheet is to be used in calculating energy use for a group of buildings for which authorization forms were not obtained. To maintain confidentiality for these buildings, we are asking only for the amount used and the cost for the entire group as a whole. To do this, we have printed this form on two-part paper. The white copy is to be retained by your organization, the colored copy is to be returned to Westat. Please note that the colored form (which is to be returned to Westat) has the individual consumption columns blanked out.

The number of customers in a building is indicated in the upper right corner of the label. If you supply more than one customer in any one building, please aggregate the consumption data for these customers and report only the totals on the form. If available, a list of the customers will be attached to this form.

The column headed "Total Dollar Amount" should include: state and local taxes, fuel adjustment charges, system charges, and demand charges. Excluded from this column are: merchandise, repair charges, service charges, and any other charges not specifically requested.

Form completed by: _____ (_____) _____
(Name) (Telephone) (Date)

Data may be submitted directly on the reporting form on the other side of this form, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 13B of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 01 B



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

Consumption data is to be provided for the building described above.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

UTILITY GAS USAGE

From December 1, 1978 to January 31, 1980

IMPORTANT: Indicate in the box below, the code name of the rate structure applicable to this customer.

CODE NAME OF RATE SCHEDULE:

| Time Period | CONSUMPTION PERIOD | | BILLING | | QUANTITY USED EXPRESSED IN TERMS OF: | | TOTAL DOLLAR AMOUNT* |
|-------------|--------------------|-------------|---|---|--------------------------------------|---|----------------------|
| | Beginning Date | Ending Date | A - Actual E - Estimated (Circle One) | | <input type="checkbox"/> Therms | <input type="checkbox"/> 100 Cubic Ft <input type="checkbox"/> Cubic Ft <input type="checkbox"/> 1000 Cubic Ft | |
| 1 | | | A | E | | | |
| 2 | | | A | E | | | |
| 3 | | | A | E | | | |
| 4 | | | A | E | | | |
| 5 | | | A | E | | | |
| 6 | | | A | E | | | |
| 7 | | | A | E | | | |
| 8 | | | A | E | | | |
| 9 | | | A | E | | | |
| 10 | | | A | E | | | |
| 11 | | | A | E | | | |
| 12 | | | A | E | | | |
| 13 | | | A | E | | | |
| 14 | | | A | E | | | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF THIS CUSTOMER IS ON A BUDGETED BILL, DO NOT PROVIDE THE BUDGETED BILL, PROVIDE INSTEAD THE DOLLAR AMOUNT THAT IS THE COST OF THE ACTUAL CONSUMPTION IN THE PERIOD.

According to your records, how many customers do you supply in this building?

Form completed by: _____ (Name) _____ (Telephone) _____ (Date)

Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
 Authorization Form For
 Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | |
|--|--|
| _____ BUILDING NAME | |
| _____ ADDRESS | |
| _____ CITY | _____ STATE |
| _____ ZIP CODE | |
| _____ SIGNATURE OF PERSON AUTHORIZING | |
| _____ EMPLOYED BY | _____ ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: |
| _____ TITLE | _____ ADDRESS |
| () TELEPHONE # | _____ CITY |
| | _____ STATE |
| | _____ ZIP CODE |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 02 B



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

A list of the customers in this building is stapled inside this folder along with a copy of an authorization form from an agent of, or the building owner/manager.

Please aggregate the consumption data for these customers.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

B

AGGREGATE UTILITY GAS USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to January 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | | CONSUMPTION DATA | | | | TOTAL DOLLAR AMOUNT* |
|-------------|--|-------------|--|---|--------------------------------------|----------------|---------------------------|----------------------|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | QUANTITY USED EXPRESSED IN: (Check One) | | QUANTITY USED | | |
| | Beginning Date | Ending Date | | <input type="checkbox"/> Therms | <input type="checkbox"/> 100 Cu.Ft. | A - All Actual | E - All or Some Estimated | |
| | | | | <input type="checkbox"/> Cubic Ft. | <input type="checkbox"/> 1000 Cu.Ft. | (Circle One) | | |
| 1 | | | | | | A E | | |
| 2 | | | | | | A E | | |
| 3 | | | | | | A E | | |
| 4 | | | | | | A E | | |
| 5 | | | | | | A E | | |
| 6 | | | | | | A E | | |
| 7 | | | | | | A E | | |
| 8 | | | | | | A E | | |
| 9 | | | | | | A E | | |
| 10 | | | | | | A E | | |
| 11 | | | | | | A E | | |
| 12 | | | | | | A E | | |
| 13 | | | | | | A E | | |
| 14 | | | | | | A E | | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|--|----------------|
| _____ | | |
| BUILDING NAME | | |
| _____ | | |
| ADDRESS | | |
| _____ | _____ | _____ |
| CITY | STATE | ZIP CODE |
| _____ | | _____ |
| SIGNATURE OF PERSON AUTHORIZING | | _____ |
| _____ | _____ | _____ |
| EMPLOYED BY | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: | |
| _____ | _____ | _____ |
| TITLE | ADDRESS | |
| () | _____ | _____ |
| TELEPHONE # | CITY | STATE ZIP CODE |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|---|
| | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
| ENERGY SOURCE | |

| | |
|---------------|---|
| | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
| ENERGY SOURCE | |

| | |
|---------------|---|
| | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
| ENERGY SOURCE | |



Utility Forms (Continued)



EIA NO.: 143
OMB NO.: 03B-S78042
FORM: 03 B

U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

A list of the customers in this building is stapled inside this folder along with copies of the authorization forms signed by each of these customers.

