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Commercial Buildings Energy Consumption Survey

Commercial Buildings Characteristics 1989

June 1991

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Commercial Buildings Characteristics 1989

June 1991

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

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Support was received from the Bureau of the Census, U.S. Department of Commerce and the U.S. Environmental Protection Agency for special components of this survey. See Appendix A for a description of the information collected for these agencies.

In Memoriam

This publication is dedicated to the memory of Morris H. Hansen. Mr. Hansen was an internationally known statistician who served as the first Associate Director for Research and Development at the U.S. Bureau of the Census. He was a groundbreaking leader in the development of sampling and survey methodology. He was the recipient of the 1962 Rockefeller Public Service Award and served as president of the American Statistical Association and of the Institute for Mathematical Statistics. We were fortunate in the Energy Information Administration to have had the opportunity to work with him and receive the benefit of his expertise on the sample and survey design of the initial CBECS.

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Executive Summary

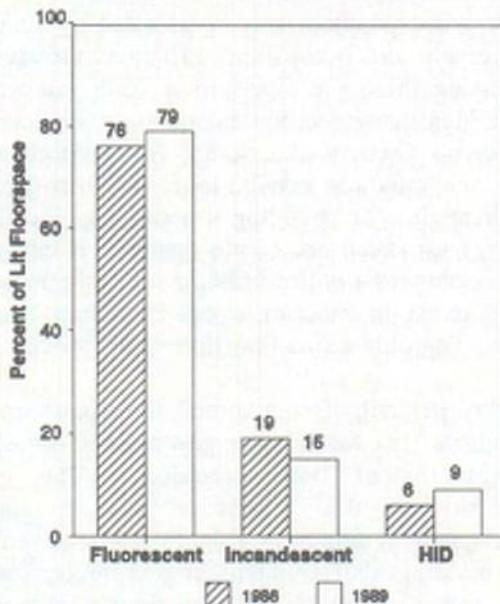
The 1989 Commercial Buildings Energy Consumption Survey (CBECS) presents statistics showing important changes over the past few years. Since the survey's inception in 1979, U.S. commercial floorspace has increased dramatically. One of the important changes within this floorspace has been the increasing use of energy-efficient lighting equipment. The 1989 survey also includes data, collected for the first time, on three topics increasingly critical to the country's economic and environmental concerns: chlorofluorocarbons (CFC's), asbestos in buildings, and fuel-switching capabilities within commercial buildings.

Floorspace in commercial buildings in the U.S. at the end of 1989 had increased by about a third in one decade, to a total of 63 billion square feet. This dramatic increase corresponds to an average floorspace growth rate of somewhat less than 3 percent per year. Viewed another way, the total floorspace added to the stock over the 10 years was comparable to the size of any single Census region at the start of that period. Growth rates were higher both in the South and West Census regions, and for office and mercantile buildings. Together, office and mercantile buildings represented almost 40 percent of all commercial buildings and floorspace in 1989.

The operational factors that determine a building's energy requirements are largely dictated by the type of activity the building is used for. For example, the median hours of operation ranged from fewer than 40 per week for assembly buildings to continuous use for lodging and public order and safety buildings. Floorspace per worker was under 500 square feet for office buildings, but over 3,000 square feet for warehouses. Eighty-six percent of the floorspace in office buildings was air-conditioned, compared to fifty-nine percent for mercantile buildings, and thirty-nine percent for public order and safety buildings.

The 1989 CBECS data indicate that more efficient lighting equipment is in operation in newer commercial buildings. Incandescent bulbs, which are relatively inefficient, were less common among newer buildings, while fluorescent and high-

Figure ES1. Lighting Equipment, 1986 and 1989



Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys.

intensity discharge (HID) lamps were more common. In 1989, fluorescent lamps lit 79 percent of the lit commercial floorspace and incandescent bulbs lit 15 percent, as compared to 76 percent and 19 percent respectively, in 1986 (Figure ES1). HID lamps were used in 11 percent of commercial buildings in 1989, but in 70 percent of the buildings over 500,000 square feet. HID lamps were especially common among buildings with large open areas, including assembly, education, and warehouse buildings.

Another move toward greater equipment efficiency is indicated by the relatively high proportions of new buildings equipped with computerized Energy Management and Control Systems (EMCS). These systems were present in almost 15 percent of the buildings constructed between 1987 and 1989, accounting for over 40 percent of the floorspace built during that period.

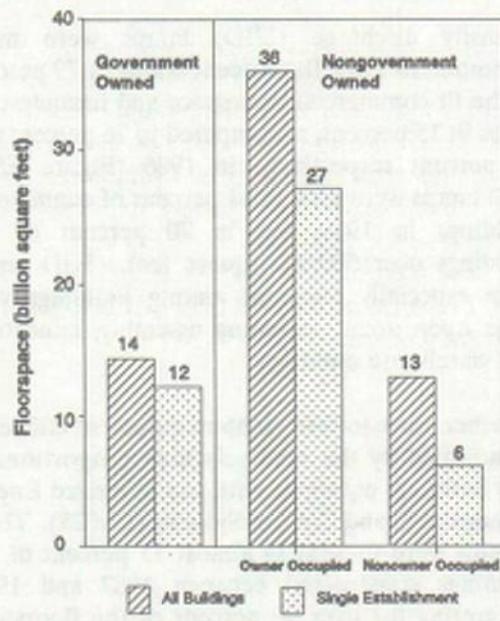
Overall, EMCS were present in buildings accounting for 23 percent of commercial floorspace. In government-owned buildings, the

percentage was 37, while in nongovernment buildings not occupied by the owner, EMCS were present in buildings accounting for only 13 percent of the floorspace.

This comparison illustrates how future trends in energy use practices may be affected by building ownership and occupancy. Programs targeted at changing these practices are typically concerned with identifying decisionmakers and their level of concern. Owners who occupy (or maintain staff in) their buildings may be more likely to take an interest in the building operations, including energy use, than are offsite owners. Nonowners who occupy the entire building may take more of an interest in building operations than tenants occupying only a small portion of the space.

Eighty percent of commercial floorspace was in buildings that were either government owned or nongovernment owner-occupied. The great majority of this floorspace was in single-establishment buildings (Figure ES2). Even for the buildings that were neither government owned nor owner occupied, half the floorspace was in single-establishment buildings.

Figure ES2. Is the Decisionmaker in the Building?



Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys, Table 41 of this report.

Over 40 percent of all commercial floorspace was part of a multibuilding facility, such as a college

campus or hospital complex. On such facilities, a single decisionmaker could affect a large number of buildings. For government owned buildings, 63 percent of the floorspace was on a multibuilding facility.

Environmental concerns were addressed in the 1989 CBECS by collecting information on equipment containing CFC's. CBECS revealed that equipment containing CFC's can be very long-lived in the commercial buildings stock. In terms of floorspace, nearly 20 percent of the packaged air-conditioning capacity and over 35 percent of the central-chiller capacity used in 1989 were originally installed more than 20 years previously. The CFC section also identified the wide variety of refrigeration equipment in use in commercial buildings. These data show that residential refrigerators were used in over 80 percent of office buildings. Thus, utility demand-side management programs targeted at residential equipment might do well to look to the commercial sector as a new target of opportunity.

A second area of environmental concern addressed by the 1989 CBECS was the presence and treatment of asbestos in commercial buildings. These data were collected for the U.S. Environmental Protection Agency. Buildings that contained asbestos at some time accounted for about 30 percent of all commercial floorspace, but roughly three-quarters of the floorspace in education and health care buildings. Asbestos was treated or removed from buildings accounting for 73 percent of the floorspace where it had ever been present. Asbestos is currently present in 8 percent of commercial buildings, accounting for 22 percent of commercial floorspace.

The advent of the Persian Gulf crisis gave particular import to the fuel-switching data, which were collected for the first time for the 1989 survey. These data indicate that roughly a quarter of the floorspace using fuel oil as the main heating fuel could readily switch to an alternate fuel. On the other hand, the floorspace in buildings that would switch to fuel oil for space heating, rather than away from it, is as great as the floorspace in buildings currently using fuel oil as the main heating fuel. Preliminary estimates are that during the winter months, on the order of 250,000 barrels per day would be needed by fuel-oil heated buildings that could not switch to an alternate heating fuel.

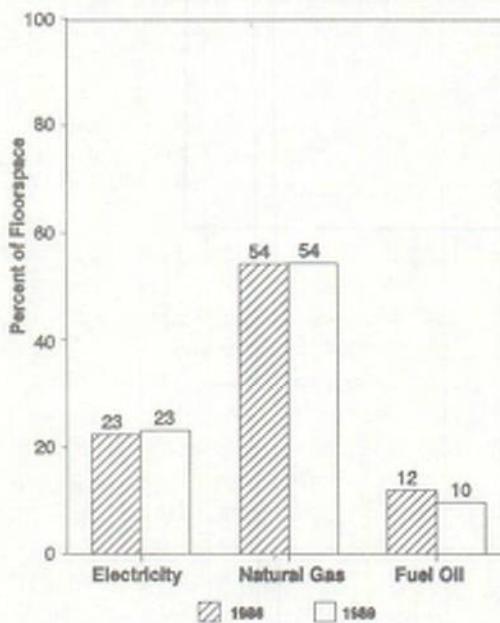


Compared to the 1986 survey, changes in the proportions of floorspace heated by natural gas, electricity, and fuel oil were not statistically significant (Figure ES3). Natural gas was the primary heating fuel for over half of all commercial floorspace, and electricity for about one-quarter. District heating (steam and hot water) continued to serve about 10 percent of commercial floorspace as the primary heating source, comparable to the proportion served by fuel oil. Most of this floorspace was on a multibuilding facility.

Almost all water heating was provided by electricity and natural gas, in roughly equal proportions.

These and other building characteristics are part of the statistical profile of commercial buildings presented in this report. The profile of the U.S. commercial building stock as of fall 1989 is based on data collected on the 1989 CBECS. The population covered by this survey was the same as that of the previous CBECS, with updates of statistics presented in previous reports, as well as new types of statistics on a wide range of building characteristics.

Figure ES3. Primary Space-Heating Fuel, 1986 and 1989

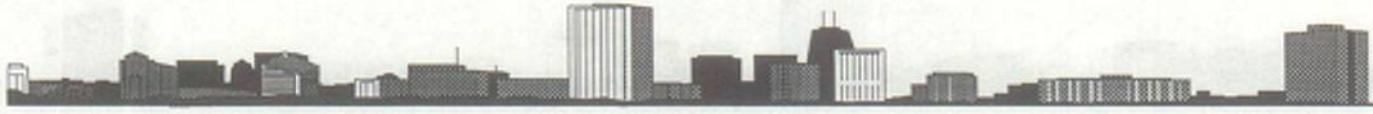


Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys.

Upcoming Analyses

The primary purpose of this report is to provide a compilation of statistics that can be used for a wide variety of analyses on commercial buildings and their energy-related characteristics. The text highlights some of the information compiled here that might be of interest to analysts using the CBECS. EIA is working on a series of analysis papers, based on the 1989 CBECS, which will be issued subsequent to the upcoming *Commercial Buildings Consumption and Expenditures 1989* report. Topics that may be covered by EIA consumption analyses include:

- Lighting in commercial buildings
- District heating and cooling on commercial campuses and complexes
- Characteristics of industrial buildings
- Transportation (direct purchase) gas for commercial buildings
- Preparation for the 1992 CBECS--what do the users need?



As an outcome of the National Energy Strategy, an assessment of the needs of users of the Commercial Buildings Energy Consumption Survey (CBECS) is being undertaken prior to the 1992 survey. As you read and use the data from this report, please keep this effort in mind.

If you have suggestions to make the data more useful for your needs, please contact Ms. Julia Oliver, CBECS Manager at:

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Introduction

The *Commercial Buildings Characteristics 1989* report is prepared by the Energy End Use Division, Office of Energy Markets and End Use, Energy Information Administration (EIA).

The data were collected on the 1989 Commercial Buildings Energy Consumption Survey (CBECS), Forms EIA-871A through H. EIA conducts this national sample survey of commercial buildings and their energy suppliers on a triennial basis. Previous surveys were conducted under the title, Nonresidential Buildings Energy Consumption Survey (NBECS) in 1979, 1983, and in 1986. For consistency, all the surveys will be referred to as CBECS in this report. EIA also conducts energy consumption surveys in the residential, residential transportation, and manufacturing sectors.

The CBECS provides basic statistical information on the consumption of, and expenditures for, energy in commercial buildings and their energy-related characteristics. This survey is the only source of national-level data on both commercial building characteristics and energy consumption. This report covers the physical and operating characteristics that affect energy use for the commercial building stock. A second report, to be released later, will cover energy consumption and expenditures.

This report presents descriptions of commercial buildings at the national and Census region levels in terms of the following characteristics:

- Building use
- Building size
- Location
- Energy sources
- Energy end uses
- Conservation features
- Heating, cooling, and lighting equipment
- Percent of floorspace heated, cooled, or lit
- Building structure.

These data are published to provide meaningful, objective, and accurate energy information for a wide audience including Congress, Federal and State agencies, industry, and the general public. The data presented in this report were collected and published by the EIA to fulfill its responsibilities as specified in the Federal Energy Administration Act of 1974

(Public Law 93-275), as amended. All data in this report are aggregated; individual building name and address information are confidential.

The EIA gratefully acknowledges the cooperation of the respondents in supplying the information used to produce the estimates in this report.

Organization of this Report

The following sections present the energy-related characteristics of commercial buildings in the United States during 1989. Included are portions on how energy was used in buildings in 1989, on energy-using equipment, on equipment using CFC's, on building use, and on the presence of asbestos in buildings.

New and expanded topic areas addressed by the 1989 CBECS include fuel-switching capability, detailed information on cooling equipment, presence and treatment of asbestos, and characterization of multibuilding facilities such as school campuses and hospital complexes. Information collected previously, but displayed in new ways in this report, includes types of lighting equipment and vacancy measures.

Extensive cross tabulations appear in the "Detailed Tables" section following the main text. Many of these tables are referenced in this opening section. Tables in this opening section give some special cross tabulations not included in any of the detailed tables. The organization of the detailed tables is explained at the beginning of that section.

The findings of the survey are presented for a general audience interested in buildings and energy. For more statistically oriented readers, information on the sample design and data collection procedures are provided in Appendix A, "How the Survey Was Conducted." Adjustments to collected data and factors affecting data quality are discussed in Appendix B, "Nonsampling and Sampling Errors." Details of the fuel-switching capability analysis are in Appendix C. Differences between the coverage of this survey and EIA supply data sources are discussed in Appendix D.



A detailed description of the principal building activity categories is contained in Appendix E, "Types of Buildings." Appendix F contains maps showing the climate zones by which the data are reported, and the Census regions and divisions used in this report. A glossary of terms has been included to assist users in understanding the statistical and engineering terminology used in this publication.

All estimates in this report are based on data collected on Form EIA-871A, "Building Questionnaire," and on Form EIA-871H, Asbestos Questionnaire, collected for the U.S. Environmental Protection Agency. Both forms are found in Appendix G, "Survey Forms." A list of related energy-consumption publications appears in Appendix H for readers interested in earlier CBECS publications or consumption reports for the other sectors.

Statistics Reported

For purposes of the CBECS, a commercial building is a roofed and walled structure whose principal activity is nonresidential, nonagricultural, and nonindustrial. The CBECS population is restricted to buildings larger than 1,000 square feet (roughly twice the size of a two-car garage).

The principal building activity is the activity that occupied the most floorspace in the building. For certain building activity categories, the CBECS sample was too small to permit reliable estimates for breakdowns within the category. Thus, several types of building activities have been combined in most tables and figures: inpatient and outpatient health care facilities have been combined into a single health care building type; refrigerated and nonrefrigerated warehouses form a single warehouse category; and laboratory buildings have been included with those

classified as "other." As with previous reports, skilled nursing buildings have been included in lodging. In a departure from previous reports, parking garages are presented in a separate category in the detailed tables instead of being included in the "other" category.

The CBECS is used to collect information on all energy sources brought into the building. However, for certain types of energy sources (most notably coal, and the renewable sources, wood and active solar), there are too few buildings in the sample to permit separate reporting. In most tables in this report, coal, wood, and active solar are grouped with "Other" miscellaneous energy sources; district steam and district hot water are combined into "District Heat."

Primary and secondary space-heating fuels are distinguished in certain tables, but are combined in most. The previous CBECS also separated primary from secondary water-heating fuel; because very few buildings reported a secondary water-heating fuel, this end-use category distinction was dropped from the 1989 CBECS.

The statistics published in this report are based on a random sample from the population of all commercial buildings in the United States as of the autumn of 1989. As a result, all the numbers are estimates rather than exact measures for the population. As described in Appendix B, the accuracy of each estimate is indicated by the relative standard error (RSE). All the tables of estimates in this report include summaries of the corresponding RSE's. Overall, the RSE's for the 1989 CBECS are comparable to those for the corresponding aggregates from the 1986 survey, indicating a continuing high accuracy of the survey estimates.



Commercial Buildings in 1989

In 1989, there were 63.2 billion square feet of floorspace in commercial buildings in the United States, contained in 4.5 million buildings. This represents an increase of 5.0 billion square feet since the 1986 survey, about 3 percent per year. Over the 10 years since the first CBECS was conducted, the total floorspace has increased by over 15 billion square feet, again, on the order of 3 percent per year.¹ The South and West Census regions showed the greatest percent increases in floorspace over the decade.

Since 1986, the greatest percent increases were in the Northeast and South Census regions. Some of these increases reflect new construction, and some conversions of existing floorspace to commercial use.

The overall stock showed slight shifts in 1989 compared to 1986, as a result of both the addition of the newer stock and changes within existing buildings. Changes were seen, for example, in the penetration of efficient lighting equipment, as described below.

How Energy is Used

One of the major objectives of the CBECS is to identify which energy sources are used for what end uses (Tables 1 and 2 give the most detailed breakdown of end uses and fuels presented in this report). As has been seen in previous surveys,

**Table 1. Energy Sources for Particular End Uses, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings Using Energy	Energy End Use							RSE Row Factor
		Space Heating (primary)	Space Heating (secondary)	Water Heating	Cooling	Cooking	Manufacturing	Electricity Generation	
RSE Column Factor:	0.747	0.808	1.179	0.757	0.879	0.910	1.392	1.668	
All Buildings	4,302	3,877	558	3,184	3,184	864	205	65	5.72
Energy Sources Used for Indicated End Use (Solely or in Combination)									
Electricity	4,297	959	326	1,556	3,074	387	163	--	6.92
Natural Gas	2,439	2,093	79	1,401	98	465	23	24	9.40
Fuel Oil	586	475	85	126	Q	Q	Q	23	16.01
District Steam	87	81	Q	39	2	4	Q	--	27.19
District Hot Water	26	18	Q	15	Q	Q	NC	--	30.03
District Chilled Water	25	--	--	--	25	--	--	--	4.58
Propane	348	208	30	88	Q	93	19	9	23.12
Wood	79	40	38	Q	--	Q	NC	NC	14.67
Any Other	58	Q	Q	13	Q	NC	Q	Q	35.55

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

¹The increase is based on the commercial floorspace total of 47.7 billion square feet published in the 1979 CBECS Consumption and Expenditures report. Because of changes in the survey design since the 1979 CBECS, growth rates based on comparisons between the 1979 and 1989 surveys are only approximate. Appendix B of the 1986 CBECS Building Characteristics and Consumption and Expenditures reports describes the design changes and their approximate effects on comparisons between surveys.

natural gas was by far the most common primary heating fuel in terms of floorspace.

District heating (steam and hot water) served more floorspace as the main heating fuel than did fuel oil. For cooling, electricity continued to be the most common fuel by far, while water heating was roughly evenly shared between electricity and natural gas. The CBECS also collected data on lighting (but only for electric lighting equipment), and on refrigeration equipment.

Primary Space-Heating Trends

The overall distribution of primary heating fuels in 1989 (Figure 1) was similar to that for 1986, as were the trends in the distribution by building vintage. Also as indicated in the 1986 CBECS, the proportion of buildings using natural gas or fuel oil declined with more recent construction year, while the proportion using electricity increased through the early 1980's, but these trends have been leveling off or reversing

since then. Use of district heating was up slightly, but because of the small sample sizes for this fuel, the change was not significant statistically.

About 14 percent of buildings that used energy for heating also used a secondary heating fuel in 1989. In terms of numbers of buildings, electricity was by far the most common secondary heating fuel (Table 1), but in terms of floorspace fuel oil was almost as widely used for this purpose (Table 2).

The secondary fuel could have been used routinely either to heat a portion of the building or as a supplement to the main heating system. Secondary heating could also refer to a back-up fuel, used when the main heating fuel or main heating system was unavailable. Back-up heating fuels should have been reported on this portion of the 1989 CBECS only if actually used for heating during 1989. Thus, a building could have a fuel-switching capability yet not have used a secondary heating fuel, or could have used a secondary heating fuel without having a switching capability.

**Table 2. Energy Sources for Particular End Uses, Floorspace
(Million Square Feet)**

Building Characteristics	All Buildings Using Energy	Energy End Use							RSE Row Factor
		Space Heating (primary)	Space Heating (secondary)	Water Heating	Cooling	Cooking	Manufacturing	Electricity Generation	
RSE Column Factor:	0.745	0.791	1.174	0.795	0.868	0.912	1.616	1.424	
All Buildings.....	61,636	57,868	12,768	53,585	51,771	23,668	5,601	4,877	5.64
Energy Sources Used for Indicated End Use (Solely or In Combination)									
Electricity.....	61,587	13,450	5,254	21,496	47,913	10,850	4,406	--	6.90
Natural Gas.....	41,593	31,402	1,877	26,179	1,991	14,902	838	1,265	9.41
Fuel Oil.....	12,684	5,598	5,005	2,284	Q	Q	Q	2,921	10.89
District Steam.....	5,550	4,937	Q	3,595	480	1,012	Q	--	25.07
District Hot Water.....	1,810	1,283	Q	1,367	Q	Q	NC	--	46.47
District Chilled Water.....	2,101	--	--	--	2,101	--	--	--	4.96
Propane.....	4,695	1,230	537	1,023	Q	923	786	366	20.70
Wood.....	438	276	159	Q	--	Q	NC	NC	18.59
Any Other.....	1,172	550	Q	396	Q	NC	Q	Q	39.74

-- Data not applicable.

NC No cases in sample.

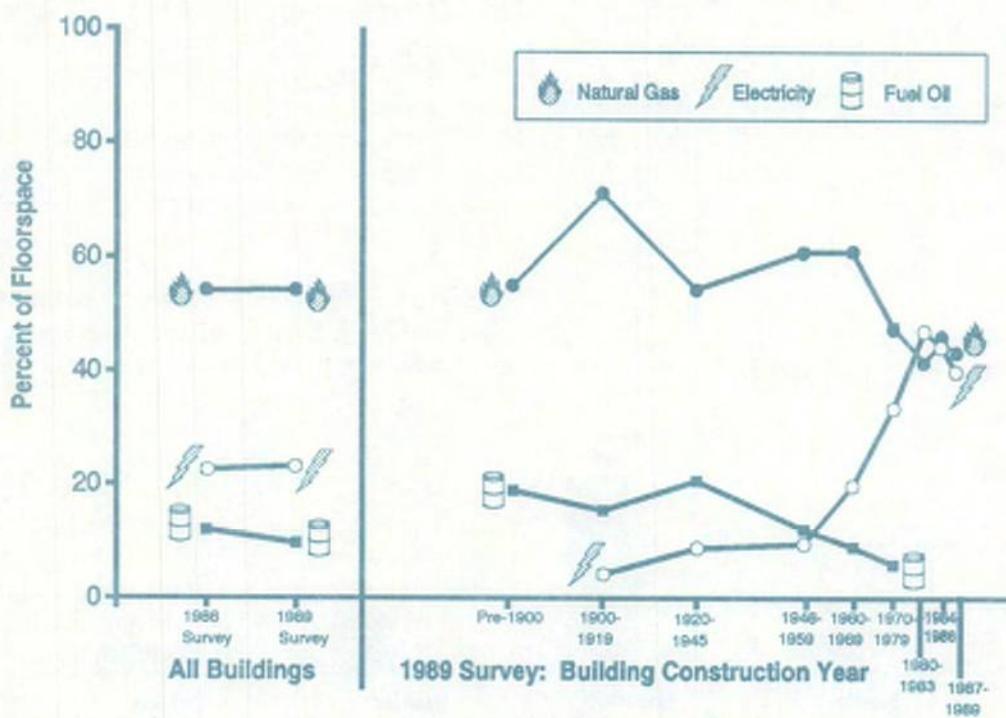
Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.



Figure 1. Primary Space-Heating Fuel by Building Construction Year



Note: Within each survey or construction year category, each percent is computed as the total floorspace in buildings using the indicated fuel as the primary space-heating fuel, divided by the total floorspace in all buildings with space heating. For the plots by building construction year, the horizontal position of each point corresponds to the median construction year of all buildings in the category. Points are not displayed for electricity pre-1900 and for fuel oil in the 1980's. These data are withheld because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys, Table 68 of this report.

Fuel-Switching Capability

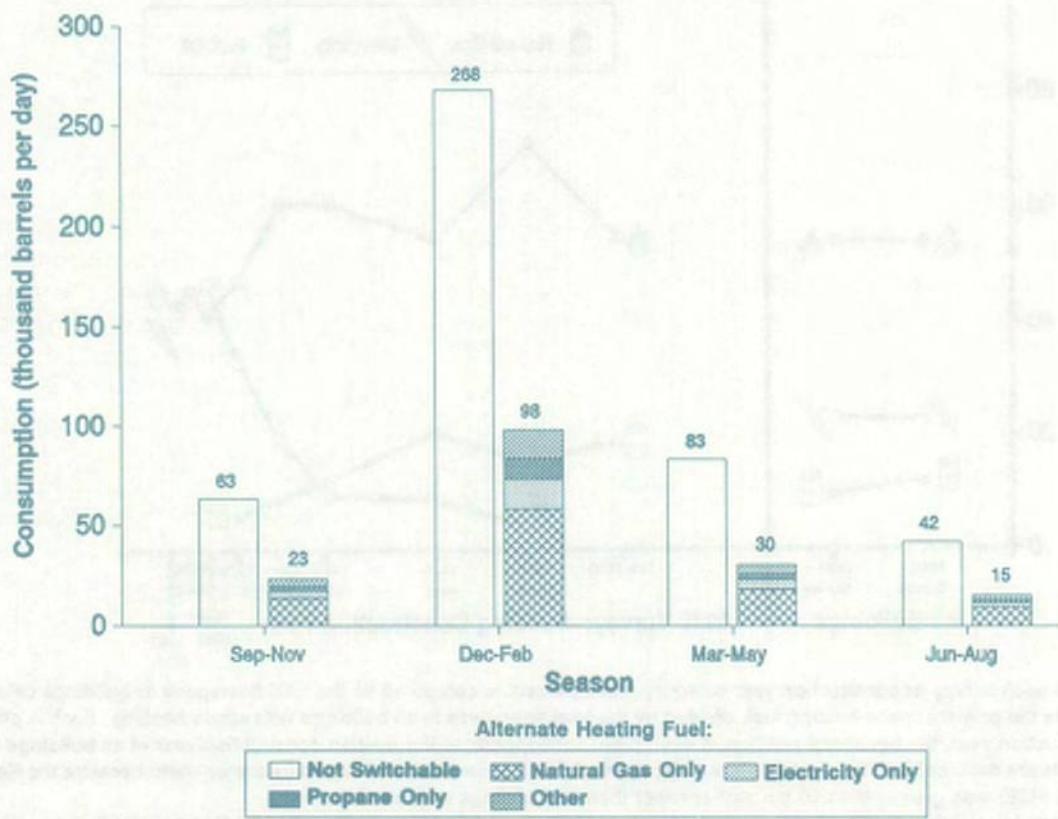
To learn more specifically about fuel-switching capability, the 1989 CBECS asked whether the building could switch to an alternate main heating fuel within one week's time. Slightly less than one-quarter of the floorspace in heated buildings was in buildings that had this capability. (See Table 72). Fuel oil was the alternate heating fuel for close to half the floorspace of buildings that could switch. In fact, the floorspace that could use fuel oil as an alternate heating fuel was as large as the floorspace currently using fuel oil for main heating. Natural gas was the primary heating fuel with the greatest fraction of floorspace that could switch to an alternate fuel.

Because of the importance of fuel oil consumption for the 1990 to 1991 winter in light of the Persian Gulf crisis, the potential for switching from fuel oil was examined in greater detail. From the buildings surveyed for the 1989 CBECS, those that use fuel oil for their main heating fuel were divided into two

groups, depending on whether or not they could switch to an alternate heating fuel. Those that could switch were further subdivided on the basis of their alternate heating fuel -- natural gas, electricity, propane, a combination of more than one fuel, or other (including another petroleum product, coal, wood, solar, or district heat). Natural gas, electricity, and propane were singled out because the majority of buildings that could switch (110,000 of 147,000) had one of these as their first and only alternative. Estimates for other fuels were not reliable.

Final CBECS consumption statistics for 1989 will be available in the companion volume to this report. In the interim, preliminary estimates of the amount of fuel oil consumption that could be switched were obtained by combining the 1989 floorspace estimates with seasonal delivery rates from the 1986 CBECS (Figure 2). For purposes of this estimation, consumption is equated with deliveries. See Appendix C for details of the computations.

Figure 2. Preliminary Estimates of Fuel-Switching Capabilities for Buildings Using Fuel Oil for Main Heating



Note: See explanation of calculation in Appendix C.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys, Table C2 of this report.

Figure 2 presents preliminary estimates of the average daily consumption of fuel oil by commercial buildings that heat primarily with fuel oil. For each season, the right bar represents the consumption that is switchable to an alternate heating fuel within a week, and the left bar represents the amount of consumption that is not switchable. The switchable consumption is further broken down by the fuel to which the consumption could be switched.

As expected, a large portion of the fuel oil delivered to oil-heated commercial buildings is delivered during the winter months (December through February). Over two-thirds of fuel oil deliveries cannot be readily replaced with an alternate heating fuel. For consumption that can be replaced, natural gas is a more common alternative than all other fuels combined.

Central Heating Plants on Multibuilding Facilities

As indicated in Table 2, 6.2 billion square feet were in commercial buildings whose main heating fuel was district heat; that is, steam or hot water piped into the building from a central boiler serving more than one building. For many such buildings, the district steam or hot water was supplied by an outside source such as a public utility. However, the majority of buildings using district heat were on multibuilding facilities, such as a university campus or hospital complex, with the district heat supplied from a central physical plant on the facility.

To help characterize and quantify this component of commercial energy consumption, the 1989 CBECS collected information on multibuilding



facilities (a group of two or more buildings on the same site owned or operated by a single organization, business, or individual). This information will provide the basis for improved estimates of end-use consumption of district heat, and of the primary fuel consumed to produce nonutility district heat in the commercial sector. District heating consumption estimates will appear in the companion volume to this report.

Apart from the importance of fuel consumption for district heating, multibuilding facilities are of interest because energy-related decisions are likely to be made at the facility level, rather than for each building independently. Such decisions might include, for example, fuel purchases, equipment replacement, and building and equipment maintenance and upgrade.

About 40 percent of commercial floorspace was on a multibuilding facility in 1989, 13 percent on a multibuilding facility that had a central physical plant. (See Tables 51 and 52.) For health care buildings, 69 percent of the floorspace was on multibuilding facilities, 52 percent on facilities with central plants. (See Table 51.)

Only 7 percent of the commercial floorspace, 4.7 billion square feet, was actually served with district heat from a central plant on the same site. This represented about 69 percent of all floorspace in buildings receiving district heat.

For some fraction of the floorspace using district heat, fuel oil is used in the central plant to generate that heat. The extent of this indirect use of fuel oil will be estimated for the first time as part of the CBECS supplier survey, to be published in the companion volume to this report.

End-Use Combinations

Most heated buildings also have air conditioning and water heating. (See Table 59.) A large fraction also has cooking. The combination of end uses performed in the building depends strongly on the principal building activity (Figure 3). For example, 93 percent of the floorspace in office buildings was in buildings with space heating, air conditioning, and water heating

all performed, compared with 74 percent of commercial floorspace overall.

Energy Using Equipment

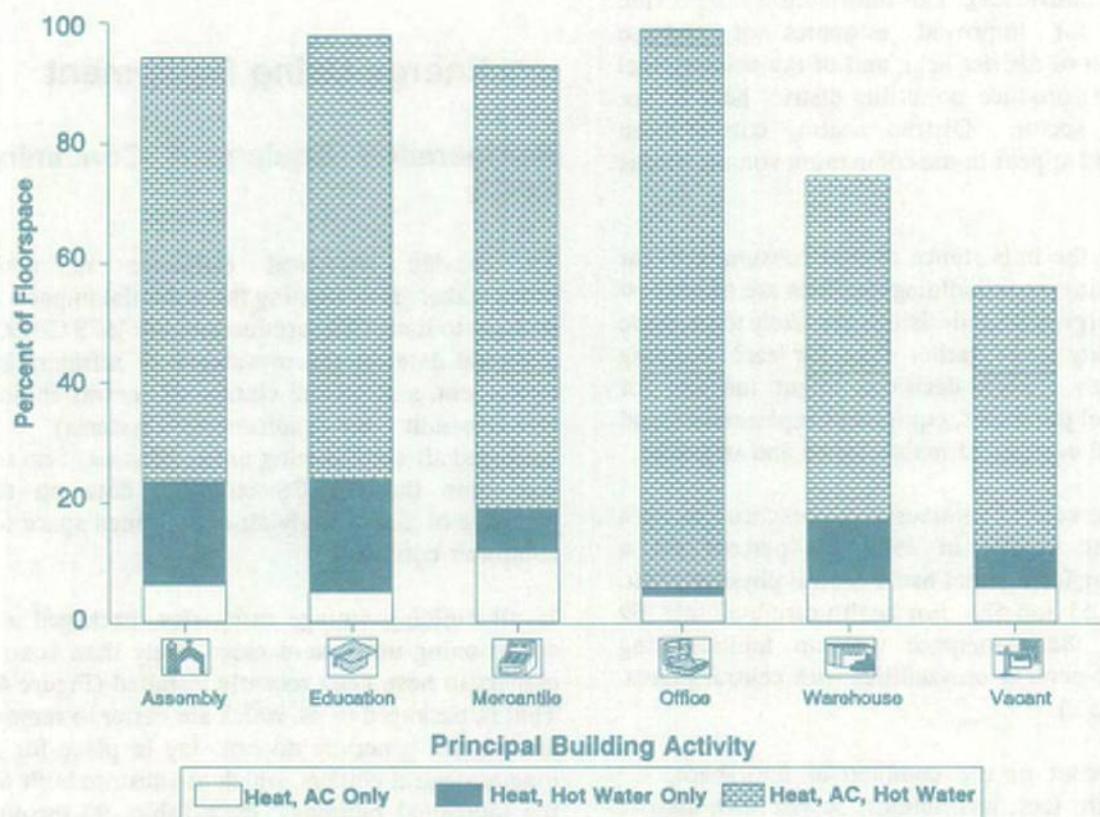
Refrigeration Equipment Containing CFC's

To provide statistical estimates to assist policymakers in evaluating the potential impacts of policies to limit CFC production, the 1989 CBECS collected data on the prevalence of refrigeration equipment, and on the vintage of central chillers (custom-built air-conditioning systems) and packaged air-conditioning units. This was also the first time the CBECS collected data on the presence of a separately air-conditioned space for computer equipment.

In all building vintage categories, packaged air-conditioning units were more likely than central chillers to have been recently installed (Figure 4). That is, packaged units, which are easier to remove and install, generally do not stay in place for as long as central chillers, which are custom built for the individual building. (See Tables 90 through 92.) For buildings constructed since 1960, the great majority of both packaged and central chillers are of the same vintage as the building itself. However, for buildings built earlier, a substantial fraction of chillers were installed within the past 10 years. Many of these recent installations may be replacements of outworn equipment.

The use of special refrigeration equipment was closely linked to the building activity. Commercial refrigerators and freezers were used in the great majority of food sales and food service buildings, while residential-type refrigerators were used in the great majority of health care, lodging, office, and public order and safety buildings (Figure 5). A separately air-conditioned computer area was found in 16 percent of office buildings and 12 percent of health care buildings, but in only a small fraction of other buildings. (See Table 94.) Every type of refrigeration equipment was more common among large buildings than among small ones.

Figure 3. Energy End-Use Combinations for Selected Principal Building Activities



Note: Within each principal building activity category, the figure represents the total floorspace of buildings that have the indicated combination of end uses, as a percentage of the total floorspace of buildings in that category.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey, Table 60 of this report.

Lighting

Fluorescent lamps were used in over 90 percent of commercial buildings (see Table 98), and provided lighting to almost 80 percent of all the lit floorspace in commercial buildings (Figure 6). Incandescent bulbs served only about 15 percent of lit commercial floorspace, with declining fractions for newer buildings. This is the first CBECS report to publish the amount of floorspace actually lit by each lamp type.² (See Table 101.)

High-Intensity Discharge (HID) lamps were more common in newer buildings, surpassing incandescents in the newest construction. Though used in only 11

percent of buildings overall, HID lamps were used in nearly 70 percent of buildings over 500,000 square feet in size. Parking garages were more likely to use this type of lamp than were buildings with other activities. HID lamps were also common in assembly, education, health care, and warehouse buildings.

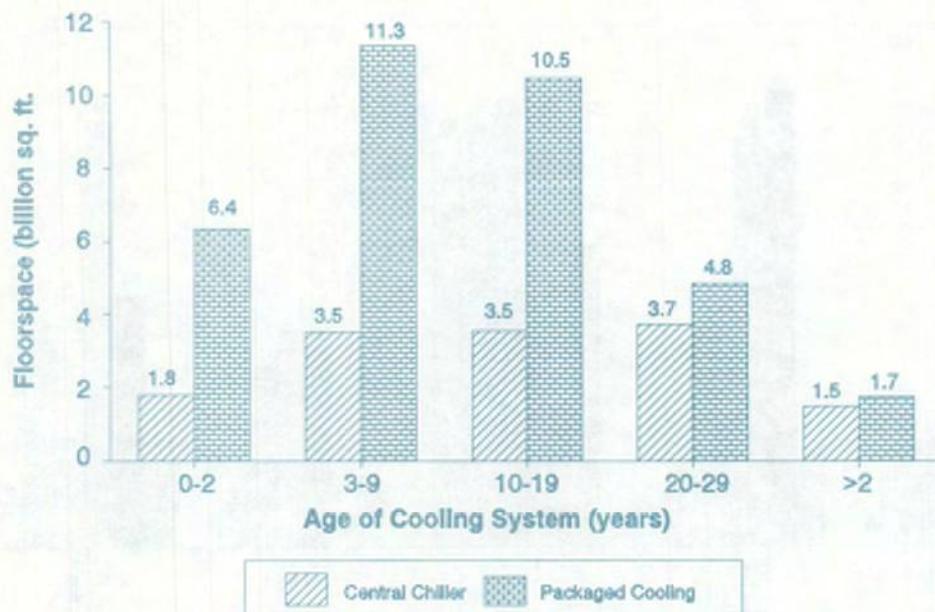
Energy Management

Computerized Energy Management and Control Systems (EMCS) have become increasingly popular in recent years. Over 40 percent of the floorspace built since 1986 was in a building with a computer-

²The 1986 CBECS did collect the data necessary, but the report only published the amounts of floorspace in buildings that contained different types of lamps. (See Table 99.)



Figure 4. Age of Central Chillers and Packaged Air Conditioners, Floorspace



Note: The figure shows the total floorspace in buildings whose main cooling system has the indicated age.
Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey, computed from Tables 90 and 91 of this report.

ized EMCS, compared with 27 percent for buildings built between 1980 and 1986, and lower fractions for older buildings. (See Table 110.) In almost all cases, the EMCS controls the heating, ventilation, and air-conditioning (HVAC) system; in 20 percent of the buildings with computerized EMCS (27 percent of the floorspace) lighting is also under EMCS control. This was the first CBECS to collect information on which systems were controlled by the EMCS.

Building Use Characteristics

Principal Building Activity

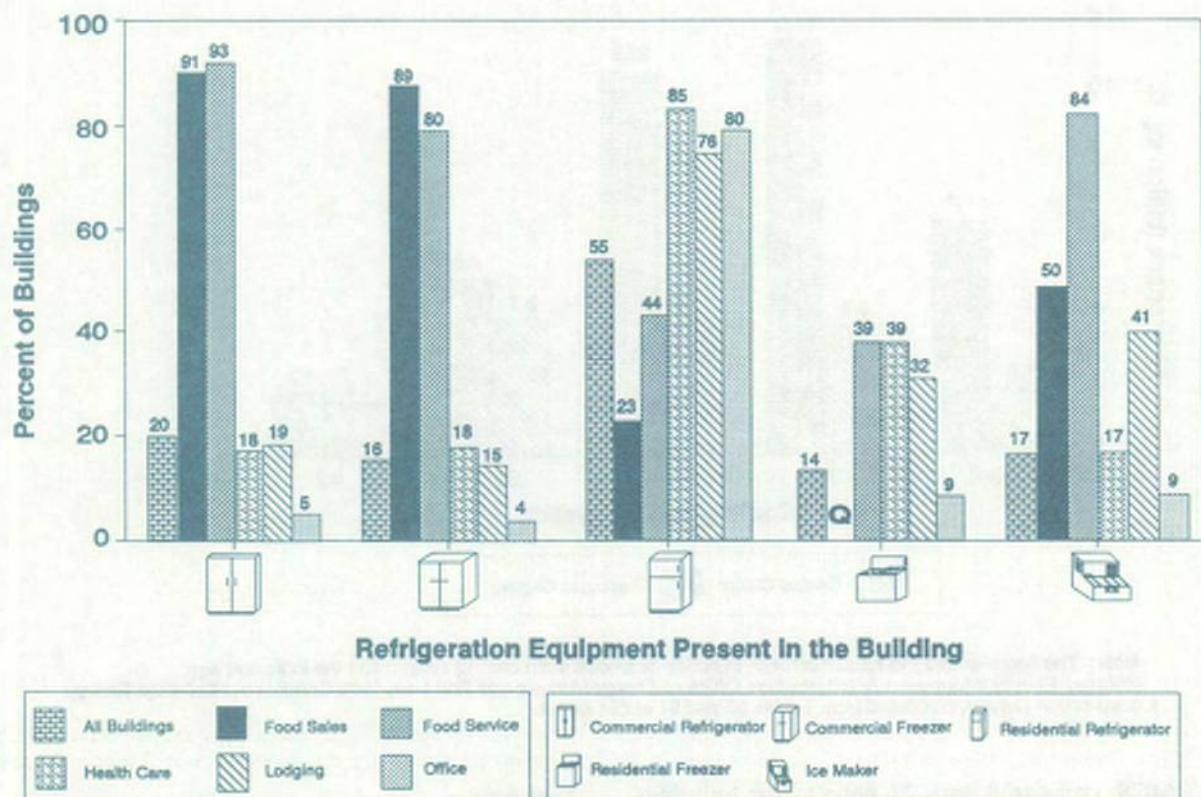
The breakdown of numbers and square footage by principal building activity indicates the diversity of the commercial buildings population. Table 3 provides the most detailed disaggregation of building activities found in this report. Mercantile and service buildings account for the greatest number and floorspace of any single activity category. Office buildings account for nearly as much floorspace, but far fewer buildings. Warehouses and assembly buildings both are almost as numerous as office buildings, but account for less floorspace.

Vacancy

Buildings whose principal activity classification was "vacant" accounted for 6.6 percent of the floorspace in 1989. The corresponding rate for 1986 was 5 percent; the difference is not statistically significant. Vacancy was more common among buildings under 5,000 square feet, and in buildings built before 1920 or after 1986. (See Tables 13 and 17.) Except for the most recent construction (1987 to 1989), the vacancy rate decreased for more recent construction years. In this most recent group, which includes buildings opened for the first time during 1989, the vacancy rate was 8 percent.

For buildings that were predominantly (more than 50 percent) vacant at the time of interview, the previous or intended use of the building was obtained. (See Tables 43 and 44.) Adding the floorspace previously or intended to be used for a given activity to the floorspace currently used for that activity gives an estimate of the total floorspace designated for that purpose, including both occupied and vacant space. By this calculation, 7 percent of floorspace in buildings

Figure 5. Refrigeration Equipment by Selected Building Activities



Q = Data withheld because the Relative Standard Error (RSE) was greater than 50 percent or fewer than 20 buildings were sampled.
Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey, Table 94 of this report.

designated (i.e., either intended for use or currently used) as warehouses was in predominantly vacant buildings. For designated office and mercantile buildings, by contrast, less than 4 percent of the floorspace was in predominantly vacant buildings.

A building's principal activity was classified as vacant for the CBECS if more floorspace was vacant than was devoted to any other single activity at the time of interview. A vacant building could therefore have been fully occupied for part of the year, or could have been partly occupied throughout the year. Conversely, a building not classified as vacant may have had a portion of its space vacant, or may have been vacant for a portion of the year. These partial vacancies affect the building's energy use.

To account for these effects, the CBECS measures vacancy in several ways. In addition to the principal activity at the time of interview, the CBECS obtains the fraction of floorspace that was vacant for three or more months (Tables 45 through 48), and the num-

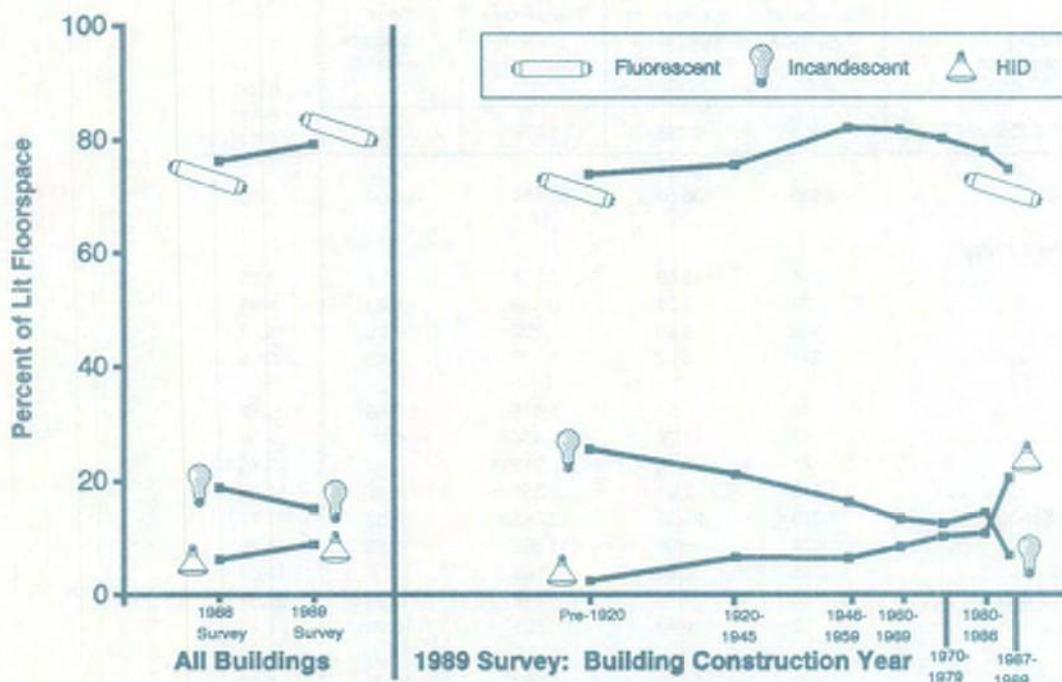
ber of months that the building was in use during the year (Tables 49 and 50).

A comparison of vacancy rates depends on which measure of vacancy is used. For example, 41 percent of floorspace in office buildings is in buildings with some portion vacant for three months or more, compared with 28 percent for education buildings. (See Table 48.) On the other hand, only 3 percent of office floorspace is in buildings open less than 12 months a year, compared with 36 percent for education buildings. (See Table 50.)

Of the total floorspace in buildings classed as vacant, 40 percent was in buildings open 12 months out of the year (see Table 50), and 5 percent was in buildings with no space vacant for three or more months. (See Table 48.) Thus, buildings in this principal activity category may have substantial energy-consuming activity over the course of the year.



Figure 6. Lighting Equipment by Building Construction Year



Note: Within each survey or construction year, each percent is computed as the total floorspace lit by the indicated lighting equipment, divided by the total lit floorspace. For the plots by building construction year, the horizontal position of each point corresponds to the median construction year of all buildings in the category.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys, Table 101 of this report.

Employment and Operating Hours

The number of workers in a building and the number of hours per week the building is open are both closely related to the building activity. Both these factors affect a building's energy use.

The ratio of total floorspace to total number of workers (square feet per worker) was nearly constant over a wide range of building sizes. (See Table 28; this is the only detailed table with statistics on numbers of workers, rather than building counts or floorspace.) However, floorspace per worker varied considerably with building activity (Figure 7), reflecting differences in how labor-intensive the activities are. Not surprisingly, floorspace per worker was very high for parking garages, warehouses, and

assembly buildings, and was lowest for office buildings.³

Floorspace per worker is a useful measure not only as a density index, but also as a basis for estimating floorspace for a geographic area from employment data, which are more commonly available. For certain building activities, other measures of size specific to that activity are similarly useful. The CBECS collects data on the number of classroom seats in education buildings, the seating capacity of food service buildings, the licensed bed capacity of inpatient health care and skilled nursing buildings, and the number of guest rooms in lodging buildings. (See Table 29.) The 1989 totals and floorspace per unit for these occupancy measures were similar to those for 1986, the first year the CBECS collected these data.

³The 1989 CBECS definition of the number of workers was slightly different from the 1986 definition. The section on "Data Collection Problems" in Appendix B, "Nonsampling and Sampling Errors" discusses the effect of this difference on comparisons between the two surveys.

Table 3. Principal Building Activity

Building Characteristics	Number of Buildings (thousand)	Number of Buildings (percent)	Total Floorspace (million square feet)	Total Floorspace (percent)	RSE Row Factor
	RSE Column Factor:	0.959	0.893	1.094	
All Buildings	4,528	100.00	63,184	100.00	3.10
Principal Building Activity					
Assembly	615	13.59	6,838	10.82	7.75
Education	284	6.27	8,148	12.89	7.83
Food Sales	102	2.26	792	1.25	18.69
Food Service	241	5.32	1,167	1.85	10.68
Health Care					
Inpatient	23	0.51	1,618	2.56	21.57
Outpatient	57	1.26	436	0.69	22.38
Laboratory	21	0.46	919	1.45	29.68
Lodging	118	2.61	2,855	4.52	10.92
Mercantile and Service	1,278	28.23	12,365	19.57	4.17
Office	679	15.00	11,802	18.68	5.75
Parking Garage	45	0.99	983	1.56	19.01
Public Order and Safety	50	1.11	616	0.98	21.37
Skilled Nursing	22	0.48	621	0.98	21.45
Warehouse					
Nonrefrigerated	605	13.36	8,882	14.06	8.32
Refrigerated	13	0.29	371	0.59	35.62
Other	41	0.91	610	0.97	22.23
Vacant	333	7.36	4,161	6.59	12.55

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Another measure of how intensively a building is used is the weekly operating hours. This measure also showed reasonable variation with building activity. (See Tables 32 through 35.) For example, most assembly buildings were open less than 40 hours per week, while most lodging buildings and public order and safety buildings were open continuously.

Asbestos-Related Information

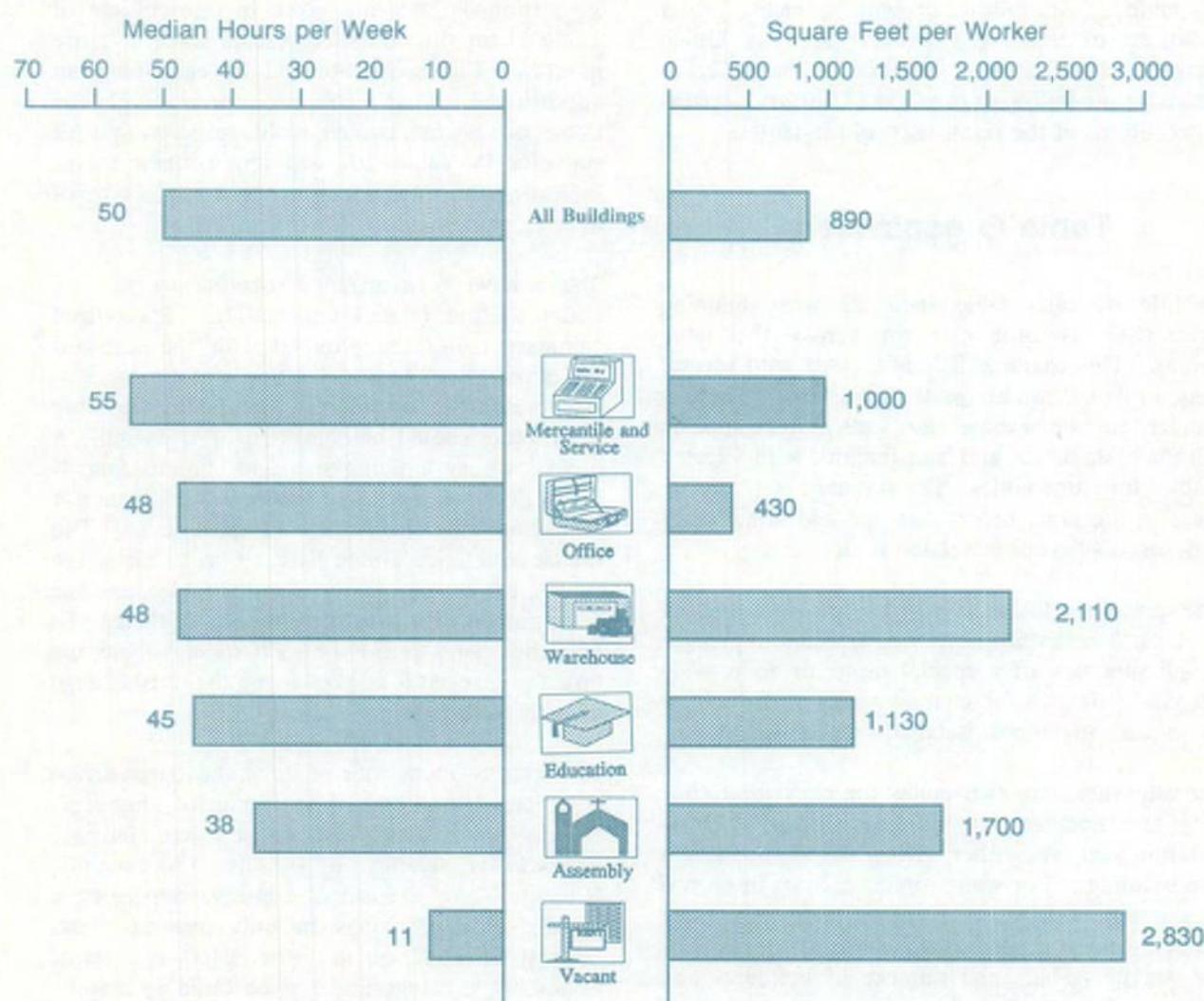
The 1989 CBECS collected data for the U.S. Environmental Protection Agency on the presence and treatment of asbestos in commercial buildings. (See Tables 111 through 117.) Buildings that contained asbestos at some time accounted for about 30

percent of all commercial floorspace, but roughly three-quarters of the floorspace in education and health care buildings.

Asbestos was treated or removed from the buildings accounting for 73 percent of the floorspace where it had ever been present. For education and health care buildings, the abatement rate was somewhat higher. Removal was the most common way of dealing with the asbestos, followed by encapsulation or sealing. Many buildings had more than one abatement measure performed, in two or more years. Asbestos is currently present (in either treated or untreated form) in 8 percent of commercial buildings, accounting for 22 percent of commercial floorspace.



Figure 7. Floorspace per Worker and Median Weekly Operating Hours by Principal Building Activity



Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, 1989 Commercial Buildings Energy Consumption Survey.



Detailed Tables

The tables that follow present extensive cross tabulations of building characteristics. A Quick Reference Guide to the statistics in the different tables is on the following page. The Glossary contains the definitions of the terms used in the tables.

Table Organization

The title of each table indicates what building characteristic is broken down across the table columns. This characteristic is crossed with several others, broken down across the table rows. There is a standard set of row categories (stubs), which appears in all the basic tables, and is augmented with selected variables for some tables. The standard stubs always appear in the same order, with the additional stubs interspersed adjacent to related topics.

Some specialized tables have only a few or condensed row stubs. These stubs have been selected to provide a quick summary of a special topic, or to provide aggregate estimates for characteristics with too few sample cases to support detailed breakdowns.

Generally, there are two tables for each topic, one giving the numbers of buildings in each cross-tabulation cell, the other giving the floorspace in those buildings. For some topics, each of these two tables is followed by a percentage table, expressing each cell total as a percentage of the row total. For some smaller tables, the number of buildings and floorspace (or percent of buildings and percent of floorspace) appear together in a single table. Table 28 is the only table that presents neither building counts nor floorspace. This table gives the total number of workers in buildings with the indicated characteristics.

In general, the floorspace totals shown in the Detailed Tables include all the floorspace in buildings where the indicated feature is present. That is, a particular building's floorspace is either entirely included or excluded from a particular table cell. For a few characteristics, however, an apportioned floorspace total is presented, summing up only those portions of the buildings' floorspace that had the indicated feature. The apportioned floorspace is determined for each building by multiplying the building's floorspace by the fraction that had the indicated feature.

Apportioned totals are given in one column of Table 47 for the floorspace vacant three or more months. Tables 79, 80, and 81 each have an apportioned total column, presenting the floorspace heated, cooled, or lit, respectively. All statistics in Table 101 are apportioned totals, indicating the total floorspace lit by each type of lighting equipment.

Tables have been grouped together to make it easier to find related information. Specialized summary tables are grouped with the standard tables on related topics. To find a particular two-way breakdown of interest, the tables featuring both topics should be consulted. For example, a breakdown by building size and climate zone is found in the climate zone Tables 9 and 10, but not in the building size Tables 11 through 14. The Quick Reference Guide lists, by broad class, the topic areas covered by the detailed tables, and the table numbers for the different types of tables. To help the reader quickly find a particular table, the broad topic class is marked along the outside edge of each table page.

There are two types of row stubs, those that divide commercial buildings into exclusive, nonoverlapping categories, and those that indicate nonexclusive, overlapping subsets. For example, "Climate Zone" is a set of exclusive categories; a given building belongs in only one of these. "Energy Sources", on the other hand, is a set of nonexclusive categories; a given building may be represented in more than one line under this stub, since the building may use more than one energy source. The phrase "Solely or in Combination" indicates that the categories under this row header are overlapping. Both exclusive and overlapping categories may be nonexhaustive; that is, there may be some buildings that do not fall into any of the listed categories.

Row and Column Factors

The tables in this report present estimates for commercial buildings in the United States. Since the estimates are based on the sample surveyed, they are subject to sampling error. To help the reader compute an approximate relative standard



error (RSE) for each of the estimates in the tables, row and column factors are displayed on the top line and in the far right column of each table. To calculate the RSE for a specific estimate, multiply the

row factor by the column factor. For more details, see Figure B1 and the related discussion in Appendix B, "Nonsampling and Sampling Errors."

Quick Reference Guide

Data Item/Category	Table Numbers				
	Buildings		Floorspace		Other Statistics
	Number	Percent	Total	Percent	
Text Tables					
Energy Sources and End Uses	1		2		
Principal Activity	3	3	3	3	
Location					
Census Region	4	5	4	5	
Census Division	6		7		
Metropolitan Status	8		8		
Climate Zone	9	10	9	10	
Structure					
Building Size	11	12	13	14	
Year Constructed	15	16	17	18	
Floors	19		19		
Wall Materials	20		21		
Roof Materials	22		23		
Building Use					
Number of Workers	24	25	26	27	28
Special Measures of Occupancy	29		29		29
Weekly Operating Schedule	30		31		
Weekly Operating Hours	32	33	34	35	
Occupancy					
Government	36		36		
Nongovernment	37		38		
Number of Establishments	39	40	41	42	
Vacant Buildings Intended Use	43		44		
Percent Vacant	45	46	47	48	47
Months in Use	49	50	49	50	
Multibuilding Facilities	51	52	51	52	
Energy Sources and End Uses					
Energy Sources Used	53	54	55	56	
Energy End Uses	57	58	57	58	
Energy-End Use Combinations			59	60	
Space-Heating Energy Sources	61	62	63	64	
Primary Space-Heating Fuel	65	66	67	68	
Alternate Main Heating Fuel	69	70	71	72	
Fuel-Switching	73		74		
Cooling Energy Sources	75		75		
Water-Heating Energy Sources	76		77		
Cooking Energy Sources	78		78		



Quick Reference Guide (Continued)

Table Numbers

	Buildings Number	Buildings Percent	Floorspace Total	Floorspace Percent	Other Statistics
End-Use Percentage					
Percent Heated	79		79	79	
Percent Cooled	80		80	80	
Percent Lit	81		81	81	
End-Use Equipment					
Heating Equipment	82	83	84	85	
Cooling Equipment	86	87	88	89	
Central Chiller Vintage	90		90		
Packaged Cooling Vintage	91	92	91	92	
Special Refrigeration Equipment	93	94	95	96	
Lighting Equipment	97	98	99	100	101
Conservation Features					
Building Shell	102	103	104	105	
Conservation Additions	106		106		
Occupant Control and Off-Hours					
Heating Reduction	107		107		
Occupant Control and Off-Hours					
Cooling Reduction	108		108		
Energy Management	109		110		
Asbestos					
Presence and Treatment	111		112		
Type Currently Present	113		114		
Removal or Treatment Method	115		116		
Removal or Treatment Year	117		117		

Table 4. Census Region, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor
	All Buildings	Northeast	Midwest	South	West	All Buildings	Northeast	Midwest	South	West	
	RSE Column Factor:	0.552	1.229	1.015	0.944	1.239	0.615	1.342	1.145	1.056	1.246
All Buildings.....	4,528	783	1,046	1,847	851	63,184	13,569	15,955	22,040	11,620	6.05
Building Floorspace (Square Feet)											
1,001 to 5,000.....	2,529	390	592	1,086	461	6,790	1,047	1,612	2,853	1,279	8.25
5,001 to 10,000.....	890	175	196	345	174	6,532	1,271	1,468	2,530	1,263	9.33
10,001 to 25,000.....	644	127	140	249	129	10,393	1,980	2,250	4,109	2,054	9.15
25,001 to 50,000.....	247	48	59	91	48	8,801	1,722	2,049	3,322	1,708	11.10
50,001 to 100,000.....	127	21	33	51	23	9,130	1,507	2,362	3,632	1,630	12.03
100,001 to 200,000.....	61	15	16	16	13	8,277	2,079	2,232	2,226	1,739	15.44
200,001 to 500,000.....	23	5	8	7	3	7,022	1,508	2,593	2,088	832	24.96
Over 500,000.....	7	3	2	1	1	6,239	2,454	1,390	1,281	1,115	25.30
Principal Building Activity											
Assembly.....	615	96	134	275	109	6,838	1,507	1,408	2,750	1,174	12.95
Education.....	284	38	54	108	84	8,148	1,888	2,221	2,404	1,634	13.14
Food Sales.....	102	0	0	45	0	792	0	0	278	0	31.10
Food Service.....	241	54	59	87	41	1,167	284	339	370	173	18.66
Health Care.....	80	12	21	30	17	2,054	378	912	472	292	24.30
Lodging.....	140	21	24	50	44	3,476	549	982	1,215	730	16.85
Mercantile and Service.....	1,278	259	303	523	193	12,365	2,647	3,059	4,778	1,882	8.68
Office.....	679	108	139	275	157	11,802	2,703	2,281	3,817	3,001	10.51
Parking Garage.....	45	16	13	7	8	983	160	384	245	194	33.77
Public Order and Safety.....	50	0	0	0	0	616	0	0	0	0	33.44
Warehouse.....	618	95	177	243	104	9,253	1,811	2,639	3,422	1,381	15.08
Other.....	62	12	8	29	14	1,529	161	178	821	369	33.19
Vacant.....	333	45	82	158	49	4,161	905	1,349	1,326	581	19.75
Year Constructed											
1899 or Before.....	172	58	50	47	0	1,654	743	445	308	0	23.99
1900 to 1919.....	242	67	86	51	38	4,245	1,408	1,602	628	606	22.98
1920 to 1945.....	680	170	156	238	116	8,098	2,574	2,401	2,250	873	12.70
1946 to 1959.....	868	159	195	354	159	10,511	2,196	2,250	4,089	1,975	12.30
1960 to 1969.....	821	114	210	318	179	12,167	2,736	3,286	4,057	2,089	9.97
1970 to 1979.....	884	109	191	404	181	13,329	2,030	3,160	5,217	2,923	10.23
1980 to 1983.....	317	31	55	161	70	4,274	439	893	1,926	1,015	12.99
1984 to 1986.....	329	38	56	181	55	5,670	849	1,218	2,437	1,166	15.47
1987 to 1989.....	215	37	46	94	37	3,235	593	700	1,127	816	19.11
Metropolitan Status											
Metropolitan.....	3,073	617	609	1,167	680	50,809	11,561	12,652	16,220	10,376	7.02
Nonmetropolitan.....	1,454	166	437	1,680	171	12,375	2,008	3,303	5,819	1,244	13.05
Workers											
Fewer than 5.....	2,280	386	544	957	394	13,292	2,307	3,653	5,192	2,140	8.76
5 to 9.....	906	155	206	370	176	7,939	1,375	1,812	3,456	1,296	10.32
10 to 19.....	507	86	104	191	126	6,445	1,253	1,433	2,291	1,468	12.42
20 to 49.....	381	84	88	144	65	9,665	2,265	2,196	3,538	1,666	9.79
50 to 99.....	132	29	26	49	28	7,389	1,781	2,188	2,251	1,160	13.40
100 to 249.....	79	16	21	20	22	6,771	1,656	2,050	1,623	1,441	15.11
250 or More.....	32	6	8	11	7	9,829	2,619	2,303	2,860	2,047	19.89
Weekly Operating Hours											
39 or Fewer.....	876	113	218	399	145	6,073	973	1,293	2,833	973	12.69
40 to 48.....	1,117	165	242	525	186	13,905	2,610	2,777	6,427	2,091	9.22
49 to 60.....	987	174	232	383	198	13,473	2,799	3,207	4,530	2,937	9.79
61 to 84.....	625	135	156	215	120	10,777	2,983	2,807	3,171	1,817	10.37
85 to 167.....	515	124	124	175	91	9,387	2,368	3,091	2,244	1,683	15.47
168 (Open Continuously).....	408	72	74	151	111	9,569	1,835	2,781	2,835	2,119	10.59
Energy Sources (Solely or in Combination)											
Electricity.....	4,297	751	1,001	1,726	819	61,587	13,326	15,710	21,233	11,318	6.04
Natural Gas.....	2,439	358	737	815	530	41,593	8,583	12,923	11,883	8,205	7.26
Fuel Oil.....	586	305	90	158	33	12,684	5,158	3,261	2,852	1,412	13.98
District Heat.....	105	30	16	35	23	6,856	2,356	1,546	1,694	1,259	24.51
District Chilled Water.....	25	1	3	14	7	2,101	407	318	911	465	28.47
Propane.....	348	85	76	146	42	4,695	1,073	1,061	1,738	Q	22.81
Any Other.....	130	31	34	53	Q	1,542	370	552	456	Q	30.77
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	3,877	711	920	1,512	734	57,868	12,969	15,067	19,170	10,662	6.32
Air-Conditioned Buildings.....	3,184	476	706	1,427	576	51,771	10,334	13,159	18,958	9,320	6.93
Buildings with Water Heating.....	3,184	620	786	1,149	629	53,585	12,447	14,211	16,925	10,002	6.38
Buildings with Cooking.....	864	190	180	311	183	23,668	5,870	6,490	7,194	4,114	10.17
Buildings with Manufacturing..	205	51	43	64	47	5,601	1,026	1,538	1,732	1,304	22.36
Percent Heated											
Not Heated.....	662	77	128	338	119	5,419	629	907	2,902	982	13.43
1 to 50.....	630	95	125	283	126	9,314	1,766	2,396	3,338	1,814	14.69
51 to 99.....	496	96	91	197	113	8,673	1,215	1,801	3,549	2,108	13.99
100.....	2,739	515	702	1,029	493	39,777	9,959	10,851	12,250	6,716	6.25

See footnotes at end of table.

LOCATION
Table 4. Census Region, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor
	All Buildings	Northeast	Midwest	South	West	All Buildings	Northeast	Midwest	South	West	
	RSE Column Factor:	0.552	1.229	1.015	0.944	1.239	0.615	1.342	1.145	1.056	1.246
Percent Cooled											
Not Cooled.....	1,344	307	340	421	276	11,413	3,234	2,797	3,082	2,300	8.97
1 to 50.....	1,037	219	257	395	166	17,821	4,866	5,302	5,288	2,364	11.24
51 to 99.....	597	113	133	243	108	13,139	2,462	3,495	4,834	2,347	10.98
100.....	1,550	145	316	788	302	20,811	3,006	4,361	8,836	4,608	9.40
Percent Lit When Open											
Not Lit.....	306	38	76	148	45	2,359	408	429	1,085	437	16.81
1 to 50.....	1,002	183	237	376	205	10,870	1,765	3,175	4,087	1,843	11.68
51 to 99.....	951	167	242	346	197	16,950	3,806	4,529	5,520	3,096	10.06
100.....	2,269	395	491	978	404	33,004	7,590	7,822	11,348	6,245	7.60
Floors											
One.....	2,886	333	598	1,407	548	23,756	3,667	4,870	10,839	4,380	8.47
Two.....	1,057	243	272	337	205	16,112	3,109	3,866	5,922	3,216	8.37
Three.....	408	135	131	73	68	8,604	2,260	2,842	2,221	1,281	14.19
More than Three.....	177	72	45	30	30	14,711	4,533	4,378	3,058	2,743	16.44
Wall Materials											
Masonry.....	2,849	508	683	1,146	511	42,074	9,751	11,860	14,363	6,100	7.05
Siding or Shingles.....	802	181	181	267	173	4,788	1,292	1,013	1,396	1,087	14.45
Metal Panels.....	557	56	127	287	86	5,689	669	1,420	2,788	812	16.03
Concrete Panels.....	240	21	34	125	60	7,221	899	1,061	2,531	2,730	19.20
Window Glass.....	33	6	7	9	11	1,924	Q	316	356	589	29.23
Other.....	46	11	12	13	10	1,487	294	286	Q	302	32.92
Roof Materials											
Built-Up.....	1,614	249	384	668	313	31,057	5,738	8,083	10,862	6,374	7.77
Shingles (Not Wood).....	1,392	271	319	533	269	10,917	2,884	2,274	3,456	2,303	11.75
Metal Surfacing.....	901	115	176	470	140	8,197	1,537	1,694	3,865	1,101	13.58
Synthetic or Rubber.....	211	60	85	50	16	6,911	1,789	2,402	2,152	568	16.69
Slate or Tile.....	193	55	25	59	53	2,582	673	506	811	592	23.49
Concrete.....	72	11	12	9	8	1,932	Q	407	641	265	33.33
Wooden Materials.....	106	0	35	Q	36	727	Q	223	Q	244	23.88
Other.....	38	Q	Q	Q	Q	860	Q	Q	Q	Q	37.35
Ownership and Occupancy											
Nongovernment Owned.....	3,951	693	937	1,616	705	48,842	10,335	12,619	17,087	8,801	6.66
Owner Occupied.....	2,814	546	718	1,093	458	35,955	8,281	10,003	11,894	5,776	7.33
Nonowner Occupied.....	1,136	148	219	523	247	12,888	2,055	2,616	5,193	3,025	10.16
Government Owned.....	577	90	109	232	147	14,342	3,233	3,336	4,953	2,819	12.29

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 5. Census Region, Percent of Buildings and Floorspace

Building Characteristics	Percent of Buildings					Percent of Total Floorspace					RSE Row Factor
	All Buildings	Northeast	Midwest	South	West	All Buildings	Northeast	Midwest	South	West	
	RSE Column Factor:	--	1.134	0.929	0.703	1.116	--	1.177	0.985	0.870	1.201
All Buildings.....	100.0	17.3	23.1	40.8	18.8	100.0	21.5	25.3	34.9	18.4	6.34
Building Floorspace (Square Feet)											
1,001 to 5,000.....	100.0	15.4	23.4	43.0	18.2	100.0	15.4	23.7	42.0	18.8	8.58
5,001 to 10,000.....	100.0	19.6	22.0	38.8	19.5	100.0	19.5	22.5	38.7	19.3	9.49
10,001 to 25,000.....	100.0	19.7	21.7	38.7	20.0	100.0	19.1	21.6	39.5	19.8	8.41
25,001 to 50,000.....	100.0	19.5	24.0	37.0	19.5	100.0	19.6	23.3	37.7	19.4	11.61
50,001 to 100,000.....	100.0	16.3	25.9	40.0	17.8	100.0	16.5	25.9	39.8	17.8	11.96
100,001 to 200,000.....	100.0	25.1	26.8	26.6	21.6	100.0	25.1	27.0	26.9	21.0	16.07
200,001 to 500,000.....	100.0	22.3	35.8	30.2	11.7	100.0	21.5	36.9	29.7	11.9	21.70
Over 500,000.....	100.0	37.6	25.7	20.6	16.1	100.0	39.3	22.3	20.5	17.9	25.66
Principal Building Activity											
Assembly.....	100.0	15.6	21.9	44.7	17.8	100.0	22.0	20.6	40.2	17.2	13.09
Education.....	100.0	13.3	19.0	38.1	29.5	100.0	23.2	27.3	29.5	20.1	13.09
Food Sales.....	100.0	Q	Q	44.3	Q	100.0	Q	Q	35.1	Q	33.11
Food Service.....	100.0	22.2	24.5	36.3	17.0	100.0	24.4	29.1	31.7	14.8	19.49
Health Care.....	100.0	14.6	26.6	38.1	20.8	100.0	18.4	44.4	23.0	14.2	24.67
Lodging.....	100.0	15.3	17.0	36.0	31.6	100.0	15.8	28.2	35.0	21.0	17.55
Mercantile and Service.....	100.0	20.3	23.7	40.9	15.1	100.0	21.4	24.7	38.6	15.2	8.91
Office.....	100.0	15.9	20.5	40.5	23.1	100.0	22.9	19.3	32.3	25.4	10.76
Parking Garage.....	100.0	36.5	28.9	15.7	18.9	100.0	16.2	39.1	24.9	19.8	34.04
Public Order and Safety.....	100.0	Q	Q	Q	Q	100.0	Q	Q	Q	Q	34.84
Warehouse.....	100.0	15.3	28.6	39.3	16.7	100.0	19.6	28.5	37.0	14.9	15.27
Other.....	100.0	19.6	12.4	46.2	21.8	100.0	10.5	11.7	53.7	24.1	31.90
Vacant.....	100.0	13.4	24.5	47.5	14.6	100.0	21.7	32.4	31.9	14.0	17.89
Year Constructed											
1899 or Before.....	100.0	33.8	29.0	27.1	Q	100.0	44.9	26.9	18.6	Q	25.30
1900 to 1919.....	100.0	27.6	35.7	21.2	15.5	100.0	33.2	37.7	14.8	14.3	20.64
1920 to 1945.....	100.0	25.0	23.0	35.0	17.0	100.0	31.8	29.7	27.8	10.8	13.05
1946 to 1959.....	100.0	18.4	22.5	40.8	18.3	100.0	20.9	21.4	38.9	18.8	13.01
1960 to 1969.....	100.0	13.8	25.6	38.8	21.8	100.0	22.5	27.0	33.3	17.2	10.15
1970 to 1979.....	100.0	12.3	21.6	45.7	20.5	100.0	15.2	23.7	39.1	21.9	10.29
1980 to 1983.....	100.0	9.9	17.2	50.9	22.0	100.0	10.3	20.9	45.1	23.8	12.75
1984 to 1986.....	100.0	11.5	17.0	54.8	16.6	100.0	15.0	21.5	43.0	20.6	16.14
1987 to 1989.....	100.0	17.3	21.6	43.7	17.4	100.0	18.3	21.6	34.8	25.2	19.14
Metropolitan Status											
Metropolitan.....	100.0	20.1	19.8	38.0	22.1	100.0	22.8	24.9	31.9	20.4	7.17
Nonmetropolitan.....	100.0	11.4	30.0	46.8	11.8	100.0	16.2	26.7	47.0	10.1	13.32
Workers											
Fewer than 5.....	100.0	16.9	23.8	42.0	17.3	100.0	17.4	27.5	39.1	16.1	9.28
5 to 9.....	100.0	17.1	22.7	40.8	19.4	100.0	17.3	22.8	43.5	16.3	10.79
10 to 19.....	100.0	16.9	20.6	37.6	24.9	100.0	19.4	22.2	35.9	22.8	12.26
20 to 49.....	100.0	22.2	23.0	37.7	17.1	100.0	23.4	22.7	36.6	17.2	9.53
50 to 99.....	100.0	22.2	19.7	37.1	20.9	100.0	24.1	29.6	30.6	15.7	13.57
100 to 249.....	100.0	20.3	27.3	25.0	27.5	100.0	24.5	30.3	24.0	21.3	16.00
250 or More.....	100.0	19.0	25.0	33.3	22.7	100.0	26.6	23.4	29.1	20.8	19.23
Weekly Operating Hours											
39 or Fewer.....	100.0	12.9	24.9	45.5	16.6	100.0	16.0	21.3	46.6	16.0	13.19
40 to 48.....	100.0	14.8	21.6	47.0	16.6	100.0	18.8	20.0	46.2	15.0	9.23
49 to 60.....	100.0	17.6	23.5	38.8	20.0	100.0	20.8	23.8	33.6	21.8	9.77
61 to 84.....	100.0	21.6	24.9	34.3	19.1	100.0	27.7	26.0	29.4	16.9	10.76
85 to 167.....	100.0	24.1	24.1	34.0	17.8	100.0	25.2	32.9	23.9	17.9	15.85
168 (Open Continuously).....	100.0	17.6	18.1	37.0	27.2	100.0	19.2	29.1	29.6	22.1	11.09
Energy Sources (Solely or in Combination)											
Electricity.....	100.0	17.5	23.3	40.2	19.1	100.0	21.6	25.5	34.5	18.4	6.32
Natural Gas.....	100.0	14.7	30.2	33.4	21.7	100.0	20.6	31.1	28.6	19.7	7.35
Fuel Oil.....	100.0	52.0	15.4	27.0	5.6	100.0	40.7	25.7	22.5	11.1	14.26
District Heat.....	100.0	29.0	15.6	33.2	22.1	100.0	34.4	22.6	24.7	18.4	24.16
District Chilled Water.....	100.0	Q	12.3	56.6	26.6	100.0	19.4	15.1	43.4	22.2	30.24
Propane.....	100.0	24.3	21.8	41.8	12.1	100.0	22.9	22.6	37.0	17.5	23.27
Any Other.....	100.0	24.0	26.5	41.0	Q	100.0	24.0	35.8	29.5	Q	31.92
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	100.0	18.3	23.7	39.0	18.9	100.0	22.4	26.0	33.1	18.4	6.50
Air-Conditioned Buildings.....	100.0	15.0	22.2	44.8	18.1	100.0	20.0	25.4	36.6	18.0	7.12
Buildings with Water Heating.....	100.0	19.5	24.7	36.1	19.8	100.0	23.2	26.5	31.6	18.7	6.39
Buildings with Cooking.....	100.0	22.0	20.8	36.0	21.2	100.0	24.8	27.4	30.4	17.4	10.95
Buildings with Manufacturing.....	100.0	24.8	21.2	31.1	22.9	100.0	18.3	27.5	30.9	23.3	22.31
Percent Heated											
Not Heated.....	100.0	11.6	19.3	51.0	18.0	100.0	11.6	16.7	53.5	18.1	13.45
1 to 50.....	100.0	15.2	19.9	44.9	20.0	100.0	19.0	25.7	35.8	19.5	15.22
51 to 99.....	100.0	19.3	18.2	39.7	22.8	100.0	14.0	20.8	40.9	24.3	13.96
100.....	100.0	18.8	25.6	37.6	18.0	100.0	25.0	27.3	30.8	16.9	6.21

See footnotes at end of table.