Since a waiver from each customer is included, you may provide the data for this building in either aggregate or individual form, whichever method is best suited to your needs.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended),
Emergency Petroleum Allocation Act (PL 93-159),
and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



Utility Forms (Continued)

B

AGGREGATE UTILITY GAS USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to January 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | | CONSUMPTION DATA | | | | TOTAL DOLLAR AMOUNT* |
|-------------|--|-------------|--|---|--------------------------------------|--|--|----------------------|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | QUANTITY USED EXPRESSED IN: (Check One) | | QUANTITY USED A - All Actual E - All or Some Estimated (Circle One) | | |
| | Beginning Date | Ending Date | | <input type="checkbox"/> Therms | <input type="checkbox"/> 100 Cu.Ft. | | | |
| 1 | | | | <input type="checkbox"/> Cubic Ft. | <input type="checkbox"/> 1000 Cu.Ft. | A E | | |
| 2 | | | | | | A E | | |
| 3 | | | | | | A E | | |
| 4 | | | | | | A E | | |
| 5 | | | | | | A E | | |
| 6 | | | | | | A E | | |
| 7 | | | | | | A E | | |
| 8 | | | | | | A E | | |
| 9 | | | | | | A E | | |
| 10 | | | | | | A E | | |
| 11 | | | | | | A E | | |
| 12 | | | | | | A E | | |
| 13 | | | | | | A E | | |
| 14 | | | | | | A E | | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|-------|--|
| _____ | | |
| BUILDING NAME | | |
| _____ | | |
| ADDRESS | | |
| _____ | | |
| CITY | STATE | ZIP CODE |
| _____ | | |
| SIGNATURE OF PERSON AUTHORIZING | | |
| _____ | | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: |
| EMPLOYED BY | | _____ |
| _____ | | ADDRESS |
| TITLE | | _____ |
| () | | CITY STATE ZIP CODE |
| TELEPHONE # | | _____ |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|

| | |
|---------------|---|
| ENERGY SOURCE | _____ PRINT FULL NAME OF COMPANY _____ ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () _____ ACCOUNT NUMBER |
|---------------|---|



Utility Forms (Continued)

EIA NO.: 143
OMB NO.: 038-S78042
FORM: 04 B



U.S. DEPARTMENT OF ENERGY NON-RESIDENTIAL BUILDING ENERGY CONSUMPTION STUDY

Conducted by:

WESTAT

An Employee-Owned Research Corporation

11600 Nebel Street • Rockville, Maryland 20852 • 301 881-5310

Each of your customers in this building is identified on the "Customer Listing Form" which, along with the waiver(s), is stapled inside this folder.

If you feel the confidentiality of the customer(s) who did not sign the waiver(s) can be maintained by supplying us aggregate data for all customers, please do so. If, however, this is not the case, just supply us data for the customer(s) who did sign the waiver.

Data may be submitted directly on the reporting form inside this folder, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 13B of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended),
Emergency Petroleum Allocation Act (PL 93-159),
and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.



B

AGGREGATE UTILITY GAS USAGE

From December 1, 1978 through January 31, 1980

IMPORTANT: Total number of customers reported on this form?

Number of customers at this address for less than the period of December 1, 1978 to January 31, 1980?

According to your records, how many customers do you serve at this address?

CODE NAME(S) OF RATE SCHEDULE(S) APPLICABLE TO YOUR CUSTOMERS IN THIS BUILDING.

1. _____ 2. _____ 3. _____

| TIME PERIOD | CONSUMPTION PERIOD | | | CONSUMPTION DATA | | | TOTAL DOLLAR AMOUNT* |
|-------------|--|-------------|--|---|--------------------------------------|--|----------------------|
| | IF CUSTOMERS ARE ON THE SAME BILLING CYCLE | | IF CUSTOMERS ARE ON DIFFERENT BILLING CYCLES, RECORD MONTH | QUANTITY USED EXPRESSED IN: (Check One) | | QUANTITY USED A - All Actual E - All or Some Estimated (Circle One) | |
| | Beginning Date | Ending Date | | <input type="checkbox"/> Therms | <input type="checkbox"/> 100 Cu.Ft. | | |
| 1 | | | | <input type="checkbox"/> Cubic Ft. | <input type="checkbox"/> 1000 Cu.Ft. | A E | |
| 2 | | | | | | A E | |
| 3 | | | | | | A E | |
| 4 | | | | | | A E | |
| 5 | | | | | | A E | |
| 6 | | | | | | A E | |
| 7 | | | | | | A E | |
| 8 | | | | | | A E | |
| 9 | | | | | | A E | |
| 10 | | | | | | A E | |
| 11 | | | | | | A E | |
| 12 | | | | | | A E | |
| 13 | | | | | | A E | |
| 14 | | | | | | A E | |

*TOTAL DOLLAR AMOUNT should include:

- State and Local taxes,
- Fuel adjustment charges,
- System charges, and
- Demand charges.