LOCATION
Table 5. Census Region, Percent of Buildings and Floorspace (Continued)

Building Characteristics	Percent of Buildings					Percent of Total Floorspace					RSE Row Factor
	All Buildings	Northeast	Midwest	South	West	All Buildings	Northeast	Midwest	South	West	
	RSE Column Factor:	--	1.134	0.929	0.703	1.116	--	1.177	0.985	0.870	1.201
Percent Cooled											
Not Cooled.....	100.0	22.9	25.3	31.3	20.5	100.0	28.3	24.5	27.0	20.2	9.15
1 to 50.....	100.0	21.1	24.8	38.1	16.0	100.0	27.3	29.8	29.7	13.3	10.78
51 to 99.....	100.0	18.9	22.3	40.8	18.1	100.0	18.7	26.6	36.8	17.9	11.26
100.....	100.0	9.3	20.4	50.8	19.5	100.0	14.4	21.0	42.5	22.1	9.54
Percent Lit When Open											
Not Lit.....	100.0	12.5	24.7	48.2	14.6	100.0	17.3	18.2	46.0	18.3	17.48
1 to 50.....	100.0	18.3	23.7	37.5	20.5	100.0	16.2	29.2	37.6	17.0	12.31
51 to 99.....	100.0	17.5	25.4	36.4	20.7	100.0	22.5	26.7	32.6	18.3	10.33
100.....	100.0	17.4	21.7	43.1	17.8	100.0	23.0	23.7	34.4	18.9	7.53
Floors											
One.....	100.0	11.5	20.7	48.8	19.0	100.0	15.4	20.5	45.6	18.4	8.65
Two.....	100.0	23.0	25.7	31.9	19.4	100.0	19.3	24.0	36.8	20.0	8.22
Three.....	100.0	33.2	32.1	18.0	16.7	100.0	26.3	33.0	25.8	14.9	14.12
More than Three.....	100.0	40.5	25.5	16.8	17.2	100.0	30.8	29.8	20.8	18.6	17.36
Wall Materials											
Masonry.....	100.0	17.8	24.0	40.2	17.9	100.0	23.2	28.2	34.1	14.5	7.34
Siding or Shingles.....	100.0	22.6	22.6	33.3	21.5	100.0	27.0	21.2	29.2	22.7	14.83
Metal Panels.....	100.0	10.1	22.9	51.6	15.4	100.0	11.8	25.0	49.0	14.3	16.59
Concrete Panels.....	100.0	8.6	14.4	52.0	25.0	100.0	12.5	14.7	35.1	37.8	19.10
Window Glass.....	100.0	17.8	21.1	27.2	33.9	100.0	34.5	16.4	18.5	30.6	32.60
Other.....	100.0	22.9	27.0	28.0	22.1	100.0	19.8	19.2	40.7	20.3	32.40
Roof Materials											
Built-Up.....	100.0	15.4	23.8	41.4	19.4	100.0	18.5	26.0	35.0	20.5	7.67
Shingles (Not Wood).....	100.0	19.5	22.9	38.3	19.4	100.0	26.4	20.8	31.7	21.1	11.83
Metal Surfacing.....	100.0	12.8	19.5	52.1	15.6	100.0	18.7	20.7	47.2	13.4	14.36
Synthetic or Rubber.....	100.0	28.5	40.3	23.7	7.6	100.0	25.9	34.8	31.1	8.2	16.80
Slate or Tile.....	100.0	28.7	13.0	30.7	27.6	100.0	26.1	19.6	31.4	22.9	24.82
Concrete.....	100.0	15.3	17.2	56.4	11.1	100.0	32.1	21.1	33.1	13.7	35.13
Wooden Materials.....	100.0	Q	32.9	Q	33.9	100.0	Q	30.7	Q	33.6	24.48
Other.....	100.0	Q	Q	Q	Q	100.0	Q	Q	Q	Q	37.47
Ownership and Occupancy											
Nongovernment Owned.....	100.0	17.6	23.7	40.9	17.8	100.0	21.2	25.8	35.0	18.0	7.01
Owner Occupied.....	100.0	19.4	25.5	38.8	16.3	100.0	23.0	27.8	33.1	16.1	7.81
Nonowner Occupied.....	100.0	13.0	19.3	46.0	21.7	100.0	15.9	20.3	40.3	23.5	10.17
Government Owned.....	100.0	15.6	18.9	40.1	25.4	100.0	22.5	23.3	34.5	19.7	12.53

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 6. Census Division, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Census Region and Division									RSE Row Factor	
		Northeast		Midwest		South			West			
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific		
RSE Column Factor:	0.375	1.387	0.939	0.858	1.274	1.024	1.402	0.957	1.466	0.929		
All Buildings.....	4,528	184	599	686	360	737	397	713	322	529	11.07	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	90	300	388	203	408	244	435	187	274	13.87	
5,001 to 10,000.....	890	39	136	124	72	143	65	138	52	122	14.92	
10,001 to 25,000.....	644	28	99	97	43	103	57	89	51	78	14.06	
25,001 to 50,000.....	247	17	31	34	25	44	20	27	20	28	17.49	
50,001 to 100,000.....	127	5	16	25	8	28	7	16	8	15	19.17	
100,001 to 200,000.....	61	5	10	12	4	8	3	5	0	9	26.30	
200,001 to 500,000.....	23	1	4	5	4	3	0	2	0	2	30.78	
Over 500,000.....	7	Q	2	1	Q	1	Q	Q	Q	1	33.78	
Principal Building Activity												
Assembly.....	615	28	68	89	45	116	69	90	47	62	17.36	
Education.....	284	6	32	32	22	43	17	48	20	64	21.72	
Food Sales.....	102	0	0	0	0	0	0	0	0	0	41.76	
Food Service.....	241	0	44	45	0	30	0	35	0	28	26.71	
Health Care.....	80	0	0	13	9	12	0	0	0	14	34.93	
Lodging.....	140	0	17	15	9	18	0	19	13	31	24.87	
Mercantile and Service.....	1,278	67	193	184	119	203	122	199	84	109	14.54	
Office.....	679	28	80	91	48	117	52	106	47	111	16.13	
Parking Garage.....	45	0	0	0	0	0	0	0	0	0	50.14	
Public Order and Safety.....	50	0	0	0	0	0	0	0	0	0	55.21	
Warehouse.....	618	20	74	131	46	105	33	105	44	59	18.05	
Other.....	62	0	0	0	0	0	0	0	0	8	40.34	
Vacant.....	333	12	33	53	29	65	26	67	31	18	21.88	
Year Constructed												
1899 or Before.....	172	15	43	45	0	0	0	0	0	0	31.40	
1900 to 1919.....	242	20	47	53	33	19	0	0	19	19	29.07	
1920 to 1945.....	680	48	122	103	54	110	51	77	49	69	19.64	
1946 to 1959.....	868	25	135	128	67	150	54	151	55	104	16.46	
1960 to 1969.....	821	25	89	140	69	128	57	133	58	121	16.64	
1970 to 1979.....	884	26	83	122	69	137	105	161	68	113	15.02	
1980 to 1983.....	317	0	24	33	21	61	47	53	28	42	20.57	
1984 to 1986.....	329	9	31	36	20	84	36	61	26	29	22.10	
1987 to 1989.....	215	11	26	25	21	34	24	36	13	24	27.75	
Metropolitan Status												
Metropolitan.....	3,073	146	472	470	139	482	198	487	171	509	12.26	
Nonmetropolitan.....	1,454	Q	127	216	221	255	199	226	151	Q	19.12	
Workers												
Fewer than 5.....	2,280	84	302	377	166	360	208	388	159	235	12.72	
5 to 9.....	906	35	120	135	71	165	68	136	63	113	15.32	
10 to 19.....	507	25	60	56	49	77	50	64	38	88	18.35	
20 to 49.....	381	23	62	54	33	62	31	51	25	40	15.39	
50 to 99.....	132	8	21	17	9	18	9	21	9	19	19.63	
100 to 249.....	79	3	13	14	7	12	2	5	4	17	20.53	
250 or More.....	32	2	4	6	2	5	Q	2	Q	6	23.99	
Weekly Operating Hours												
39 or Fewer.....	876	19	94	145	73	149	97	153	82	64	20.54	
40 to 48.....	1,117	34	131	163	79	235	94	195	60	126	14.42	
49 to 60.....	987	45	129	150	82	144	79	161	76	122	15.03	
61 to 84.....	625	37	98	99	57	86	45	84	42	78	15.69	
85 to 167.....	515	27	97	81	43	80	34	61	31	61	17.72	
168 (Open Continuously).....	408	22	50	48	26	44	49	59	32	79	16.18	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	177	574	656	345	692	381	653	300	519	10.86	
Natural Gas.....	2,439	53	305	501	236	192	169	454	205	325	13.41	
Fuel Oil.....	586	104	201	58	32	123	27	Q	9	23	23.85	
District Heat.....	105	8	23	10	7	8	Q	15	11	12	30.67	
District Chilled Water.....	25	0	0	0	0	7	0	6	0	5	30.71	
Propane.....	348	25	60	39	37	97	Q	Q	Q	34	30.90	
Any Other.....	130	Q	22	22	Q	Q	Q	Q	Q	Q	31.22	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	168	543	605	315	575	341	596	282	451	11.21	
Air-Conditioned Buildings.....	3,184	106	371	452	254	575	301	551	217	359	12.09	
Buildings with Water Heating.....	3,184	147	472	521	264	436	256	457	230	399	10.59	
Buildings with Cooking.....	864	41	150	122	58	122	70	119	58	126	14.88	
Buildings with Manufacturing.....	205	Q	43	33	11	28	Q	26	16	31	27.44	

See footnotes at end of table.

LOCATION

Table 6. Census Division, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Census Region and Division									RSE Row Factor	
		Northeast		Midwest		South			West			
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific		
RSE Column Factor:	0.375	1.387	0.939	0.858	1.274	1.024	1.402	0.957	1.466	0.929		
Percent Heated												
Not Heated.....	662	17	60	82	45	164	57	117	0	80	19.19	
1 to 50.....	630	19	77	93	32	95	47	141	49	77	20.82	
51 to 99.....	496	20	75	63	27	85	39	73	34	79	20.93	
100.....	2,739	128	387	447	255	394	254	381	199	294	10.35	
Percent Cooled												
Not Cooled.....	1,344	79	228	234	106	162	97	162	105	171	14.14	
1 to 50.....	1,037	43	176	179	78	165	74	156	68	98	16.50	
51 to 99.....	597	25	87	85	48	119	34	91	38	70	16.26	
100.....	1,550	37	108	188	128	291	193	304	111	191	13.65	
Percent Lit When Open												
Not Lit.....	306	0	30	44	31	50	29	69	0	17	20.22	
1 to 50.....	1,002	36	148	182	56	145	72	159	84	121	18.00	
51 to 99.....	951	40	127	151	91	142	73	131	68	129	15.16	
100.....	2,269	101	295	309	183	401	224	354	143	261	12.66	
Floors												
One.....	2,886	70	264	385	212	499	293	615	217	331	13.34	
Two.....	1,057	66	177	177	95	170	86	81	62	143	13.54	
Three.....	408	26	109	92	39	48	15	10	34	34	20.27	
More than Three.....	177	23	48	31	14	20	Q	7	9	21	26.91	
Wall Materials												
Masonry.....	2,849	119	389	459	224	512	249	385	213	298	12.42	
Siding or Shingles.....	802	48	133	115	67	77	70	120	34	139	20.08	
Metal Panels.....	557	13	43	75	52	81	45	161	0	30	24.06	
Concrete Panels.....	240	0	18	18	17	56	26	43	0	49	27.50	
Window Glass.....	33	0	6	7	0	0	0	0	4	8	38.21	
Other.....	46	0	11	12	Q	Q	Q	Q	Q	6	33.98	
Roof Materials												
Built-Up.....	1,614	56	193	243	141	275	155	238	116	196	12.61	
Shingles (Not Wood).....	1,392	74	197	214	105	208	140	186	83	187	16.98	
Metal Surfacing.....	901	23	92	109	67	144	78	247	8	64	19.12	
Synthetic or Rubber.....	211	17	43	61	24	26	9	8	8	23.18		
Slate or Tile.....	193	10	46	16	0	35	0	21	19	35	27.60	
Concrete.....	72	0	10	10	0	0	0	0	0	5	51.54	
Wooden Materials.....	106	0	0	24	0	0	0	0	0	24	34.81	
Other.....	38	0	Q	Q	Q	Q	Q	Q	Q	Q	60.77	
Ownership and Occupancy												
Nongovernment Owned.....	3,951	161	532	613	324	657	341	617	281	423	11.78	
Owner Occupied.....	2,814	113	433	471	247	436	240	417	201	257	13.06	
Nonowner Occupied.....	1,136	48	100	142	77	221	102	200	81	166	14.48	
Government Owned.....	577	23	66	72	37	80	56	96	41	106	17.02	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 7. Census Division, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Census Region and Division									RSE Row Factor	
		Northeast		Midwest		South			West			
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific		
RSE Column Factor:	0.388	1.217	0.994	0.876	1.287	0.971	1.593	0.957	1.433	0.891		
All Buildings.....	63,184	3,173	10,395	10,681	5,275	10,090	4,296	7,654	4,388	7,232	10.11	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	6,790	250	797	1,037	575	1,099	638	1,115	530	749	13.62	
5,001 to 10,000.....	6,532	285	986	930	538	1,056	473	1,001	379	884	15.60	
10,001 to 25,000.....	10,393	434	1,546	1,549	701	1,758	912	1,439	815	1,239	13.77	
25,001 to 50,000.....	8,801	633	1,089	1,221	828	1,582	746	994	712	996	18.11	
50,001 to 100,000.....	9,130	359	1,148	1,757	605	2,064	482	1,085	559	1,071	19.17	
100,001 to 200,000.....	8,277	641	1,439	1,607	625	1,998	418	710	0	1,225	25.32	
200,001 to 500,000.....	7,022	339	1,168	1,601	992	794	Q	734	0	667	32.64	
Over 500,000.....	6,239	Q	2,222	979	Q	639	Q	Q	Q	401	37.49	
Principal Building Activity												
Assembly.....	6,838	430	1,077	837	571	991	477	1,282	504	669	22.33	
Education.....	8,148	294	1,594	1,603	618	1,043	514	847	961	673	21.15	
Food Sales.....	792	Q	0	0	Q	0	Q	0	Q	0	46.72	
Food Service.....	1,167	Q	194	237	Q	145	Q	113	Q	105	32.75	
Health Care.....	2,054	Q	259	476	Q	232	Q	Q	Q	190	32.91	
Lodging.....	3,476	Q	361	481	500	547	Q	505	236	494	25.90	
Mercantile and Service.....	12,365	608	2,039	1,852	1,207	2,048	899	1,830	797	1,084	15.62	
Office.....	11,802	693	2,011	1,615	666	1,767	Q	1,073	707	2,293	17.63	
Parking Garage.....	983	Q	Q	Q	Q	Q	Q	Q	Q	Q	49.73	
Public Order and Safety.....	616	Q	Q	Q	Q	Q	Q	Q	Q	Q	48.12	
Warehouse.....	9,253	310	1,501	2,046	593	1,865	569	989	Q	846	26.09	
Other.....	1,529	Q	Q	Q	Q	Q	Q	Q	Q	298	49.10	
Vacant.....	4,161	253	652	Q	225	720	203	403	Q	310	32.89	
Year Constructed												
1899 or Before.....	1,654	139	604	263	Q	0	0	0	Q	Q	37.56	
1900 to 1919.....	4,245	383	1,025	1,280	322	325	Q	197	Q	253	39.32	
1920 to 1945.....	8,098	639	1,935	1,624	777	1,046	429	775	405	458	23.06	
1946 to 1959.....	10,511	383	1,814	1,677	573	1,913	893	1,383	Q	1,099	20.62	
1950 to 1969.....	12,167	717	2,019	2,207	1,079	1,725	782	1,550	600	1,489	14.84	
1970 to 1979.....	13,329	477	1,554	1,867	1,292	2,148	961	2,107	908	2,015	17.07	
1980 to 1983.....	4,274	Q	313	594	299	786	391	749	408	607	21.48	
1984 to 1986.....	5,670	139	Q	708	511	1,496	370	571	0	796	24.77	
1987 to 1989.....	3,235	172	420	460	240	595	287	246	349	467	27.57	
Metropolitan Status												
Metropolitan.....	50,809	2,705	8,856	9,095	3,557	7,691	2,651	5,879	3,309	7,067	12.52	
Nonmetropolitan.....	12,375	Q	1,539	1,586	1,717	2,399	1,645	1,775	1,079	165	18.58	
Workers												
Fewer than 5.....	13,292	697	1,610	2,729	924	2,110	911	2,172	892	1,248	15.13	
5 to 9.....	7,939	266	1,110	1,183	629	1,779	732	945	477	819	18.61	
10 to 19.....	6,445	343	910	838	596	1,024	520	746	551	917	19.52	
20 to 49.....	9,665	573	1,692	1,469	727	1,599	701	1,238	798	868	18.47	
50 to 99.....	7,389	455	1,326	1,402	785	970	381	910	334	826	21.45	
100 to 249.....	6,771	270	1,385	1,383	667	1,147	163	314	356	1,085	21.97	
250 or More.....	9,829	485	2,135	1,487	816	1,082	Q	1,086	Q	1,291	30.29	
Weekly Operating Hours												
39 or Fewer.....	6,073	177	796	908	385	1,194	547	1,093	492	482	18.80	
40 to 48.....	13,905	530	2,080	1,854	922	3,220	1,323	1,884	686	1,405	15.75	
49 to 60.....	13,473	773	2,027	2,157	1,050	1,942	1,014	1,574	1,132	1,805	17.69	
61 to 84.....	10,777	563	2,420	1,945	862	1,369	443	1,359	557	1,260	16.48	
85 to 167.....	9,387	559	1,809	2,277	814	1,142	406	696	884	799	23.82	
168 (Open Continuously).....	9,569	572	1,263	1,539	1,241	1,223	564	1,048	638	1,481	18.45	
Energy Sources (Solely or in Combination)												
Electricity.....	61,587	3,127	10,199	10,527	5,183	9,639	4,218	7,376	4,172	7,146	10.11	
Natural Gas.....	41,593	1,256	7,327	8,817	4,106	4,427	2,052	5,404	3,136	5,069	11.87	
Fuel Oil.....	12,684	1,923	3,235	2,012	1,249	2,041	345	466	309	1,103	16.57	
District Heat.....	6,856	Q	1,913	860	686	212	Q	852	0	526	35.39	
District Chilled Water.....	2,101	Q	0	172	Q	160	Q	652	0	366	40.06	
Propane.....	4,695	424	649	707	354	1,264	Q	Q	Q	336	30.60	
Any Other.....	1,542	Q	311	239	Q	Q	Q	Q	Q	Q	49.75	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	57,868	3,043	9,927	10,095	4,972	8,382	3,777	7,011	4,098	6,564	10.56	
Air-Conditioned Buildings.....	51,771	2,085	8,250	8,735	4,123	8,393	3,587	6,818	3,415	5,905	11.27	
Buildings with Water Heating.....	53,585	2,921	9,526	9,656	4,555	7,356	3,134	6,238	3,775	6,227	10.83	
Buildings with Cooking.....	23,668	1,151	4,719	4,316	2,174	3,119	1,363	2,712	1,778	2,336	16.01	
Buildings with Manufacturing..	5,601	Q	937	1,209	329	746	Q	395	Q	602	35.66	

See footnotes at end of table.

LOCATION

Table 7. Census Division, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Census Region and Division								RSE Row Factor	
		Northeast		Midwest		South			West		
		New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific	
RSE Column Factor:	0.388	1.217	0.994	0.876	1.287	0.971	1.593	0.957	1.433	0.891	
Percent Heated											
Not Heated.....	5,419	148	480	604	303	1,718	537	647	Q	676	23.22
1 to 50.....	9,314	341	1,425	1,861	535	1,523	390	1,326	662	1,152	23.69
51 to 99.....	8,573	274	1,941	1,180	622	1,575	0	1,095	409	1,699	22.54
100.....	39,777	2,410	7,549	7,036	3,815	5,174	2,491	4,585	3,012	3,704	10.85
Percent Cooled											
Not Cooled.....	11,413	1,089	2,145	1,945	851	1,537	709	836	973	1,327	14.75
1 to 50.....	17,821	872	3,994	4,027	1,275	2,688	893	1,707	936	1,429	16.52
51 to 99.....	13,139	477	1,985	2,286	1,208	2,447	906	1,482	549	1,799	17.02
100.....	20,811	735	2,270	2,422	1,939	3,417	1,788	3,630	1,931	2,677	15.21
Percent Lit When Open											
Not Lit.....	2,359	0	305	260	170	525	205	355	0	189	25.65
1 to 50.....	10,870	451	1,314	2,325	850	2,076	688	1,323	641	1,202	18.71
51 to 99.....	16,950	816	2,990	3,015	1,514	2,470	1,265	1,785	1,050	2,046	18.97
100.....	33,004	1,803	5,787	5,081	2,740	5,019	2,137	4,191	2,450	3,795	12.98
Floors											
One.....	23,756	519	3,148	3,086	1,784	4,541	2,044	4,254	1,679	2,701	13.85
Two.....	16,112	1,030	2,079	2,862	1,004	2,934	1,024	1,963	1,138	2,078	13.92
Three.....	8,604	476	1,784	2,014	828	873	981	367	555	725	21.32
More than Three.....	14,711	1,148	3,385	2,719	1,659	1,742	246	1,069	Q	1,727	21.83
Wall Materials											
Masonry.....	42,074	2,453	7,299	8,106	3,753	6,946	2,503	4,914	2,754	3,347	11.43
Siding or Shingles.....	4,788	379	913	688	325	497	329	570	212	875	22.30
Metal Panels.....	5,689	191	478	896	524	1,174	Q	1,098	383	429	24.24
Concrete Panels.....	7,221	0	778	441	620	1,134	Q	921	Q	1,952	31.23
Window Glass.....	1,924	0	0	276	0	245	Q	Q	196	393	41.59
Other.....	1,487	Q	293	273	Q	Q	Q	Q	Q	236	49.32
Roof Materials											
Built-Up.....	31,057	1,172	4,565	5,643	2,440	4,938	1,926	3,998	2,425	3,949	12.71
Shingles (Not Wood).....	10,917	781	2,102	1,527	748	1,636	610	1,210	672	1,631	17.98
Metal Surfacing.....	8,197	324	1,213	1,016	678	1,501	781	1,583	522	578	21.52
Synthetic or Rubber.....	6,911	697	1,092	1,688	714	885	Q	Q	384	384	25.63
Shale or Tile.....	2,582	81	592	244	0	503	Q	180	232	360	36.46
Concrete.....	1,932	0	Q	305	Q	463	Q	Q	Q	224	40.85
Wooden Materials.....	727	Q	Q	180	Q	Q	Q	Q	Q	195	40.86
Other.....	860	Q	Q	Q	Q	Q	Q	Q	Q	Q	57.27
Ownership and Occupancy											
Nongovernment Owned.....	48,842	2,471	7,864	8,434	4,185	8,238	2,928	5,922	3,033	5,768	10.99
Owner Occupied.....	35,955	1,895	6,386	6,651	3,353	5,458	2,212	4,224	2,196	3,581	11.56
Nonowner Occupied.....	12,888	576	1,478	1,783	832	2,780	716	1,697	837	2,187	18.23
Government Owned.....	14,342	702	2,531	2,247	1,090	1,852	1,368	1,732	1,356	1,464	17.92

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 8. Metropolitan Status, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)			Total Floorspace (million square feet)			RSE Row Factor
	All Buildings	Metropolitan	Non-metropolitan	All Buildings	Metropolitan	Non-metropolitan	
	RSE Column Factor:	0.700	0.807	1.564	0.780	0.900	1.612
All Buildings.....	4,528	3,073	1,454	63,184	50,809	12,375	4.60
Building Floorspace (Square Feet)							
1,001 to 5,000.....	2,529	1,600	930	6,790	4,289	2,501	6.13
5,001 to 10,000.....	890	624	266	6,532	4,581	1,951	6.94
10,001 to 25,000.....	644	470	173	10,393	7,607	2,786	7.90
25,001 to 50,000.....	247	193	53	8,801	6,925	1,876	8.61
50,001 to 100,000.....	127	106	21	9,130	7,664	1,467	9.37
100,001 to 200,000.....	61	52	9	8,277	7,100	1,176	13.85
200,001 to 500,000.....	23	21	2	7,022	6,495	527	23.42
Over 500,000.....	7	7	Q	6,239	6,148	Q	24.32
Principal Building Activity							
Assembly.....	615	364	251	6,838	5,221	1,616	10.36
Education.....	284	203	81	8,148	6,373	1,775	10.66
Food Sales.....	102	71	31	792	553	138	22.70
Food Service.....	241	181	60	1,167	893	274	15.35
Health Care.....	80	54	25	2,054	1,746	308	19.72
Lodging.....	140	99	40	3,476	2,740	736	13.10
Mercantile and Service.....	1,278	843	435	12,365	8,987	3,379	6.67
Office.....	679	524	155	11,802	10,699	1,104	8.88
Parking Garage.....	45	29	0	983	913	0	23.45
Public Order and Safety.....	50	32	0	616	489	0	27.19
Warehouse.....	618	425	193	9,253	7,292	1,961	10.50
Other.....	62	47	0	1,529	1,442	0	28.25
Vacant.....	333	199	134	4,161	3,362	799	15.35
Year Constructed							
1899 or Before.....	172	112	60	1,654	1,096	559	19.57
1900 to 1919.....	242	152	90	4,245	3,415	830	17.78
1920 to 1945.....	680	407	273	8,098	6,155	1,942	9.51
1946 to 1959.....	868	600	267	10,511	8,139	2,371	8.73
1960 to 1969.....	821	564	257	12,167	10,018	2,149	7.96
1970 to 1979.....	884	622	261	13,329	10,831	2,498	7.19
1980 to 1983.....	317	219	98	4,274	3,447	827	10.21
1984 to 1986.....	329	250	79	5,670	5,105	566	11.33
1987 to 1989.....	215	146	69	3,235	2,602	633	15.13
Workers							
Fewer than 5.....	2,280	1,405	876	13,292	9,051	4,240	6.37
5 to 9.....	906	639	267	7,939	5,681	2,298	7.77
10 to 19.....	507	407	100	6,445	5,322	1,123	10.22
20 to 49.....	381	294	87	9,665	7,743	1,923	8.31
50 to 99.....	132	108	24	7,389	6,288	1,101	11.39
100 to 249.....	79	70	9	6,771	5,933	837	13.22
250 or More.....	32	30	2	9,829	9,451	378	17.83
Weekly Operating Hours							
39 or Fewer.....	876	454	422	6,073	3,886	2,187	8.43
40 to 48.....	1,117	757	360	13,905	10,737	3,168	7.43
49 to 60.....	987	695	292	13,473	10,956	2,518	7.67
61 to 84.....	625	485	140	10,777	9,380	1,397	7.88
85 to 167.....	515	387	128	9,387	7,763	1,624	11.82
168 (Open Continuously).....	408	295	113	9,569	8,087	1,482	8.88
Energy Sources (Solely or in Combination)							
Electricity.....	4,297	2,948	1,349	61,587	49,842	11,745	4.63
Natural Gas.....	2,439	1,755	684	41,593	34,707	6,886	5.99
Fuel Oil.....	586	381	206	12,684	10,218	2,466	12.87
District Heat.....	105	91	13	6,856	6,512	344	21.17
District Chilled Water.....	25	23	0	2,101	2,025	0	27.51
Propane.....	348	198	150	4,695	3,235	1,460	17.13
Any Other.....	130	47	83	1,542	856	686	23.17
Energy End Uses (Solely or in Combination)							
Heated Buildings.....	3,877	2,674	1,203	57,868	47,145	10,723	4.89
Air-Conditioned Buildings.....	3,184	2,261	923	51,771	43,191	8,580	5.23
Buildings with Water Heating.....	3,184	2,320	863	53,585	44,777	8,808	5.21
Buildings with Cooking.....	864	643	220	23,668	19,950	3,718	7.21
Buildings with Manufacturing.....	205	156	48	5,601	4,917	684	15.69
Floors							
One.....	2,886	1,904	982	23,756	17,369	6,387	6.16
Two.....	1,057	719	338	16,112	12,571	3,441	6.70
Three.....	408	310	99	8,604	7,229	1,376	11.67
More than Three.....	177	141	35	14,711	13,540	1,171	13.56

See footnotes at end of table.

LOCATION
Table 8. Metropolitan Status, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)			Total Floorspace (million square feet)			RSE Row Factor
	All Buildings	Metropolitan	Non-metropolitan	All Buildings	Metropolitan	Non-metropolitan	
	RSE Column Factor:	0.700	0.807	1.564	0.780	0.900	1.612
Wall Materials							
Masonry.....	2,849	2,008	841	42,074	34,007	8,067	5.51
Siding or Shingles.....	802	485	318	4,788	3,219	1,569	11.02
Metal Panels.....	557	324	233	5,689	3,848	1,841	12.08
Concrete Panels.....	240	201	39	7,221	6,580	641	14.26
Window Glass.....	33	28	Q	1,924	1,826	Q	27.15
Other.....	46	29	Q	1,487	1,330	Q	29.33
Roof Materials							
Built-Up.....	1,614	1,205	409	31,057	26,616	4,441	6.23
Shingles (Not Wood).....	1,392	899	494	10,917	8,001	2,916	8.91
Metal Surfacing.....	901	512	389	8,197	5,400	2,797	9.99
Synthetic or Rubber.....	211	153	58	6,911	5,651	1,259	12.78
Slate or Tile.....	193	141	52	2,582	1,984	599	18.04
Concrete.....	72	67	0	1,932	1,815	0	34.48
Wooden Materials.....	106	70	36	727	561	166	17.22
Other.....	38	27	Q	860	781	Q	30.82

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 9. Climate Zone, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)				All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)					
		Under 2,000 CDD and --					Under 2,000 CDD and --					
		Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)	2,000 CDD or More and Under 4,000 HDD (Zone 5)	Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)	2,000 CDD or More and Under 4,000 HDD (Zone 5)	
RSE Column Factor:	0.442	1.287	0.932	1.318	1.220	1.135	0.490	1.288	0.978	1.181	1.257	1.130
All Buildings.....	4,528	357	1,120	965	1,024	1,063	63,184	5,062	17,957	15,385	12,903	11,877
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	196	587	531	612	603	6,790	582	1,544	1,453	1,632	1,580
5,001 to 10,000.....	890	56	237	183	185	228	6,532	412	1,742	1,359	1,361	1,657
10,001 to 25,000.....	644	56	165	148	138	136	10,393	900	2,601	2,461	2,218	2,213
25,001 to 50,000.....	247	28	68	50	42	57	8,801	1,012	2,384	1,763	1,503	2,138
50,001 to 100,000.....	127	13	35	29	25	26	9,130	990	2,463	2,046	1,823	1,809
100,001 to 200,000.....	61	5	17	14	15	9	8,277	758	2,317	1,929	2,019	1,254
200,001 to 500,000.....	23	1	8	7	4	2	7,022	334	2,649	1,986	1,336	717
Over 500,000.....	7	Q	3	3	1	6,239	Q	2,257	2,387	1,011	510	26,66
Principal Building Activity												
Assembly.....	615	38	153	159	130	135	6,838	494	1,808	1,780	1,082	1,674
Education.....	284	12	66	55	78	73	8,148	686	2,920	2,395	1,059	1,087
Food Sales.....	102	Q	30	Q	29	792	Q	174	Q	Q	172	34,34
Food Service.....	241	Q	81	35	64	48	1,167	Q	406	124	251	21,11
Health Care.....	80	Q	16	23	17	18	2,054	Q	621	785	268	238
Lodging.....	140	10	29	26	33	42	3,476	358	1,069	472	614	19,63
Mercantile and Service.....	1,278	130	301	311	265	272	12,365	1,322	3,327	2,642	2,515	2,559
Office.....	679	46	159	133	191	151	11,802	662	2,873	3,105	3,513	1,650
Parking Garage.....	45	Q	23	10	8	Q	983	Q	301	395	193	39,47
Public Order and Safety.....	50	Q	Q	Q	Q	616	Q	Q	Q	Q	Q	40,98
Warehouse.....	618	55	160	116	106	180	9,253	794	2,391	1,990	1,917	2,161
Other.....	62	Q	14	9	25	10	1,529	Q	236	387	470	394
Vacant.....	333	34	72	59	73	95	4,161	214	1,648	850	788	661
Year Constructed												
1899 or Before.....	172	29	66	32	0	0	1,654	268	765	358	0	0
1900 to 1919.....	242	28	105	52	24	34	4,245	252	2,145	1,301	247	299
1920 to 1945.....	680	75	196	172	124	112	8,098	779	2,819	2,416	1,071	1,014
1946 to 1959.....	868	59	216	192	204	197	10,511	794	2,834	2,305	2,384	1,694
1960 to 1969.....	821	52	195	168	178	229	12,167	1,065	3,625	2,334	2,296	2,547
1970 to 1979.....	884	55	169	198	227	235	13,329	977	2,848	3,231	3,535	2,738
1980 to 1983.....	317	18	62	44	103	90	4,274	220	1,056	561	1,117	1,320
1984 to 1986.....	329	22	58	63	83	104	5,670	341	1,045	1,447	1,319	1,517
1987 to 1989.....	215	20	52	45	56	42	3,235	366	819	631	790	628
Census Region												
Northeast.....	783	62	459	263	NC	NC	13,569	953	6,356	6,259	NC	NC
Midwest.....	1,046	242	534	269	NC	NC	15,955	3,419	9,171	3,366	NC	NC
South.....	1,847	NC	NC	346	552	950	22,040	NC	NC	4,542	7,221	10,277
West.....	851	53	127	87	472	113	11,620	690	2,430	1,219	5,682	1,600
Metropolitan Status												
Metropolitan.....	3,073	134	838	554	748	801	50,809	2,766	15,174	12,402	10,765	9,701
Nonmetropolitan.....	1,454	223	282	411	276	262	12,375	2,296	2,783	2,983	Q	2,175
Workers												
Fewer than 5.....	2,280	158	597	472	500	553	13,292	974	4,074	2,729	2,356	3,159
5 to 9.....	906	80	204	197	219	206	7,939	654	1,786	1,860	1,793	1,846
10 to 19.....	507	40	127	95	127	118	6,445	567	1,738	1,201	1,373	1,565
20 to 49.....	381	32	98	99	69	83	9,665	978	2,569	2,400	1,681	2,037
50 to 99.....	132	14	30	29	27	32	7,389	672	2,394	1,587	1,284	1,352
100 to 249.....	79	11	18	21	20	8	6,771	815	1,892	2,058	1,331	675
250 or More.....	32	1	9	9	10	3	9,829	292	2,959	3,145	2,573	861
Weekly Operating Hours												
39 or Fewer.....	876	65	194	202	220	195	6,073	373	1,472	1,366	1,452	1,410
40 to 48.....	1,117	78	258	232	259	290	13,905	1,002	3,166	3,525	3,213	2,999
49 to 60.....	987	76	249	205	215	242	13,473	1,047	3,718	3,040	2,996	2,672
61 to 84.....	625	57	175	129	138	127	10,777	725	3,285	2,948	2,145	1,673
85 to 167.....	515	52	149	110	99	104	9,387	1,152	3,621	2,135	1,281	1,197
168 (Open Continuously).....	408	29	93	87	93	105	9,569	763	2,695	2,370	1,816	1,925
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	333	1,074	917	982	992	61,587	4,983	17,502	15,045	12,584	11,473
Natural Gas.....	2,439	188	732	447	561	512	41,593	3,069	13,975	9,953	8,483	6,112
Fuel Oil.....	586	90	189	236	45	27	12,684	1,902	3,985	4,280	1,847	669
District Heat.....	105	6	36	25	19	19	6,856	433	2,337	2,145	1,181	759
District Chilled Water.....	25	0	4	3	7	11	2,101	0	554	553	640	32,78
Propane.....	348	39	88	79	97	48	4,695	790	1,367	1,012	728	799
Any Other.....	130	22	33	47	Q	1,542	Q	567	570	Q	Q	37,14

See footnotes at end of table.

LOCATION
Table 9. Climate Zone, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor		
	All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)				All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)						
		Under 2,000 CDD and --					Under 2,000 CDD and --						
		Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)		Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)			
RSE Column Factor:	0.442	1.287	0.932	1.318	1.220	1.135	0.490	1.288	0.978	1.181	1.257	1.130	
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	3,877	310	1,004	857	886	819	57,868	4,785	17,044	14,408	11,826	9,805	
Air-Conditioned Buildings.....	3,184	200	711	656	757	860	51,771	3,497	13,989	12,791	10,900	10,594	
Buildings with Water Heating.....	3,184	275	870	715	672	651	53,585	4,520	16,157	13,485	10,484	8,939	
Buildings with Cooking.....	864	65	245	189	170	195	23,668	1,801	7,965	6,342	4,053	3,506	
Buildings with Manufacturing..	205	24	48	38	43	52	5,601	1,570	1,666	985	1,453	927	
Percent Heated													
Not Heated.....	662	47	119	113	139	244	5,419	277	967	996	1,103	2,076	
1 to 50.....	630	32	132	112	167	187	9,314	536	2,565	1,760	2,101	2,352	
51 to 99.....	496	46	99	121	118	113	8,673	646	1,711	1,976	2,648	1,693	
100.....	2,739	233	770	619	599	519	39,777	3,604	12,715	10,652	7,051	5,756	
Percent Cooled													
Not Cooled.....	1,344	157	408	309	267	203	11,413	1,565	3,968	2,594	2,003	1,283	
1 to 50.....	1,037	74	283	226	218	235	17,821	1,383	5,794	4,681	3,043	2,920	
51 to 99.....	597	48	151	126	116	155	13,139	1,108	3,216	3,472	2,897	2,446	
100.....	1,550	78	277	304	422	469	20,811	1,006	4,979	4,638	4,960	5,228	
Percent Lit When Open													
Not Lit.....	306	32	60	67	62	86	2,359	151	644	527	534	504	
1 to 50.....	1,002	62	287	204	218	231	10,870	724	3,576	1,968	2,326	2,276	
51 to 99.....	951	85	247	217	203	199	16,950	1,602	4,503	4,412	3,496	2,937	
100.....	2,269	178	526	476	541	548	33,004	2,585	9,234	8,478	6,548	6,159	
Floors													
One.....	2,886	178	538	530	755	886	23,756	1,575	4,787	4,886	5,575	6,934	
Two.....	1,057	111	326	260	206	154	16,112	1,582	4,608	3,143	3,640	3,140	
Three.....	408	48	184	120	42	13	8,604	923	3,370	2,341	1,454	517	
More than Three.....	177	20	72	54	20	11	14,711	983	5,193	5,016	2,234	1,286	
Wall Materials													
Masonry.....	2,849	208	731	665	631	613	42,074	3,742	13,105	10,796	7,284	7,147	
Siding or Shingles.....	802	85	221	178	164	155	4,788	525	1,280	1,359	849	774	
Metal Panels.....	557	51	103	73	140	190	5,689	565	1,094	1,119	1,095	1,816	
Concrete Panels.....	240	10	38	28	71	92	7,221	178	1,588	1,100	2,658	1,696	
Window Glass.....	33	0	10	9	5	7	1,924	0	455	764	317	348	
Other.....	46	Q	16	11	13	Q	1,487	435	247	Q	Q	39.45	
Roof Materials													
Built-Up.....	1,614	110	380	345	373	407	31,057	2,030	9,277	6,946	6,901	5,903	
Shingles (Not Wood).....	1,392	101	366	339	329	258	10,917	909	2,942	2,940	2,173	1,953	
Metal Surfacing.....	901	71	171	149	208	301	8,197	896	1,533	1,656	1,548	2,564	
Synthetic or Rubber.....	211	33	88	49	27	13	6,911	917	2,602	1,639	0	675	
Slate or Tile.....	193	0	62	39	49	27	2,582	0	816	783	632	221	
Concrete.....	72	0	12	15	5	0	1,932	0	396	768	313	381	
Wooden Materials.....	106	0	35	0	26	0	1,727	0	285	0	164	0	
Other.....	38	Q	Q	14	Q	Q	860	Q	Q	528	Q	44.65	
Ownership and Occupancy													
Nongovernment Owned.....	3,951	310	996	854	880	911	48,842	3,599	14,029	11,559	9,990	9,666	
Owner Occupied.....	2,814	237	760	666	555	596	35,955	2,769	11,096	9,412	5,947	6,730	
Nonowner Occupied.....	1,136	73	236	189	324	315	12,888	830	2,933	2,147	4,043	2,935	
Government Owned.....	577	47	124	110	144	152	14,342	1,463	3,928	3,826	2,913	2,211	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 10. Climate Zone, Percent of Buildings and Floorspace

Building Characteristics	Percent of Buildings						Percent of Total Floorspace						RSE Row Factor	
	All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)					All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)						
		Under 2,000 CDD and --				2,000 CDD or More and Under 4,000 HDD (Zone 5)		Under 2,000 CDD and --				2,000 CDD or More and Under 4,000 HDD (Zone 5)		
		Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)	All Buildings	Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)				
RSE Column Factor:	--	1.184	0.805	1.131	1.045	0.921	--	1.203	0.775	0.971	1.072	0.993		
All Buildings.....	100.0	7.9	24.7	21.3	22.6	23.5	100.0	8.0	28.4	24.3	20.4	18.8	10.88	
Building Floorspace (Square Feet)														
1,001 to 5,000.....	100.0	7.8	23.2	21.0	24.2	23.9	100.0	8.6	22.7	21.4	24.0	23.3	14.51	
5,001 to 10,000.....	100.0	6.3	26.7	20.6	20.8	25.6	100.0	6.3	26.7	20.8	20.8	25.4	13.70	
10,001 to 25,000.....	100.0	8.8	25.7	23.0	21.4	21.2	100.0	8.7	25.0	23.7	21.3	21.3	13.11	
25,001 to 50,000.....	100.0	11.5	27.5	20.5	17.2	23.3	100.0	11.5	27.1	20.0	17.1	24.3	16.24	
50,001 to 100,000.....	100.0	10.5	27.1	22.5	19.8	20.1	100.0	10.8	27.0	22.4	20.0	19.8	15.22	
100,001 to 200,000.....	100.0	8.8	28.0	23.8	24.8	14.7	100.0	9.2	28.0	23.3	24.4	15.1	20.34	
200,001 to 500,000.....	100.0	5.3	35.1	30.9	18.8	9.9	100.0	4.8	37.7	28.3	19.0	10.2	25.53	
Over 500,000.....	100.0	Q	37.4	36.4	16.3	8.8	100.0	Q	36.1	38.3	16.2	8.2	27.97	
Principal Building Activity														
Assembly.....	100.0	6.1	25.0	25.8	21.2	21.9	100.0	7.2	26.4	26.0	15.8	24.5	20.24	
Education.....	100.0	4.2	23.2	19.4	27.6	25.6	100.0	8.4	35.8	29.4	13.0	13.3	16.37	
Food Sales.....	100.0	Q	29.1	Q	Q	28.6	100.0	Q	22.0	Q	Q	21.7	36.97	
Food Service.....	100.0	Q	33.5	14.6	26.4	19.9	100.0	Q	34.8	10.6	21.5	18.5	22.68	
Health Care.....	100.0	Q	20.5	29.3	21.0	22.2	100.0	Q	30.2	38.2	13.0	11.6	28.64	
Lodging.....	100.0	7.0	20.8	18.8	23.3	30.1	100.0	10.3	30.8	13.6	17.7	27.7	21.65	
Mercantile and Service.....	100.0	10.2	23.5	24.3	20.7	21.3	100.0	10.7	26.9	21.4	20.3	20.7	13.38	
Office.....	100.0	6.7	23.3	19.5	28.2	22.3	100.0	5.6	24.3	26.3	29.8	14.0	14.35	
Parking Garage.....	100.0	Q	50.9	21.7	18.5	Q	100.0	Q	30.6	40.2	19.6	Q	40.50	
Public Order and Safety.....	100.0	Q	Q	Q	Q	Q	100.0	Q	Q	Q	Q	Q	44.88	
Warehouse.....	100.0	8.9	25.9	18.8	17.2	29.2	100.0	8.6	25.8	21.5	20.7	23.4	18.45	
Other.....	100.0	Q	22.6	14.6	40.5	16.5	100.0	5.1	15.4	25.3	30.7	25.7	39.04	
Vacant.....	100.0	10.3	21.5	17.6	22.0	28.5	100.0	5.1	39.6	20.4	18.9	15.9	20.97	
Year Constructed														
1899 or Before.....	100.0	16.8	38.4	18.6	Q	Q	100.0	16.2	46.3	21.7	Q	Q	31.31	
1900 to 1919.....	100.0	11.7	43.2	21.4	9.8	13.8	100.0	5.9	50.5	30.7	5.8	7.1	26.51	
1920 to 1945.....	100.0	11.1	28.9	25.3	18.2	16.5	100.0	9.6	34.8	29.8	13.2	12.5	18.05	
1946 to 1959.....	100.0	6.8	24.9	22.1	23.5	22.7	100.0	7.6	27.0	26.7	22.7	16.1	16.42	
1960 to 1969.....	100.0	6.3	23.8	20.4	21.7	27.8	100.0	8.8	29.8	21.6	18.9	20.9	14.37	
1970 to 1979.....	100.0	6.2	19.1	22.4	25.7	26.6	100.0	7.3	21.4	24.2	26.5	20.5	14.65	
1980 to 1983.....	100.0	5.6	19.4	13.9	32.6	28.5	100.0	5.1	24.6	13.1	26.2	30.9	18.56	
1984 to 1986.....	100.0	6.6	17.6	19.0	25.2	31.6	100.0	6.0	18.4	25.5	23.3	26.8	19.26	
1987 to 1989.....	100.0	9.1	24.4	20.8	26.1	19.5	100.0	11.3	25.3	19.5	24.4	19.4	21.87	
Census Region														
Northeast.....	100.0	7.9	58.6	33.5	NC	NC	100.0	7.0	46.8	46.1	NC	NC	9.94	
Midwest.....	100.0	23.2	51.1	25.8	NC	NC	100.0	21.4	57.5	21.1	NC	NC	17.90	
South.....	100.0	NC	NC	18.7	29.9	51.4	100.0	NC	20.6	32.8	46.6	46.6	18.12	
West.....	100.0	6.2	14.9	10.2	55.5	13.2	100.0	5.9	20.9	10.5	48.9	13.8	19.44	
Metropolitan Status														
Metropolitan.....	100.0	4.4	27.3	18.0	24.3	26.0	100.0	5.4	29.9	24.4	21.2	19.1	10.29	
Nonmetropolitan.....	100.0	15.4	19.4	28.3	19.0	18.0	100.0	18.6	22.5	24.1	Q	17.6	30.42	
Workers														
Fewer than 5.....	100.0	6.9	26.2	20.7	21.9	24.2	100.0	7.3	30.6	20.5	17.7	23.8	14.37	
5 to 9.....	100.0	8.8	22.6	21.7	24.1	22.7	100.0	8.2	22.5	23.4	22.6	23.2	16.24	
10 to 19.....	100.0	7.9	25.0	18.8	25.1	23.2	100.0	8.8	27.0	18.6	21.3	24.3	15.76	
20 to 49.....	100.0	8.5	25.8	26.0	18.0	21.7	100.0	10.1	26.6	24.8	17.4	21.1	15.31	
50 to 99.....	100.0	10.5	22.5	22.3	20.5	24.2	100.0	9.1	32.4	22.8	17.4	18.3	15.82	
100 to 249.....	100.0	13.5	23.3	26.7	25.8	10.7	100.0	12.0	27.9	30.4	19.7	10.0	19.99	
250 or More.....	100.0	3.8	27.5	27.0	31.5	10.2	100.0	3.0	30.1	32.0	26.2	8.8	20.54	
Weekly Operating Hours														
39 or Fewer.....	100.0	7.4	22.2	23.0	25.1	22.3	100.0	6.1	24.2	22.5	23.9	23.2	19.58	
40 to 48.....	100.0	7.0	23.1	20.8	23.2	26.0	100.0	7.2	22.8	25.4	23.1	21.6	14.26	
49 to 60.....	100.0	7.7	25.2	20.8	21.7	24.5	100.0	7.8	27.6	22.6	22.2	19.8	14.26	
61 to 84.....	100.0	9.1	28.0	20.6	22.1	20.3	100.0	6.7	30.5	27.4	19.9	15.5	14.49	
85 to 167.....	100.0	10.1	29.0	21.4	19.3	20.1	100.0	12.3	38.5	22.8	13.7	12.8	17.75	
168 (Open Continuously).....	100.0	7.2	22.9	21.4	22.7	25.8	100.0	8.0	28.2	24.8	19.0	20.1	14.78	
Energy Sources (Solely or in Combination)														
Electricity.....	100.0	7.7	25.0	21.3	22.9	23.1	100.0	8.1	28.4	24.4	20.4	18.6	10.71	
Natural Gas.....	100.0	7.7	30.0	18.3	23.0	21.0	100.0	7.4	33.6	23.9	20.4	14.7	11.83	
Fuel Oil.....	100.0	15.3	32.2	40.2	7.6	4.7	100.0	15.0	31.4	33.7	14.6	5.3	20.03	
District Heat.....	100.0	5.4	34.6	23.5	18.1	18.5	100.0	6.3	34.1	31.3	17.2	11.1	28.71	
District Chilled Water.....	100.0	0	15.4	Q	26.3	44.9	100.0	Q	26.4	13.8	26.3	30.5	35.44	
Propane.....	100.0	10.7	25.2	22.6	27.8	13.8	100.0	16.8	29.1	21.5	15.5	17.0	27.26	
Any Other.....	100.0	17.0	25.6	36.4	Q	Q	100.0	36.7	37.0	Q	Q	Q	40.84	

See footnotes at end of table.

LOCATION
Table 10. Climate Zone, Percent of Buildings and Floorspace (Continued)

Building Characteristics	Percent of Buildings						Percent of Total Floorspace						RSE Row Factor	
	All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)					All Buildings	Average Annual Heating and Cooling Degree-Days (HDD and CDD)						
		Under 2,000 CDD and --				2,000 CDD or More and Under 4,000 HDD (Zone 5)		Under 2,000 CDD and --				2,000 CDD or More and Under 4,000 HDD (Zone 5)		
		Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)	All Buildings	Over 7,000 HDD (Zone 1)	5,500 to 7,000 HDD (Zone 2)	4,000 to 5,499 HDD (Zone 3)	Under 4,000 HDD (Zone 4)				
RSE Column Factor:	--	1.184	0.805	1.131	1.045	0.921	--	1.203	0.775	0.971	1.072	0.993		
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	100.0	8.0	25.9	22.1	22.9	21.1	100.0	8.3	29.4	24.9	20.4	16.9	11.19	
Air-Conditioned Buildings.....	100.0	6.3	22.3	20.6	23.8	27.0	100.0	6.8	27.0	24.7	21.1	20.5	11.33	
Buildings with Water Heating..	100.0	8.6	27.3	22.5	21.1	20.5	100.0	8.4	30.1	25.2	19.6	16.7	10.02	
Buildings with Cooking.....	100.0	7.5	28.4	21.8	19.7	22.6	100.0	7.6	33.7	26.8	17.1	14.8	13.54	
Buildings with Manufacturing..	100.0	11.7	23.5	18.7	20.8	25.2	100.0	10.2	29.7	17.6	25.9	16.5	24.66	
Percent Heated														
Not Heated.....	100.0	7.0	18.0	17.1	21.0	36.8	100.0	5.1	17.8	18.4	20.4	38.3	20.00	
1 to 50.....	100.0	5.1	21.0	17.7	26.6	29.7	100.0	5.8	27.5	18.9	22.6	25.3	21.05	
51 to 99.....	100.0	9.2	19.9	24.3	23.7	22.8	100.0	7.4	19.7	22.8	30.5	19.5	17.39	
100.....	100.0	8.5	28.1	22.6	21.9	18.9	100.0	9.1	32.0	26.8	17.7	14.5	10.92	
Percent Cooled														
Not Cooled.....	100.0	11.7	30.4	23.0	19.9	15.1	100.0	13.7	34.8	22.7	17.6	11.2	14.99	
1 to 50.....	100.0	7.2	27.3	21.8	21.0	22.7	100.0	7.8	32.5	26.3	17.1	16.4	14.38	
51 to 99.....	100.0	8.0	25.4	21.1	19.5	26.1	100.0	8.4	24.4	26.4	22.1	18.6	15.08	
100.....	100.0	5.0	17.9	19.6	27.2	30.3	100.0	4.8	23.9	22.3	23.8	25.1	13.14	
Percent Lit When Open														
Not Lit.....	100.0	10.6	19.6	21.8	20.1	27.9	100.0	6.4	27.3	22.3	22.6	21.4	21.86	
1 to 50.....	100.0	6.2	28.7	20.4	21.7	23.0	100.0	6.7	32.9	18.1	21.4	20.9	17.82	
51 to 99.....	100.0	8.9	26.0	22.9	21.4	20.9	100.0	9.5	26.6	26.0	20.6	17.3	16.20	
100.....	100.0	7.8	23.2	21.0	23.8	24.1	100.0	7.8	28.0	25.7	19.8	18.7	12.60	
Floors														
One.....	100.0	6.2	18.6	18.4	26.2	30.7	100.0	6.6	20.2	20.6	23.5	29.2	14.28	
Two.....	100.0	10.5	30.8	24.6	19.5	14.6	100.0	9.8	28.6	19.5	22.6	19.5	12.86	
Three.....	100.0	11.7	45.1	29.5	10.4	3.3	100.0	10.7	39.1	27.2	16.9	6.0	17.32	
More than Three.....	100.0	11.0	40.7	30.7	11.5	6.0	100.0	6.7	35.3	34.1	15.2	8.7	19.56	
Wall Materials														
Masonry.....	100.0	7.3	25.7	23.3	22.2	21.5	100.0	8.9	31.1	25.7	17.3	17.0	12.05	
Siding or Shingles.....	100.0	10.6	27.5	22.2	20.4	19.3	100.0	11.0	26.7	28.4	17.7	16.2	20.05	
Metal Panels.....	100.0	9.1	18.5	13.0	25.1	34.2	100.0	9.9	19.2	19.7	19.3	31.9	21.48	
Concrete Panels.....	100.0	4.2	15.9	11.8	29.7	38.3	100.0	2.5	22.0	15.2	36.8	23.5	22.81	
Window Glass.....	100.0	Q	29.6	26.9	14.1	22.1	100.0	Q	23.7	39.7	16.5	18.1	38.85	
Other.....	100.0	Q	35.2	24.7	28.0	Q	100.0	Q	29.2	16.6	47.0	Q	41.42	
Roof Materials														
Built-Up.....	100.0	6.8	23.6	21.3	23.1	25.2	100.0	6.5	29.9	22.4	22.2	19.0	10.80	
Shingles (Not Wood).....	100.0	7.2	26.3	24.3	23.6	18.5	100.0	8.3	26.9	26.9	19.9	17.9	16.83	
Metal Surfacing.....	100.0	7.9	19.0	16.6	23.1	33.5	100.0	10.9	18.7	20.2	18.9	31.3	18.93	
Synthetic or Rubber.....	100.0	15.7	41.5	23.4	13.0	6.4	100.0	13.3	37.7	23.7	15.6	9.8	23.89	
Slate or Tile.....	100.0	Q	32.0	20.4	25.1	13.8	100.0	Q	31.6	30.3	24.5	8.5	24.53	
Concrete.....	100.0	Q	17.0	20.5	6.8	52.5	100.0	Q	20.5	39.8	16.2	19.7	40.88	
Wooden Materials.....	100.0	Q	32.8	Q	24.9	Q	100.0	Q	39.2	Q	22.6	Q	28.65	
Other.....	100.0	Q	Q	36.3	Q	Q	100.0	Q	61.5	Q	Q	Q	44.35	
Ownership and Occupancy														
Nongovernment Owned.....	100.0	7.8	25.2	21.6	22.3	23.1	100.0	7.4	28.7	23.7	20.5	19.8	11.54	
Owner Occupied.....	100.0	8.4	27.0	23.7	19.7	21.2	100.0	7.7	30.9	26.2	16.5	18.7	12.15	
Nonowner Occupied.....	100.0	6.4	20.7	16.6	28.6	27.7	100.0	6.4	22.8	16.7	31.4	22.8	14.10	
Government Owned.....	100.0	8.2	21.4	19.1	24.9	26.3	100.0	10.2	27.4	26.7	20.3	15.4	15.31	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 11. Building Size, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Building Size Category								RSE Row Factor
		1,001 to 5,000 Square Feet	5,001 to 10,000 Square Feet	10,001 to 25,000 Square Feet	25,001 to 50,000 Square Feet	50,001 to 100,000 Square Feet	100,001 to 200,000 Square Feet	200,001 to 500,000 Square Feet	Over 500,000 Square Feet	
	RSE Column Factor:	0.434	0.657	0.828	0.832	0.961	1.018	1.321	1.906	2.064
All Buildings.....	4,528	2,529	890	644	247	127	61	23	7	6.81
Principal Building Activity										
Assembly.....	615	322	159	85	34	9	Q	Q	Q	20.05
Education.....	284	95	55	54	38	27	12	4	0	17.12
Food Sales.....	102	81	Q	Q	Q	Q	Q	Q	NC	46.43
Food Service.....	241	179	38	19	Q	Q	NC	NC	NC	33.35
Health Care.....	80	53	Q	10	Q	3	1	1	1	31.80
Lodging.....	140	38	40	33	13	11	0	2	Q	22.22
Mercantile and Service.....	1,278	803	237	164	42	18	10	3	1	12.85
Office.....	679	378	106	113	42	22	11	5	3	13.65
Parking Garage.....	45	24	Q	Q	Q	Q	Q	1	Q	39.94
Public Order and Safety.....	50	Q	Q	Q	Q	Q	Q	Q	Q	49.14
Warehouse.....	618	285	147	102	52	18	10	2	Q	17.99
Other.....	62	29	Q	Q	Q	9	Q	Q	Q	39.46
Vacant.....	333	215	61	35	10	8	3	Q	Q	21.57
Year Constructed										
1899 or Before.....	172	92	40	24	13	Q	Q	Q	NC	33.15
1900 to 1919.....	242	129	53	23	20	11	Q	Q	Q	24.73
1920 to 1945.....	680	432	121	71	26	19	8	2	1	16.57
1946 to 1959.....	868	508	171	121	38	17	7	5	0	16.44
1960 to 1969.....	821	456	140	131	47	26	16	5	1	12.68
1970 to 1979.....	884	465	185	136	53	22	16	4	2	11.24
1980 to 1983.....	317	174	60	56	14	8	3	2	*	17.06
1984 to 1986.....	329	157	76	52	23	13	5	2	1	18.18
1987 to 1989.....	215	117	43	29	12	8	3	1	1	23.89
Census Region										
Northeast.....	783	390	175	127	48	21	15	5	3	15.70
Midwest.....	1,046	592	196	140	59	33	16	8	2	13.41
South.....	1,847	1,086	345	249	91	51	16	7	1	11.59
West.....	851	461	174	129	48	23	13	3	1	15.18
Metropolitan Status										
Metropolitan.....	3,073	1,600	624	470	193	106	52	21	7	7.68
Nonmetropolitan.....	1,454	930	266	173	53	21	9	2	Q	18.65
Workers										
Fewer than 5.....	2,280	1,665	380	180	40	11	2	0	0	15.78
5 to 9.....	906	503	221	134	31	9	Q	Q	Q	18.96
10 to 19.....	507	167	161	126	38	12	Q	Q	Q	18.89
20 to 49.....	381	47	88	136	69	32	8	Q	Q	16.22
50 to 99.....	132	Q	Q	38	44	27	14	3	Q	21.90
100 to 249.....	79	Q	Q	8	16	28	5	3	Q	25.06
250 or More.....	32	NC	NC	NC	Q	5	9	10	5	17.37
Weekly Operating Hours										
39 or Fewer.....	876	605	160	76	23	9	Q	0	Q	19.34
40 to 48.....	1,117	599	241	167	61	33	14	2	Q	12.18
49 to 60.....	987	525	191	164	60	27	14	5	1	13.78
61 to 84.....	625	337	115	97	37	21	12	4	2	13.58
85 to 167.....	515	282	92	70	36	18	11	6	1	17.14
168 (Open Continuously).....	408	181	90	70	30	20	9	7	2	13.08
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	2,361	856	622	243	125	60	23	7	6.87
Natural Gas.....	2,439	1,233	536	359	154	90	45	17	6	8.45
Fuel Oil.....	586	306	97	96	37	24	17	6	3	16.51
District Heat.....	105	17	16	32	14	11	8	5	2	24.72
District Chilled Water.....	25	Q	Q	Q	4	4	4	1	1	29.04
Propane.....	348	205	65	49	13	10	4	1	Q	24.16
Any Other.....	130	79	Q	Q	Q	Q	Q	Q	Q	36.70
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	2,100	760	588	224	118	58	22	7	7.31
Air-Conditioned Buildings.....	3,184	1,652	647	494	205	108	50	22	7	7.63
Buildings with Water Heating.....	3,184	1,593	658	527	206	115	56	22	7	7.66
Buildings with Cooking.....	864	411	152	130	75	48	28	15	5	10.37
Buildings with Manufacturing..	205	75	37	48	20	14	5	Q	1	23.97
Ownership and Occupancy										
Nongovernment Owned.....	3,951	2,300	765	536	195	92	43	15	5	7.85
Owner Occupied.....	2,814	1,612	571	383	141	64	27	13	4	9.01
Nonowner Occupied.....	1,136	688	194	154	54	28	16	3	1	13.50
Government Owned.....	577	229	125	107	52	35	18	8	2	13.60

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 12. Building Size, Percent of Buildings

Building Characteristics	All Buildings	Building Size Category								RSE Row Factor
		1,001 to 5,000 Square Feet	5,001 to 10,000 Square Feet	10,001 to 25,000 Square Feet	25,001 to 50,000 Square Feet	50,001 to 100,000 Square Feet	100,001 to 200,000 Square Feet	200,001 to 500,000 Square Feet	Over 500,000 Square Feet	
RSE Column Factor:	--	0.367	0.671	0.729	0.933	1.057	1.363	1.938	2.139	
All Buildings.....	100.0	55.9	19.7	14.2	5.4	2.8	1.3	0.5	0.2	6.81
Principal Building Activity										
Assembly.....	100.0	52.4	25.8	13.8	5.5	1.5	0	0	0	20.37
Education.....	100.0	33.4	19.3	18.8	13.3	9.3	4.3	1.3	0	17.03
Food Sales.....	100.0	79.3	0	0	0	0	NC	NC	NC	45.56
Food Service.....	100.0	74.2	15.9	7.9	0	0	0	0	0	38.42
Health Care.....	100.0	66.3	0	12.8	0	0	3.6	1.7	1.2	32.68
Lodging.....	100.0	26.8	28.3	23.9	9.5	7.7	0	1.3	0	23.49
Mercantile and Service.....	100.0	62.8	18.6	12.8	3.3	1.4	.8	.2	.1	13.23
Office.....	100.0	55.6	15.5	16.6	6.2	3.3	1.6	.8	.4	13.95
Parking Garage.....	100.0	52.9	0	0	0	0	0	2.9	0	40.77
Public Order and Safety.....	100.0	0	0	0	0	0	0	0	0	51.14
Warehouse.....	100.0	46.1	23.8	16.5	8.4	3.0	1.9	.4	0	18.27
Other.....	100.0	47.2	0	0	0	14.2	1.0	0	0	35.24
Vacant.....	100.0	64.4	18.2	10.4	2.9	2.3	1.0	0	0	22.50
Year Constructed										
1899 or Before.....	100.0	53.3	23.4	13.8	7.3	0	0	0	NC	32.93
1900 to 1919.....	100.0	53.4	22.1	9.6	8.3	4.6	0	0	Q	24.60
1920 to 1945.....	100.0	63.5	17.8	10.4	3.9	2.8	1.1	.3	0	17.04
1946 to 1959.....	100.0	58.5	19.7	14.0	4.4	1.9	.8	.6	0	16.75
1960 to 1969.....	100.0	55.5	17.1	15.9	5.7	3.1	2.0	.6	1	12.98
1970 to 1979.....	100.0	52.6	21.0	15.4	6.0	2.5	1.8	.4	1	11.57
1980 to 1983.....	100.0	55.0	18.8	17.6	4.3	2.6	1.0	.6	.1	17.95
1984 to 1986.....	100.0	47.7	23.0	15.8	7.1	4.0	1.6	.6	.2	18.97
1987 to 1989.....	100.0	54.6	20.0	13.7	5.7	3.8	1.4	.5	.3	23.79
Census Region										
Northeast.....	100.0	49.8	22.3	16.2	6.1	2.6	1.9	.7	.3	14.09
Midwest.....	100.0	56.6	18.7	13.3	5.7	3.2	1.6	.8	.2	13.47
South.....	100.0	58.8	18.7	13.5	4.9	2.8	1.9	.4	.1	10.94
West.....	100.0	54.1	20.4	15.1	5.7	2.7	1.5	.3	.1	15.67
Metropolitan Status										
Metropolitan.....	100.0	52.0	20.3	15.3	6.3	3.5	1.7	.7	.2	7.21
Nonmetropolitan.....	100.0	63.9	18.3	11.9	3.7	1.4	.6	.1	Q	18.14
Workers										
Fewer than 5.....	100.0	73.0	16.6	7.9	1.8	.5	.1	0	Q	16.97
5 to 9.....	100.0	55.6	24.4	14.8	3.4	1.0	0	0	0	20.53
10 to 19.....	100.0	32.8	31.7	24.8	7.6	2.3	0	0	0	18.96
20 to 49.....	100.0	12.2	23.0	35.8	18.1	8.4	2.1	0	0	17.09
50 to 99.....	100.0	0	0	29.2	33.1	20.9	10.5	2.4	0	22.96
100 to 249.....	100.0	0	0	9.8	20.8	35.0	21.7	6.2	0	27.52
250 or More.....	100.0	NC	NC	NC	Q	15.9	27.3	32.7	16.6	13.07
Weekly Operating Hours										
39 or Fewer.....	100.0	69.1	18.3	8.6	2.6	1.0	0	0	Q	20.06
40 to 48.....	100.0	53.7	21.6	14.9	5.4	2.9	1.2	.1	0	12.28
49 to 60.....	100.0	53.2	19.4	16.6	6.1	2.8	1.4	.5	.1	14.38
61 to 84.....	100.0	53.9	18.5	15.6	5.9	3.4	1.9	.7	.3	14.09
85 to 167.....	100.0	54.8	17.8	13.7	7.0	3.4	2.0	1.1	.2	17.03
168 (Open Continuously).....	100.0	44.4	22.0	17.2	7.3	4.9	2.2	1.6	.4	13.94
Energy Sources (Solely or in Combination)										
Electricity.....	100.0	55.0	19.9	14.5	5.7	2.9	1.4	.5	.2	6.84
Natural Gas.....	100.0	50.5	22.0	14.7	6.3	3.7	1.8	.7	.3	8.27
Fuel Oil.....	100.0	52.2	16.6	16.3	6.3	4.0	2.8	1.1	0	15.85
District Heat.....	100.0	15.9	15.1	30.3	13.3	10.7	7.9	4.8	1.9	23.35
District Chilled Water.....	100.0	0	0	0	16.8	16.1	17.8	3.7	2.8	30.52
Propane.....	100.0	58.9	18.6	14.0	3.8	2.9	1.1	.4	0	22.72
Any Other.....	100.0	60.5	Q	Q	Q	Q	Q	Q	Q	34.92
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	100.0	54.2	19.6	15.2	5.8	3.0	1.5	.6	.2	7.06
Air-Conditioned Buildings.....	100.0	51.9	20.3	15.5	6.4	3.4	1.6	.7	.2	7.38
Buildings with Water Heating.....	100.0	50.0	20.7	16.6	6.5	3.6	1.8	.7	.2	7.37
Buildings with Cooking.....	100.0	47.6	17.5	15.0	8.7	5.5	3.3	1.7	.6	10.14
Buildings with Manufacturing.....	100.0	36.8	18.2	23.6	10.0	7.0	2.6	Q	.5	24.31
Ownership and Occupancy										
Nongovernment Owned.....	100.0	58.2	19.4	13.6	4.9	2.3	1.1	.4	.1	7.75
Owner Occupied.....	100.0	57.3	20.3	13.6	5.0	2.3	1.0	.4	.1	8.87
Nonowner Occupied.....	100.0	60.6	17.0	13.5	4.7	2.5	1.4	.2	.1	13.49
Government Owned.....	100.0	39.7	21.6	18.6	9.0	6.1	3.1	1.4	.4	13.61

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 13. Building Size, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace (million square feet)	Mean Square Feet per Building (thousand square feet)	Median Square Feet per Building (thousand square feet)	Million Square Feet of Floorspace by Building Size Category								RSE Row Factor
				1,001 to 5,000 Square Feet	5,001 to 10,000 Square Feet	10,001 to 25,000 Square Feet	25,001 to 50,000 Square Feet	50,001 to 100,000 Square Feet	100,001 to 200,000 Square Feet	200,001 to 500,000 Square Feet	Over 500,000 Square Feet	
	RSE Column Factor:	0.564	0.459	a/	0.720	0.889	0.877	1.037	1.070	1.379	2.003	2.243
All Buildings.....	63,184	14.0	4.5	6,790	6,532	10,393	8,801	9,130	8,277	7,022	6,239	6.60
Building Floorspace (Square Feet)												
1,001 to 5,000.....	6,790	2.7	2.4	6,790	--	--	--	--	--	--	--	5.11
5,001 to 10,000.....	6,532	7.3	7.0	--	6,532	--	--	--	--	--	--	4.58
10,001 to 25,000.....	10,393	16.1	15.0	--	--	10,393	--	--	--	--	--	5.74
25,001 to 50,000.....	8,801	35.7	34.0	--	--	8,801	--	--	--	--	--	5.46
50,001 to 100,000.....	9,130	71.7	69.9	--	--	--	9,130	--	--	--	--	6.12
100,001 to 200,000.....	8,277	136.6	126.0	--	--	--	--	8,277	--	--	--	7.03
200,001 to 500,000.....	7,022	301.5	289.9	--	--	--	--	--	7,022	--	--	11.27
Over 500,000.....	6,239	866.8	750.3	--	--	--	--	--	--	6,239	--	13.05
Principal Building Activity												
Assembly.....	6,838	11.1	5.0	1,006	1,183	1,390	1,230	635	688	382	Q	19.11
Education.....	8,148	28.7	9.0	279	400	892	1,425	1,818	1,715	888	Q	16.16
Food Sales.....	792	7.7	2.8	223	33	177	0	0	0	0	NC	44.71
Food Service.....	1,167	4.8	3.0	417	263	260	0	0	0	0	NC	30.28
Health Care.....	2,054	25.7	3.5	136	0	166	0	123	380	401	729	30.07
Lodging.....	3,476	24.8	8.5	123	278	617	469	709	455	537	Q	21.19
Mercantile and Service.....	12,365	9.7	3.9	2,120	1,753	2,639	1,395	1,378	1,417	692	972	12.09
Office.....	11,802	17.4	4.2	961	821	1,721	1,459	1,575	1,465	1,695	2,107	13.01
Parking Garage.....	983	22.0	4.8	55	90	79	0	0	167	391	98	38.09
Public Order and Safety.....	616	12.3	4.0	73	91	0	0	0	0	0	0	45.99
Warehouse.....	9,253	15.0	5.8	800	1,031	1,667	1,921	1,369	1,323	705	437	17.76
Other.....	1,529	24.7	6.7	63	87	160	128	701	82	0	38	37.91
Vacant.....	4,161	12.5	3.7	533	440	566	334	530	433	0	Q	24.58
Year Constructed												
1899 or Before.....	1,654	9.6	4.5	270	299	353	451	212	0	0	NC	30.56
1900 to 1919.....	4,245	17.5	4.8	338	399	375	680	729	249	0	Q	27.08
1920 to 1945.....	8,098	11.9	4.0	1,178	928	1,089	994	1,395	914	618	982	16.31
1946 to 1959.....	10,511	12.1	4.1	1,363	1,233	2,046	1,369	1,191	1,005	1,360	0	15.85
1960 to 1969.....	12,167	14.8	4.3	1,197	1,027	2,064	1,648	1,889	2,253	1,518	572	11.52
1970 to 1979.....	13,329	15.1	5.0	1,266	1,340	2,180	1,884	1,628	2,254	1,196	1,581	10.87
1980 to 1983.....	4,274	13.5	4.8	465	440	943	480	563	473	566	346	16.38
1984 to 1986.....	5,670	17.2	5.4	419	541	858	853	924	697	632	0	17.51
1987 to 1989.....	3,235	15.1	4.5	294	325	485	443	600	373	304	411	21.55
Census Region												
Northeast.....	13,569	17.3	5.2	1,047	1,271	1,980	1,722	1,507	2,079	1,508	2,454	14.46
Midwest.....	15,955	15.3	4.5	1,612	1,468	2,250	2,049	2,362	2,232	2,593	1,390	12.90
South.....	22,040	11.9	4.0	2,853	2,530	4,109	3,322	3,632	2,226	2,088	1,281	11.43
West.....	11,620	13.7	4.8	1,279	1,263	2,054	1,708	1,630	1,739	832	1,115	14.07
Metropolitan Status												
Metropolitan.....	50,809	16.5	5.0	4,289	4,581	7,607	6,925	7,664	7,100	6,495	6,148	7.42
Nonmetropolitan.....	12,375	8.5	3.8	2,501	1,951	2,786	1,876	1,467	1,176	527	0	16.65
Workers												
Fewer than 5.....	13,292	5.8	3.0	4,271	2,717	2,841	1,432	727	232	0	Q	15.38
5 to 9.....	7,939	8.8	4.6	1,471	1,606	2,132	1,105	749	797	0	Q	17.79
10 to 19.....	6,445	12.7	7.5	544	1,228	1,921	1,317	828	416	171	Q	17.33
20 to 49.....	9,665	25.4	16.0	167	693	2,330	2,415	2,201	1,116	269	Q	14.92
50 to 99.....	7,389	56.1	36.5	0	0	684	1,584	1,919	1,860	860	0	19.85
100 to 249.....	6,771	85.9	69.9	0	0	124	629	2,062	2,402	1,338	184	21.85
250 or More.....	9,829	308.0	200.1	NC	NC	95	394	1,272	3,251	4,817	16.47	
Weekly Operating Hours												
39 or Fewer.....	6,073	6.9	3.5	1,574	1,159	1,157	885	634	313	62	0	17.27
40 to 48.....	13,905	12.4	5.0	1,628	1,830	2,628	2,163	2,386	1,889	446	934	11.80
49 to 60.....	13,473	13.6	5.0	1,450	1,409	2,614	2,081	1,925	1,811	1,431	753	12.88
61 to 84.....	10,777	17.2	4.8	891	824	1,601	1,235	1,530	1,446	1,237	2,014	12.96
85 to 167.....	9,387	18.2	4.5	776	680	1,159	1,296	1,272	1,552	1,825	0	17.69
168 (Open Continuously).....	9,569	23.5	5.8	472	631	1,235	1,141	1,384	1,267	2,020	1,420	13.09
Energy Sources (Solely or in Combination)												
Electricity.....	61,587	14.3	4.6	6,411	6,302	9,989	8,682	8,918	8,222	7,002	6,062	6.63
Natural Gas.....	41,593	17.1	5.0	3,441	3,985	5,793	5,487	6,397	6,032	5,129	5,328	8.14
Fuel Oil.....	12,684	21.6	5.0	832	698	1,499	1,352	1,685	2,245	1,807	2,566	14.41
District Heat.....	6,856	65.4	19.5	43	115	566	512	848	1,222	1,415	2,135	24.57
District Chilled Water.....	2,101	84.6	34.5	0	32	86	148	282	690	316	542	26.41
Propane.....	4,695	13.5	4.5	587	454	738	461	748	540	468	0	22.91
Any Other.....	1,542	11.9	4.0	206	184	342	138	Q	Q	Q	Q	35.75

See footnotes at end of table.

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Table 13. Building Size, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace (million square feet)	Mean Square Feet per Building (thousand square feet)	Median Square Feet per Building (thousand square feet)	Million Square Feet of Floorspace by Building Size Category								RSE Row Factor
				1,001 to 5,000 Square Feet	5,001 to 10,000 Square Feet	10,001 to 25,000 Square Feet	25,001 to 50,000 Square Feet	50,001 to 100,000 Square Feet	100,001 to 200,000 Square Feet	200,001 to 500,000 Square Feet	Over 500,000 Square Feet	
	0.564	0.459	a/	0.720	0.889	0.877	1.037	1.070	1.379	2.003	2.243	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	57,868	14.9	4.8	5,759	5,620	9,434	7,994	8,420	7,902	6,763	5,977	7.01
Air-Conditioned Buildings.....	51,771	16.3	5.0	4,566	4,809	8,010	7,271	7,764	6,916	6,460	5,976	7.31
Buildings with Water Heating.....	53,585	16.8	5.0	4,396	4,882	8,521	7,400	8,181	7,644	6,630	5,932	7.33
Buildings with Cooking.....	23,668	27.4	5.8	1,170	1,138	2,139	2,758	3,366	4,015	4,403	4,680	10.24
Buildings with Manufacturing..	5,601	27.4	8.0	223	265	806	710	1,077	753	Q	Q	24.02
Ownership and Occupancy												
Nongovernment Owned.....	48,842	12.4	4.2	6,145	5,624	8,641	6,909	6,655	5,807	4,862	4,199	7.44
Owner Occupied.....	35,955	12.8	4.3	4,347	4,205	6,192	5,046	4,638	3,758	4,083	3,685	8.53
Nonowner Occupied.....	12,888	11.3	4.0	1,798	1,419	2,449	1,863	2,017	2,049	779	514	12.46
Government Owned.....	14,342	24.8	7.1	645	908	1,752	1,892	2,475	2,470	2,160	2,040	13.04

a/ Data not applicable.

Relative Standard Error (RSE) row and column factors do not apply to medians. RSE's were not compute for medians.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 14. Building Size, Percent of Floorspace

Building Characteristics	Total Floorspace (percent)	Percent of Floorspace by Building Size Category								RSE Row Factor
		1,001 to 5,000 Square Feet	5,001 to 10,000 Square Feet	10,001 to 25,000 Square Feet	25,001 to 50,000 Square Feet	50,001 to 100,000 Square Feet	100,001 to 200,000 Square Feet	200,001 to 500,000 Square Feet	Over 500,000 Square Feet	
	RSE Column Factor:	--	0.718	0.746	0.735	0.855	0.942	1.117	1.577	1.787
All Buildings.....	100.0	10.7	10.3	16.4	13.9	14.5	13.1	11.1	9.9	7.38
Principal Building Activity										
Assembly.....	100.0	14.7	17.3	20.3	18.0	9.3	10.1	5.6	0	23.36
Education.....	100.0	3.4	4.9	10.9	17.5	22.3	21.1	10.9	Q	18.73
Food Sales.....	100.0	28.2	4.1	22.4	0	0	0	0	NC	51.53
Food Service.....	100.0	35.8	22.5	22.3	0	0	0	NC	NC	38.84
Health Care.....	100.0	6.6	0	8.1	2.7	6.0	18.5	19.5	35.5	32.11
Lodging.....	100.0	3.5	8.0	17.8	13.5	20.4	13.1	15.4	Q	25.24
Mercantile and Service.....	100.0	17.1	14.2	21.3	11.3	11.1	11.5	5.6	7.9	14.71
Office.....	100.0	8.1	7.0	14.6	12.4	13.3	12.4	14.4	17.8	14.99
Parking Garage.....	100.0	5.6	9.2	0	0	0	17.0	39.8	10.0	41.94
Public Order and Safety.....	100.0	11.9	14.8	0	0	0	0	0	Q	58.15
Warehouse.....	100.0	8.6	11.1	18.0	20.8	14.8	14.3	7.6	4.7	19.83
Other.....	100.0	4.1	5.7	10.5	8.4	45.8	5.4	0	2.5	40.74
Vacant.....	100.0	12.8	10.6	13.6	8.0	12.7	10.4	19.6	12.2	28.28
Year Constructed										
1899 or Before.....	100.0	16.3	18.1	21.3	27.2	12.8	0	0	NC	34.16
1900 to 1919.....	100.0	8.0	9.4	8.8	16.0	17.2	5.9	0	15.5	30.60
1920 to 1945.....	100.0	14.5	11.5	13.4	12.3	17.2	11.3	7.6	12.1	18.56
1946 to 1959.....	100.0	13.0	11.7	19.5	13.0	11.3	9.6	12.9	0	18.70
1960 to 1969.....	100.0	9.8	8.4	17.0	13.5	15.5	18.5	12.5	4.7	13.28
1970 to 1979.....	100.0	9.5	10.1	16.4	14.1	12.2	16.9	9.0	11.9	12.57
1980 to 1983.....	100.0	10.9	10.3	22.1	11.2	13.2	11.1	13.2	8.1	18.67
1984 to 1986.....	100.0	7.4	9.5	15.1	15.0	16.3	12.3	11.2	0	21.09
1987 to 1989.....	100.0	9.1	10.0	15.0	13.7	18.5	11.5	9.4	12.7	23.64
Census Region										
Northeast.....	100.0	7.7	9.4	14.6	12.7	11.1	15.3	11.1	18.1	15.67
Midwest.....	100.0	10.1	9.2	14.1	12.8	14.8	14.0	16.3	8.7	13.99
South.....	100.0	12.9	11.5	18.6	15.1	16.5	10.1	9.5	5.8	11.85
West.....	100.0	11.0	10.9	17.7	14.7	14.0	15.0	7.2	9.6	15.80
Metropolitan Status										
Metropolitan.....	100.0	8.4	9.0	15.0	13.6	15.1	14.0	12.8	12.1	8.12
Nonmetropolitan.....	100.0	20.2	15.8	22.5	15.2	11.9	9.5	4.3	Q	17.96
Workers										
Fewer than 5.....	100.0	32.1	20.4	21.4	10.8	5.5	1.7	0	Q	19.78
5 to 9.....	100.0	18.5	20.2	26.9	13.9	9.4	10.0	0	Q	22.96
10 to 19.....	100.0	8.4	19.1	29.8	20.4	12.8	6.5	2.7	0	20.12
20 to 49.....	100.0	1.7	7.2	24.1	25.0	22.8	11.6	2.8	0	18.21
50 to 99.....	100.0	0	0	9.3	21.4	26.0	25.2	11.6	0	24.55
100 to 249.....	100.0	Q	Q	1.8	9.3	30.5	35.5	19.8	2.7	27.60
250 or More.....	100.0	NC	NC	NC	1.0	4.0	12.9	33.1	49.0	15.77
Weekly Operating Hours										
39 or Fewer.....	100.0	25.9	19.1	19.0	14.6	10.4	5.1	1.0	0	21.13
40 to 48.....	100.0	11.7	13.2	18.9	15.6	17.2	13.6	3.2	6.7	12.92
49 to 60.....	100.0	10.8	10.5	19.4	15.4	14.3	13.4	10.6	5.6	15.28
61 to 84.....	100.0	8.3	7.6	14.9	11.5	14.2	13.4	11.5	18.7	15.56
85 to 167.....	100.0	8.3	7.2	12.3	13.8	13.6	16.5	19.4	8.8	19.70
168 (Open Continuously).....	100.0	4.9	6.6	12.9	11.9	14.5	13.2	21.1	14.8	14.57
Energy Sources (Solely or in Combination)										
Electricity.....	100.0	10.4	10.2	16.2	14.1	14.5	13.3	11.4	9.8	7.43
Natural Gas.....	100.0	8.3	9.6	13.9	13.2	15.4	14.5	12.3	12.8	9.06
Fuel Oil.....	100.0	6.6	5.5	11.8	10.7	13.3	17.7	14.2	20.2	15.72
District Heat.....	100.0	.6	1.7	8.3	7.5	12.4	17.8	20.6	31.1	25.76
District Chilled Water.....	100.0	Q	1.5	4.1	7.0	13.4	32.8	15.0	25.8	32.50
Propane.....	100.0	12.5	9.7	15.7	9.8	15.9	11.5	10.0	Q	25.20
Any Other.....	100.0	13.4	11.9	22.1	9.0	Q	12.8	Q	Q	40.34
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	100.0	10.0	9.7	16.3	13.8	14.6	13.7	11.7	10.3	7.85
Air-Conditioned Buildings.....	100.0	8.8	9.3	15.5	14.0	15.0	13.4	12.5	11.5	8.08
Buildings with Water Heating.....	100.0	8.2	9.1	15.9	13.8	15.3	14.3	12.4	11.1	8.27
Buildings with Cooking.....	100.0	4.9	4.8	9.0	11.7	14.2	17.0	18.6	19.8	11.62
Buildings with Manufacturing.....	100.0	4.0	4.7	14.4	12.7	19.2	13.4	12.8	18.8	26.08
Ownership and Occupancy										
Nongovernment Owned.....	100.0	12.6	11.5	17.7	14.1	13.6	11.9	10.0	8.6	8.44
Owner Occupied.....	100.0	12.1	11.7	17.2	14.0	12.9	10.5	11.4	10.2	9.87
Nonowner Occupied.....	100.0	14.0	11.0	19.0	14.5	15.7	15.9	6.0	4.0	13.60
Government Owned.....	100.0	4.5	6.3	12.2	13.2	17.3	17.2	15.1	14.2	15.01

-- Data not applicable.

NC No cases in sample.

O Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

STRUCTURE

**Table 15. Year Constructed, Number of Buildings
(Thousand)**

Building Characteristics	RSE Column Factor:	All Buildings	Year Constructed Category									Median Age of Buildings (years)	RSE Row Factor
			1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989		
			0.447	1.815	1.473	0.899	0.844	0.776	0.755	1.156	1.147	1.419	a/
All Buildings.....		4,528	172	242	680	868	821	884	317	329	215	22.5	7.15
Building Floorspace (Square Feet)													
1,001 to 5,000.....	2,529	92	129	432	508	456	465	174	157	117	117	27.5	9.98
5,001 to 10,000.....	890	40	53	121	171	140	185	60	76	43	43	24.5	13.59
10,001 to 25,000.....	644	24	23	71	121	131	136	56	52	29	29	21.5	13.83
25,001 to 50,000.....	247	13	20	26	38	47	53	14	23	12	12	23.5	15.65
50,001 to 100,000.....	127	Q	11	19	17	26	22	8	13	8	8	21.5	16.43
100,001 to 200,000.....	61	Q	Q	8	7	16	16	3	5	3	3	20.5	25.59
200,001 to 500,000.....	23	Q	Q	2	5	5	4	2	2	1	1	19.5	31.79
Over 500,000.....	7	NC	Q	1	Q	1	2	1	1	1	1	16.5	34.13
Principal Building Activity													
Assembly.....	615	53	41	125	138	82	97	32	31	17	30.5	16.35	
Education.....	284	Q	14	32	87	65	52	10	14	9	26.5	21.96	
Food Sales.....	102	Q	Q	Q	0	0	0	0	0	0	20.5	36.82	
Food Service.....	241	Q	Q	34	38	35	57	0	0	0	21.5	22.46	
Health Care.....	80	Q	Q	0	15	24	10	0	0	0	20.5	44.43	
Lodging.....	140	Q	Q	17	18	36	32	9	10	Q	24.5	28.03	
Mercantile and Service.....	1,278	43	61	194	254	227	277	78	78	67	21.5	12.08	
Office.....	679	21	36	85	109	129	128	62	71	39	19.5	14.39	
Parking Garage.....	45	NC	NC	Q	Q	Q	Q	0	0	0	0	10.5	48.69
Public Order and Safety.....	50	NC	Q	Q	Q	Q	Q	0	0	0	0	27.0	50.38
Warehouse.....	618	Q	29	67	113	107	137	50	74	35	20.5	17.37	
Other.....	62	Q	Q	0	Q	11	13	Q	Q	Q	19.5	46.83	
Vacant.....	333	20	31	76	58	68	39	Q	Q	10	33.5	21.06	
Year Constructed													
1899 or Before.....	172	172	--	--	--	--	--	--	--	--	100.6	15.41	
1900 to 1919.....	242	--	242	--	--	--	--	--	--	--	80.5	12.27	
1920 to 1945.....	680	--	--	680	--	--	--	--	--	--	59.5	9.16	
1946 to 1959.....	868	--	--	--	868	--	--	--	--	--	35.5	9.65	
1960 to 1969.....	821	--	--	--	--	821	--	--	--	--	24.5	9.84	
1970 to 1979.....	884	--	--	--	--	--	884	--	--	--	15.5	9.74	
1980 to 1983.....	317	--	--	--	--	--	--	317	--	--	8.5	10.13	
1984 to 1986.....	329	--	--	--	--	--	--	--	329	--	4.5	12.29	
1987 to 1989.....	215	--	--	--	--	--	--	--	--	215	1.5	13.69	
Census Region													
Northeast.....	783	58	67	170	159	114	109	31	38	37	30.5	17.14	
Midwest.....	1,046	50	86	156	195	210	191	55	56	46	25.5	13.03	
South.....	1,847	47	51	238	354	318	404	161	181	94	20.5	12.38	
West.....	851	Q	38	116	159	179	181	70	55	37	20.5	17.79	
Metropolitan Status													
Metropolitan.....	3,073	112	152	407	600	564	622	219	250	146	21.5	8.56	
Nonmetropolitan.....	1,454	60	90	273	267	257	261	98	79	69	26.5	14.62	
Workers													
Fewer than 5.....	2,280	97	121	384	469	380	421	159	151	98	26.5	9.80	
5 to 9.....	906	36	50	130	171	155	183	68	57	56	24.5	13.58	
10 to 19.....	507	21	22	54	99	104	102	33	58	16	23.5	17.37	
20 to 49.....	381	Q	17	40	54	83	91	31	32	26	21.5	17.01	
50 to 99.....	132	Q	Q	13	22	32	33	8	11	4	21.5	20.47	
100 to 249.....	79	Q	Q	13	15	15	16	7	11	6	20.5	24.51	
250 or More.....	32	Q	Q	10	6	6	7	4	4	3	16.5	27.27	
Weekly Operating Hours													
39 or Fewer.....	876	63	68	159	181	153	137	45	46	25	30.5	15.02	
40 to 48.....	1,117	38	67	182	206	187	221	68	102	48	24.5	12.74	
49 to 60.....	987	28	53	140	176	184	187	81	78	59	21.5	12.20	
61 to 84.....	625	Q	24	96	143	106	121	52	41	30	20.5	15.01	
85 to 167.....	515	Q	21	67	96	103	115	36	35	26	21.5	17.24	
168 (Open Continuously).....	408	Q	10	37	66	89	104	34	37	18	19.5	18.92	
Energy Sources (Solely or in Combination)													
Electricity.....	4,297	162	223	631	825	775	855	309	315	202	22.5	7.27	
Natural Gas.....	2,439	98	156	398	518	458	421	140	148	103	24.5	8.93	
Fuel Oil.....	586	31	35	137	144	98	90	21	12	19	25.5	20.44	
District Heat.....	105	Q	9	21	18	26	12	0	0	Q	29.5	33.06	
District Chilled Water.....	25	Q	Q	4	9	5	5	0	0	Q	21.5	43.22	
Propane.....	348	Q	Q	44	59	57	82	18	26	24	21.5	24.53	
Any Other.....	130	Q	Q	Q	Q	18	32	Q	Q	24	24.0	37.44	

See footnotes at end of table.