*TOTAL DOLLAR AMOUNT should exclude:

- Merchandise,
- Repair charges,
- Service charges, and
- Any other charges not specifically requested.

IF ANY OF YOUR CUSTOMERS IN THIS BUILDING ARE ON A BUDGETED BILLING CYCLE, 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) _____ (Date)



Utility Forms (Continued)



U.S. DEPARTMENT OF ENERGY SURVEY
Authorization Form For
Non-Residential Building Energy Consumption Survey

I hereby give permission to Westat, Inc. to obtain energy consumption information for confidential use in connection with their survey for the U.S. Department of Energy.

This authorization covers the total amount of fuels and the total price charged for fuels consumed during the 14 month period of December 1, 1978 to January 30, 1980 by the building in the box below.

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.

| | | |
|---------------------------------|--|----------|
| BUILDING NAME | | |
| ADDRESS | | |
| CITY | STATE | ZIP CODE |
| SIGNATURE OF PERSON AUTHORIZING | | |
| EMPLOYED BY | ADDRESS OF PERSON AUTHORIZING IF DIFFERENT FROM ABOVE: | |
| TITLE | ADDRESS | |
| () | CITY | STATE |
| TELEPHONE # | STATE | ZIP CODE |

PLEASE COMPLETE ONE BLOCK BELOW FOR EACH COMPANY THAT SUPPLIES FUEL USED BY YOUR NON-RESIDENTIAL BUILDING SINCE DECEMBER, 1978.

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|

| | |
|---------------|--|
| ENERGY SOURCE | PRINT FULL NAME OF COMPANY ADDRESS (IF KNOWN) - CITY AND STATE - ZIP CODE TELEPHONE: () ACCOUNT NUMBER |
|---------------|--|



EIA NO.: 143
OMB NO.: 038-S78042

WORKSHEET INSTRUCTIONS

This worksheet is to be used in calculating energy use for a group of buildings for which authorization forms were not obtained. To maintain confidentiality for these buildings, we are asking only for the amount used and the cost for the entire group as a whole. To do this, we have printed this form on two-part paper. The white copy is to be retained by your organization, the colored copy is to be returned to Westat. Please note that the colored form (which is to be returned to Westat) has the individual consumption columns blanked out.

The number of customers in a building is indicated in the upper right corner of the label. If you supply more than one customer in any one building, please aggregate the consumption data for these customers and report only the totals on the form. If available, a list of the customers will be attached to this form.

The column headed "Total Dollar Amount" should include: state and local taxes, fuel adjustment charges, system charges, and demand charges. Excluded from this column are: merchandise, repair charges, service charges, and any other charges not specifically requested.

Form completed by: _____ (_____) _____
(Name) (Telephone) (Date)

Data may be submitted directly on the reporting form on the other side of this form, or in any other format, such as a computer print-out, which provides the same information and is convenient for your company.

IF YOU HAVE ANY QUESTIONS, PLEASE CALL
COLLECT TO: DONNA MORRIS (301) 881-5310

Participation is mandatory as authorized by Section 138 of the Federal Energy Administrative Act of 1974 (PL 93-275, as amended), Emergency Petroleum Allocation Act (PL 93-159), and the Energy Emergency Conservation Act (PL 96-202).

Any information we collect which will permit identification of respondents or their buildings will be confidential and used only for statistical purposes. Data that can be identified with individual respondents will not be disclosed or released to anyone (including the Department of Energy) for any other purpose except as required by law.

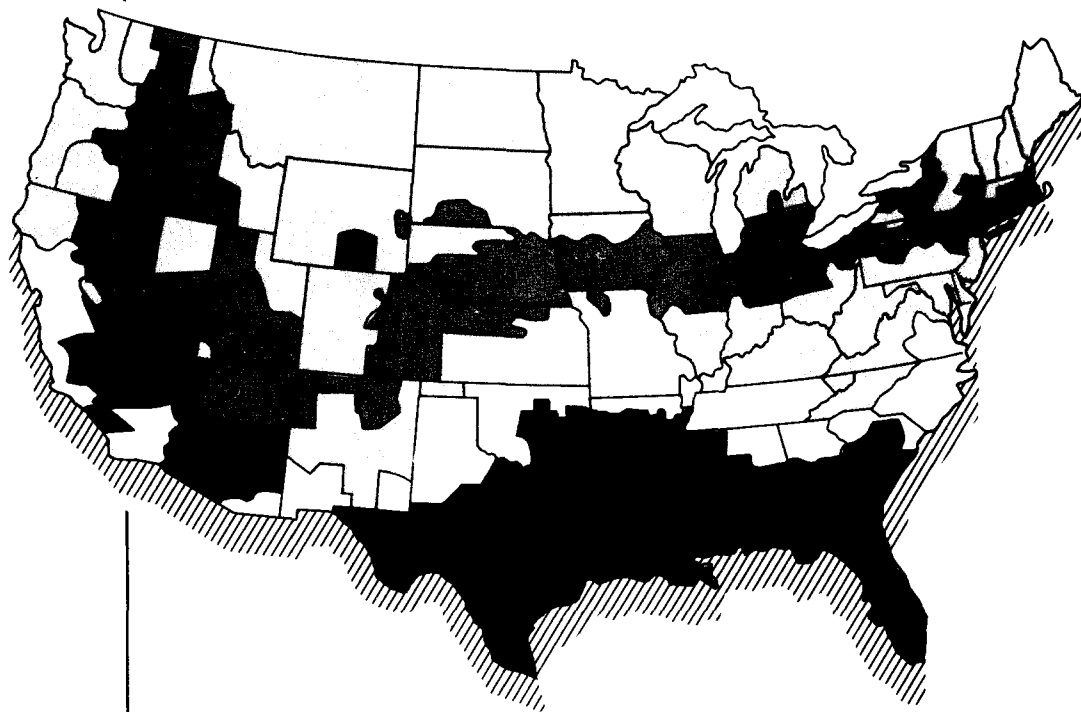
Appendix F

United States Weather Zone Map










United States Weather Zone Map



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 G

Glossary







Glossary

Air Conditioning refers to air cooled by a refrigeration unit. It does not include fans, blowers, or evaporative cooling systems which are not connected to a refrigeration unit. Air conditioning units which are not currently in working condition or are not used, but are in place in the building, are included in this survey.

Btu (British Thermal Units). A Btu is the amount of energy required to raise the temperature of one pound of water, one degree Fahrenheit at or near 39.2 degrees Fahrenheit and one atmosphere of pressure.

Btu conversion factors for this survey are:

| | |
|-------------|-------------------------|
| Electricity | 3,412 Btu/kilowatt-hour |
| Natural Gas | 1,019 Btu/cubic foot |

Building Activity. The primary business, commerce, or function carried out by the occupants of a building. The activity categories were designed to group buildings having similar patterns of energy consumption after controlling for weather and size.

Building Conservation Features refers to the four types of materials or fixtures included in this survey, which may be installed in, or added to, a building for the purposes of reducing the amount of energy consumed through the heating and/or cooling of the building.

Building Type is derived from the predominant activity in which the occupants of a building are engaged. For this report, mixed-use buildings (those buildings where 75 percent or more of the floor space was not devoted to a single activity) have been categorized according to the predominant building activity. Each category is described below.

Assembly refers to large buildings used for the gathering of 50 or more people for purposes such as social, recreational, or religious. Included in this category are the following building types:

Social/Public/Civic Assembly (fixed seating): (meeting hall/lodge hall, convention hall/assembly hall, town hall, auditorium, lecture hall, student union, etc.)

Religious Assembly: (Church, chapel, synagogue, mosque, etc.)

Recreational Facility:

- Gymnasium/YMCA or YWCA/indoor racket sports, recreation center/athletic facility
- Pool room
- Amusement arcade
- Skating rink
- Bowling alley
- Indoor pool
- Other

Entertainment Building:

- Archive/library, museum/art gallery/exhibit hall
- Observatory/planetarium
- Concert hall
- Coliseum/arena (enclosed)



Glossary (Continued)

(Building Type Continued, "Assembly")

- Theater/movie/cinema
- Radio/TV studio or station
- Nightclub
- Other

Other Enclosed Assembly Building:

- Passenger terminal
- Armory
- Other

Nonenclosed or Partial Structure:

- Stadium
- Grandstand
- Other

Automotive Sales and Service Buildings include:

Gas Stations
Automobile Dealers
Motor Vehicle Repair/Service

Education buildings house academic or technical instruction.
This category includes:

Preschool
Elementary
Junior High
Senior High
College or University
Vocational School
Specific Building Types (on school campuses)

- Administration (see Office)
- Auditorium (see Assembly)
- Dormitory (see Lodging)
- Gymnasium (see Assembly)
- Infirmary (see Health Care)
- Library (see Assembly)
- Museum (see Assembly)
- Student union (see Assembly)
- School for mentally retarded (see Health Care)
- Stadium (see Assembly)
- Heating plant/utility (see Industrial)

Food Sales and Service buildings include:

Cafeteria

Full Service Restaurant: (Diner - limited menu, bar and grill - limited menu, coffee shop - limited menu, full menu service, bar, etc.)

Carry-Out Service: (Caterer, pizza parlor, sandwich shop, fast food, etc.)