Table 15. Year Constructed, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Year Constructed Category									Median Age of Buildings (years)	RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989		
		RSE Column Factor:	0.447	1.815	1.473	0.899	0.844	0.776	0.755	1.156	1.147	1.419
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	154	204	585	758	686	771	267	277	174	22.5	7.49
Air-Conditioned Buildings.....	3,184	115	137	441	572	686	666	243	264	159	20.5	8.50
Buildings with Water Heating.....	3,184	114	165	465	617	560	633	232	238	159	21.5	7.87
Buildings with Cooking.....	864	41	43	127	176	140	173	55	58	52	21.5	13.12
Buildings with Manufacturing.....	205	Q	Q	31	47	33	41	11	27	7	21.5	27.75
Percent Heated												
Not Heated.....	662	0	40	95	113	137	113	52	53	41	24.5	17.18
1 to 50.....	630	32	58	87	97	115	121	46	50	25	23.5	16.48
51 to 99.....	496	29	32	80	97	96	45	30	23	21	21.5	16.67
100.....	2,739	93	112	418	560	505	555	175	195	126	22.5	8.30
Percent Cooled												
Not Cooled.....	1,344	57	105	239	296	235	218	74	65	55	30.5	11.80
1 to 50.....	1,037	49	71	182	169	183	183	75	92	33	25.5	13.39
51 to 99.....	597	30	35	70	111	98	114	51	47	40	20.5	15.57
100.....	1,550	36	31	189	292	305	368	117	125	86	19.5	12.22
Percent Lit When Open												
Not Lit.....	306	0	27	56	57	64	43	0	0	16	31.5	21.27
1 to 50.....	1,002	57	79	169	198	166	164	71	65	33	29.5	13.27
51 to 99.....	951	45	69	143	167	169	161	70	77	50	22.5	12.27
100.....	2,269	60	66	312	446	423	515	159	172	115	20.5	9.64
Heating Equipment (Solely or in Combination)												
Furnaces.....	1,619	72	85	255	352	307	291	91	99	68	25.5	11.38
Boilers.....	704	50	62	167	162	113	87	21	18	25	27.5	13.74
Individual Space Heaters.....	1,389	69	81	225	283	220	289	94	84	45	22.5	11.79
Packaged Heating Units.....	859	0	22	72	134	166	223	93	97	31	17.5	15.78
Heat Pumps.....	453	0	15	35	59	63	52	73	45	15.5	20.01	20.99
Air Ducts.....	1,990	67	81	238	350	372	430	154	188	110	20.5	10.52
Heating or Reheating Coils.....	243	0	8	19	37	57	55	23	24	15	20.5	20.14
Fan-Coil Units.....	185	0	5	29	49	45	31	6	8	7	22.5	20.37
Steam or Hot Water Radiators or Baseboards.....	498	38	52	141	119	77	44	7	8	11	32.6	17.74
Other.....	57	Q	Q	Q	Q	11	4	Q	Q	Q	20.5	44.97
Cooling Equipment (Solely or in Combination)												
Central Chillers.....	201	0	7	23	34	52	38	14	14	6	20.5	21.03
Individual Air Conditioners.....	1,074	50	61	236	246	182	171	60	45	22	30.5	14.57
Packaged Cooling Units.....	1,980	57	86	225	345	382	447	162	169	108	20.5	10.08
Heat Pumps.....	437	0	12	34	53	63	92	48	69	46	15.0	21.52
Air Ducts.....	1,712	59	64	179	272	319	399	145	169	106	19.5	11.62
Fan-Coil Units.....	110	0	0	13	17	29	22	9	12	4	20.5	25.57
Other.....	100	Q	Q	Q	23	Q	30	Q	Q	Q	15.5	53.54
Lighting Equipment (Solely or in Combination)												
Incandescent.....	2,404	137	160	414	456	435	435	127	149	91	25.5	9.30
Fluorescent.....	3,920	140	198	572	729	729	790	283	288	190	21.5	7.43
High-Intensity Discharge.....	456	0	23	56	74	68	88	54	45	38	17.5	16.01
Other.....	24	NC	Q	Q	Q	Q	Q	Q	Q	Q	18.5	65.08
Floors												
One.....	2,886	33	64	312	592	580	689	228	229	159	20.5	9.82
Two.....	1,057	60	68	223	185	179	152	70	79	40	23.5	11.76
Three.....	408	42	82	105	76	43	27	13	7	12	34.6	17.26
More than Three.....	177	36	28	40	15	19	16	7	14	3	22.5	19.94
Wall Materials												
Masonry.....	2,849	115	178	488	610	568	491	138	158	101	27.5	8.64
Siding or Shingles.....	802	51	60	142	130	103	162	58	50	45	26.5	16.57
Metal Panels.....	557	0	0	18	69	101	161	85	79	39	14.5	22.64
Concrete Panels.....	240	NC	Q	23	47	36	50	30	34	20	15.5	27.40
Window Glass.....	33	0	0	0	0	0	7	0	3	Q	13.0	49.81
Other.....	46	NC	Q	Q	Q	Q	11	0	0	Q	15.5	38.92
Roof Materials												
Built-Up.....	1,614	47	92	287	357	338	283	79	84	46	24.5	11.00
Shingles (Not Wood).....	1,392	69	93	242	287	246	227	77	90	64	29.5	12.48
Metal Surfacing.....	901	0	0	65	128	136	258	113	100	66	15.5	16.47
Synthetic or Rubber.....	211	22	13	47	39	43	39	15	20	18	18.5	22.28
Slate or Tile.....	193	NC	Q	Q	20	25	34	8	0	Q	43.5	27.87
Concrete.....	72	NC	Q	Q	Q	Q	Q	Q	Q	Q	15.5	52.13
Wooden Materials.....	106	Q	Q	Q	Q	Q	Q	Q	Q	Q	29.5	34.41
Other.....	38	Q	Q	Q	Q	Q	Q	Q	Q	Q	20.0	60.40

See footnotes at end of table.

STRUCTURE

Table 15. Year Constructed, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Year Constructed Category									Median Age of Buildings (years)	RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989		
		RSE Column Factor:	0.447	1.815	1.473	0.899	0.844	0.776	0.755	1.156	1.147	1.419
Building Shell Conservation Features (Solely or in Combination)												
Roof or Ceiling Insulation....	3,057	88	115	367	559	549	672	253	272	181	20.5	7.99
Wall Insulation.....	2,026	38	68	199	288	337	480	220	239	157	16.5	9.47
Storm or Multiple Glazing.....	1,440	79	93	195	213	221	277	118	138	105	19.5	9.88
Tinted, Reflective, or Shading Glass.....	944	21	28	76	138	154	252	92	114	70	15.5	12.59
Exterior or Interior Shadings or Awnings.....	1,473	64	61	183	268	274	306	106	127	84	20.5	10.27
Weather Stripping or Caulking.....	2,774	104	106	371	494	493	578	231	237	162	20.5	8.30
Ownership and Occupancy												
Nongovernment Owned.....	3,951	159	219	595	732	707	754	284	309	191	21.5	7.86
Owner Occupied.....	2,814	122	163	412	532	493	531	213	215	134	22.5	8.71
Nonowner Occupied.....	1,136	36	57	183	200	215	223	71	94	58	20.5	13.03
Government Owned.....	577	13	23	85	136	114	130	33	20	23	25.5	16.02
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 7,000 HDD.....	357	29	28	75	59	52	55	18	22	20	27.5	19.25
5,500-7,000 HDD.....	1,120	66	105	196	216	195	169	62	58	52	26.5	15.23
4,000-5,499 HDD.....	965	32	52	172	192	168	198	44	63	45	25.5	22.23
Under 4,000 HDD.....	1,024	Q	24	124	204	178	227	103	83	56	19.5	22.41
2,000 CDD or More and --												
Under 4,000 HDD.....	1,063	Q	34	112	197	229	235	90	104	42	19.5	19.68

a/ Data not applicable.

Relative Standard Error (RSE) row and column factors do not apply to medians. RSE's were not computed for medians.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 16. Year Constructed, Percent of Buildings

Building Characteristics	All Buildings	Year Constructed Category									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	--	1.790	1.450	0.809	0.726	0.637	0.662	1.060	1.103	1.329
All Buildings.....	100.0	3.8	5.3	15.0	19.2	18.1	19.5	7.0	7.3	4.7	6.95
Building Floorspace (Square Feet)											
1,001 to 5,000.....	100.0	3.6	5.1	17.1	20.1	18.0	18.4	6.9	6.2	4.6	9.82
5,001 to 10,000.....	100.0	4.5	6.0	13.6	19.3	15.7	20.8	6.7	8.5	4.8	14.03
10,001 to 25,000.....	100.0	3.7	3.6	11.0	18.8	20.3	21.2	8.7	8.1	4.6	13.87
25,001 to 50,000.....	100.0	5.1	8.1	10.7	15.4	19.0	21.7	5.6	9.5	5.0	16.45
50,001 to 100,000.....	100.0	0	8.7	14.9	13.0	20.1	17.5	6.4	10.3	6.5	17.09
100,001 to 200,000.....	100.0	0	8.0	12.8	11.5	26.7	26.0	5.2	8.8	4.9	27.69
200,001 to 500,000.....	100.0	0	8.3	21.6	21.6	21.6	17.1	7.7	9.1	5.0	31.94
Over 500,000.....	100.0	NC	Q	17.8	Q	9.1	25.8	4.8	10.0	8.6	37.56
Principal Building Activity											
Assembly.....	100.0	8.6	6.7	20.3	22.4	13.4	15.7	5.2	5.1	2.7	15.97
Education.....	100.0	0	4.8	11.3	30.5	23.0	18.1	3.7	4.8	3.3	22.44
Food Sales.....	100.0	0	0	0	0	0	0	0	0	0	37.48
Food Service.....	100.0	0	0	14.1	15.9	14.9	23.7	0	0	0	23.11
Health Care.....	100.0	0	0	0	18.6	30.6	12.7	0	0	0	46.99
Lodging.....	100.0	3.0	0	12.0	12.7	26.0	22.9	6.2	7.3	0	29.83
Mercantile and Service.....	100.0	3.3	4.8	15.2	19.8	17.7	21.7	6.1	6.1	5.2	12.77
Office.....	100.0	3.1	5.3	12.5	16.0	19.0	18.9	9.1	10.4	5.8	14.40
Parking Garage.....	100.0	NC	NC	0	0	0	0	0	0	0	50.24
Public Order and Safety.....	100.0	NC	0	0	0	0	0	0	0	0	50.70
Warehouse.....	100.0	0	4.3	10.8	18.4	17.4	22.1	8.2	11.9	5.6	17.74
Other.....	100.0	0	0	0	18.2	20.8	0	0	0	0	45.46
Vacant.....	100.0	6.0	9.4	22.9	17.5	20.3	11.7	0	0	3.0	22.44
Census Region											
Northeast.....	100.0	7.4	8.5	21.7	20.3	14.5	13.9	4.0	4.8	4.7	15.99
Midwest.....	100.0	4.8	8.3	14.9	18.7	20.1	18.3	5.2	5.4	4.4	12.00
South.....	100.0	2.5	2.8	12.9	19.2	17.2	21.8	8.7	9.8	5.1	11.83
West.....	100.0	Q	4.4	13.6	18.7	21.1	21.2	8.2	6.4	4.4	16.64
Metropolitan Status											
Metropolitan.....	100.0	3.6	5.0	13.2	19.5	18.4	20.3	7.1	8.1	4.7	8.16
Nonmetropolitan.....	100.0	4.1	6.2	18.8	18.4	17.7	18.0	6.8	5.4	4.8	12.55
Workers											
Fewer than 5.....	100.0	4.3	5.3	16.8	20.6	16.7	18.5	7.0	6.6	4.3	10.14
5 to 9.....	100.0	4.0	5.6	14.3	18.8	17.1	20.2	7.6	6.3	6.2	14.45
10 to 19.....	100.0	4.2	4.3	10.6	19.5	20.4	20.1	6.4	11.4	3.1	17.49
20 to 49.....	100.0	0	4.6	10.4	14.2	21.8	23.8	8.1	8.3	6.8	18.25
50 to 99.....	100.0	0	0	9.6	16.5	24.3	25.3	6.0	8.7	2.9	21.65
100 to 249.....	100.0	0	0	12.2	16.7	18.9	19.9	8.5	13.4	7.1	26.19
250 or More.....	100.0	Q	Q	7.0	17.6	19.1	22.8	11.3	12.0	8.0	26.98
Weekly Operating Hours											
39 or Fewer.....	100.0	7.2	7.7	18.2	20.6	17.5	15.6	5.1	5.3	2.8	14.30
40 to 48.....	100.0	3.4	6.0	16.2	18.4	16.7	19.7	6.1	9.1	4.3	12.72
49 to 60.....	100.0	2.8	5.4	14.1	17.8	18.7	19.0	8.3	7.9	6.0	12.74
61 to 84.....	100.0	0	3.8	15.3	22.9	16.9	19.4	8.3	8.5	4.8	15.77
85 to 167.....	100.0	0	4.1	13.1	18.7	20.0	22.3	6.9	5.0	6.7	17.02
168 (Open Continuously).....	100.0	Q	2.4	9.0	16.1	21.7	25.4	8.4	9.0	4.5	20.54
Energy Sources (Solely or in Combination)											
Electricity.....	100.0	3.8	5.2	14.7	19.2	18.0	19.9	7.2	7.3	4.7	7.08
Natural Gas.....	100.0	4.0	6.4	16.3	21.2	18.8	17.3	5.7	6.1	4.2	8.44
Fuel Oil.....	100.0	5.2	5.9	23.4	24.5	16.7	15.4	3.6	2.0	3.2	16.86
District Heat.....	100.0	0	9.0	20.0	17.5	25.0	11.5	0	0	0	33.31
District Chilled Water.....	100.0	0	0	0	16.8	36.2	21.5	0	0	0	46.34
Propane.....	100.0	0	0	12.5	17.0	16.5	23.5	5.1	7.4	7.0	22.32
Any Other.....	100.0	Q	Q	Q	Q	14.2	24.9	Q	Q	Q	35.93
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	100.0	4.0	5.3	15.1	19.6	17.7	19.9	6.9	7.1	4.5	7.19
Air-Conditioned Buildings.....	100.0	3.6	4.3	13.9	18.0	16.4	20.9	7.6	8.3	5.0	8.16
Buildings with Water Heating.....	100.0	3.6	5.2	14.6	19.4	17.6	19.9	7.3	7.5	5.0	7.48
Buildings with Cooking.....	100.0	4.8	4.9	14.7	20.3	16.2	20.0	6.4	6.7	6.0	13.15
Buildings with Manufacturing.....	100.0	0	0	15.3	22.9	16.1	19.9	5.5	13.0	3.3	27.75
Percent Heated											
Not Heated.....	100.0	0	6.1	14.4	17.1	20.6	17.0	7.8	8.1	6.2	17.77
1 to 50.....	100.0	5.0	9.2	13.8	15.4	18.2	19.1	7.2	8.0	3.9	16.61
51 to 99.....	100.0	5.9	6.4	16.0	19.6	13.0	19.4	9.0	6.1	4.6	16.67
100.....	100.0	3.4	4.1	15.3	20.5	18.4	20.2	6.4	7.1	4.6	8.23
Percent Cooled											
Not Cooled.....	100.0	4.2	7.8	17.8	22.0	17.5	16.2	5.5	4.9	4.1	11.83
1 to 50.....	100.0	4.8	6.8	17.6	16.3	17.6	17.6	7.2	8.9	3.1	13.08
51 to 99.....	100.0	5.0	5.9	11.7	18.5	16.5	19.2	8.6	7.8	6.8	16.12
100.....	100.0	2.3	2.0	12.2	18.8	19.7	23.8	7.6	8.1	5.6	11.74

See footnotes at end of table.

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Table 16. Year Constructed, Percent of Buildings (Continued)

Building Characteristics	All Buildings	Year Constructed Category									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	--	1.790	1.450	0.809	0.726	0.637	0.662	1.060	1.103	1.329
Percent Lit When Open											
Not Lit.....	100.0	0	8.9	18.3	18.7	20.8	14.1	0	0	5.4	22.48
1 to 50.....	100.0	5.7	7.9	16.9	19.7	16.5	16.4	7.1	6.5	3.3	13.01
51 to 99.....	100.0	4.7	7.3	15.0	17.5	17.8	17.0	7.4	8.1	5.3	12.35
100.....	100.0	2.6	2.9	13.8	19.6	18.6	22.7	7.0	7.6	5.1	9.42
Heating Equipment (Solely or in Combination)											
Furnaces.....	100.0	4.4	5.2	15.7	21.7	19.0	18.0	5.6	6.1	4.2	10.51
Boilers.....	100.0	7.1	8.8	23.7	23.0	16.0	12.3	3.0	2.6	3.6	13.85
Individual Space Heaters.....	100.0	5.0	5.9	16.2	20.4	15.8	20.8	6.7	6.0	3.3	11.98
Packaged Heating Units.....	100.0	Q	2.5	8.4	15.6	19.3	25.9	10.9	11.3	3.6	15.01
Heat Pumps.....	100.0	Q	3.3	7.7	12.9	13.9	20.5	11.5	16.0	9.9	18.88
Air Ducts.....	100.0	3.3	4.1	11.9	17.6	18.7	21.6	7.7	9.5	5.5	9.54
Heating or Reheating Coils.....	100.0	Q	3.1	7.9	15.3	23.5	22.5	9.6	9.9	6.0	21.53
Fan-Coil Units.....	100.0	Q	2.8	15.8	26.4	24.4	16.7	3.2	4.2	3.6	20.74
Steam or Hot Water Radiators or Baseboards.....	100.0	7.7	10.5	28.3	24.0	15.4	8.8	1.5	1.6	2.3	16.70
Other.....	100.0	Q	Q	Q	Q	19.4	7.6	Q	Q	Q	46.74
Cooling Equipment (Solely or in Combination)											
Central Chillers.....	100.0	0	3.3	11.6	17.2	25.7	18.7	6.8	7.0	2.8	22.31
Individual Air Conditioners.....	100.0	4.6	5.7	22.0	22.9	17.0	15.9	5.5	4.2	2.1	14.47
Packaged Cooling Units.....	100.0	2.9	4.3	11.4	17.4	19.3	22.6	8.2	8.5	5.4	9.86
Heat Pumps.....	100.0	Q	2.8	7.7	12.2	14.4	21.1	11.1	15.7	10.6	20.59
Air Ducts.....	100.0	3.5	3.7	10.5	15.9	18.6	23.3	8.5	9.9	6.2	10.41
Fan-Coil Units.....	100.0	Q	Q	11.6	15.4	26.4	19.6	8.1	10.5	3.7	27.45
Other.....	100.0	Q	Q	Q	23.2	Q	29.8	Q	10.6	Q	37.21
Lighting Equipment (Solely or in Combination)											
Incandescent.....	100.0	5.7	6.7	17.2	19.0	18.1	18.1	5.3	6.2	3.8	9.01
Fluorescent.....	100.0	3.6	5.1	14.6	18.6	18.6	20.2	7.2	7.4	4.8	7.22
High-Intensity Discharge.....	100.0	Q	5.0	12.2	16.1	14.8	19.3	11.9	9.9	8.4	16.63
Other.....	100.0	NC	Q	Q	Q	Q	Q	Q	Q	Q	67.94
Floors											
One.....	100.0	1.1	2.2	10.8	20.5	20.1	23.9	7.9	7.9	5.5	9.43
Two.....	100.0	5.7	6.4	21.1	17.5	17.0	14.4	6.6	7.5	3.8	12.00
Three.....	100.0	10.4	20.2	25.6	18.7	10.5	6.7	3.2	1.7	3.0	17.19
More than Three.....	100.0	20.4	15.7	22.4	8.3	11.0	8.8	3.8	7.7	1.9	20.32
Wall Materials											
Masonry.....	100.0	4.0	6.3	17.1	21.4	19.9	17.2	4.9	5.6	3.6	8.49
Siding or Shingles.....	100.0	6.4	7.5	17.6	16.2	12.9	20.2	7.2	6.2	5.7	15.39
Metal Panels.....	100.0	Q	Q	3.2	12.4	18.1	29.0	15.2	14.3	7.0	21.43
Concrete Panels.....	100.0	NC	Q	9.7	19.4	14.8	21.0	12.6	14.2	8.2	27.28
Window Glass.....	100.0	Q	Q	Q	Q	16.5	20.0	Q	7.6	Q	53.36
Other.....	100.0	NC	Q	Q	Q	Q	24.8	Q	Q	Q	43.72
Roof Materials											
Built-Up.....	100.0	2.9	5.7	17.8	22.1	21.0	17.5	4.9	5.2	2.8	11.09
Shingles (Not Wood).....	100.0	4.9	6.7	17.4	20.6	17.6	16.3	5.5	6.4	4.6	11.36
Metal Surfacing.....	100.0	Q	Q	7.0	14.2	15.1	28.6	12.6	11.1	7.3	15.70
Synthetic or Rubber.....	100.0	Q	Q	9.2	18.3	20.2	18.3	7.1	9.6	8.6	22.66
Shale or Tile.....	100.0	11.1	6.8	24.5	10.4	13.0	17.8	Q	Q	7.9	27.70
Concrete.....	100.0	NC	Q	Q	Q	16.1	10.4	16.1	25.1	7.3	43.30
Wooden Materials.....	100.0	Q	Q	Q	Q	Q	Q	Q	Q	Q	36.48
Other.....	100.0	Q	Q	Q	Q	Q	Q	Q	Q	Q	64.37
Building Shell Conservation Features (Solely or in Combination)											
Roof or Ceiling Insulation.....	100.0	2.9	3.8	12.0	18.3	18.0	22.0	8.3	8.9	5.9	7.72
Wall Insulation.....	100.0	1.9	3.3	9.8	14.2	16.6	23.7	10.9	11.8	7.8	8.98
Storm or Multiple Glazing.....	100.0	5.5	6.5	13.6	14.8	15.3	19.3	8.2	9.6	7.3	10.20
Tinted, Reflective, or Shading Glass.....	100.0	2.2	3.0	8.0	14.6	16.3	26.6	9.8	12.0	7.4	13.07
Exterior or Interior Shadings or Awnings.....	100.0	4.3	4.1	12.4	18.2	18.6	20.8	7.2	8.7	5.7	10.21
Weather Stripping or Caulking.....	100.0	3.7	3.8	13.4	17.8	17.8	20.8	8.3	8.5	5.8	7.71
Ownership and Occupancy											
Nongovernment Owned.....	100.0	4.0	5.6	15.0	18.5	17.9	19.1	7.2	7.8	4.8	7.71
Owner Occupied.....	100.0	4.3	5.8	14.6	18.9	17.5	18.9	7.6	7.7	4.8	8.41
Nonowner Occupied.....	100.0	3.2	5.0	16.1	17.6	18.9	19.6	6.2	8.3	5.1	13.36
Government Owned.....	100.0	2.3	4.0	14.8	23.5	19.7	22.5	5.7	3.5	4.1	15.92

See footnotes at end of table.

Table 16. Year Constructed, Percent of Buildings (Continued)

Building Characteristics	All Buildings	Year Constructed Category									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
		RSE Column Factor:	--	1.790	1.450	0.809	0.726	0.637	0.662	1.060	1.103
Climate Zone: 45 Year Average											
Under 2,000 CDD and --											
Over 7,000 HDD.....	100.0	8.1	7.9	21.1	16.5	14.5	15.4	4.9	6.1	5.5	17.17
5,500-7,000 HDD.....	100.0	5.9	9.4	17.5	19.3	17.4	15.1	5.5	5.2	4.7	12.84
4,000-5,499 HDD.....	100.0	3.3	5.4	17.8	19.9	17.4	20.6	4.6	6.5	4.6	12.95
Under 4,000 HDD.....	100.0	Q	2.3	12.1	19.9	17.4	22.2	10.1	8.1	5.5	16.02
2,000 CDD or More and --											
Under 4,000 HDD.....	100.0	Q	3.2	10.6	18.5	21.5	22.1	8.5	9.8	3.9	16.50

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 17. Year Constructed, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	0.432	1.784	1.742	1.005	0.995	0.704	0.722	1.007	1.127	1.292
All Buildings.....	63,184	1,654	4,245	8,098	10,511	12,167	13,329	4,274	5,670	3,235	8.37
Building Floorspace (Square Feet)											
1,001 to 5,000.....	6,790	270	338	1,178	1,363	1,197	1,266	465	419	294	10.61
5,001 to 10,000.....	6,532	299	399	928	1,233	1,027	1,340	440	541	325	13.99
10,001 to 25,000.....	10,393	353	375	1,089	2,046	2,064	2,180	943	858	485	14.14
25,001 to 50,000.....	8,801	451	680	994	1,369	1,648	1,884	480	853	443	15.94
50,001 to 100,000.....	9,130	Q	729	1,395	1,191	1,889	1,628	563	924	600	16.40
100,001 to 200,000.....	8,277	Q	Q	914	1,005	2,253	2,254	473	697	373	25.49
200,001 to 500,000.....	7,022	Q	Q	618	1,360	1,518	1,196	566	632	304	31.81
Over 500,000.....	6,239	NC	Q	982	Q	572	1,581	346	Q	411	34.95
Principal Building Activity											
Assembly.....	6,838	386	492	926	1,470	1,249	1,410	373	293	238	18.93
Education.....	8,148	Q	435	1,244	2,267	2,201	1,391	155	158	280	22.31
Food Sales.....	792	Q	Q	Q	Q	Q	Q	Q	Q	Q	45.29
Food Service.....	1,167	Q	Q	147	152	282	268	Q	Q	Q	29.85
Health Care.....	2,054	Q	Q	Q	371	355	586	Q	Q	Q	37.04
Lodging.....	3,476	Q	Q	442	358	1,042	578	216	510	27.68	
Mercantile and Service.....	12,365	428	514	1,322	1,694	2,458	3,464	873	896	717	15.26
Office.....	11,802	269	552	1,166	1,849	1,736	2,425	1,174	1,860	750	17.43
Parking Garage.....	983	NC	NC	Q	Q	Q	270	Q	Q	69	37.11
Public Order and Safety.....	616	NC	Q	Q	Q	Q	Q	Q	Q	Q	56.12
Warehouse.....	9,253	Q	348	1,448	1,279	1,702	2,178	650	1,003	561	20.94
Other.....	1,529	Q	Q	Q	Q	228	242	Q	Q	Q	46.20
Vacant.....	4,161	257	Q	545	531	464	233	Q	Q	261	28.79
Census Region											
Northeast.....	13,569	743	1,408	2,574	2,196	2,736	2,030	439	849	593	20.72
Midwest.....	15,955	445	1,602	2,401	2,250	3,286	3,160	893	1,218	700	13.99
South.....	22,040	308	628	2,250	4,089	4,057	5,217	1,926	2,437	1,127	14.01
West.....	11,620	Q	606	873	1,975	2,089	2,923	1,015	1,166	816	17.08
Metropolitan Status											
Metropolitan.....	50,809	1,096	3,415	6,155	8,139	10,018	10,831	3,447	5,105	2,602	9.71
Nonmetropolitan.....	12,375	559	830	1,942	2,371	2,149	2,498	827	5,566	633	16.31
Workers											
Fewer than 5.....	13,292	520	1,585	1,951	2,262	2,021	2,492	898	992	570	12.36
5 to 9.....	7,939	352	431	1,375	1,213	1,358	1,689	590	536	395	18.45
10 to 19.....	6,445	224	228	805	1,326	1,395	1,150	372	737	209	19.55
20 to 49.....	9,665	Q	530	981	1,546	2,186	2,088	604	792	624	18.61
50 to 99.....	7,389	Q	Q	1,008	955	2,042	1,703	418	482	272	22.69
100 to 249.....	6,771	Q	Q	695	1,116	1,473	1,563	376	925	414	24.56
250 or More.....	9,829	Q	Q	1,012	1,769	1,406	2,438	988	1,192	591	28.20
Weekly Operating Hours											
39 or Fewer.....	6,073	414	738	830	1,374	1,019	988	240	206	265	16.60
40 to 48.....	13,905	416	1,103	2,174	2,479	2,411	2,681	631	1,189	821	15.30
49 to 60.....	13,473	312	909	1,813	2,119	2,305	2,807	1,152	1,322	733	15.97
61 to 84.....	10,777	Q	222	1,144	2,031	2,209	2,468	953	1,078	501	19.57
85 to 167.....	9,387	Q	Q	842	1,385	2,302	2,112	475	562	520	22.11
168 (Open Continuously).....	9,569	Q	245	1,294	1,124	1,920	2,274	823	1,313	396	18.83
Energy Sources (Solely or in Combination)											
Electricity.....	61,587	1,568	3,849	7,880	10,198	11,926	13,178	4,209	5,628	3,150	8.44
Natural Gas.....	41,593	1,005	3,102	5,768	7,436	8,577	8,143	2,199	3,490	1,873	10.98
Fuel Oil.....	12,684	406	809	2,460	2,072	2,369	2,410	935	580	643	16.90
District Heat.....	6,856	Q	274	1,276	1,638	1,307	1,338	Q	Q	Q	34.22
District Chilled Water.....	2,101	Q	Q	Q	216	510	885	Q	Q	Q	45.20
Propane.....	4,695	Q	Q	515	960	831	1,020	308	474	272	27.36
Any Other.....	1,542	Q	Q	Q	Q	247	Q	Q	Q	Q	41.13
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	57,868	1,536	3,674	7,489	9,793	11,183	12,374	3,875	5,078	2,868	8.79
Air-Conditioned Buildings.....	51,771	1,223	3,075	5,844	8,285	10,056	11,616	3,752	5,215	2,704	9.43
Buildings with Water Heating.....	53,585	1,254	3,322	6,771	9,074	10,476	11,305	3,545	5,044	2,793	9.28
Buildings with Cooking.....	23,668	441	1,614	2,544	4,777	4,733	5,213	1,285	1,926	1,135	15.85
Buildings with Manufacturing.....	5,601	Q	Q	635	1,626	786	1,085	337	428	313	36.31
Percent Heated											
Not Heated.....	5,419	0	591	627	740	1,018	957	402	595	368	19.93
1 to 50.....	9,314	268	Q	1,225	1,346	1,556	1,910	613	755	554	21.70
51 to 99.....	8,673	274	384	1,038	1,671	1,530	1,537	836	1,022	382	21.01
100.....	39,777	989	2,184	5,208	6,755	8,064	8,926	2,424	3,298	1,931	9.96

See footnotes at end of table

Table 17. Year Constructed, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	0.432	1.784	1.742	1.005	0.995	0.704	0.722	1.007	1.127	1.292
Percent Cooled											
Not Cooled.....	11,413	431	1,170	2,253	2,226	2,111	1,713	522	455	531	13.72
1 to 50.....	17,821	740	1,969	2,848	2,795	3,354	3,066	994	1,449	606	15.74
51 to 99.....	13,139	299	514	886	2,437	2,942	2,836	1,076	1,384	764	14.82
100.....	20,811	185	591	2,110	3,053	3,760	5,714	1,681	2,382	1,335	15.17
Percent Lit When Open											
Not Lit.....	2,359	0	485	296	472	346	276	0	0	207	26.71
1 to 50.....	10,870	677	1,670	1,779	1,680	1,554	1,331	716	1,121	342	16.82
51 to 99.....	16,950	432	910	1,983	2,851	3,069	3,517	1,245	1,866	1,076	14.32
100.....	33,004	426	1,180	4,040	5,507	7,198	8,204	2,206	2,632	1,610	11.62
Heating Equipment (Solely or in Combination)											
Furnaces.....	15,592	532	742	1,820	3,305	3,177	2,926	962	1,335	792	13.13
Boilers.....	19,907	723	1,480	3,282	3,603	4,284	3,893	934	925	783	13.83
Individual Space Heaters.....	22,542	561	1,941	3,139	3,779	3,839	5,009	1,624	1,616	1,032	14.90
Packaged Heating Units.....	15,598	0	753	1,049	2,069	2,759	4,513	1,380	2,016	840	15.16
Heat Pumps.....	8,357	0	613	531	1,298	1,174	1,817	846	1,128	651	20.27
Air Ducts.....	37,297	590	1,284	3,644	6,335	7,663	8,611	2,875	3,922	2,374	10.17
Heating or Reheating Coils.....	15,693	0	683	1,526	2,672	3,334	3,838	1,127	1,570	876	20.75
Fan-Coil Units.....	11,839	0	570	1,216	2,306	2,687	3,204	544	650	512	23.26
Steam or Hot Water Radiators or Baseboards.....	15,822	733	1,450	3,501	3,557	2,796	2,427	410	0	267	20.06
Other.....	1,476	Q	Q	Q	Q	369	203	Q	Q	Q	45.71
Cooling Equipment (Solely or in Combination)											
Central Chillers.....	14,048	0	381	1,875	2,383	3,207	3,042	951	1,456	559	20.77
Individual Air Conditioners...	19,239	618	2,175	3,058	3,961	3,888	3,143	813	1,100	483	16.47
Packaged Cooling Units.....	34,753	604	2,149	3,506	4,989	5,490	8,646	2,583	3,735	2,052	11.88
Heat Pumps.....	7,827	0	582	688	989	1,033	1,904	791	906	669	22.33
Air Ducts.....	34,225	618	1,056	3,546	5,264	6,669	8,330	2,753	3,810	2,180	10.87
Fan-Coil Units.....	10,787	0	Q	1,205	1,417	2,655	2,636	852	1,184	543	24.51
Other.....	1,468	Q	Q	Q	Q	Q	416	Q	Q	Q	56.13
Lighting Equipment (Solely or in Combination)											
Incandescent.....	38,790	1,288	2,301	5,422	7,054	7,833	7,926	2,175	3,262	1,528	10.20
Fluorescent.....	58,893	1,453	3,694	7,547	9,597	11,537	12,716	4,065	5,259	3,024	8.73
High-Intensity Discharge.....	18,188	0	545	Q	1,970	2,869	3,306	4,258	1,756	1,562	17.57
Other.....	513	NC	NC	Q	Q	Q	Q	Q	1,756	Q	49.09
Floors											
One.....	23,756	163	569	1,667	4,245	5,248	6,493	1,727	2,322	1,323	11.75
Two.....	16,112	421	509	2,207	2,467	3,477	3,207	1,214	1,538	1,072	13.12
Three.....	8,604	416	1,798	1,609	1,921	1,069	912	330	207	343	20.82
More than Three.....	14,711	653	1,369	2,615	1,878	2,373	2,718	1,003	1,603	498	19.68
Wall Materials											
Masonry.....	42,074	1,354	3,545	7,012	7,455	8,653	7,471	1,985	2,773	1,827	9.45
Siding or Shingles.....	4,788	258	381	568	698	651	1,401	335	236	259	20.33
Metal Panels.....	5,689	0	0	177	583	1,215	1,840	779	795	273	25.06
Concrete Panels.....	7,221	NC	0	274	1,004	1,212	1,867	866	1,058	679	28.26
Window Glass.....	1,924	0	0	0	0	276	504	Q	Q	Q	41.51
Other.....	1,487	NC	Q	Q	Q	Q	245	Q	Q	Q	45.21
Roof Materials											
Built-Up.....	31,057	548	2,421	3,999	5,575	6,479	6,901	1,886	2,314	933	12.18
Shingles (Not Wood).....	10,917	518	945	1,944	2,369	1,970	1,493	469	708	502	15.38
Metal Surfacing.....	8,197	0	0	389	864	1,601	2,342	991	1,072	672	18.58
Synthetic or Rubber.....	6,911	0	0	375	1,021	1,289	1,714	484	755	910	22.60
Slate or Tile.....	2,582	271	0	845	193	0	270	Q	Q	Q	33.76
Concrete.....	1,932	0	0	0	0	313	298	252	Q	Q	37.22
Wooden Materials.....	727	NC	0	0	0	0	Q	Q	Q	Q	38.16
Other.....	860	Q	Q	Q	Q	Q	Q	Q	Q	Q	57.09
Building Shell Conservation Features (Solely or in Combination)											
Roof or Ceiling Insulation....	45,092	887	1,856	4,515	7,384	8,495	10,937	3,585	4,530	2,902	8.97
Wall Insulation.....	29,692	409	913	1,993	3,945	5,463	7,414	3,013	4,001	2,540	11.27
Storm or Multiple Glazing.....	24,068	826	1,352	2,689	2,616	4,480	5,316	2,027	2,714	2,048	11.47
Tinted, Reflective, or Shading Glass.....	22,040	265	666	1,339	2,797	3,742	6,104	2,109	3,143	1,874	14.51
Exterior or Interior Shadings or Awnings.....	26,173	714	1,310	2,773	4,862	4,710	5,649	1,832	2,876	1,447	12.51
Weather Stripping or Caulking.....	44,694	1,138	1,914	4,601	7,336	8,707	10,178	3,370	4,582	2,867	9.04

See footnotes at end of table.