Retail Food Sales:

- Supermarket
- Specialty food store
- Meat/seafood market
- Retail bakery



Glossary (Continued)

(Building Type Continued, "Food Sales and Service")

- Farmer's market, fruit/vegetable market
- Other

Food-Related Activities/Other Activity Except Office or Residential (Mixed-Use):

- Food Sales or Service/Other Retail Sales
- Food Sales or Service/Other Service Activity
- Food Sales or Services/Storage (except supermarket)
- Other

Health Care buildings house diagnostic and treatment facilities for both in- and out-patient care. In-patient facilities treat the mentally or physically ill. Buildings for overnight care are also included. This type includes:

Medical Care Hospital: (General medical and surgical; chronic disease; medical infirmary (connected with institution); tuberculosis/other respiratory disease; orthopedic; maternity; ear, eye, nose, and throat; etc.)

Mental Facility: (Psychiatric, mental retardation)

Rehabilitation: (Narcotic/drug addiction, physical therapy, alcoholism, etc.)

Veterinary: (Hospital, kennel)

(Out-patient care may be medical, dental or psychiatric. A building housing out-patient veterinary practices also falls into this category.) Buildings of this type include:

- Medical Clinic: (Abortion; ear, eye, nose and throat; general)
- Mental Health Clinic
- Dental Clinic
- Veterinary Clinic

Industrial buildings house manufacturing and the processing or procurement of goods, merchandise, raw materials or food. Buildings of this type include:

Food Processing Plant: (Meat-packing plant, poultry-dressing plant, dairy, cannery, grain mill, bakery, confectionery, beverage, etc.)

Leather/Textile Mill

Light Assembly - Factory: (Leather goods, apparel and other goods made from purchased material, furniture and other wood products, electrical or electronic instruments and other fabricated metal tools, measuring devices and light equipment)

Heavy Assembly - Factory: (Machinery - including farm, construction, mining, metal-working and other heavy equipment; transportation vehicles)



Glossary (Continued)

(Building Type Continued, "Industrial")

Paper, Chemical, Rubber or Petroleum Processing Factory:
(Pulp and paper, rubber/plastic, chemical/pharmaceutical,
petroleum refinery)

Metalworks, Glassworks, Other Similar Manufacturing Plants:
(Foundry, steel works, rolling or finishing mill, buildings
for smelting, refining, drawing, rolling, or extruding of
nonferrous metals, stone, clay, glass and concrete products)

Printing, Publishing

Generation, Transmission, or Distribution of Electricity,
Natural Gas, Steam or Other Utility or Sanitary Services:
(Hydroelectric generation; nuclear generation of
electricity; coal generation of electricity; other
generation, transmission, or distribution of electricity;
natural gas; storage, transmission or distribution; steam
supply; collection or disposal of refuse; sewage disposal;
treatment; water supply; pumping stations; irrigation)

Construction/Natural Resource Procurement: (Mining,
construction site building, etc.)

Lodging facilities refer to buildings offering multiple
accommodations for long or short-term residents. Included are:

Short-Term Residence:

- Shelter home
- Motel
- Tourist home
- Hotel
- Convention hotel
- Inn
- Other

Long-Term Residence:

- Boarding house
- Orphanage
- Home for aged, nursing home
- Convent/monastery
- Dormitory/sorority/fraternity
- Other

Office buildings are used for general office space, profes-
sional offices, and administrative offices. Included are:

Professional Office Building: (Management consulting,
engineering, medical, law, corporate, administration of an
institution, mixed professional)

Financial Office Building: (Bank, insurance, securities,
brokerage firm, real estate, etc.)

Data Processing:

- Computer center
- Other data processing

Offices/Other Activity (Except Residential): Mixed Use

- Office with retail (except food)
- Office with food sales or service



Glossary (Continued)

(Building Type Continued, "Office")

- Offices/services activity (other than food)
- Office/warehouse or storage
- Real estate/other commercial
- State or Federal capitol

Residential buildings serve as living quarters and have individual kitchen facilities.

Multi-Family:

- High-rise apartments
- Low-rise apartments

Single-Family:

- Detached
- Duplex
- Triplex
- Quadraplex
- Townhouse/rowhouse

Mobile Homes

Residential/Other Building Type (Mixed-Use):

- Residential/food-related
- Residential/sales (nonfood)
- Residential/office space
- Residential/service activity
- Residential/other use than above-mentioned

Retail Sales and Personal Services are buildings housing sales and displays of goods or services (excluding food). Included are:

Shopping Mall

Strip Shopping Center

Retail Sales (single establishment):

- Building materials, hardware, garden supply
- Department store, apparel stores
- Furniture, home furnishings, and equipment
- Drugstore
- Multi-retail establishment
- Other retail stores

Wholesale Goods (except food)

Services (except food):

- Laundry/dry cleaner/car wash
- Post office
- Personal service
- Multi-service establishment
- Other service

Building Housing Two or More Services, Retail or Wholesale Establishments Not Previously Mentioned:

- Service/retail
- Retail/wholesale



Glossary (Continued)

(Building Type Continued, "Retail Sales and Personal Services")

- Service/wholesale
- Retail/wholesale/service

Warehouse and Storage buildings are used for the storage of goods, merchandise, raw materials, or manufactured products. Included are:

Agricultural

Warehouse - nonrefrigerated

Refrigerated storage

Other

Storage/Retail, Wholesale or Manufacturing:

- Storage/food processing
- Storage/retail sales (nonfood)
- Storage/wholesale (nonfood)
- Storage/manufacturing (nonfood)

Other buildings are those that do not fit into any of the previous categories. Included are:

Crematorium

Parking garage

Hangar

Telephone exchange

(Also included in the Other category are the building types Laboratory and Public Order and Safety)

Laboratory buildings house equipment for experimental testing or for analysis. Included are:

Mechanical/Electrical

Medical/Dental

Agricultural

Other

Public Order and Safety buildings house establishments engaged in the preservation of law and order or in public safety.

Fire station

Police station

Jail

Reformatory

Penitentiary

Courthouse



Glossary (Continued)

(Building Type Continued, "Public Order and Safety")

Sheriff's Office

Other

Campus or complex refers to a well-defined geographic area containing a group of separate buildings that are operated as a unit (such as a college or university campus).

Census Region. An area consisting of various States selected according to population size and physical location. In this survey, the States were grouped into four regions:

Northeast - Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

North Central - Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, North Dakota, and South Dakota.

South - Maryland, Delaware, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma, and Texas.

West - Montana, Wyoming, Washington, Oregon, Nevada, Colorado, California, Idaho, Utah, New Mexico, and Arizona.

(Note: Alaska and Hawaii are normally considered parts of the western region but were not included in the sample for this survey.)

Central Air Conditioning serves all areas of the building that are air conditioned. Such systems are specially designed for each building.

Central Heating Systems. This heating equipment category represents two types of systems depending upon the location of the system. A central system located within the building, (such as a furnace or boiler), generates the heat but depends upon an additional system for distribution of the heat. A central system located outside of the building converts energy to a heated substance such as steam or hot water which is then distributed to the heated parts of the building by a separate system wholly contained within the building.

Combination Air Conditioning Systems. Air cooling systems composed of various types of equipment which are either combinations of window units, package units, or central systems.

Commercial Buildings. All nonresidential buildings with the exception of those where industrial activities occupy more of the total square footage than any other type of activity (see Nonresidential Buildings).

Conservation Practices refers to the three types of actions included in this report which building owners or occupants may initiate, manually or automatically, for the purposes of reducing the amount of energy consumed to heat or cool the building. The actions include reducing the heat or the cooling produced when



Glossary (Continued)

the building is not in full use, and having a regular maintenance program for the heating and/or air conditioning systems.

Consumed. The amount of electricity or natural gas used by the building during the 365-day period of calendar year 1979.

Cooling Degree-Days refers to the number of degrees the average daily 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 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.

Cubic foot (cu. ft.) is the amount of gas contained in a cube whose edge is one foot.

Electricity. Electric power supplied to a building by a central utility via underground or above-ground power lines. It does not refer to electric power generated onsite for the exclusive use of the building. In this case, the fuel used for the generator would be indicated.

Energy Suppliers. The companies that provide electricity, natural gas, fuel oil, coal, or other forms of energy to the buildings and to the individual customers within the buildings.

Establishment. As defined by the Standard Industrial Classification Manual, "an economic unit, generally at a single physical location where business is conducted or where services or industrial operations are performed."

Expenditures refers to the cost for electricity or natural gas consumed during the 365-day period of calendar year 1979. The total dollar amount includes: State and local taxes, fuel adjustment charges, system charges and demand charges. The total dollar amount excludes: merchandise, repair charges, service charges, and any other charges not specifically requested. If the building (or separately billed establishments within a building) receives a budgeted bill, the budgeted bill is not provided. Instead, the actual consumption and expenditures are provided.

Forced Hot Air. A heat distribution system consisting of two types of units that distribute heat via fans: (1) a self-contained air handling unit serving only a part of the building; and (2) a single central air handling unit separate from the energy conversion system which distributes air throughout the building through ducts.

Fuel Oil refers to No. 1, No. 2, or No. 4 grade fuel oil, residual fuel oil, or kerosene that might be burned for space- or water-heating purposes.

Glass as Percentage of Exterior Surface refers to the proportion of glass to the exterior wall structure of the surface.

Heating Degree-Days refers to the number of degrees 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



Glossary (Continued)

temperature of 50 degrees has 15 heating degrees ($65-50=15$), while one with an average temperature of 65 or higher has none.

Hours of Operation During a Typical Week refers to the number of hours per week that the building is occupied by regular employees (employees responsible for carrying out the primary activity or activities of the building), and excludes hours when the building is occupied only by maintenance, security, or other supportive personnel. Many buildings do not maintain the same hours of operation during the year. Alternate schedules were reported for these buildings, but for this report "hours of operation" refers to the schedule followed most often. Other buildings do not have any regular schedule of hours, are open intermittently or by appointment only, or are open without being staffed (this last category includes automatic bank tellers and roadside rest stops). These buildings were recorded as having 0 operating hours, according to the definition given by the questionnaire, even though they were not vacant.

Imputation. A statistical method used to estimate the response to specific unanswered questions which should have been answered or were unknown at the time of the interview.

Insulation is any material (such as fiberglass, foam, loose fill, etc.) which, when placed between the interior of the building and the outdoor environment, reduces the amount of heat or cold lost to the environment.

KWh (kilowatt-hour) is a unit of work or energy equal to that expended by one kilowatt (100 watts) in one hour.

Kerosene refers to a distilled product of oil or coal with the generic name "kerosene" and used for space-heating, water-heating, cooking, or lighting.

LPG or Liquid Petroleum Gas. Any gas fuel supplied to a building in liquid form. It is usually delivered by tank truck and stored near the building in a tank or cylinder until used. Propane and butane are liquefied petroleum gases.

Master-Metered. The method used by utility companies (i.e., electricity and natural gas), to measure the total volume of energy used by several individual customers collectively.

Metropolitan refers to buildings located within Standard Metropolitan Statistical Areas (SMSA's) as defined in the 1970 Census. Except in New England, an SMSA is a county or a group of contiguous counties which contains 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 SMSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, SMSA's consist of towns and cities rather than counties. "Nonmetropolitan" refers to buildings not located within SMSA's as defined in the 1970 Census.

Multiple Building Unit. A single building address which at the time of the interview was discovered to be two or more separate buildings.

Natural Gas is utility gas supplied by pipeline to individual buildings by a central utility company. It does not refer to privately-owned gas wells operated by the building owner.



Glossary (Continued)

Nonresidential Building. A roofed and walled structure that is used for some purpose other than just a residence. The scope of this definition is quite broad and includes some buildings that are primarily residential (as well as commercial and industrial buildings). The term "residential" applies to structures where the primary activity is that of a residence for one or more households. Residential buildings were within the scope of the survey if they showed evidence of some kind of commercial or industrial activity. For example, a residential building, such as an apartment building, which also contained some obvious nonresidential activity such as a store or office was within the scope of the survey. A private residence which contained an office or business, such as a doctor's office in a home, was considered a nonresidential building for the purposes of this survey. In order for a private residence to have been selected for this survey, it had to have a sign (large enough to be visible from the street) advertising the presence of some commercial or industrial activity.

Number of People Working in the Building. The normal number of people working in the building during a typical workday or that which occurs during most of the year.

Number of Floors is the count of building levels in the tallest section of the building including parking, basements, or other floors below ground level.

Outside Shading includes window awnings or other features of the building which serve to shade the exterior windows and thereby reduce the rate of solar penetration into the building. The outside shading may have been installed at the time of construction or have been installed since construction (retrofitted). In some cases, outside shading may have been installed both at the time of construction and since construction. These buildings are reported in both categories. As a result, the total number of buildings for which outside shading is currently present is not a simple sum of these two categories.

Package Units refers to air conditioning units which are built and assembled at a factory and installed as a unit to cool all, or portions of, a building.

Reduced Cooling refers to the manual or automatic reduction in the cooling produced by the air conditioning system during the hours the building is not in full use. Buildings without air conditioning systems and buildings with only window air conditioning units are reported as "Not Applicable".

Reduced Heating refers to the manual or automatic reduction in the heat produced by the heating system during the hours when the building is not in full use. Buildings that do not have heating systems are reported as "Not Applicable".

Regular Maintenance refers to a systematic program for checking the heating and/or air conditioning equipment on a regular basis (at least once a year), even if there are no apparent problems. Buildings that lack both heating and air conditioning systems are reported as "Not Applicable". Buildings with only window air conditioning units and no heating system are also "Not Applicable".

Self-Contained Heating Units are units installed either in the building or on the roof and which generate and deliver heat to the area served.



Glossary (Continued)

Separately Metered. This refers to the method in which utility companies, (i.e., electricity and natural gas) measure the volume of energy consumed by individual customers in a building.

SIC. Standard Industrial Classification codes developed by the U.S. Bureau of the Census which categorizes businesses into groups with similar economic activities.

Special Building List. Part of the sampling procedure entailed locating "large" buildings within the sampled PSU's. "Large" buildings were defined as those with 250,000 or more square feet of enclosed floor space in PSU's that are Standard Metropolitan Statistical Areas. In the remaining one-third of the PSU's, buildings of 100,000 square feet or more were listed.

Special Zip Codes. Postal ZIP codes which are allocated by the Postal Service to business establishments, government agencies, or buildings which have a high mail volume.

Steam Energy Source refers to buildings which purchase steam from steam generation and distribution companies serving municipal areas such as natural gas distributors. This does not refer to buildings which use purchased fuels to generate their own steam for use in the building or other buildings in a campus/complex situation.