STRUCTURE

Table 17. Year Constructed, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	0.432	1.784	1.742	1.005	0.995	0.704	0.722	1.007	1.127	1.292
Ownership and Occupancy											
Nongovernment Owned.....	48,842	1,514	2,990	5,976	7,022	9,145	10,401	3,819	5,345	2,630	9.23
Owner Occupied.....	35,955	1,181	2,372	4,532	5,298	6,932	7,511	2,786	3,634	1,709	11.17
Nonowner Occupied.....	12,888	333	618	1,444	1,724	2,213	2,890	1,033	1,711	921	16.33
Government Owned.....	14,342	140	1,255	2,122	3,489	3,022	2,929	455	325	606	18.20
Climate Zone: 45 Year Average											
Under 2,000 CDD and --											
Over 7,000 HDD.....	5,062	268	252	779	794	1,065	977	220	341	366	22.61
5,500-7,000 HDD.....	17,957	765	2,145	2,819	2,834	3,625	2,848	1,056	1,045	819	17.18
4,000-5,499 HDD.....	15,385	358	1,301	2,416	2,805	2,634	3,231	561	1,447	631	19.44
Under 4,000 HDD.....	12,903	Q	1,247	1,071	2,384	2,296	3,535	1,117	1,319	790	22.91
2,000 CDD or More and --											
Under 4,000 HDD.....	11,877	Q	299	1,014	1,694	2,547	2,738	1,320	1,517	628	18.82

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 18. Year Constructed, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
		RSE Column Factor:	--	1.734	1.607	0.920	0.834	0.642	0.636	0.905	1.050
All Buildings.....	100.0	2.6	6.7	12.8	16.6	19.3	21.1	6.8	9.0	5.1	8.70
Building Floorspace (Square Feet)											
1,001 to 5,000.....	100.0	4.0	5.0	17.3	20.1	17.6	18.6	6.8	6.2	4.3	10.65
5,001 to 10,000.....	100.0	4.6	6.1	14.2	18.9	15.7	20.5	6.7	8.3	5.0	14.25
10,001 to 25,000.....	100.0	3.4	3.6	10.5	19.7	19.9	21.0	9.1	8.3	4.7	14.20
25,001 to 50,000.....	100.0	5.1	7.7	11.3	15.6	18.7	21.4	5.5	9.7	5.0	16.65
50,001 to 100,000.....	100.0	0	8.0	15.3	13.0	20.7	17.8	6.2	10.1	6.6	16.96
100,001 to 200,000.....	100.0	0	0	11.0	12.1	27.2	27.2	5.7	8.4	4.5	27.78
200,001 to 500,000.....	100.0	0	0	8.8	19.4	21.6	17.0	8.1	9.0	4.3	32.48
Over 500,000.....	100.0	NC	Q	15.7	Q	9.2	25.3	5.5	Q	6.6	37.68
Principal Building Activity											
Assembly.....	100.0	5.6	7.2	13.5	21.5	18.3	20.6	5.5	4.3	3.5	19.53
Education.....	100.0	0	5.3	15.3	27.8	27.0	17.1	1.9	1.9	3.4	24.74
Food Sales.....	100.0	0	0	0	0	0	0	0	0	0	46.25
Food Service.....	100.0	0	0	12.8	13.0	24.2	23.0	0	0	0	30.73
Health Care.....	100.0	0	0	0	18.1	17.3	28.5	0	0	0	37.27
Lodging.....	100.0	0	0	12.9	10.3	30.0	16.6	6.2	14.7	0	30.26
Mercantile and Service.....	100.0	3.5	4.2	10.7	13.7	19.9	28.0	7.1	7.2	5.8	16.48
Office.....	100.0	2.5	4.7	9.9	15.7	14.7	20.6	10.0	15.8	6.4	19.06
Parking Garage.....	100.0	NC	NC	0	0	0	27.4	0	0	0	39.15
Public Order and Safety.....	100.0	NC	0	0	0	0	0	0	0	0	66.04
Warehouse.....	100.0	0	3.8	15.8	13.8	18.4	23.5	7.0	10.8	6.1	20.13
Other.....	100.0	0	0	0	0	14.9	15.8	0	0	0	47.70
Vacant.....	100.0	6.2	38.4	13.1	12.8	11.2	5.6	Q	Q	6.3	31.47
Census Region											
Northeast.....	100.0	5.5	10.4	19.0	16.2	20.2	15.0	3.2	6.3	4.4	21.74
Midwest.....	100.0	2.8	10.0	15.0	14.1	20.6	19.8	5.6	7.6	4.4	14.36
South.....	100.0	1.4	2.8	10.2	18.6	18.4	23.7	8.7	11.1	5.1	13.10
West.....	100.0	Q	5.2	7.5	17.0	18.0	25.2	8.7	10.0	7.0	18.08
Metropolitan Status											
Metropolitan.....	100.0	2.2	6.7	12.1	16.0	19.7	21.3	6.8	10.0	5.1	9.93
Nonmetropolitan.....	100.0	4.5	6.7	15.7	19.2	17.4	20.2	6.7	4.6	5.1	16.02
Workers											
Fewer than 5.....	100.0	3.9	11.9	14.7	17.0	15.2	18.7	6.8	7.5	4.3	13.01
5 to 9.....	100.0	4.4	5.4	17.3	15.3	17.1	21.3	7.4	6.7	5.0	19.78
10 to 19.....	100.0	3.5	3.5	12.5	20.6	21.6	17.8	5.8	11.4	3.2	19.64
20 to 49.....	100.0	0	5.5	10.1	16.0	22.6	21.6	6.2	8.2	6.5	19.77
50 to 99.....	100.0	0	0	13.6	12.9	27.6	23.0	5.7	6.5	3.7	23.81
100 to 249.....	100.0	0	0	10.3	16.5	21.8	23.1	5.6	13.7	6.1	26.10
250 or More.....	100.0	0	0	10.3	18.0	14.3	24.8	10.1	12.1	6.0	28.57
Weekly Operating Hours											
39 or Fewer.....	100.0	6.8	12.1	13.7	22.6	16.8	16.3	3.9	3.4	4.4	17.63
40 to 48.....	100.0	3.0	7.9	15.6	17.8	17.3	19.3	4.5	8.6	5.9	15.73
49 to 60.....	100.0	2.3	6.8	13.5	15.7	17.1	20.8	8.6	9.8	5.4	16.79
61 to 84.....	100.0	0	2.1	10.6	18.8	20.5	22.9	8.8	10.0	4.6	21.81
85 to 167.....	100.0	0	0	9.0	14.8	24.5	22.5	5.1	6.0	5.5	22.89
168 (Open Continuously).....	100.0	Q	2.6	13.5	11.7	20.1	23.8	8.6	13.7	4.1	19.80
Energy Sources (Solely or in Combination)											
Electricity.....	100.0	2.5	6.3	12.8	16.6	19.4	21.4	6.8	9.1	5.1	8.76
Natural Gas.....	100.0	2.4	7.5	13.9	17.9	20.6	19.6	5.3	8.4	4.5	11.60
Fuel Oil.....	100.0	3.2	6.4	19.4	16.3	18.7	19.0	7.4	4.6	5.1	17.95
District Heat.....	100.0	0	4.0	18.6	23.9	19.1	19.5	0	0	0	34.10
District Chilled Water.....	100.0	0	0	0	10.3	24.3	42.1	0	0	0	48.10
Propane.....	100.0	0	0	11.0	20.4	17.7	21.7	6.6	10.1	5.8	28.29
Any Other.....	100.0	Q	Q	Q	Q	25.4	16.0	Q	Q	Q	43.01
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	100.0	2.7	6.3	12.9	16.9	19.3	21.4	6.7	8.8	5.0	9.04
Air-Conditioned Buildings.....	100.0	2.4	5.9	11.3	16.0	19.4	22.4	7.2	10.1	5.2	9.72
Buildings with Water Heating.....	100.0	2.3	6.2	12.6	16.9	19.6	21.1	6.6	9.4	5.2	9.62
Buildings with Cooking.....	100.0	1.9	6.8	10.7	20.2	20.0	22.0	5.4	8.1	4.8	16.93
Buildings with Manufacturing.....	100.0	Q	Q	11.3	29.0	14.0	19.4	6.0	7.7	5.6	36.45
Percent Heated											
Not Heated.....	100.0	0	10.9	11.6	13.6	18.8	17.7	7.4	11.0	6.8	21.37
1 to 50.....	100.0	2.9	Q	13.2	14.4	16.7	20.5	6.6	8.1	6.0	23.00
51 to 99.....	100.0	3.2	4.4	12.0	19.3	17.6	17.7	9.6	11.8	4.4	21.49
100.....	100.0	2.5	5.5	13.1	17.0	20.3	22.4	6.1	8.3	4.9	10.44
Percent Cooled											
Not Cooled.....	100.0	3.8	10.2	19.7	19.5	18.5	15.0	4.6	4.0	4.7	14.53
1 to 50.....	100.0	4.2	11.1	16.0	15.7	18.8	17.2	5.6	8.1	3.4	15.99
51 to 99.....	100.0	2.3	3.9	6.7	18.5	22.4	21.6	8.2	10.5	5.8	15.23
100.....	100.0	.9	2.8	10.1	14.7	18.1	27.5	8.1	11.4	6.4	16.12

See footnotes at end of table.

STRUCTURE

Table 18. Year Constructed, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed									RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989	
	RSE Column Factor:	--	1.734	1.607	0.920	0.834	0.642	0.636	0.905	1.050	1.205
Percent Lit When Open											
Not Lit.....	100.0	0	20.5	12.5	20.0	14.7	11.7	0	0	8.8	28.08
1 to 50.....	100.0	6.2	15.4	16.4	15.5	14.3	12.2	6.6	10.3	3.1	18.20
51 to 99.....	100.0	2.5	5.4	11.7	16.8	18.1	20.8	7.3	11.0	6.3	14.05
100.....	100.0	1.3	3.6	12.2	16.7	21.8	24.9	6.7	8.0	4.9	11.74
Heating Equipment (Solely or in Combination)											
Furnaces.....	100.0	3.4	4.8	11.7	21.2	20.4	18.8	6.2	8.6	5.1	13.20
Boilers.....	100.0	3.6	7.4	16.5	18.1	21.5	19.6	4.7	4.6	3.9	14.56
Individual Space Heaters.....	100.0	2.5	8.6	13.9	16.8	17.0	22.2	7.2	7.2	4.6	15.10
Packaged Heating Units.....	100.0	Q	4.8	6.7	13.3	17.7	28.9	8.8	12.9	5.4	15.44
Heat Pumps.....	100.0	Q	7.3	6.4	15.5	14.1	21.7	10.1	13.5	7.8	21.27
Air Ducts.....	100.0	1.6	3.4	9.8	17.0	20.5	23.1	7.7	10.5	6.4	10.33
Heating or Reheating Coils.....	100.0	Q	4.4	9.7	17.0	21.2	24.5	7.2	10.0	5.6	20.97
Fan-Coil Units.....	100.0	Q	4.8	10.3	19.5	22.7	27.1	4.6	5.5	4.3	24.63
Steam or Hot Water Radiators or Baseboards.....	100.0	4.6	9.2	22.1	22.5	17.7	15.3	2.6	0	1.7	21.15
Other.....	100.0	Q	Q	Q	Q	25.0	13.8	Q	Q	Q	47.27
Cooling Equipment (Solely or in Combination)											
Central Chillers.....	100.0	0	2.7	13.4	17.0	22.8	21.7	6.8	10.4	4.0	21.77
Individual Air Conditioners.....	100.0	3.2	11.3	15.9	20.6	20.2	16.3	4.2	5.7	2.5	17.97
Packaged Cooling Units.....	100.0	1.7	6.2	10.1	14.4	18.7	24.9	7.4	10.7	5.9	12.28
Heat Pumps.....	100.0	0	7.4	8.8	12.6	13.2	24.3	10.1	11.6	8.6	22.18
Air Ducts.....	100.0	1.8	3.1	10.4	15.4	19.5	24.3	8.0	11.1	6.4	11.19
Fan-Coil Units.....	100.0	Q	Q	11.2	36.7	24.6	24.4	7.9	11.0	5.0	25.82
Other.....	100.0	Q	Q	Q	Q	Q	28.4	Q	9.2	Q	47.46
Lighting Equipment (Solely or in Combination)											
Incandescent.....	100.0	3.3	5.9	14.0	18.2	20.2	20.4	5.6	8.4	3.9	10.96
Fluorescent.....	100.0	2.5	6.3	12.8	16.3	19.6	21.6	6.9	8.9	5.1	9.05
High-Intensity Discharge.....	100.0	0	3.0	10.8	15.8	18.2	23.4	9.3	9.7	8.6	18.10
Other.....	100.0	NC	Q	Q	Q	Q	Q	Q	Q	Q	53.16
Floors											
One.....	100.0	.7	2.4	7.0	17.9	22.1	27.3	7.3	9.8	5.6	11.64
Two.....	100.0	2.6	3.2	13.7	15.3	21.6	19.9	7.5	9.5	6.7	13.53
Three.....	100.0	4.8	20.9	18.7	22.3	12.4	10.6	3.8	2.4	4.0	22.29
More than Three.....	100.0	4.4	9.3	17.8	12.8	16.1	18.5	6.8	10.9	3.4	20.60
Wall Materials											
Masonry.....	100.0	3.2	8.4	16.7	17.7	20.6	17.8	4.7	6.6	4.3	9.63
Siding or Shingles.....	100.0	5.4	8.0	11.9	14.6	13.6	29.3	7.0	4.9	5.4	21.03
Metal Panels.....	100.0	0	0	3.1	10.2	21.4	32.3	13.7	14.0	4.8	25.94
Concrete Panels.....	100.0	NC	0	3.8	13.9	16.8	25.9	12.0	14.6	9.4	29.61
Window Glass.....	100.0	Q	Q	Q	Q	14.3	26.2	Q	36.0	Q	50.51
Other.....	100.0	NC	Q	Q	Q	Q	16.5	Q	Q	Q	42.94
Roof Materials											
Built-Up.....	100.0	1.8	7.8	12.9	18.0	20.9	22.2	6.1	7.5	3.0	13.26
Shingles (Not Wood).....	100.0	4.7	8.7	17.8	21.7	18.0	13.7	4.3	6.5	4.6	15.40
Metal Surfacing.....	100.0	0	0	4.7	10.5	19.5	28.6	12.1	13.1	8.2	19.45
Synthetic or Rubber.....	100.0	0	0	5.4	14.8	18.6	24.8	7.0	10.9	13.2	22.70
Slate or Tile.....	100.0	10.5	14.9	32.7	7.5	0	10.5	0	0	0	35.99
Concrete.....	100.0	NC	0	0	0	16.2	15.4	13.0	0	6.5	45.97
Wooden Materials.....	100.0	0	0	0	0	0	0	0	0	0	41.02
Other.....	100.0	Q	Q	Q	Q	Q	Q	Q	Q	Q	61.11
Building Shell Conservation Features (Solely or in Combination)											
Roof or Ceiling Insulation.....	100.0	2.0	4.1	10.0	16.4	18.8	24.3	8.0	10.0	6.4	9.15
Wall Insulation.....	100.0	1.4	3.1	6.7	13.3	18.4	25.0	10.1	13.5	8.6	11.91
Storm or Multiple Glazing.....	100.0	3.4	5.6	11.2	10.9	18.6	22.1	8.4	11.3	8.5	11.79
Tinted, Reflective, or Shading Glass.....	100.0	1.2	3.0	6.1	12.7	17.0	27.7	9.6	14.3	8.5	15.31
Exterior or Interior Shadings or Awnings.....	100.0	2.7	5.0	10.6	18.6	18.0	21.6	7.0	11.0	5.5	13.01
Weather Stripping or Caulking.....	100.0	2.5	4.3	10.3	16.4	19.5	22.8	7.5	10.3	6.4	9.37
Ownership and Occupancy											
Nongovernment Owned.....	100.0	3.1	6.1	12.2	14.4	18.7	21.3	7.8	10.9	5.4	9.60
Owner Occupied.....	100.0	3.3	6.6	12.6	14.7	19.3	20.9	7.7	10.1	4.8	11.98
Nonowner Occupied.....	100.0	2.6	4.8	11.2	13.4	17.2	22.4	8.0	13.3	7.1	16.26
Government Owned.....	100.0	1.0	8.7	14.8	24.3	21.1	20.4	3.2	2.3	4.2	19.48

See footnotes at end of table.

Table 18. Year Constructed, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Year Constructed										RSE Row Factor
		1899 or Before	1900 to 1919	1920 to 1945	1946 to 1959	1960 to 1969	1970 to 1979	1980 to 1983	1984 to 1986	1987 to 1989		
RSE Column Factor:	--	1.734	1.607	0.920	0.834	0.642	0.636	0.905	1.050	1.205		
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 7,000 HDD.....	100.0	5.3	5.0	15.4	15.7	21.0	19.3	4.3	6.7	7.2	21.86	
5,500-7,000 HDD.....	100.0	4.3	11.9	15.7	15.8	20.2	15.9	5.9	5.8	4.6	16.85	
4,000-5,499 HDD.....	100.0	2.3	8.5	15.7	18.2	17.1	21.0	3.6	9.4	4.1	17.49	
Under 4,000 HDD.....	100.0	Q	1.9	8.3	18.5	17.8	27.4	8.7	10.2	6.1	19.24	
2,000 CDD or More and --												
Under 4,000 HDD.....	100.0	Q	2.5	8.5	14.3	21.4	23.1	11.1	12.8	5.3	16.11	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

STRUCTURE

Table 19. Floors, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor
	All Buildings	One Floor	Two Floors	Three Floors	More than Three Floors	All Buildings	One Floor	Two Floors	Three Floors	More than Three Floors	
	RSE Column Factor:	0.552	0.766	0.913	1.370	1.493	0.616	0.895	0.994	1.596	1.447
All Buildings.....	4,528	2,886	1,057	408	177	63,184	23,756	16,112	8,604	14,711	5.60
Building Floorspace (Square Feet)											
1,001 to 5,000.....	2,529	1,893	463	152	0	6,790	4,878	1,368	478	0	8.82
5,001 to 10,000.....	890	527	257	79	27	6,532	3,818	1,904	596	213	9.48
10,001 to 25,000.....	644	304	203	102	35	10,393	4,793	2,331	1,703	566	9.69
25,001 to 50,000.....	247	96	80	43	28	8,801	3,422	2,825	1,542	1,012	11.81
50,001 to 100,000.....	127	44	32	21	31	9,130	3,115	2,336	1,452	2,228	11.09
100,001 to 200,000.....	61	17	16	7	20	8,277	2,329	2,057	1,037	2,854	14.78
200,001 to 500,000.....	23	4	4	5	11	7,022	1,038	1,224	0	3,269	23.77
Over 500,000.....	7	Q	1	Q	5	6,239	Q	1,066	Q	4,503	29.56
Principal Building Activity											
Assembly.....	615	306	225	65	19	6,838	2,035	2,238	1,428	1,137	13.36
Education.....	284	181	50	36	17	8,148	2,636	2,033	1,683	1,795	13.35
Food Sales.....	102	84	0	0	0	792	510	0	0	0	36.22
Food Service.....	241	151	44	36	0	1,167	576	232	269	0	20.30
Health Care.....	80	48	0	0	0	2,054	209	0	0	1,615	24.25
Lodging.....	140	39	52	29	22	3,476	432	928	533	1,583	17.41
Mercantile and Service.....	1,278	933	252	77	16	12,365	7,089	3,780	896	600	10.14
Office.....	679	325	219	87	48	11,802	2,031	2,728	1,698	5,346	10.64
Parking Garage.....	45	30	0	0	3	983	149	0	0	629	31.60
Public Order and Safety.....	50	31	0	0	0	615	131	0	0	0	35.09
Warehouse.....	618	500	93	18	6	9,253	6,098	2,282	391	483	16.47
Other.....	62	36	21	0	0	1,529	437	575	0	0	35.59
Vacant.....	333	222	58	33	20	4,161	1,422	765	Q	882	19.35
Year Constructed											
1899 or Before.....	172	33	60	42	36	1,654	163	421	416	653	21.42
1900 to 1919.....	242	64	68	82	28	4,245	569	509	1,798	1,369	19.52
1920 to 1945.....	680	312	223	105	40	8,098	1,667	2,207	1,609	2,615	11.80
1946 to 1959.....	868	592	185	76	15	10,511	4,245	2,467	1,921	1,878	12.18
1960 to 1969.....	821	580	179	43	19	12,167	5,248	3,477	1,069	2,373	9.67
1970 to 1979.....	884	689	152	27	16	13,329	6,493	3,207	912	2,718	10.93
1980 to 1983.....	317	228	70	13	7	4,274	1,727	1,214	330	1,003	13.74
1984 to 1986.....	329	229	79	7	14	5,670	2,322	1,538	207	1,603	16.16
1987 to 1989.....	215	159	40	12	3	3,235	1,323	1,072	343	498	18.97
Census Region											
Northeast.....	783	333	243	135	72	13,569	3,667	3,109	2,260	4,533	11.99
Midwest.....	1,046	598	272	131	45	15,955	4,870	3,866	2,842	4,378	10.89
South.....	1,847	1,407	337	73	30	22,040	10,839	5,922	2,221	2,058	10.78
West.....	851	548	205	68	30	11,620	4,380	3,216	1,281	2,743	12.66
Metropolitan Status											
Metropolitan.....	3,073	1,904	719	310	141	50,809	17,369	12,671	7,229	13,540	6.35
Nonmetropolitan.....	1,454	982	338	99	35	12,375	6,387	3,441	1,376	1,171	13.66
Workers											
Fewer than 5.....	2,280	1,632	445	166	37	13,292	7,310	3,010	2,053	919	9.17
5 to 9.....	906	575	227	76	28	7,939	4,281	2,155	933	570	10.83
10 to 19.....	507	274	157	57	20	6,445	3,028	2,124	839	454	12.53
20 to 49.....	381	176	119	61	26	9,665	3,735	2,783	1,621	1,527	11.61
50 to 99.....	132	49	40	21	22	7,389	2,370	2,039	1,112	1,869	12.70
100 to 249.....	79	19	26	11	22	6,771	1,621	2,005	797	2,348	14.30
250 or More.....	32	2	5	6	19	9,829	401	1,570	1,049	6,809	21.22
Weekly Operating Hours											
39 or Fewer.....	876	610	212	44	9	6,073	3,403	1,623	612	435	13.08
40 to 48.....	1,117	721	241	113	42	13,905	6,187	3,408	1,960	2,350	9.69
49 to 60.....	987	644	222	82	39	13,473	5,286	3,343	1,845	3,000	9.74
61 to 84.....	625	378	162	61	24	10,777	3,849	2,931	1,227	2,769	11.23
85 to 167.....	515	318	115	63	19	9,387	3,287	2,562	1,780	2,757	14.91
168 (Open Continuously).....	408	216	103	45	44	9,569	1,743	2,245	1,180	4,401	11.45
Energy Sources (Solely or in Combination)											
Electricity.....	4,297	2,692	1,028	401	175	61,587	22,612	15,861	8,512	14,603	5.64
Natural Gas.....	2,439	1,406	641	274	117	41,593	13,890	11,194	5,750	10,759	7.35
Fuel Oil.....	586	269	172	99	46	12,684	2,308	3,024	2,085	5,268	12.59
District Heat.....	105	27	33	19	26	6,856	338	915	1,192	4,410	21.46
District Chilled Water.....	25	0	7	5	7	2,101	71	256	308	1,465	28.43
Propane.....	348	228	80	28	12	4,695	1,704	1,464	517	1,010	20.56
Any Other.....	130	86	29	Q	Q	1,542	455	406	Q	Q	28.06

See footnotes at end of table.

Table 19. Floors, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor
	All Buildings	One Floor	Two Floors	Three Floors	More than Three Floors	All Buildings	One Floor	Two Floors	Three Floors	More than Three Floors	
	RSE Column Factor:	0.552	0.766	0.913	1.370	1.493	0.616	0.895	0.994	1.596	1.447
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	3,877	2,340	983	385	168	57,868	20,380	15,356	8,056	14,076	6.02
Air-Conditioned Buildings....	3,184	1,925	826	288	146	51,771	18,131	13,629	6,772	13,238	6.51
Buildings with Water Heating..	3,184	1,822	843	354	164	53,585	17,821	14,224	7,787	13,752	6.22
Buildings with Cooking.....	864	451	216	126	71	23,668	5,627	5,569	4,232	8,240	9.50
Buildings with Manufacturing..	205	137	45	17	6	5,601	2,168	1,395	Q	1,187	21.45

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

STRUCTURE

**Table 20. Exterior Wall Materials, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Predominant Exterior Wall Material						RSE Row Factor
		Masonry	Siding or Shingles	Metal Panels	Concrete Panels	Window Glass	Other	
	RSE Column Factor:	0.381	0.436	0.950	1.126	1.192	2.239	2.111
All Buildings.....	4,528	2,849	802	557	240	33	46	8.76
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	1,513	573	330	88	0	0	12.60
5,001 to 10,000.....	890	568	131	115	52	0	0	15.81
10,001 to 25,000.....	644	431	80	73	47	0	0	15.35
25,001 to 50,000.....	247	181	10	24	24	0	0	17.34
50,001 to 100,000.....	127	95	0	10	12	0	0	19.20
100,001 to 200,000.....	61	41	0	2	12	0	0	27.24
200,001 to 500,000.....	23	15	0	2	3	1	0	30.72
Over 500,000.....	7	4	0	0	2	1	0	32.06
Principal Building Activity								
Assembly.....	615	414	146	34	13	0	0	17.72
Education.....	284	207	47	11	15	0	0	25.60
Food Sales.....	102	70	0	0	0	NC	NC	39.72
Food Service.....	241	162	50	0	0	0	0	29.81
Health Care.....	80	60	0	0	0	0	0	42.26
Lodging.....	140	103	28	0	0	0	0	33.40
Mercantile and Service.....	1,278	844	171	198	50	0	0	13.80
Office.....	679	451	119	40	39	11	19	15.13
Parking Garage.....	45	20	0	0	5	NC	0	42.19
Public Order and Safety.....	50	39	0	0	0	0	NC	53.09
Warehouse.....	618	260	105	181	65	0	0	21.16
Other.....	62	26	0	19	0	0	0	45.23
Vacant.....	333	194	81	39	14	0	0	22.72
Year Constructed								
1899 or Before.....	172	115	51	0	NC	0	NC	39.07
1900 to 1919.....	242	178	60	0	0	0	0	34.58
1920 to 1945.....	680	488	142	18	23	0	0	16.93
1946 to 1959.....	868	610	130	69	47	0	0	16.20
1960 to 1969.....	821	568	103	101	36	0	0	16.79
1970 to 1979.....	884	491	162	161	50	7	11	14.23
1980 to 1983.....	317	138	58	85	30	0	0	20.43
1984 to 1986.....	329	158	50	79	34	0	0	22.74
1987 to 1989.....	215	101	45	39	20	Q	Q	27.21
Census Region								
Northeast.....	783	508	181	56	21	6	11	18.15
Midwest.....	1,046	683	181	127	34	7	12	15.50
South.....	1,847	1,146	267	287	125	9	13	16.25
West.....	851	511	173	86	60	11	10	18.93
Metropolitan Status								
Metropolitan.....	3,073	2,008	485	324	201	28	29	10.28
Nonmetropolitan.....	1,454	841	318	233	39	Q	Q	18.41
Workers								
Fewer than 5.....	2,280	1,355	468	340	85	0	0	11.45
5 to 9.....	906	583	174	92	48	0	0	17.59
10 to 19.....	507	341	68	53	40	0	0	22.99
20 to 49.....	381	284	27	30	31	0	0	18.83
50 to 99.....	132	105	0	5	11	0	0	21.85
100 to 249.....	79	50	0	5	11	4	0	24.20
250 or More.....	32	17	0	1	6	4	0	26.77
Weekly Operating Hours								
39 or Fewer.....	876	482	224	126	30	0	0	19.01
40 to 48.....	1,117	748	150	132	67	0	16	15.53
49 to 60.....	987	588	175	156	53	7	8	14.02
61 to 84.....	625	431	97	53	33	7	4	15.39
85 to 167.....	515	331	94	54	28	3	0	19.23
168 (Open Continuously).....	408	268	63	36	29	8	0	20.73
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	2,741	745	503	231	31	46	8.86
Natural Gas.....	2,439	1,731	349	206	112	16	25	10.53
Fuel Oil.....	586	395	112	50	21	4	0	23.93
District Heat.....	105	68	10	0	16	0	0	34.67
District Chilled Water.....	25	14	0	0	6	0	0	41.36
Propane.....	348	192	98	37	12	0	0	26.60
Any Other.....	130	72	0	0	0	0	0	41.54
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	2,571	655	398	182	28	43	8.74
Air-Conditioned Buildings.....	3,184	2,149	483	298	195	23	36	9.91
Buildings with Water Heating.....	3,184	2,159	525	266	175	24	34	9.65
Buildings with Cooking.....	864	610	161	32	41	5	14	15.16
Buildings with Manufacturing.....	205	112	27	31	28	Q	Q	27.06

See footnotes at end of table.

Table 20. Exterior Wall Materials, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Predominant Exterior Wall Material						RSE Row Factor
		Masonry	Siding or Shingles	Metal Panels	Concrete Panels	Window Glass	Other	
	RSE Column Factor:	0.381	0.436	0.950	1.126	1.192	2.239	2.111
Percent Heated								
Not Heated.....	662	282	150	162	60	0	0	20.40
1 to 50.....	630	341	110	129	43	0	0	20.85
51 to 99.....	496	346	61	47	31	3	9	18.59
100.....	2,739	1,880	481	219	106	23	29	9.66
Percent Cooled								
Not Cooled.....	1,344	700	320	259	45	0	0	13.79
1 to 50.....	1,037	597	153	185	87	0	0	16.42
51 to 99.....	597	441	80	35	25	6	10	15.40
100.....	1,550	1,111	249	78	83	13	17	13.10
Floors								
One.....	2,886	1,713	492	487	159	0	24	11.08
Two.....	1,057	700	218	60	56	12	Q	14.87
Three.....	408	292	80	Q	15	6	3	21.36
More than Three.....	177	144	13	2	10	4	3	20.48
Roof Materials								
Built-Up.....	1,614	1,335	105	27	116	14	17	13.08
Shingles (Not Wood).....	1,392	875	395	39	54	0	22	14.88
Metal Surfacing.....	901	210	199	479	12	0	0	22.05
Synthetic or Rubber.....	211	175	Q	6	17	5	4	26.32
Slate or Tile.....	193	145	41	NC	0	0	0	28.78
Concrete.....	72	39	NC	0	0	0	0	55.61
Wooden Materials.....	106	51	51	0	0	0	NC	42.61
Other.....	38	19	Q	Q	Q	Q	Q	50.08
Climate Zone: 45 Year Average								
Under 2,000 CDD and --								
Over 7,000 HDD.....	357	208	85	51	10	0	0	29.99
5,500-7,000 HDD.....	1,120	731	221	103	38	10	16	16.71
4,000-5,499 HDD.....	965	665	178	73	28	9	11	25.61
Under 4,000 HDD.....	1,024	631	164	140	71	5	13	23.50
2,000 CDD or More and --								
Under 4,000 HDD.....	1,063	613	155	190	92	7	Q	24.04

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors.

• See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A,

"Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

STRUCTURE

**Table 21. Exterior Wall Materials, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Predominant Exterior Wall Material						RSE Row Factor
		Masonry	Siding or Shingles	Metal Panels	Concrete Panels	Window Glass	Other	
	RSE Column Factor:	0.396	0.460	1.014	1.108	1.136	1.953	2.205
All Buildings.....	63,184	42,074	4,788	5,689	7,221	1,924	1,487	9.31
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	4,132	1,418	922	256	0	0	13.19
5,001 to 10,000.....	6,532	4,181	932	830	401	0	0	16.09
10,001 to 25,000.....	10,393	6,945	1,255	1,193	802	0	0	15.65
25,001 to 50,000.....	8,801	6,423	368	856	907	198	0	18.34
50,001 to 100,000.....	9,130	6,805	0	761	885	164	0	19.51
100,001 to 200,000.....	8,277	5,594	0	349	1,579	0	0	26.77
200,001 to 500,000.....	7,022	4,501	0	607	861	279	0	29.91
Over 500,000.....	6,239	3,493	0	Q	1,531	841	0	34.07
Principal Building Activity								
Assembly.....	6,838	5,233	932	253	335	0	0	22.11
Education.....	8,148	6,731	246	218	0	0	0	23.57
Food Sales.....	792	567	0	0	0	NC	NC	50.80
Food Service.....	1,167	870	174	0	0	0	0	37.00
Health Care.....	2,054	1,527	0	0	288	0	0	35.25
Lodging.....	3,476	2,804	275	0	0	0	0	32.97
Mercantile and Service.....	12,365	8,722	939	1,618	929	0	0	14.81
Office.....	11,802	6,567	584	554	1,598	1,416	1,083	17.05
Parking Garage.....	983	405	0	0	465	NC	0	47.36
Public Order and Safety.....	616	516	0	0	0	0	0	55.61
Warehouse.....	9,253	4,531	1,038	2,282	1,305	0	0	23.81
Other.....	1,529	604	0	292	0	0	0	43.75
Vacant.....	4,161	2,895	366	218	592	0	0	31.43
Year Constructed								
1899 or Before.....	1,654	1,354	258	0	NC	0	NC	44.68
1900 to 1919.....	4,245	3,545	381	0	0	0	0	46.10
1920 to 1945.....	8,098	7,012	568	177	274	0	0	24.23
1946 to 1959.....	10,511	7,455	698	583	1,004	0	0	22.45
1960 to 1969.....	12,167	8,553	651	1,215	1,212	276	0	15.87
1970 to 1979.....	13,329	7,471	1,401	1,840	1,867	504	245	12.98
1980 to 1983.....	4,274	1,985	335	779	866	0	0	19.14
1984 to 1986.....	5,670	2,773	236	795	1,058	0	0	20.84
1987 to 1989.....	3,235	1,827	259	273	679	0	0	25.59
Census Region								
Northeast.....	13,569	9,751	1,292	669	899	0	294	19.52
Midwest.....	15,955	11,860	1,013	1,420	1,061	316	286	16.77
South.....	22,040	14,363	1,396	2,788	2,531	356	0	16.90
West.....	11,620	6,100	1,087	812	2,730	589	302	16.24
Metropolitan Status								
Metropolitan.....	50,809	34,007	3,219	3,848	6,580	1,826	1,330	10.75
Nonmetropolitan.....	12,375	8,067	1,569	1,841	641	Q	Q	19.04
Workers								
Fewer than 5.....	13,292	8,337	2,007	1,909	830	0	0	14.72
5 to 9.....	7,939	5,086	1,147	829	774	0	0	22.98
10 to 19.....	6,445	4,346	547	714	786	0	0	23.06
20 to 49.....	9,665	7,562	439	674	816	0	0	19.34
50 to 99.....	7,389	6,081	0	294	501	0	0	22.98
100 to 249.....	6,771	4,613	0	585	1,011	337	0	24.25
250 or More.....	9,829	4,838	0	525	2,304	1,203	922	28.84
Weekly Operating Hours								
39 or Fewer.....	6,073	4,032	899	671	398	0	0	18.57
40 to 48.....	13,905	9,884	800	1,140	1,753	0	208	15.56
49 to 60.....	13,473	7,571	1,440	1,734	1,563	514	0	16.58
61 to 84.....	10,777	7,502	561	712	972	0	260	18.90
85 to 167.....	9,387	6,413	546	934	1,149	216	0	24.54
168 (Open Continuously).....	9,569	6,572	542	499	1,386	379	Q	20.09
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	41,157	4,526	5,386	7,123	1,915	1,481	9.62
Natural Gas.....	41,593	29,576	2,377	2,805	4,912	1,240	683	11.72
Fuel Oil.....	12,684	9,454	707	674	1,249	452	147	15.88
District Heat.....	6,856	4,105	167	135	1,322	0	0	32.90
District Chilled Water.....	2,101	1,332	0	0	518	0	0	35.59
Propane.....	4,695	3,110	536	353	0	0	0	28.37
Any Other.....	1,542	1,171	Q	Q	Q	Q	Q	45.60
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	39,608	4,124	4,588	6,300	1,812	1,437	9.92
Air-Conditioned Buildings.....	51,771	35,101	3,165	3,891	6,374	1,851	1,390	10.64
Buildings with Water Heating.....	53,585	36,909	3,717	3,633	6,198	1,769	1,359	10.48
Buildings with Cooking.....	23,668	17,502	1,135	809	2,235	1,171	0	18.21
Buildings with Manufacturing..	5,601	2,789	299	572	1,413	Q	Q	32.41

See footnotes at end of table.

Table 21. Exterior Wall Materials, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Predominant Exterior Wall Material						RSE Row Factor
		Masonry	Siding or Shingles	Metal Panels	Concrete Panels	Window Glass	Other	
	RSE Column Factor:	0.396	0.460	1.014	1.108	1.136	1.953	2.205
Percent Heated								
Not Heated.....	5,419	2,518	680	1,107	944	0	0	19.79
1 to 50.....	9,314	5,216	1,124	1,467	1,266	0	0	22.90
51 to 99.....	8,673	5,415	356	650	1,375	316	0	19.32
100.....	39,777	28,925	2,627	2,465	3,635	1,405	722	10.79
Percent Cooled								
Not Cooled.....	11,413	6,974	1,623	1,798	847	0	0	14.47
1 to 50.....	17,821	11,303	1,516	2,371	2,282	0	0	17.18
51 to 99.....	13,139	8,911	508	744	2,678	437	860	15.88
100.....	20,811	14,886	1,141	775	2,414	1,209	386	14.76
Floors								
One.....	23,756	14,667	2,545	3,943	2,171	0	297	12.02
Two.....	16,112	11,113	1,517	1,198	1,890	248	0	15.15
Three.....	8,604	6,493	589	0	663	154	0	24.27
More than Three.....	14,711	9,801	136	405	2,498	1,389	482	20.61
Roof Materials								
Built-Up.....	31,057	23,474	983	943	4,246	856	555	11.86
Shingles (Not Wood).....	10,917	7,692	1,836	1,199	866	0	149	15.47
Metal Surfacing.....	8,197	2,280	1,415	4,153	321	0	0	20.76
Synthetic or Rubber.....	6,911	4,703	0	294	943	326	0	25.49
Slate or Tile.....	2,582	2,231	193	NC	0	0	0	34.95
Concrete.....	1,932	686	NC	0	626	0	0	38.40
Wooden Materials.....	727	438	214	0	0	0	NC	46.59
Other.....	860	571	0	0	0	0	Q	50.25
Climate Zone: 45 Year Average								
Under 2,000 CDD and --								
Over 7,000 HDD.....	5,062	3,742	525	565	178	0	0	26.38
5,500-7,000 HDD.....	17,957	13,105	1,280	1,094	1,588	455	435	17.70
4,000-5,499 HDD.....	15,385	10,796	1,359	1,119	1,100	764	247	21.70
Under 4,000 HDD.....	12,903	7,284	849	1,095	2,658	317	0	22.84
2,000 CDD or More and --								
Under 4,000 HDD.....	11,877	7,147	774	1,816	1,696	348	0	19.48

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors.

• See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

STRUCTURE

**Table 23. Roof Materials, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Predominant Roof Materials								RSE Row Factor
		Built-up	Shingles (Not Wood)	Metal Surfacing	Synthetic or Rubber Roofing	Slate or Tile	Concrete	Wooden Materials	Other	
	RSE Column Factor:	0.358	0.485	0.724	0.833	1.011	1.424	1.709	1.665	2.330
All Buildings.....	63,184	31,057	10,917	8,197	6,911	2,582	1,932	727	860	9.95
Building Floorspace (Square Feet)										
1,001 to 5,000.....	6,790	2,194	2,392	1,444	192	254	0	167	0	13.86
5,001 to 10,000.....	6,532	2,191	1,963	1,455	313	377	0	0	0	18.61
10,001 to 25,000.....	10,393	2,519	2,266	1,709	797	525	231	0	0	17.05
25,001 to 50,000.....	8,801	4,635	1,470	1,181	862	262	0	0	0	13.20
50,001 to 100,000.....	9,130	4,737	1,281	1,266	1,193	0	0	0	0	23.30
100,001 to 200,000.....	8,277	4,878	Q	848	1,415	0	187	NC	0	29.47
200,001 to 500,000.....	7,022	4,296	291	265	1,395	0	345	Q	0	37.66
Over 500,000.....	6,239	3,606	Q	Q	743	0	0	NC	0	42.71
Principal Building Activity										
Assembly.....	6,838	1,695	2,985	608	0	595	0	206	0	24.00
Education.....	8,148	5,164	823	360	1,096	505	0	0	0	23.15
Food Sales.....	792	338	228	Q	Q	Q	N	0	0	52.88
Food Service.....	1,167	519	283	116	Q	Q	0	0	0	34.52
Health Care.....	2,054	1,176	110	Q	337	Q	0	0	0	38.68
Lodging.....	3,476	1,725	739	Q	288	423	0	0	0	30.95
Mercantile and Service.....	12,365	6,458	1,901	2,408	1,033	185	0	0	0	17.05
Office.....	11,802	6,412	1,549	564	2,027	305	0	0	0	20.70
Parking Garage.....	983	Q	Q	Q	Q	0	432	0	0	50.06
Public Order and Safety.....	616	226	Q	Q	Q	0	0	NC	0	63.05
Warehouse.....	9,253	3,755	1,156	3,032	766	0	0	0	0	28.91
Other.....	1,529	649	Q	327	Q	0	0	0	0	56.57
Vacant.....	4,161	2,728	653	380	Q	Q	0	0	0	36.13
Year Constructed										
1899 or Before.....	1,654	548	518	Q	Q	271	NC	0	0	36.32
1900 to 1919.....	4,245	2,421	945	Q	Q	0	0	0	0	36.96
1920 to 1945.....	8,098	3,999	1,944	389	375	845	0	0	0	24.24
1946 to 1959.....	10,511	9,575	2,369	864	1,021	193	0	0	0	26.23
1960 to 1969.....	12,167	6,479	1,970	1,601	1,289	Q	313	0	0	17.98
1970 to 1979.....	13,329	6,901	1,493	2,342	1,714	270	298	0	0	16.45
1980 to 1983.....	4,274	1,886	469	991	484	Q	252	0	0	24.23
1984 to 1986.....	5,670	2,314	708	1,072	755	Q	0	0	0	25.89
1987 to 1989.....	3,235	933	502	672	910	Q	126	0	0	26.06
Census Region										
Northeast.....	13,569	5,738	2,884	1,537	1,789	673	0	0	0	21.34
Midwest.....	15,955	8,083	2,274	1,694	2,402	506	407	223	0	20.42
South.....	22,040	10,862	2,456	3,865	2,152	811	641	0	0	18.42
West.....	11,620	6,374	2,303	1,101	568	592	265	244	0	17.53
Metropolitan Status										
Metropolitan.....	50,809	26,616	8,001	5,400	5,651	1,984	1,815	561	781	11.44
Nonmetropolitan.....	12,375	4,441	2,916	2,797	1,259	599	Q	166	Q	20.17
Workers										
Fewer than 5.....	13,292	4,358	3,729	2,984	536	596	594	309	186	15.73
5 to 9.....	7,939	3,140	1,698	1,744	561	536	Q	0	0	22.69
10 to 19.....	6,445	2,764	1,613	881	640	246	135	0	0	21.51
20 to 49.....	9,665	4,586	1,930	1,041	1,405	444	0	0	0	21.14
50 to 99.....	7,389	4,728	637	565	699	Q	0	0	0	27.27
100 to 249.....	6,771	4,443	520	527	959	Q	0	0	0	28.20
250 or More.....	9,829	5,984	389	Q	2,067	Q	Q	0	0	36.14
Weekly Operating Hours										
39 or Fewer.....	6,073	2,484	1,987	999	188	263	Q	85	0	20.51
40 to 48.....	13,905	6,639	2,477	1,881	1,721	738	259	0	0	18.24
49 to 60.....	13,473	6,671	1,958	2,401	1,515	411	278	0	0	18.97
61 to 84.....	10,777	5,279	1,756	1,095	1,295	279	801	0	0	20.70
85 to 167.....	9,387	5,146	1,367	1,153	1,018	384	Q	0	0	24.32
168 (Open Continuously).....	9,569	4,839	1,372	668	1,173	508	447	0	0	21.04
Energy Sources (Solely or in Combination)										
Electricity.....	61,587	30,312	10,592	7,794	6,907	2,556	1,875	693	854	10.16
Natural Gas.....	41,593	22,167	7,044	3,967	4,464	1,858	1,038	493	562	13.26
Fuel Oil.....	12,684	6,581	2,164	822	1,809	661	275	0	0	21.49
District Heat.....	6,856	3,460	453	258	1,452	345	Q	0	0	35.33
District Chilled Water.....	2,101	973	Q	Q	620	0	0	NC	0	43.50
Propane.....	4,695	2,321	931	525	645	0	0	Q	0	29.51
Any Other.....	1,542	355	252	279	Q	Q	Q	Q	0	43.51
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	57,868	29,323	9,841	6,582	6,828	2,500	1,355	621	819	10.87
Air-Conditioned Buildings.....	51,771	26,695	8,717	5,447	6,255	1,993	1,426	483	754	11.38
Buildings with Water Heating.....	53,585	27,349	9,101	5,476	6,595	2,330	1,351	634	749	11.30
Buildings with Cooking.....	23,668	12,852	3,398	1,326	3,362	1,189	856	214	Q	18.52
Buildings with Manufacturing..	5,601	2,812	799	731	1,049	Q	Q	Q	Q	36.76
Percent Heated										
Not Heated.....	5,419	1,788	1,121	1,621	Q	Q	578	106	0	24.46
1 to 50.....	9,314	4,184	1,513	2,366	643	Q	325	Q	0	24.51
51 to 99.....	8,673	4,446	1,595	867	1,247	243	Q	0	0	22.42
100.....	39,777	20,640	6,689	3,343	4,938	2,123	877	440	727	11.97

See footnotes at end of table.

Table 23. Roof Materials, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Predominant Roof Materials								RSE Row Factor
		Built-up	Shingles (Not Wood)	Metal Surfacing	Synthetic or Rubber Roofing	Slate or Tile	Concrete	Wooden Materials	Other	
	RSE Column Factor:	0.358	0.485	0.724	0.833	1.011	1.424	1.709	1.665	2.330
Percent Cooled										
Not Cooled.....	11,413	4,362	2,201	2,750	656	590	506	244	0	16.32
1 to 50.....	17,821	8,532	3,160	3,155	1,782	528	378	152	0	18.24
51 to 99.....	13,139	7,142	2,126	941	1,905	433	329	0	0	20.48
100.....	20,811	11,021	3,432	1,352	2,569	1,032	Q	220	467	17.32
Floors										
One.....	23,756	10,783	4,336	5,867	1,596	463	334	219	158	12.94
Two.....	16,112	8,112	3,165	1,751	1,883	627	184	292	0	17.20
Three.....	8,604	3,728	1,875	390	1,354	818	144	0	0	24.67
More than Three.....	14,711	8,434	1,542	Q	2,077	675	1,271	Q	Q	23.91
Climate Zone: 45 Year Average										
Under 2,000 CDD and --										
Over 7,000 HDD.....	5,062	2,030	909	896	917	0	0	0	0	24.25
5,500-7,000 HDD.....	17,957	9,277	2,942	1,533	2,602	816	396	285	0	18.28
4,000-5,499 HDD.....	15,385	6,946	2,940	1,656	1,639	783	768	0	528	22.74
Under 4,000 HDD.....	12,903	6,901	2,173	1,548	Q	632	313	164	Q	25.25
2,000 CDD or More and --										
Under 4,000 HDD.....	11,877	5,903	1,953	2,564	675	221	381	Q	Q	24.39

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

BUILDING USE

Table 24. Employment Size Category, Number of Buildings
(Thousand)

Building Characteristics	All Buildings	Number of Buildings by Number of Workers in Building								RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers		
		RSE Column Factor:	0.504	0.695	0.886	1.122	1.016	1.212	1.426	1.637
All Buildings.....	4,528	2,280	906	507	381	132	79	32	5.95	
Building Floorspace (Square Feet)										
1,001 to 5,000.....	2,529	1,665	503	167	47	0	0	NC	9.39	
5,001 to 10,000.....	890	380	221	161	88	0	0	NC	10.21	
10,001 to 25,000.....	644	180	134	126	136	38	8	NC	12.54	
25,001 to 50,000.....	247	40	31	38	69	44	16	Q	12.64	
50,001 to 100,000.....	127	11	9	12	32	27	28	5	15.84	
100,001 to 200,000.....	61	2	0	0	8	14	17	9	17.12	
200,001 to 500,000.....	23	0	0	0	0	3	5	10	20.47	
Over 500,000.....	7	Q	Q	Q	Q	Q	Q	5	15.48	
Principal Building Activity										
Assembly.....	615	411	108	48	38	6	0	Q	17.04	
Education.....	284	83	52	41	65	32	0	16.43		
Food Sales.....	102	69	0	0	0	0	0	NC	29.29	
Food Service.....	241	104	66	48	19	0	0	NC	19.10	
Health Care.....	80	31	0	0	0	0	4	24.52		
Lodging.....	140	79	18	15	14	8	5	Q	22.85	
Mercantile and Service.....	1,278	751	301	118	74	21	11	Q	10.31	
Office.....	679	177	179	123	107	42	33	19	11.53	
Parking Garage.....	45	38	0	0	0	0	0	NC	33.22	
Public Order and Safety.....	50	0	0	0	0	0	0	Q	41.15	
Warehouse.....	618	405	95	64	29	7	5	1	17.12	
Other.....	62	28	0	0	0	0	0	Q	37.44	
Vacant.....	333	84	30	Q	0	Q	Q	Q	23.09	
Year Constructed										
1899 or Before.....	172	97	36	21	0	0	0	Q	26.15	
1900 to 1919.....	242	121	50	22	17	0	0	Q	23.15	
1920 to 1945.....	680	384	130	54	40	13	10	2	15.46	
1946 to 1959.....	868	469	171	99	54	22	13	6	13.71	
1960 to 1969.....	821	380	155	104	83	32	15	6	11.04	
1970 to 1979.....	884	421	183	102	91	33	16	7	10.89	
1980 to 1983.....	317	159	68	33	31	8	7	4	18.39	
1984 to 1986.....	329	151	57	58	32	11	11	4	17.92	
1987 to 1989.....	215	98	56	16	26	4	6	3	23.02	
Census Region										
Northeast.....	783	386	155	86	84	29	16	6	13.36	
Midwest.....	1,046	544	206	104	88	26	21	8	11.02	
South.....	1,847	957	370	191	144	49	20	11	10.76	
West.....	851	394	176	126	65	28	22	7	13.10	
Metropolitan Status										
Metropolitan.....	3,073	1,405	639	407	294	108	70	30	6.91	
Nonmetropolitan.....	1,454	876	267	100	87	24	9	2	15.65	
Weekly Operating Hours										
39 or Fewer.....	876	511	66	45	35	0	0	Q	17.66	
40 to 48.....	1,117	556	244	144	112	41	17	4	11.00	
49 to 60.....	987	496	235	134	73	23	18	8	11.44	
61 to 84.....	625	266	166	85	64	23	16	6	11.49	
85 to 167.....	515	238	129	59	54	19	11	5	13.73	
168 (Open Continuously).....	408	213	67	40	44	21	13	9	13.21	
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	2,210	903	507	381	132	79	32	5.95	
Natural Gas.....	2,439	1,109	557	354	242	82	55	23	7.03	
Fuel Oil.....	586	307	116	59	54	21	17	11	15.32	
District Heat.....	105	21	18	10	23	12	9	9	23.43	
District Chilled Water.....	25	0	0	0	5	4	3	3	27.15	
Propane.....	348	203	63	33	31	12	5	1	23.85	
Any Other.....	130	87	Q	Q	Q	Q	Q	Q	30.56	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	1,892	861	492	370	126	78	32	6.27	
Air-Conditioned Buildings.....	3,184	1,400	764	446	340	117	73	31	6.62	
Buildings with Water Heating.....	3,184	1,375	756	448	355	124	73	30	6.45	
Buildings with Cooking.....	854	341	170	116	134	56	29	18	9.69	
Buildings with Manufacturing.....	205	77	38	39	25	14	9	4	21.89	
Percent Heated										
Not Heated.....	662	393	45	18	11	0	0	Q	22.71	
1 to 50.....	630	350	149	97	20	5	5	1	17.34	
51 to 99.....	496	230	113	59	58	16	11	9	15.72	
100.....	2,739	1,308	599	334	291	105	63	22	6.43	

See footnotes at end of table.

Table 24. Employment Size Category, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Number of Buildings by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
	RSE Column Factor:	0.504	0.695	0.886	1.122	1.016	1.212	1.426	1.637
Percent Cooled									
Not Cooled.....	1,344	881	142	61	41	15	6	0	14.88
1 to 50.....	1,037	473	275	161	85	28	10	3	11.00
51 to 99.....	597	232	134	82	77	32	25	13	12.64
100.....	1,550	695	355	203	177	57	38	15	9.14
Percent Lit When Open									
Not Lit.....	306	91	0	0	0	NC	NC	NC	19.73
1 to 50.....	1,002	698	184	79	29	7	Q	1	15.40
51 to 99.....	951	403	227	137	115	39	21	11	10.72
100.....	2,269	1,088	492	291	237	86	55	20	7.37
Ownership and Occupancy									
Nongovernment Owned.....	3,951	2,048	807	441	281	92	62	23	6.46
Owner Occupied.....	2,814	1,540	580	317	214	62	40	17	7.88
Nonowner Occupied.....	1,136	508	227	124	67	30	22	7	11.10
Government Owned.....	577	232	99	66	100	40	17	9	12.52
Occupant Control of:									
Heating Only.....	626	416	102	64	28	0	6	1	16.88
Cooling Only.....	204	72	48	28	39	11	5	1	22.49
Heating and Cooling.....	1,773	851	443	236	159	40	30	10	9.30
Reduced Use--Off-Hours									
Heating Only.....	790	513	139	68	38	18	6	0	14.29
Cooling Only.....	283	131	69	42	26	6	4	2	23.00
Heating and Cooling.....	2,397	1,063	597	344	241	75	48	23	7.32

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 25. Employment Size Category, Percent of Buildings

Building Characteristics	All Buildings	Percent of Buildings by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
	RSE Column Factor:	--	0.426	0.713	0.989	0.993	1.265	1.484	1.785
All Buildings.....	100.0	50.4	20.0	11.2	8.4	2.9	1.7	0.7	5.46
Building Floorspace (Square Feet)									
1,001 to 5,000.....	100.0	65.8	19.9	6.6	1.8	0	0	NC	8.67
5,001 to 10,000.....	100.0	42.7	24.9	18.1	9.9	0	0	NC	10.15
10,001 to 25,000.....	100.0	27.9	20.8	19.5	21.2	6.0	1.2	NC	12.53
25,001 to 50,000.....	100.0	16.2	12.5	15.5	27.9	17.7	6.6	0	13.12
50,001 to 100,000.....	100.0	8.7	7.4	9.2	25.0	21.6	21.6	4.0	16.18
100,001 to 200,000.....	100.0	3.0	0	0	13.1	22.8	28.3	4.4	17.61
200,001 to 500,000.....	100.0	12.2	0	0	0	13.5	21.1	4.9	22.38
Over 500,000.....	100.0	Q	Q	Q	Q	Q	Q	3.6	5.73
Principal Building Activity									
Assembly.....	100.0	66.8	17.6	7.8	6.2	.9	0	0	16.32
Education.....	100.0	29.3	18.3	14.6	23.0	11.2	3.1	.6	16.58
Food Sales.....	100.0	67.7	0	0	0	0	0	NC	20.90
Food Service.....	100.0	43.4	27.5	20.1	8.0	0	0	NC	20.59
Health Care.....	100.0	39.0	0	0	0	0	5.3	5.4	25.31
Lodging.....	100.0	56.7	12.6	11.1	9.9	5.8	3.3	0	24.03
Mercantile and Service.....	100.0	58.8	23.5	9.2	5.8	1.7	.9	1.1	10.44
Office.....	100.0	26.1	26.3	18.1	15.7	6.1	4.8	2.8	11.49
Parking Garage.....	100.0	85.7	0	0	0	0	0	NC	14.87
Public Order and Safety.....	100.0	0	0	0	0	0	0	0	99.99
Warehouse.....	100.0	65.5	15.5	10.3	4.7	1.1	.7	.2	16.56
Other.....	100.0	44.9	0	0	0	0	7.4	0	31.48
Vacant.....	100.0	25.2	9.1	0	2.4	0	Q	0	30.59
Year Constructed									
1899 or Before.....	100.0	56.7	20.9	12.3	0	0	0	0	24.37
1900 to 1919.....	100.0	50.1	20.8	8.9	7.2	1.9	1.4	0	25.52
1920 to 1945.....	100.0	56.5	19.1	7.9	5.8	2.5	1.5	.6	15.83
1946 to 1959.....	100.0	54.1	19.7	11.4	6.2	3.9	1.8	.7	13.60
1960 to 1969.....	100.0	46.3	18.8	12.6	10.1	3.9	1.8	.7	11.27
1970 to 1979.....	100.0	47.6	20.7	11.6	10.2	3.8	1.8	.8	10.92
1980 to 1983.....	100.0	50.0	21.6	10.3	9.7	2.5	2.1	1.1	19.54
1984 to 1986.....	100.0	45.8	17.4	17.5	9.6	3.5	3.2	1.2	18.26
1987 to 1989.....	100.0	45.8	26.2	7.2	12.0	1.8	2.6	1.2	22.43
Census Region									
Northeast.....	100.0	49.2	19.8	11.0	10.8	3.7	2.0	.8	10.87
Midwest.....	100.0	52.0	19.7	10.0	8.4	2.5	2.1	.8	10.85
South.....	100.0	51.8	20.0	10.3	7.8	2.6	1.1	.6	10.05
West.....	100.0	46.3	20.7	14.8	7.7	3.2	2.5	.8	12.25
Metropolitan Status									
Metropolitan.....	100.0	45.7	20.8	13.2	9.6	3.5	2.3	1.0	6.23
Nonmetropolitan.....	100.0	60.2	18.4	6.9	6.0	1.6	.6	.1	13.26
Weekly Operating Hours									
39 or Fewer.....	100.0	58.3	7.5	5.1	3.9	0	0	0	17.33
40 to 48.....	100.0	49.7	21.8	12.9	10.0	3.7	1.5	.3	10.94
49 to 60.....	100.0	50.3	23.8	13.6	7.4	2.3	1.8	.9	11.69
61 to 84.....	100.0	42.5	26.6	13.6	10.2	3.6	2.6	.9	11.68
85 to 167.....	100.0	46.3	25.0	11.4	10.5	3.7	2.2	2.3	13.35
168 (Open Continuously).....	100.0	52.3	16.4	9.9	10.8	5.1	3.2	2.3	14.29
Energy Sources (Solely or in Combination)									
Electricity.....	100.0	51.4	21.0	11.8	8.9	3.1	1.8	.7	5.44
Natural Gas.....	100.0	45.4	22.8	14.5	9.9	3.4	2.2	1.0	6.41
Fuel Oil.....	100.0	52.3	19.7	10.0	9.3	3.6	2.9	2.0	13.78
District Heat.....	100.0	19.8	17.1	9.3	21.9	11.9	8.8	8.2	21.69
District Chilled Water.....	100.0	0	0	0	21.1	14.2	11.4	4.0	24.67
Propane.....	100.0	58.2	18.0	9.5	9.0	3.5	1.4	.4	22.66
Any Other.....	100.0	66.7	Q	Q	Q	Q	Q	Q	19.81
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	48.8	22.2	12.7	9.5	3.2	2.0	.8	5.61
Air-Conditioned Buildings.....	100.0	44.0	24.0	14.0	10.7	3.7	2.3	1.0	6.05
Buildings with Water Heating.....	100.0	43.2	23.7	14.1	11.1	3.9	2.3	1.0	5.68
Buildings with Cooking.....	100.0	39.4	19.7	13.4	15.5	6.4	3.4	2.0	9.28
Buildings with Manufacturing.....	100.0	37.4	18.6	18.9	12.1	6.7	4.2	1.8	21.95
Percent Heated									
Not Heated.....	100.0	59.3	6.8	2.6	1.7	0	0	0	24.61
1 to 50.....	100.0	55.6	23.6	15.4	3.2	.9	.7	.1	17.62
51 to 99.....	100.0	46.2	22.7	11.9	11.7	3.2	2.1	1.8	15.83
100.....	100.0	47.7	21.9	12.2	10.6	3.8	2.3	.8	6.02

See footnotes at end of table.

Table 25. Employment Size Category, Percent of Buildings (Continued)

Building Characteristics	All Buildings	Percent of Buildings by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
	RSE Column Factor:	--	0.426	0.713	0.989	0.993	1.265	1.484	1.785
Percent Cooled									
Not Cooled.....	100.0	65.5	10.6	4.5	3.1	1.1	.5	0	14.82
1 to 50.....	100.0	45.6	26.5	15.6	8.2	2.7	1.0	2.80	9.80
51 to 99.....	100.0	38.8	22.4	13.7	13.0	5.4	4.2	2.3	13.42
100.....	100.0	44.8	22.9	13.1	11.4	3.7	2.4	1.0	8.69
Percent Lit When Open									
Not Lit.....	100.0	29.8	0	0	0	NC	NC	NC	31.57
1 to 50.....	100.0	69.7	18.4	7.9	2.8	.7	.9	1.1	14.56
51 to 99.....	100.0	42.3	23.8	14.4	12.1	4.1	2.2	1.1	10.36
100.....	100.0	48.0	21.7	12.8	10.4	3.8	2.4	.9	6.86
Ownership and Occupancy									
Nongovernment Owned.....	100.0	51.8	20.4	11.2	7.1	2.3	1.6	.6	5.86
Owner Occupied.....	100.0	54.7	20.6	11.3	7.6	2.2	1.4	.6	7.31
Nonowner Occupied.....	100.0	44.7	20.0	10.9	5.9	2.7	1.9	.6	10.94
Government Owned.....	100.0	40.2	17.1	11.5	17.4	6.9	2.9	1.5	12.02
Occupant Control of:									
Heating Only.....	100.0	66.4	16.3	10.3	4.5	0	1.0	.2	16.95
Cooling Only.....	100.0	35.1	23.6	13.8	19.1	5.5	2.2	.7	21.59
Heating and Cooling.....	100.0	48.0	25.0	13.3	9.0	2.3	1.7	.6	8.54
Reduced Use--Off-Hours									
Heating Only.....	100.0	65.0	17.6	8.7	4.8	2.3	.8	0	13.39
Cooling Only.....	100.0	46.1	24.4	14.8	9.0	2.2	1.3	.6	19.72
Heating and Cooling.....	100.0	44.3	24.9	14.3	10.1	3.1	2.0	1.0	6.81

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 26. Employment Size Category, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
		RSE Column Factor:	0.451	0.780	1.054	1.063	1.000	1.226	1.564
All Buildings.....	63,184	13,292	7,939	6,445	9,665	7,389	6,771	9,829	7.07
Building Floorspace (Square Feet)									
1,001 to 5,000.....	6,790	4,271	1,471	544	167	0	0	NC	16.44
5,001 to 10,000.....	6,532	2,717	1,606	1,228	693	0	0	NC	15.88
10,001 to 25,000.....	10,393	2,841	2,132	1,921	2,330	684	124	NC	12.64
25,001 to 50,000.....	8,801	1,432	1,105	1,317	2,415	1,584	629	0	14.57
50,001 to 100,000.....	9,130	727	749	828	2,201	1,919	2,062	394	16.03
100,001 to 200,000.....	8,277	232	0	0	1,116	1,860	2,302	1,272	20.96
200,001 to 500,000.....	7,022	0	0	0	0	860	1,338	3,251	34.15
Over 500,000.....	6,239	0	0	0	0	0	0	4,817	45.58
Principal Building Activity									
Assembly.....	6,838	3,094	1,170	573	1,247	460	0	0	20.78
Education.....	8,148	476	464	612	2,219	2,342	1,276	0	18.32
Food Sales.....	792	254	0	0	0	0	0	NC	42.65
Food Service.....	1,167	356	271	325	147	0	0	NC	33.36
Health Care.....	2,054	84	0	0	0	0	280	1,373	30.46
Lodging.....	3,476	740	388	270	713	563	494	0	23.66
Mercantile and Service.....	12,365	3,007	2,127	1,417	1,943	1,393	1,321	1,157	12.81
Office.....	11,802	502	760	1,114	1,492	1,338	1,728	4,868	13.09
Parking Garage.....	983	632	0	0	0	0	0	NC	48.01
Public Order and Safety.....	616	0	0	0	0	0	0	0	46.22
Warehouse.....	9,253	2,758	2,022	1,469	1,185	636	563	508	18.55
Other.....	1,529	132	0	0	0	0	427	0	36.28
Vacant.....	4,161	1,174	364	0	191	0	0	0	38.81
Year Constructed									
1899 or Before.....	1,654	520	352	224	0	0	0	0	34.88
1900 to 1919.....	4,245	1,585	431	228	530	0	0	0	33.19
1920 to 1945.....	8,098	1,951	1,375	805	981	1,008	695	1,012	17.52
1946 to 1959.....	10,511	2,262	1,213	1,326	1,546	955	1,116	1,769	16.39
1960 to 1969.....	12,167	2,021	1,358	1,395	2,186	2,042	1,473	1,406	11.28
1970 to 1979.....	13,329	2,492	1,689	1,150	2,088	1,703	1,563	2,438	13.46
1980 to 1983.....	4,274	898	590	372	604	418	376	988	19.43
1984 to 1986.....	5,670	992	536	737	792	482	925	1,192	21.95
1987 to 1989.....	3,235	570	395	209	624	272	414	591	23.18
Census Region									
Northeast.....	13,569	2,307	1,375	1,253	2,265	1,781	1,656	2,619	15.94
Midwest.....	15,955	3,653	1,812	1,433	2,196	2,188	2,050	2,303	13.20
South.....	22,040	5,192	3,456	2,291	3,538	2,261	1,623	2,860	12.03
West.....	11,620	2,140	1,296	1,468	1,666	1,160	1,441	2,047	15.49
Metropolitan Status									
Metropolitan.....	50,809	9,051	5,681	5,322	7,743	6,288	5,933	9,451	8.05
Nonmetropolitan.....	12,375	4,240	2,258	1,123	1,923	1,101	837	378	16.70
Weekly Operating Hours									
39 or Fewer.....	6,073	2,488	457	321	508	0	0	0	25.09
40 to 48.....	13,905	2,962	1,970	1,984	2,854	1,935	1,104	1,095	12.91
49 to 60.....	13,473	2,906	2,304	1,639	1,999	1,311	1,232	2,082	14.43
61 to 84.....	10,777	1,191	1,287	1,205	1,658	1,281	1,611	2,544	14.67
85 to 167.....	9,387	2,037	1,089	774	1,415	1,361	1,370	1,340	19.49
168 (Open Continuously).....	9,569	1,708	832	522	1,230	1,197	1,381	2,700	15.09
Energy Sources (Solely or in Combination)									
Electricity.....	61,587	12,928	7,927	6,443	9,665	7,389	6,771	9,824	7.06
Natural Gas.....	41,593	6,675	5,193	4,499	6,618	5,447	5,219	7,806	8.72
Fuel Oil.....	12,684	1,646	1,101	884	1,532	1,630	1,679	3,897	13.92
District Heat.....	6,856	334	348	193	906	638	947	3,427	25.64
District Chilled Water.....	2,101	0	0	0	0	221	332	1,004	36.28
Propane.....	4,695	953	474	313	826	692	584	0	24.96
Any Other.....	1,542	428	Q	Q	Q	Q	Q	Q	39.54
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	57,868	10,858	7,484	6,151	9,424	7,232	6,695	9,750	7.43
Air-Conditioned Buildings.....	51,771	8,141	6,330	5,577	8,706	6,713	6,440	9,733	7.90
Buildings with Water Heating.....	53,585	8,689	6,515	5,729	9,210	7,045	6,573	9,659	7.69
Buildings with Cooking.....	23,668	2,726	1,360	1,242	4,100	3,897	3,137	6,901	11.93
Buildings with Manufacturing.....	5,601	399	471	775	873	815	617	1,632	23.67
Percent Heated									
Not Heated.....	5,419	2,470	455	0	259	0	0	0	30.43
1 to 50.....	9,314	3,222	2,033	1,863	832	429	544	356	20.83
51 to 99.....	8,673	1,202	946	867	1,141	954	1,042	2,494	17.11
100.....	39,777	6,398	4,506	3,416	7,433	5,849	5,109	6,900	7.93

See footnotes at end of table.

Table 26. Employment Size Category, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
	RSE Column Factor:	0.451	0.780	1.054	1.063	1.000	1.226	1.323	1.564
Percent Cooled									
Not Cooled.....	11,413	5,151	1,609	868	959	676	331	0	17.75
1 to 50.....	17,871	3,732	3,288	2,902	3,021	2,310	1,385	1,177	13.93
51 to 99.....	13,139	1,238	1,002	867	2,111	1,724	2,304	3,854	13.74
100.....	20,811	3,171	2,040	1,808	3,575	2,679	2,751	4,702	11.25
Percent Lit When Open									
Not Lit.....	2,359	466	0	0	0	NC	NC	NC	48.95
1 to 50.....	10,870	5,167	2,460	1,474	747	462	0	298	20.74
51 to 99.....	16,950	2,224	2,202	1,563	3,452	2,167	2,008	3,333	13.14
100.....	33,004	5,434	3,243	3,406	5,462	4,760	4,501	6,198	8.71
Ownership and Occupancy									
Nongovernment Owned.....	48,842	11,716	7,021	5,477	6,674	4,653	4,848	7,025	7.90
Owner Occupied.....	35,955	9,360	5,036	3,880	5,138	3,107	3,245	5,779	9.70
Nonowner Occupied.....	12,888	2,356	1,985	1,597	1,536	1,546	1,603	1,246	13.16
Government Owned.....	14,342	1,576	917	968	2,992	2,736	1,922	2,804	13.66
Occupant Control of:									
Heating Only.....	4,872	1,923	892	636	531	0	409	193	19.62
Cooling Only.....	4,143	354	484	359	1,201	661	531	554	21.78
Heating and Cooling.....	22,172	4,924	3,625	2,599	3,679	1,669	2,441	3,213	11.93
Reduced Use--Off-Hours									
Heating Only.....	7,147	2,586	1,214	808	916	987	413	0	17.79
Cooling Only.....	4,112	649	627	638	993	217	416	508	24.45
Heating and Cooling.....	38,689	6,468	4,838	4,213	6,208	4,795	4,433	7,713	8.95

NC No cases in sample.

0 Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 27. Employment Size Category, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
	RSE Column Factor:	--	0.673	0.938	0.970	0.919	1.115	1.243	1.282
All Buildings.....	100.0	21.0	12.6	10.2	15.3	11.7	10.7	15.6	7.38
Building Floorspace (Square Feet)									
1,001 to 5,000.....	100.0	62.9	21.7	8.0	2.5	0	0	NC	16.67
5,001 to 10,000.....	100.0	41.6	24.6	18.8	10.6	0	0	NC	15.75
10,001 to 25,000.....	100.0	27.3	20.5	18.5	22.4	6.6	1.2	NC	11.98
25,001 to 50,000.....	100.0	16.3	12.6	15.0	27.4	18.0	7.1	0	14.98
50,001 to 100,000.....	100.0	8.0	8.2	9.1	24.1	21.0	22.6	4.3	16.43
100,001 to 200,000.....	100.0	2.8	0	0	13.5	22.5	29.0	15.4	22.78
200,001 to 500,000.....	100.0	0	0	0	0	12.3	19.1	46.3	34.05
Over 500,000.....	100.0	0	0	0	0	0	0	77.2	49.74
Principal Building Activity									
Assembly.....	100.0	45.2	17.1	8.4	18.2	6.7	0	0	23.11
Education.....	100.0	5.8	5.7	7.5	27.2	28.7	15.9	0	20.09
Food Sales.....	100.0	32.1	0	0	0	0	0	NC	41.30
Food Service.....	100.0	30.5	23.3	27.9	12.6	0	0	NC	34.12
Health Care.....	100.0	4.1	0	0	0	0	0	0	27.77
Lodging.....	100.0	21.3	11.2	7.8	20.5	16.2	13.6	66.8	26.30
Mercantile and Service.....	100.0	24.3	17.2	11.5	15.7	11.3	10.7	9.4	13.73
Office.....	100.0	4.3	6.4	9.4	12.6	11.3	14.6	41.2	14.03
Parking Garage.....	100.0	64.3	0	0	0	0	0	0	48.91
Public Order and Safety.....	100.0	0	0	0	0	0	0	0	54.36
Warehouse.....	100.0	29.8	21.9	15.9	12.8	6.9	6.1	5.5	17.86
Other.....	100.0	8.6	0	0	0	0	27.9	0	37.51
Vacant.....	100.0	28.2	8.7	0	4.6	0	0	0	37.59
Year Constructed									
1899 or Before.....	100.0	31.5	21.3	13.6	0	0	0	0	36.29
1900 to 1919.....	100.0	37.3	10.2	5.4	12.5	0	0	0	31.41
1920 to 1945.....	100.0	24.1	17.0	9.9	12.1	12.5	8.6	12.5	17.67
1946 to 1959.....	100.0	21.5	11.5	12.6	14.7	9.1	10.6	16.8	17.41
1960 to 1969.....	100.0	16.6	11.2	11.5	18.0	16.8	12.1	11.6	11.62
1970 to 1979.....	100.0	18.7	12.7	8.6	15.7	12.8	11.7	18.3	14.64
1980 to 1983.....	100.0	21.0	13.8	8.7	14.1	9.8	8.8	23.1	20.65
1984 to 1986.....	100.0	17.5	9.4	13.0	14.0	8.5	16.3	21.0	24.76
1987 to 1989.....	100.0	17.6	12.2	6.5	19.3	8.4	12.8	18.3	22.88
Census Region									
Northeast.....	100.0	17.0	10.1	9.2	16.7	13.1	12.2	19.3	16.56
Midwest.....	100.0	22.9	11.4	9.0	13.8	13.7	12.8	14.4	12.85
South.....	100.0	23.6	15.7	10.4	16.1	10.3	7.4	13.0	11.61
West.....	100.0	18.4	11.2	12.6	14.3	10.0	12.4	17.6	16.68
Metropolitan Status									
Metropolitan.....	100.0	17.8	11.2	10.5	15.2	12.4	11.7	18.6	8.21
Nonmetropolitan.....	100.0	34.3	18.2	9.1	15.5	8.9	6.8	3.1	16.50
Weekly Operating Hours									
39 or Fewer.....	100.0	41.0	7.5	5.3	8.4	0	0	0	29.29
40 to 48.....	100.0	21.3	14.2	14.3	20.5	13.9	7.9	7.9	13.14
49 to 60.....	100.0	21.6	17.1	12.2	14.8	9.7	9.1	15.5	15.11
61 to 84.....	100.0	11.1	11.9	11.2	15.4	11.9	14.9	23.6	16.42
85 to 167.....	100.0	21.7	11.6	8.2	15.1	14.5	14.6	14.3	19.73
168 (Open Continuously).....	100.0	17.8	8.7	5.5	12.9	12.5	14.4	28.2	15.55
Energy Sources (Solely or in Combination)									
Electricity.....	100.0	21.0	12.9	10.5	15.7	12.0	11.0	16.0	7.31
Natural Gas.....	100.0	16.0	12.5	10.8	15.9	13.1	12.5	18.8	8.93
Fuel Oil.....	100.0	13.0	8.7	7.0	12.1	14.4	13.2	30.7	14.60
District Heat.....	100.0	4.9	5.1	2.8	13.2	9.3	13.8	50.0	24.24
District Chilled Water.....	100.0	0	0	0	0	10.5	15.8	47.8	39.51
Propane.....	100.0	20.3	10.1	6.7	17.6	14.7	12.4	18.2	25.85
Any Other.....	100.0	27.8	Q	Q	Q	Q	Q	Q	41.63
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	18.8	12.9	10.6	16.3	12.5	11.6	16.8	7.62
Air-Conditioned Buildings.....	100.0	15.7	12.2	10.8	16.8	13.0	12.4	18.8	8.14
Buildings with Water Heating.....	100.0	16.2	12.2	10.7	17.2	13.1	12.3	18.0	7.93
Buildings with Cooking.....	100.0	11.5	5.7	5.2	17.3	16.5	14.5	29.2	12.66
Buildings with Manufacturing.....	100.0	7.1	8.4	13.8	15.6	14.6	11.0	29.1	23.22
Percent Heated									
Not Heated.....	100.0	45.6	8.4	0	4.8	0	0	0	34.95
1 to 50.....	100.0	34.6	21.8	20.0	8.9	4.6	5.8	3.8	21.33
51 to 99.....	100.0	13.9	10.9	10.0	13.2	11.0	12.0	28.8	17.74
100.....	100.0	16.1	11.3	8.6	18.7	14.7	12.8	17.3	8.31

See footnotes at end of table.

Table 27. Employment Size Category, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Workers in Building							RSE Row Factor
		Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers	
RSE Column Factor:	--	0.673	0.938	0.970	0.919	1.115	1.243	1.282	
Percent Cooled									
Not Cooled.....	100.0	45.1	14.1	7.6	8.4	5.9	2.9	0	20.10
1 to 50.....	100.0	20.9	18.4	16.3	17.0	13.0	7.8	6.6	13.41
51 to 99.....	100.0	9.4	7.6	6.6	16.1	13.1	17.5	29.3	14.53
100.....	100.0	15.2	9.8	8.7	17.2	12.9	13.2	22.6	11.89
Percent Lit When Open									
Not Lit.....	100.0	19.8	0	0	0	NC	NC	NC	61.87
1 to 50.....	100.0	47.5	22.6	13.6	6.9	4.3	0	2.7	22.82
51 to 99.....	100.0	13.1	13.0	9.2	20.4	12.8	11.8	19.7	13.32
100.....	100.0	16.5	9.8	10.3	16.5	14.4	13.6	18.8	8.51
Ownership and Occupancy									
Nongovernment Owned.....	100.0	24.0	14.4	11.2	13.7	9.5	9.9	14.4	8.12
Owner Occupied.....	100.0	26.0	14.0	10.8	14.3	8.6	9.0	16.1	10.19
Nonowner Occupied.....	100.0	18.3	15.4	12.4	11.9	12.0	12.4	9.7	12.44
Government Owned.....	100.0	11.0	6.4	6.7	20.9	19.1	13.4	19.6	14.75
Occupant Control of:									
Heating Only.....	100.0	39.5	18.3	13.0	10.9	0	8.4	4.0	20.64
Cooling Only.....	100.0	8.5	11.7	8.7	29.0	16.0	12.8	13.4	23.63
Heating and Cooling.....	100.0	22.2	16.3	11.7	16.6	7.5	11.0	14.5	11.71
Reduced Use--Off-Hours									
Heating Only.....	100.0	36.2	17.0	11.3	12.8	13.8	5.8	0	18.67
Cooling Only.....	100.0	15.8	15.3	15.5	24.1	5.3	10.1	12.4	24.64
Heating and Cooling.....	100.0	16.7	12.5	10.9	16.0	12.4	11.5	19.9	9.41

-- Data not applicable.

NC No cases in sample.

0 Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

BUILDING USE

Table 28. Employment Size Category, Total Workers

Building Characteristics	Total Workers in All Buildings (thousand)	Square Feet per Worker	Median Square Feet per Worker	Thousands of Workers by Number of Workers in Building								RSE Row Factor
				Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers		
	RSE Column Factor:	0.646	0.475	a/	0.733	1.140	1.101	1.003	1.313	1.559	1.728	
All Buildings.....	70,665	894	1,001	4,747	6,384	6,492	10,718	8,219	11,323	22,782		6.22
Building Floorspace (Square Feet)												
1,001 to 5,000.....	10,091	673	791	3,390	3,196	2,046	1,138	Q	Q	NC	14.83	
5,001 to 10,000.....	7,163	912	1,270	819	1,432	2,039	2,319	Q	Q	NC	14.34	
10,001 to 25,000.....	10,079	1,031	1,638	422	875	1,680	3,747	2,298	1,057	NC	12.40	
25,001 to 50,000.....	8,782	1,002	1,652	87	214	519	2,156	2,788	2,241	Q	13.84	
50,001 to 100,000.....	9,103	1,003	1,657	23	Q	159	1,053	1,706	3,846	1,683	18.62	
100,001 to 200,000.....	7,470	1,108	1,802	3	Q	Q	251	925	2,791	3,418	20.07	
200,001 to 500,000.....	8,292	847	1,674	Q	Q	Q	Q	201	726	7,320	30.22	
Over 500,000.....	9,685	644	1,790	Q	Q	Q	Q	Q	Q	9,578	37.52	
Principal Building Activity												
Assembly.....	4,012	1,704	2,002	758	679	605	904	409	Q	Q	21.01	
Education.....	7,204	1,131	987	221	337	535	1,967	1,926	1,171	Q	15.12	
Food Sales.....	844	938	1,051	170	Q	Q	Q	Q	Q	NC	34.24	
Food Service.....	1,943	601	560	286	438	588	488	Q	Q	NC	24.93	
Health Care.....	4,225	486	600	86	Q	Q	Q	Q	638	2,917	25.07	
Lodging.....	3,092	1,124	1,701	175	Q	226	380	442	732	Q	29.73	
Mercantile and Service.....	12,414	996	1,081	1,731	1,899	1,527	2,195	1,368	1,651	2,042	10.32	
Office.....	27,780	425	483	524	1,181	1,611	2,928	2,669	4,684	14,181	10.41	
Parking Garage.....	332	2,963	2,402	76	Q	Q	Q	Q	Q	NC	51.84	
Public Order and Safety.....	861	716	800	Q	Q	Q	Q	Q	Q	Q	37.05	
Warehouse.....	4,377	2,114	3,091	489	600	782	879	453	677	497	17.90	
Other.....	2,111	724	930	42	Q	Q	Q	Q	640	Q	32.80	
Vacant.....	1,472	2,827	546	151	210	Q	229	Q	Q	Q	33.69	
Year Constructed												
1899 or Before.....	1,195	1,385	1,502	193	234	252	Q	Q	Q	Q	31.94	
1900 to 1919.....	2,656	1,598	1,102	247	317	271	462	Q	Q	Q	24.35	
1920 to 1945.....	7,688	1,053	1,092	809	823	701	1,008	868	1,274	2,206	14.66	
1946 to 1959.....	11,634	903	1,041	956	1,108	1,261	1,614	1,295	2,008	3,391	14.18	
1960 to 1969.....	13,490	902	987	819	996	1,331	2,370	1,951	2,075	3,948	9.98	
1970 to 1979.....	15,717	848	921	876	1,174	1,299	2,546	2,118	2,349	5,355	9.95	
1980 to 1983.....	5,216	819	1,102	320	433	430	844	517	892	1,780	17.21	
1984 to 1986.....	8,420	673	934	311	387	743	869	716	1,577	3,818	18.88	
1987 to 1989.....	4,648	696	875	216	Q	205	779	252	794	1,491	27.78	
Census Region												
Northeast.....	15,889	854	1,051	844	1,013	1,122	2,393	1,814	2,332	6,372	13.15	
Midwest.....	15,557	1,026	1,126	1,091	1,304	1,337	2,400	1,632	3,033	4,760	9.61	
South.....	23,311	945	1,001	1,920	2,929	2,375	4,177	3,027	2,952	5,930	10.95	
West.....	15,908	730	920	892	1,138	1,658	1,748	1,747	3,006	5,720	12.43	
Metropolitan Status												
Metropolitan.....	60,029	846	933	3,035	4,700	5,245	8,311	6,720	10,100	21,918	7.24	
Nonmetropolitan.....	10,636	1,164	1,202	1,712	1,684	1,247	2,407	1,499	1,223	864	14.97	
Workers												
Fewer than 5.....	4,747	2,800	1,751	4,747	--	--	--	--	--	--	7.38	
5 to 9.....	6,384	1,244	733	--	6,384	--	--	--	--	--	15.11	
10 to 19.....	6,492	993	635	--	--	6,492	--	--	--	--	9.15	
20 to 49.....	10,718	902	593	--	--	--	10,718	--	--	--	7.83	
50 to 99.....	8,219	899	580	--	--	--	--	8,219	--	--	9.09	
100 to 249.....	11,323	598	470	--	--	--	--	--	11,323	--	9.71	
250 or More.....	22,782	431	400	--	--	--	--	--	--	22,782	11.79	
Weekly Operating Hours												
39 or Fewer.....	3,420	1,776	1,272	752	446	550	853	Q	Q	Q	25.44	
40 to 48.....	15,136	919	950	1,184	1,559	1,906	3,208	2,563	2,379	2,337	9.99	
49 to 60.....	16,184	832	1,000	1,257	1,473	1,721	2,090	1,447	2,565	5,632	11.04	
61 to 84.....	14,141	762	854	644	1,069	1,047	1,867	1,457	2,277	5,781	11.84	
85 to 167.....	8,860	1,059	1,001	517	838	719	1,488	1,156	1,655	2,488	13.38	
168 (Open Continuously).....	12,924	740	1,321	392	Q	550	1,213	1,308	2,044	6,418	16.71	
Energy Sources (Solely or in Combination)												
Electricity.....	70,590	872	1,050	4,715	6,370	6,482	10,718	8,219	11,323	22,763	6.22	
Natural Gas.....	48,458	858	1,000	2,592	4,168	4,545	6,680	5,167	7,787	17,519	7.44	
Fuel Oil.....	16,961	748	1,088	728	732	753	1,603	1,289	2,557	9,300	13.08	
District Heat.....	10,708	640	1,051	41	123	125	673	818	1,447	7,481	20.91	
District Chilled Water.....	3,299	637	741	Q	Q	Q	142	221	411	2,421	27.37	
Propane.....	4,744	990	1,250	420	402	434	927	709	788	Q	22.45	
Any Other.....	1,315	1,173	1,271	183	Q	Q	Q	Q	Q	Q	30.85	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	68,704	842	1,000	4,334	6,097	6,299	10,355	7,883	11,104	22,632	6.41	
Air-Conditioned Buildings.....	64,609	801	900	3,370	5,490	5,728	9,551	7,414	10,403	22,653	6.72	
Buildings with Water Heating.....	65,131	823	901	3,267	5,471	5,755	10,089	7,746	10,540	22,262	6.66	
Buildings with Cooking.....	30,055	787	887	863	1,117	1,487	3,901	3,369	4,378	14,938	8.98	
Buildings with Manufacturing.....	6,294	890	1,251	176	251	535	702	948	1,238	2,443	19.82	

See footnotes at end of table.