Structure Type refers to whether the building is detached (stands alone), attached to other buildings on one or more sides, or is part of a shopping mall.

Total Square Footage refers to all the space enclosed within the exterior walls of the building. This includes indoor parking facilities and basements, and all space such as hallways, lobbies, stairways, and elevator shafts.

Treated Glass includes tinted, reflective, insulated or thermal pane types of glass which, when installed in the exterior windows of a building, serve to reduce the rate of solar penetration into the building or to reduce the rate of heat or cold loss to the environment. Such forms of glass may have been installed at the time of construction or installed since construction (retro-fitted). In some cases, treated glass may have been installed both at the time of construction and since construction. These buildings are reported in both categories. As a result, the total number of buildings for which treated glass is currently present is not a simple sum of these two categories.

Waiver. An authorization form instructing the energy-supplying company serving the buildings to release the volumes and costs of energy the building consumed over a specified period.

Weatherstripping or Caulking refers to any material which is placed between the door or window and the door- or window-frame in order to reduce the rate of heat or cold loss.

Window Unit. Air conditioners are self-contained units which are installed in a window or through the wall.

Year Constructed. The year in which the major or largest portion of the building was constructed.

Appendix H

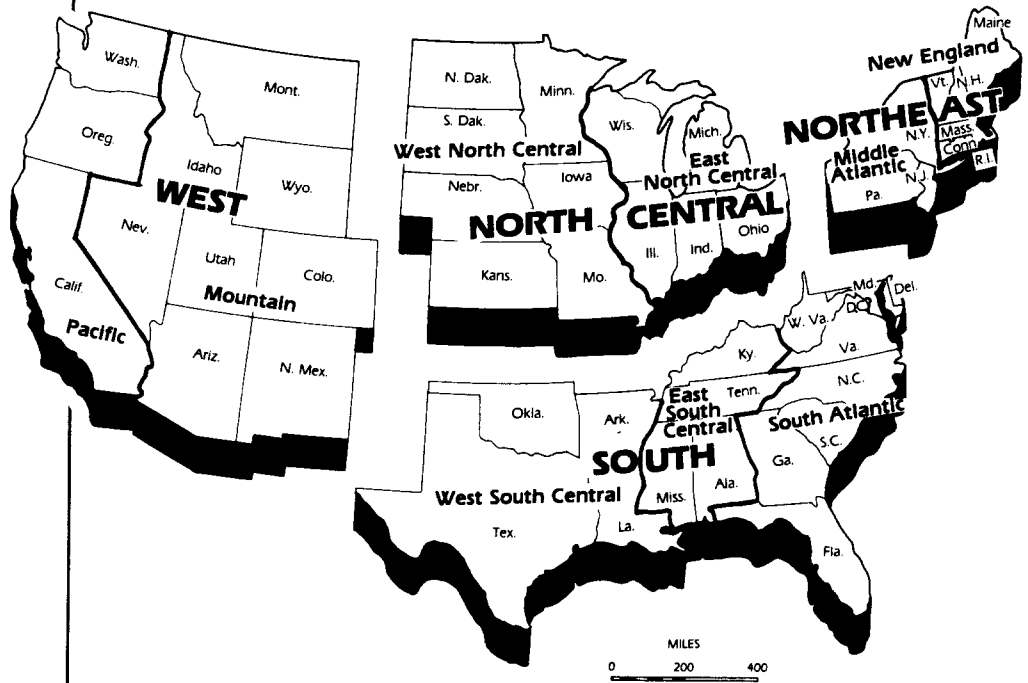
United States Census Regions and Divisions







U.S. Census Regions and Divisions





Other Materials from the Nonresidential Buildings Energy Consumption Survey

Other Materials from the Nonresidential Buildings Energy Consumption Survey

Nonresidential Buildings Energy Consumption Survey: Building Characteristics, March 1981, DOE/EIA-0246, GPO Stock No. 061-003-00171-8, \$5.50.

Nonresidential Buildings Energy Consumption Survey: Fuel Characteristics and Conservation Practices, June 1981, DOE/EIA-0278, GPO Stock No. 061-00300200-5, \$8.00.

Nonresidential Buildings Energy Consumption Survey: 1979 Consumption and Expenditures, Volume 2: Steam, Fuel Oil, LPG, and All Fuels, DOE/EIA-0318/2 (forthcoming).

Copies of the Above reports are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (202-783-3238) or from the National Energy Information Center, EI-20, 1F-048 Forrestal Building, U.S. Department of Energy, Washington, D.C. 20585. Telephone (202) 252-8800.

Copies of the following building data file 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, Virginia 22161. Telephone: (703) 487-4808.

Nonresidential Buildings Energy Consumption Survey: 1979-1980 Building Characteristics, Energy End Use and Fuel Oil Tank Data, Accession No. PB-82-192014, \$125.00.

"Nonresidential Buildings Energy Consumption Survey, Final Report," Westat, Inc., also available from NTIS.

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