Table 28. Employment Size Category, Total Workers (Continued)

Building Characteristics	Total Workers in All Buildings (thousand)	Square Feet per Worker	Median Square Feet per Worker	Thousands of Workers by Number of Workers in Building								RSE Row Factor
				Fewer than 5 Workers	5 to 9 Workers	10 to 19 Workers	20 to 49 Workers	50 to 99 Workers	100 to 249 Workers	250 or More Workers		
				0.733	1.140	1.101	1.003	1.313	1.559	1.728		
RSE Column Factor:	0.646	0.475	a/	0.733	1.140	1.101	1.003	1.313	1.559	1.728		
Percent Heated												
Not Heated.....	1,991	2,722	1,600	416	287	216	368	Q	0	0	30.13	
1 to 50.....	4,847	1,922	1,468	744	938	1,188	520	371	660	424	16.49	
51 to 99.....	11,918	728	1,110	554	713	776	1,598	1,025	1,528	5,724	14.28	
100.....	51,909	766	900	3,033	4,446	4,311	8,231	6,487	8,916	16,484	7.20	
Percent Cooled												
Not Cooled.....	6,056	1,885	1,500	1,377	894	764	1,166	806	Q	0	18.28	
1 to 50.....	12,331	1,445	1,250	1,126	1,730	2,034	2,488	1,797	1,412	1,745	10.44	
51 to 99.....	19,132	687	801	581	867	1,047	2,160	1,970	3,615	8,893	10.76	
100.....	33,145	628	722	1,663	2,893	2,647	4,904	3,647	5,377	12,015	9.87	
Percent Lit When Open												
Not Lit.....	77	30,521	509	47	0	0	Q	NC	NC	NC	58.62	
1 to 50.....	5,574	1,950	1,602	1,414	1,156	1,034	732	395	Q	457	16.85	
51 to 99.....	20,135	842	961	939	1,480	1,768	3,304	2,391	3,010	7,243	10.76	
100.....	44,878	735	895	2,347	3,729	3,679	6,681	5,433	7,927	15,082	7.86	
Ownership and Occupancy												
Nongovernment Owned.....	54,583	895	1,001	4,277	5,203	5,626	7,799	5,866	8,844	16,967	6.22	
Owner Occupied.....	42,256	893	1,101	3,195	3,745	4,039	5,999	3,931	5,552	13,826	7.72	
Nonowner Occupied.....	14,327	900	854	1,083	1,458	1,587	1,800	1,935	3,322	3,141	10.68	
Government Owned.....	16,082	892	1,015	470	1,180	866	2,919	2,353	2,480	5,815	13.20	
Occupant Control of:												
Heating Only.....	4,801	1,015	1,240	896	643	848	751	Q	975	358	18.13	
Cooling Only.....	4,493	922	875	182	290	342	1,101	652	741	1,185	19.80	
Heating and Cooling.....	26,523	836	872	2,076	3,421	2,971	4,339	2,529	4,119	7,067	9.78	
Reduced Use--Off-Hours												
Heating Only.....	6,076	1,176	1,201	1,079	877	869	1,001	1,064	851	0	14.06	
Cooling Only.....	4,190	981	900	317	442	530	739	398	619	1,146	20.37	
Heating and Cooling.....	46,924	824	920	2,549	3,863	4,351	6,815	4,730	6,666	17,949	6.81	

a/ Data not applicable.

Relative Standard Error (RSE) row and column factors do not apply to medians. RSE's were not computed for medians.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 29. Special Measures of Occupancy

Building Characteristics	Number of Buildings (thousand)	Total Floorspace (million square feet)	Occupancy Measure (thousand)	Floorspace per Unit Occupancy Measure ^{a/}	RSE Row Factor
Principal Building Activity					
Education.....	284	8,148	87,611	Classroom Seats	93 Square Feet per Classroom Seat
Food Service.....	241	1,167	27,753	Seating Capacity	42 Square Feet per Seat
Health Care (Inpatient).....	23	1,618	2,008	Beds	806 Square Feet per Bed
Skilled Nursing.....	22	621	1,594	Beds	390 Square Feet per Bed
Lodging.....	118	2,855	5,053	Guest Rooms	565 Square Feet per Guest Room

^{a/} Floorspace per Unit Occupancy Measure was computed using all of the floorspace within the building, including floorspace not occupied by seats, beds or guests.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 30. Weekly Operating Schedule, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Open 1 to 23 Hours per Day			Open 24 Hours per Day All Week	Other Schedule*/	RSE Row Factor
		Monday through Friday	Monday through Saturday	Monday through Sunday			
		RSE Column Factor:	0.593	1.014	1.044	1.184	1.193
All Buildings.....	4,528	1,193	1,049	791	408	1,087	5.27
Principal Building Activity							
Assembly.....	615	59	27	160	22	348	15.03
Education.....	284	216	22	12	Q	30	14.81
Food Sales.....	102	Q	Q	59	Q	Q	20.53
Food Service.....	241	15	37	143	Q	24	18.05
Health Care.....	80	31	21	0	16	Q	21.47
Lodging.....	140	NC	Q	0	134	Q	11.79
Mercantile and Service.....	1,278	208	592	263	65	150	8.32
Office.....	679	369	161	49	32	69	12.40
Parking Garage.....	45	23	Q	Q	2	Q	24.67
Public Order and Safety.....	50	Q	NC	Q	28	Q	25.24
Warehouse.....	618	218	110	56	43	192	13.62
Other.....	62	19	Q	Q	13	Q	33.91
Vacant.....	333	29	40	Q	Q	230	15.84
Building Floorspace (Square Feet)							
1,001 to 10,000.....	3,419	831	830	606	271	881	6.26
10,001 to 100,000.....	1,018	338	204	168	120	187	7.70
Over 100,000.....	91	24	14	17	17	19	13.27
Weekly Operating Hours							
39 or Fewer.....	876	113	34	31	--	697	13.92
40 to 48.....	1,117	778	206	29	--	105	10.57
49 to 60.....	987	250	546	108	--	82	8.86
61 to 84.....	625	44	224	281	--	76	10.27
85 to 167.....	515	8	38	342	--	126	14.51
168 (Open Continuously).....	408	--	--	--	408	--	6.78

*/ Data not applicable.

Includes buildings not in use during 12 months prior to interview, and buildings used closed all week.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 31. Weekly Operating Schedule, Total Floorspace
(Million Square Feet)**

Building Characteristics	All Buildings	Open 1 to 23 Hours per Day			Open 24 Hours per Day All Week	Other Schedule ^a	RSE Row Factor
		Monday through Friday	Monday through Saturday	Monday through Sunday			
		RSE Column Factor:	0.574	0.956	1.029	1.248	1.133
All Buildings.....	63,184	18,011	11,294	11,855	9,569	12,455	6.27
Principal Building Activity							
Assembly.....	6,838	482	323	2,688	344	3,000	15.81
Education.....	8,148	4,891	1,019	1,146	0	883	16.23
Food Sales.....	792	0	155	385	0	0	30.12
Food Service.....	1,167	72	126	721	98	150	24.40
Health Care.....	2,054	183	172	0	1,615	48	28.75
Lodging.....	3,476	NC	0	106	3,361	0	17.73
Mercantile and Service.....	12,365	1,628	3,893	4,414	770	1,660	10.22
Office.....	11,802	5,495	2,830	1,355	1,127	994	14.02
Parking Garage.....	983	189	220	64	449	0	29.95
Public Order and Safety.....	616	63	NC	0	412	123	35.22
Warehouse.....	9,253	3,754	2,070	521	571	2,337	17.42
Other.....	1,529	674	0	158	374	209	34.27
Vacant.....	4,161	569	368	241	93	2,889	28.35
Building Floorspace (Square Feet)							
1,001 to 10,000.....	13,322	3,460	2,986	2,477	1,102	3,296	6.70
10,001 to 100,000.....	28,325	9,768	5,274	4,505	3,760	5,018	7.15
Over 100,000.....	21,538	4,784	3,033	4,872	4,707	4,141	14.29
Weekly Operating Hours							
39 or Fewer.....	6,073	1,125	150	236	--	4,561	13.56
40 to 48.....	13,905	10,482	1,737	241	--	1,444	13.62
49 to 60.....	13,473	4,723	5,728	1,471	--	1,552	11.92
61 to 84.....	10,777	1,296	2,651	5,257	--	1,573	10.69
85 to 167.....	9,387	386	1,027	4,649	--	3,324	19.24
168 (Open Continuously).....	9,569	--	--	--	9,569	--	8.74

^a/ Data not applicable.

Includes buildings not in use during 12 months prior to interview, and buildings used closed all week.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 32. Weekly Operating Hours, Number of Buildings

Buildings Characteristics	All Buildings (thousand)	Mean Hours per Week	Median Hours per Week	Number of Buildings (thousand) by Weekly Operating Hours Category						RSE Row Factor
				39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
				1.575	1.142	1.187	1.267	1.498	1.550	
All Buildings.....	4,528	63	50	876	1,117	987	625	515	408	4.61
Building Floorspace (Square Feet)										
1,001 to 5,000.....	2,529	59	49	605	599	525	337	282	181	6.26
5,001 to 10,000.....	890	64	50	160	241	191	115	92	90	8.88
10,001 to 25,000.....	644	69	54	76	167	164	97	70	70	9.47
25,001 to 50,000.....	247	73	55	23	61	60	37	36	30	10.62
50,001 to 100,000.....	127	77	58	9	33	27	21	18	20	11.54
100,001 to 200,000.....	61	80	61	0	14	14	12	11	9	15.19
200,001 to 500,000.....	23	102	91	0	2	5	4	6	7	21.93
Over 500,000.....	7	90	71	0	Q	1	2	Q	2	24.38
Principal Building Activity										
Assembly.....	615	46	38	314	73	68	67	72	22	12.58
Education.....	284	53	45	60	115	49	33	23	Q	14.11
Food Sales.....	102	100	96	0	0	0	27	46	0	27.67
Food Service.....	241	94	86	0	0	0	72	108	0	16.29
Health Care.....	80	74	50	0	33	0	0	0	16	26.69
Lodging.....	140	165	168	NC	NC	0	0	0	134	17.64
Mercantile and Service.....	1,278	65	55	76	309	427	258	144	65	7.13
Office.....	679	57	48	0	326	196	64	37	32	10.71
Parking Garage.....	45	67	55	0	0	0	0	0	2	28.49
Public Order and Safety.....	50	111	168	0	0	0	0	0	28	41.79
Warehouse.....	618	57	48	128	181	147	63	55	43	12.89
Other.....	62	75	52	0	13	0	0	0	13	32.70
Vacant.....	333	30	11	227	34	35	0	0	Q	19.04
Year Constructed										
1899 or Before.....	172	53	47	63	38	28	0	0	0	21.11
1900 to 1919.....	242	51	45	68	67	53	24	21	10	17.68
1920 to 1945.....	680	57	48	159	182	140	96	67	37	10.17
1946 to 1959.....	868	62	50	181	206	176	143	96	66	9.80
1960 to 1969.....	821	66	52	153	187	184	106	103	89	8.69
1970 to 1979.....	884	69	53	137	221	187	121	115	104	8.43
1980 to 1983.....	317	69	54	45	68	81	52	36	34	13.92
1984 to 1986.....	329	65	50	46	102	78	41	26	37	13.80
1987 to 1989.....	215	68	54	25	48	59	30	35	18	16.64
Census Region										
Northeast.....	783	69	56	113	165	174	135	124	72	10.27
Midwest.....	1,046	61	50	218	242	232	156	124	74	8.88
South.....	1,847	60	49	399	525	383	215	175	151	7.73
West.....	851	69	53	145	186	198	120	91	111	10.45
Metropolitan Status										
Metropolitan.....	3,073	66	53	454	757	695	485	387	295	5.23
Nonmetropolitan.....	1,454	56	48	422	360	292	140	128	113	10.70
Workers										
Fewer than 5.....	2,280	62	49	511	556	496	266	238	213	6.24
5 to 9.....	906	67	54	66	244	235	166	129	67	8.77
10 to 19.....	507	67	54	45	144	134	85	59	40	10.60
20 to 49.....	381	72	57	35	112	73	64	54	44	10.62
50 to 99.....	132	79	58	0	41	23	23	19	21	13.19
100 to 249.....	79	81	63	0	17	18	16	11	13	15.66
250 or More.....	32	97	71	0	4	8	6	5	9	18.76
Weekly Operating Hours										
39 or Fewer.....	876	20	15	876	--	--	--	--	--	9.14
40 to 48.....	1,117	44	45	--	1,117	--	--	--	--	3.31
49 to 60.....	987	54	54	--	987	--	--	--	--	3.09
61 to 84.....	625	72	72	--	--	625	--	--	--	4.17
85 to 167.....	515	103	99	--	--	--	515	--	--	5.72
168 (Open Continuously).....	408	168	168	--	--	--	408	--	b/	
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	65	52	688	1,100	978	621	513	397	4.61
Natural Gas.....	2,439	66	53	327	661	562	378	298	214	5.92
Fuel Oil.....	586	67	54	91	130	140	86	77	62	14.12
District Heat.....	105	98	78	0	22	14	13	11	37	22.26
District Chilled Water.....	25	85	70	0	0	0	5	4	5	29.59
Propane.....	348	68	53	81	64	75	27	61	40	16.69
Any Other.....	130	57	50	0	30	46	0	Q	Q	24.26
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	66	52	586	1,007	917	565	443	359	4.63
Air-Conditioned Buildings.....	3,184	68	53	394	846	753	484	403	304	5.17
Buildings with Water Heating.....	3,184	69	54	391	798	739	493	422	341	4.79
Buildings with Cooking.....	864	86	78	116	115	111	148	215	159	7.54
Buildings with Manufacturing.....	205	63	50	Q	79	56	36	15	12	18.04

See footnotes at end of table.

BUILDING USE

Table 32. Weekly Operating Hours, Number of Buildings (Continued)

Buildings Characteristics	All Buildings (thousand)	Mean Hours per Week	Median Hours per Week	Number of Buildings (thousand) by Weekly Operating Hours Category						RSE Row Factor
				39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	0.748	0.213	a/	1.575	1.142	1.187	1.267	1.498	1.550	
Percent Heated										
Not Heated.....	662	49	43	298	111	70	63	71	49	14.37
1 to 50.....	630	59	50	93	157	201	93	54	32	10.30
51 to 99.....	496	72	56	56	115	119	69	84	53	10.37
100.....	2,739	66	51	429	735	597	401	306	273	5.10
Percent Cooled										
Not Cooled.....	1,344	53	45	481	272	234	141	111	104	8.75
1 to 50.....	1,037	64	52	98	297	307	151	113	71	8.12
51 to 99.....	597	73	58	65	119	133	113	104	62	9.40
100.....	1,550	68	52	231	430	313	221	186	170	7.43
Percent Lit When Open										
Not Lit.....	306	23	11	254	23	0	0	0	0	27.53
1 to 50.....	1,002	63	50	169	285	245	109	101	92	8.62
51 to 99.....	951	65	53	119	249	222	171	117	73	7.88
100.....	2,269	68	54	333	561	508	340	295	232	6.51
Occupant Control of:										
Heating Only.....	626	60	50	118	160	178	69	55	46	10.66
Cooling Only.....	204	73	55	0	63	40	29	30	27	17.70
Heating and Cooling.....	1,773	67	52	190	499	460	248	219	157	6.81
Reduced Use--Off-Hours										
Heating Only.....	790	58	49	174	203	181	107	79	47	9.93
Cooling Only.....	283	77	60	22	79	46	42	54	41	17.03
Heating and Cooling.....	2,397	60	50	343	670	629	366	287	102	6.19

a/ Data not applicable.

b/ Relative Standard Error (RSE) row and column factors do not apply to medians. RSE's were not computed for medians. The median and mean hours per week are identically 168 by definition in this category. The RSE for the number of buildings in the category (thousand) is 5.7 percent.

* Value rounds to zero in the units displayed.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 33. Weekly Operating Hours, Percent of Buildings

Buildings Characteristics	All Buildings (percent)	Percent of Buildings by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	RSE Column Factor:	--	1.195	0.786	0.873	0.956	1.174	1.087
All Buildings.....	100.0	19.3	24.7	21.8	13.8	11.4	9.0	5.06
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	23.9	23.7	20.8	13.3	11.1	7.2	7.10
5,001 to 10,000.....	100.0	18.0	27.1	21.5	13.0	10.3	10.1	10.11
10,001 to 25,000.....	100.0	11.7	25.9	25.4	15.1	10.9	10.9	10.96
25,001 to 50,000.....	100.0	9.4	24.6	24.4	14.9	14.6	12.1	13.21
50,001 to 100,000.....	100.0	7.1	25.6	21.4	16.5	13.8	15.6	13.73
100,001 to 200,000.....	100.0	Q	22.6	23.0	19.1	17.4	14.5	19.30
200,001 to 500,000.....	100.0	Q	6.9	20.9	18.5	24.0	28.9	24.07
Over 500,000.....	100.0	Q	Q	13.0	27.1	12.8	24.8	31.24
Principal Building Activity								
Assembly.....	100.0	51.0	11.8	11.0	10.9	11.8	3.5	14.27
Education.....	100.0	21.2	40.6	17.2	11.5	8.0	Q	17.09
Food Sales.....	100.0	Q	Q	Q	26.7	44.8	Q	36.41
Food Service.....	100.0	Q	Q	Q	30.0	44.8	Q	20.75
Health Care.....	100.0	Q	41.3	Q	Q	Q	19.4	33.96
Lodging.....	100.0	NC	NC	Q	Q	Q	95.9	23.99
Mercantile and Service.....	100.0	5.9	24.1	33.4	20.2	11.2	5.1	8.71
Office.....	100.0	Q	48.0	28.9	9.4	5.4	4.7	12.80
Parking Garage.....	100.0	Q	Q	Q	Q	Q	5.2	36.35
Public Order and Safety.....	100.0	Q	Q	Q	Q	Q	56.3	51.63
Warehouse.....	100.0	20.8	29.3	23.8	10.3	9.0	6.9	14.15
Other.....	100.0	Q	21.6	Q	Q	Q	21.0	33.27
Vacant.....	100.0	68.2	10.2	10.5	Q	Q	Q	22.69
Year Constructed								
1899 or Before.....	100.0	36.6	21.9	16.2	Q	Q	Q	22.88
1900 to 1919.....	100.0	27.9	27.8	21.8	9.9	8.6	4.0	21.05
1920 to 1945.....	100.0	23.4	26.7	20.5	14.1	9.9	5.4	12.15
1946 to 1959.....	100.0	20.8	23.7	20.3	16.5	11.1	7.6	11.32
1960 to 1969.....	100.0	18.6	22.7	22.5	12.8	12.5	10.8	9.78
1970 to 1979.....	100.0	19.5	24.9	21.2	13.7	13.0	11.7	9.32
1980 to 1983.....	100.0	14.2	21.5	25.7	16.5	11.3	10.8	17.47
1984 to 1986.....	100.0	14.0	30.9	23.8	12.3	7.8	11.1	15.75
1987 to 1989.....	100.0	11.4	22.3	27.6	13.9	16.1	8.6	19.34
Census Region								
Northeast.....	100.0	14.5	21.1	22.2	17.3	15.8	9.2	11.20
Midwest.....	100.0	20.9	23.1	22.2	14.9	11.9	7.1	8.66
South.....	100.0	21.6	28.4	20.7	11.6	9.5	8.2	8.21
West.....	100.0	17.1	21.8	23.2	14.1	10.7	13.1	11.71
Metropolitan Status								
Metropolitan.....	100.0	14.8	24.6	22.6	15.8	12.6	9.6	5.51
Nonmetropolitan.....	100.0	29.0	24.7	20.1	9.6	8.8	7.8	10.09
Workers								
Fewer than 5.....	100.0	22.4	24.4	21.8	11.7	10.4	9.4	7.22
5 to 9.....	100.0	7.3	26.9	25.9	18.4	14.2	7.4	11.38
10 to 19.....	100.0	8.9	28.4	26.5	16.7	11.6	8.0	11.88
20 to 49.....	100.0	9.1	29.4	19.1	16.7	14.2	11.6	13.31
50 to 99.....	100.0	Q	31.1	17.6	17.3	14.3	15.8	16.05
100 to 249.....	100.0	Q	21.8	22.8	20.5	14.6	16.7	20.15
250 or More.....	100.0	Q	11.5	26.3	17.5	14.8	29.5	21.27
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	16.0	25.6	22.8	14.4	11.9	9.2	5.09
Natural Gas.....	100.0	13.4	27.1	23.1	15.5	12.2	8.8	6.44
Fuel Oil.....	100.0	15.5	22.1	23.8	14.7	13.2	10.6	13.91
District Heat.....	100.0	Q	20.7	13.4	12.2	10.5	35.7	24.75
District Chilled Water.....	100.0	Q	24.8	Q	19.4	15.5	20.3	40.65
Propane.....	100.0	23.4	18.3	21.6	7.7	17.5	11.6	16.42
Any Other.....	100.0	Q	23.0	35.6	Q	Q	Q	26.49
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	15.1	26.0	23.7	14.6	11.4	9.3	4.97
Air-Conditioned Buildings.....	100.0	12.4	26.6	23.7	15.2	12.7	9.5	5.57
Buildings with Water Heating.....	100.0	12.3	25.1	23.2	15.5	13.2	10.7	5.09
Buildings with Cooking.....	100.0	13.5	13.3	12.9	17.1	24.8	18.4	8.35
Buildings with Manufacturing.....	100.0	Q	38.8	27.3	17.6	7.2	5.9	22.51
Percent Heated								
Not Heated.....	100.0	45.0	16.7	10.6	9.5	10.7	7.5	16.94
1 to 50.....	100.0	14.8	25.0	31.9	14.7	8.5	5.2	11.89
51 to 99.....	100.0	11.2	23.1	24.1	14.0	16.9	10.8	11.55
100.....	100.0	15.6	26.8	21.8	14.6	11.2	10.0	5.75

See footnotes at end of table.

Table 33. Weekly Operating Hours, Percent of Buildings (Continued)

Buildings Characteristics	All Buildings (percent)	Percent of Buildings by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	--	1.195	0.786	0.873	0.956	1.174	1.087	
Percent Cooled								
Not Cooled.....	100.0	35.8	20.2	17.4	10.5	8.3	7.8	9.59
1 to 50.....	100.0	9.5	28.6	29.6	14.5	10.9	6.9	8.91
51 to 99.....	100.0	10.9	19.9	22.3	18.9	17.4	10.4	10.95
100.....	100.0	14.9	27.7	20.2	14.2	12.0	11.0	8.32
Percent Lit When Open								
Not Lit.....	100.0	82.8	7.4	0	0	0	0	33.54
1 to 50.....	100.0	16.9	28.5	24.5	10.9	10.1	9.2	9.49
51 to 99.....	100.0	12.6	26.1	23.4	18.0	12.3	7.7	8.67
100.....	100.0	14.7	24.7	22.4	15.0	13.0	10.2	7.52
Occupant Control of:								
Heating Only.....	100.0	18.8	25.5	28.4	11.0	8.8	7.4	12.80
Cooling Only.....	100.0	0	30.6	19.8	14.2	14.7	13.0	19.31
Heating and Cooling.....	100.0	10.7	28.1	25.9	14.0	12.4	8.8	7.66
Reduced Use--Off-Hours								
Heating Only.....	100.0	22.0	25.8	22.8	13.5	10.0	5.9	11.31
Cooling Only.....	100.0	7.9	27.8	16.1	14.8	18.9	14.6	16.71
Heating and Cooling.....	100.0	14.3	27.9	26.3	15.3	12.0	4.2	6.98

-- Data not applicable.

NC No cases in sample.

0 Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.
 Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 34. Weekly Operating Hours, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
RSE Column Factor:	0.505	1.228	0.951	1.049	1.070	1.388	1.089	
All Buildings.....	63,184	6,073	13,905	13,473	10,777	9,387	9,569	6.34
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	1,574	1,628	1,450	891	776	472	7.89
5,001 to 10,000.....	6,532	1,159	1,830	1,409	824	680	631	10.41
10,001 to 25,000.....	10,393	1,157	2,628	2,614	1,601	1,159	1,235	11.29
25,001 to 50,000.....	8,801	885	2,163	2,081	1,235	1,296	1,141	12.90
50,001 to 100,000.....	9,130	634	2,386	1,925	1,530	1,272	1,384	13.74
100,001 to 200,000.....	8,277	Q	1,889	1,811	1,446	1,552	1,267	18.31
200,001 to 500,000.....	7,022	Q	446	1,431	1,237	1,825	2,020	27.28
Over 500,000.....	6,239	Q	Q	753	2,014	Q	1,420	30.30
Principal Building Activity								
Assembly.....	6,838	1,900	1,111	1,102	1,113	1,268	344	17.48
Education.....	8,148	951	2,859	1,097	1,404	1,628	Q	17.70
Food Sales.....	792	Q	Q	Q	170	401	Q	44.02
Food Service.....	1,167	Q	Q	Q	222	687	Q	25.88
Health Care.....	2,054	Q	212	Q	Q	Q	1,615	35.58
Lodging.....	3,476	NC	NC	Q	Q	Q	3,361	32.66
Mercantile and Service.....	12,365	286	2,105	3,368	3,902	1,934	770	12.36
Office.....	11,802	Q	3,366	4,022	2,390	780	1,127	14.60
Parking Garage.....	983	Q	Q	Q	Q	Q	449	37.72
Public Order and Safety.....	616	Q	Q	Q	Q	Q	412	50.70
Warehouse.....	9,253	734	2,781	2,759	899	1,510	571	17.16
Other.....	1,529	Q	449	Q	Q	Q	374	39.60
Vacant.....	4,161	1,903	796	397	Q	Q	Q	31.58
Year Constructed								
1899 or Before.....	1,654	414	416	312	Q	Q	Q	27.59
1900 to 1919.....	4,245	738	1,103	909	222	Q	245	28.17
1920 to 1945.....	8,098	830	2,174	1,813	1,144	842	1,294	15.37
1946 to 1959.....	10,511	1,374	2,479	2,119	2,031	1,385	1,124	16.73
1960 to 1969.....	12,167	1,019	2,411	2,305	2,209	2,302	1,920	10.72
1970 to 1979.....	13,329	988	2,681	2,807	2,468	2,112	2,274	11.51
1980 to 1983.....	4,274	240	631	1,152	953	475	823	17.32
1984 to 1986.....	5,670	206	1,189	1,322	1,078	562	1,313	18.56
1987 to 1989.....	3,235	265	821	733	501	520	396	22.85
Census Region								
Northeast.....	13,569	973	2,610	2,799	2,983	2,368	1,835	13.92
Midwest.....	15,955	1,293	2,777	3,207	2,807	3,091	2,781	12.65
South.....	22,040	2,833	6,427	4,530	3,171	2,244	2,835	11.50
West.....	11,620	973	2,091	2,937	1,817	1,683	2,119	12.81
Metropolitan Status								
Metropolitan.....	50,809	3,886	10,737	10,956	9,380	7,763	8,087	7.48
Nonmetropolitan.....	12,375	2,187	3,168	2,518	1,397	1,624	1,482	11.87
Workers								
Fewer than 5.....	13,292	2,488	2,962	2,906	1,191	2,037	1,708	10.35
5 to 9.....	7,339	457	1,970	2,304	1,287	1,089	832	15.29
10 to 19.....	6,445	321	1,984	1,639	1,205	774	522	14.80
20 to 49.....	9,665	508	2,854	1,999	1,658	1,415	1,230	15.40
50 to 99.....	7,389	Q	1,935	1,311	1,281	1,361	1,197	17.85
100 to 249.....	6,771	Q	1,104	1,232	1,611	1,370	1,381	19.42
250 or More.....	9,829	Q	1,095	2,082	2,544	1,340	2,700	26.25
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	4,763	13,810	13,350	10,751	9,377	9,536	6.51
Natural Gas.....	41,593	2,654	9,396	8,505	7,982	6,601	6,456	8.35
Fuel Oil.....	12,584	777	2,651	2,417	1,803	2,177	2,858	12.18
District Heat.....	6,856	Q	939	1,208	998	1,188	2,367	29.90
District Chilled Water.....	2,101	Q	0	236	440	365	551	35.34
Propane.....	4,695	451	738	841	379	1,506	780	20.63
Any Other.....	1,542	Q	453	287	Q	Q	Q	33.73
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	4,042	13,031	12,884	10,440	8,714	8,758	6.90
Air-Conditioned Buildings.....	51,771	2,882	11,404	11,544	9,680	8,182	8,080	7.41
Buildings with Water Heating.....	53,585	3,160	11,680	11,758	9,799	8,451	8,738	7.00
Buildings with Cooking.....	23,668	1,364	3,750	3,391	5,093	4,836	5,234	11.69
Buildings with Manufacturing.....	5,601	Q	1,664	1,494	743	1,242	406	27.05
Percent Heated								
Not Heated.....	5,419	2,094	880	589	354	672	829	18.50
1 to 50.....	9,314	530	1,983	3,129	1,341	1,683	648	17.51
51 to 99.....	8,573	438	1,642	2,453	1,602	1,192	1,347	16.15
100.....	39,777	3,011	9,400	7,303	7,480	5,839	6,745	7.52

See footnotes at end of table.

Table 34. Weekly Operating Hours, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	RSE Column Factor:	0.505	1.228	0.951	1.049	1.070	1.388	1.089
Percent Cooled								
Not Cooled.....	11,413	3,191	2,501	1,929	1,098	1,204	1,490	11.23
1 to 50.....	17,821	866	4,807	4,705	2,630	3,211	1,603	13.71
51 to 99.....	13,139	666	1,896	3,169	2,695	2,232	2,481	12.99
100.....	20,811	1,350	4,701	3,670	4,355	2,740	3,996	10.78
Percent Lit When Open								
Not Lit.....	2,359	2,009	133	0	0	0	0	34.94
1 to 50.....	10,870	1,021	2,982	3,090	1,038	1,576	1,164	14.70
51 to 99.....	16,950	978	3,335	4,076	3,868	2,281	2,413	11.98
100.....	33,004	2,065	7,455	6,172	5,836	5,516	5,960	8.79
Occupant Control of:								
Heating Only.....	4,872	568	1,388	1,373	487	622	433	15.79
Cooling Only.....	4,143	0	1,090	853	543	469	960	20.79
Heating and Cooling.....	22,172	1,097	4,697	5,399	4,585	3,043	3,351	11.38
Reduced Use--Off-Hours								
Heating Only.....	7,147	983	2,078	1,461	1,020	884	722	13.50
Cooling Only.....	4,112	184	945	643	754	760	827	24.21
Heating and Cooling.....	38,689	2,504	9,268	9,699	7,568	6,133	3,516	8.94

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 35. Weekly Operating Hours, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	RSE Column Factor:	--	1.186	0.784	0.950	0.986	1.198	0.959
All Buildings.....	100.0	9.6	22.0	21.3	17.1	14.9	15.1	6.49
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	23.2	24.0	21.4	13.1	11.4	6.9	7.85
5,001 to 10,000.....	100.0	17.7	28.0	21.6	12.6	10.4	9.7	10.16
10,001 to 25,000.....	100.0	11.1	25.3	25.1	15.4	11.2	11.9	10.88
25,001 to 50,000.....	100.0	10.1	24.6	23.6	14.0	14.7	13.0	13.43
50,001 to 100,000.....	100.0	6.9	26.1	21.1	16.8	13.9	15.2	13.58
100,001 to 200,000.....	100.0	0	22.8	21.9	17.5	18.8	15.3	19.37
200,001 to 500,000.....	100.0	0	6.4	20.4	17.6	26.0	28.8	25.03
Over 500,000.....	100.0	0	Q	12.1	32.3	13.3	22.8	31.55
Principal Building Activity								
Assembly.....	100.0	27.8	16.2	16.1	16.3	18.5	5.0	18.47
Education.....	100.0	11.7	35.1	13.5	17.2	20.0	Q	19.47
Food Sales.....	100.0	0	0	0	21.5	50.6	Q	44.31
Food Service.....	100.0	0	0	0	0	Q	Q	25.34
Health Care.....	100.0	0	10.3	0	0	0	78.6	33.22
Lodging.....	100.0	NC	NC	0	0	0	98.7	26.11
Mercantile and Service.....	100.0	2.3	17.0	27.2	31.6	15.6	6.2	13.18
Office.....	100.0	0	28.5	34.1	20.3	6.6	9.6	15.13
Parking Garage.....	100.0	0	0	0	0	Q	45.6	37.53
Public Order and Safety.....	100.0	0	0	0	0	Q	66.8	55.62
Warehouse.....	100.0	7.8	30.1	29.8	9.7	16.3	6.2	15.86
Other.....	100.0	0	29.4	Q	0	Q	24.4	40.98
Vacant.....	100.0	45.7	19.1	9.5	Q	Q	Q	29.80
Year Constructed								
1899 or Before.....	100.0	25.0	25.1	18.8	0	0	0	27.37
1900 to 1919.....	100.0	17.4	26.0	21.4	5.2	24.2	5.8	25.83
1920 to 1945.....	100.0	10.3	26.8	22.4	14.1	10.4	16.0	15.19
1946 to 1959.....	100.0	13.1	23.6	20.2	19.3	13.2	10.7	18.09
1960 to 1969.....	100.0	8.4	19.8	18.9	18.2	18.9	15.8	10.93
1970 to 1979.....	100.0	7.4	20.1	21.1	18.5	15.8	17.1	12.00
1980 to 1983.....	100.0	5.6	14.8	27.0	22.3	11.1	19.3	18.19
1984 to 1986.....	100.0	3.6	21.0	23.3	19.0	9.9	23.2	21.17
1987 to 1989.....	100.0	8.2	25.4	22.7	15.5	16.1	12.2	22.56
Census Region								
Northeast.....	100.0	7.2	19.2	20.6	22.0	17.5	13.5	13.25
Midwest.....	100.0	8.1	17.4	20.1	17.6	19.4	17.4	12.96
South.....	100.0	12.9	29.2	20.6	14.4	10.2	12.9	10.87
West.....	100.0	8.4	18.0	25.3	15.6	14.5	18.2	13.16
Metropolitan Status								
Metropolitan.....	100.0	7.6	21.1	21.6	18.5	15.3	15.9	7.58
Nonmetropolitan.....	100.0	17.7	25.6	20.3	11.3	13.1	12.0	10.40
Workers								
Fewer than 5.....	100.0	18.7	22.3	21.9	9.0	15.3	12.8	11.00
5 to 9.....	100.0	5.8	24.8	29.0	16.2	13.7	10.5	16.13
10 to 19.....	100.0	5.0	30.8	25.4	18.7	12.0	8.1	14.15
20 to 49.....	100.0	5.3	29.5	20.7	17.2	14.6	12.7	16.17
50 to 99.....	100.0	0	26.2	17.7	17.3	18.4	16.2	18.56
100 to 249.....	100.0	0	16.3	18.2	23.8	20.2	20.4	19.97
250 or More.....	100.0	0	11.1	21.2	25.9	13.6	27.5	25.47
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	7.7	22.4	21.7	17.5	15.2	15.5	6.69
Natural Gas.....	100.0	6.4	22.6	20.4	19.2	15.9	15.5	8.56
Fuel Oil.....	100.0	6.1	20.9	19.1	14.2	17.2	22.5	12.37
District Heat.....	100.0	0	13.7	17.6	14.6	17.3	34.5	29.16
District Chilled Water.....	100.0	0	9	11.2	20.9	17.4	26.2	37.94
Propane.....	100.0	9.6	15.7	17.9	8.1	32.1	16.6	20.58
Any Other.....	100.0	Q	29.4	18.6	Q	Q	Q	34.04
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	7.0	22.5	22.3	18.0	15.1	15.1	7.02
Air-Conditioned Buildings.....	100.0	5.6	22.0	22.3	18.7	15.8	15.6	7.51
Buildings with Water Heating.....	100.0	5.9	21.8	21.9	18.3	15.8	16.3	7.10
Buildings with Cooking.....	100.0	5.8	15.8	14.3	21.5	20.4	22.1	12.27
Buildings with Manufacturing..	100.0	Q	29.7	26.7	13.3	22.2	7.3	26.51
Percent Heated								
Not Heated.....	100.0	38.6	16.2	10.9	6.5	12.4	15.3	19.61
1 to 50.....	100.0	5.7	21.3	33.6	14.4	18.1	7.0	18.24
51 to 99.....	100.0	5.0	18.9	28.3	18.5	13.7	15.5	15.64
100.....	100.0	7.6	23.6	18.4	18.8	14.7	17.0	7.80

See footnotes at end of table.

Table 35. Weekly Operating Hours, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Weekly Operating Hours Category						RSE Row Factor
		39 or Fewer Hours	40 to 48 Hours	49 to 60 Hours	61 to 84 Hours	85 to 167 Hours	Open Continuously	
	RSE Column Factor:	--	1.186	0.784	0.950	0.986	1.198	0.959
Percent Cooled								
Not Cooled.....	100.0	28.0	21.9	16.9	9.6	10.6	13.1	11.41
1 to 50.....	100.0	4.9	27.0	26.4	14.8	18.0	9.0	12.85
51 to 99.....	100.0	5.1	14.4	24.1	20.5	17.0	18.9	13.65
100.....	100.0	6.5	22.6	17.6	20.9	13.2	19.2	11.15
Percent Lit When Open								
Not Lit.....	100.0	85.1	5.7	0	0	0	0	35.81
1 to 50.....	100.0	9.4	27.4	28.4	9.5	14.5	10.7	16.17
51 to 99.....	100.0	5.8	19.7	24.0	22.8	13.5	14.2	11.30
100.....	100.0	6.3	22.6	18.7	17.7	16.7	18.1	8.66
Occupant Control of:								
Heating Only.....	100.0	11.7	28.5	28.2	10.0	12.8	8.9	16.05
Cooling Only.....	100.0	0	26.3	20.6	13.1	11.3	23.2	22.30
Heating and Cooling.....	100.0	4.9	21.2	24.3	20.7	13.7	15.1	11.01
Reduced Use--Off-Hours								
Heating Only.....	100.0	13.8	29.1	20.4	14.3	12.4	10.1	13.70
Cooling Only.....	100.0	4.5	23.0	15.6	18.3	18.5	20.1	25.56
Heating and Cooling.....	100.0	6.5	24.0	25.1	19.6	15.9	9.1	9.30

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 36. Occupancy of Government Owned Buildings, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	Government Owned Buildings			All Buildings	Government Owned Buildings						
		All Government Owned Buildings	Federal	State		All Government Owned Buildings	Federal	State	Local			
RSE Column Factor:	0.364	0.751	2.362	1.389	0.925	0.403	0.838	2.580	1.454	0.952		
All Buildings.....	4,528	577	40	137	400	63,184	14,342	1,917	3,902	8,522	9.06	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	229	0	49	164	6,790	645	0	131	464	13.45	
5,001 to 10,000.....	890	125	0	28	93	6,532	908	0	197	675	16.18	
10,001 to 25,000.....	644	107	10	28	69	10,393	1,752	172	506	1,075	14.39	
25,001 to 50,000.....	247	52	0	13	37	8,801	1,892	0	479	1,345	15.78	
50,001 to 100,000.....	127	35	0	9	22	9,130	2,475	0	666	1,507	16.68	
100,001 to 200,000.....	61	18	0	6	11	8,277	2,470	0	914	1,433	19.76	
200,001 to 500,000.....	23	8	0	2	4	7,022	2,160	0	611	964	30.35	
Over 500,000.....	7	2	0	0	1	6,239	2,040	0	Q	1,059	34.48	
Principal Building Activity												
Assembly.....	615	87	0	14	67	6,838	1,394	0	680	689	21.56	
Education.....	284	192	0	50	141	8,148	6,312	0	1,290	4,562	15.39	
Food Sales.....	102	0	0	0	0	792	0	0	NC	0	65.76	
Food Service.....	241	13	0	0	0	1,167	109	0	0	0	39.80	
Health Care.....	80	9	0	0	0	2,054	495	0	0	0	36.10	
Lodging.....	140	14	0	12	0	3,476	622	0	521	0	33.94	
Mercantile and Service.....	1,278	33	0	0	0	12,365	399	0	0	0	21.36	
Office.....	679	70	10	20	40	11,802	2,353	0	618	932	19.84	
Parking Garage.....	45	21	0	0	14	983	334	0	0	188	38.14	
Public Order and Safety.....	50	39	0	0	38	616	575	0	0	499	38.28	
Warehouse.....	618	65	0	19	44	9,253	597	0	149	374	22.86	
Other.....	62	12	0	0	0	1,529	381	0	0	0	39.76	
Vacant.....	333	20	0	0	14	4,161	764	0	0	0	37.10	
Year Constructed												
1899 or Before.....	172	13	0	0	0	1,654	140	0	0	0	41.59	
1900 to 1919.....	242	23	0	6	15	4,245	1,255	0	165	1,037	30.79	
1920 to 1945.....	680	85	0	20	56	8,098	2,122	230	564	1,328	17.94	
1946 to 1959.....	868	136	15	36	84	10,511	3,489	0	744	1,659	16.66	
1960 to 1969.....	821	114	0	24	87	12,167	3,022	0	834	1,973	14.11	
1970 to 1979.....	884	130	0	36	89	13,329	2,929	196	1,013	1,720	16.43	
1980 to 1983.....	317	33	0	0	25	4,274	455	0	0	286	27.77	
1984 to 1986.....	329	20	0	0	12	5,570	325	0	0	163	27.26	
1987 to 1989.....	215	23	0	0	19	3,235	606	0	0	316	27.02	
Census Region												
Northeast.....	783	90	5	20	65	13,569	3,233	183	911	2,139	18.95	
Midwest.....	1,046	109	0	22	78	15,955	3,336	0	904	2,341	17.29	
South.....	1,847	232	13	62	156	22,040	4,953	913	1,340	2,699	15.80	
West.....	851	147	0	33	100	11,520	2,819	0	748	1,343	18.17	
Metropolitan Status												
Metropolitan.....	3,073	404	31	77	295	50,809	11,622	1,789	2,885	6,948	10.20	
Nonmetropolitan.....	1,454	173	0	60	104	12,375	2,720	0	1,017	1,574	17.90	
Workers												
Fewer than 5.....	2,280	232	0	58	161	13,292	1,576	0	535	981	13.96	
5 to 9.....	906	99	0	16	79	7,939	917	0	270	623	20.65	
10 to 19.....	507	66	0	18	45	6,445	968	0	307	626	18.91	
20 to 49.....	381	100	0	26	66	9,665	2,992	0	915	1,906	14.48	
50 to 99.....	132	40	0	8	27	7,389	2,736	0	491	2,118	17.91	
100 to 249.....	79	17	0	5	10	6,771	1,922	0	597	1,116	22.01	
250 or More.....	32	9	0	3	2	9,829	2,804	1,252	740	812	28.20	
Weekly Operating Hours												
39 or Fewer.....	876	114	0	29	75	6,073	1,509	0	384	1,050	18.43	
40 to 48.....	1,117	220	10	46	164	13,905	4,669	376	1,017	3,277	14.55	
49 to 60.....	987	88	5	22	61	13,473	2,198	0	420	1,189	19.16	
61 to 84.....	625	62	0	13	41	10,777	1,729	0	475	1,162	17.63	
85 to 167.....	515	36	0	5	26	9,387	2,027	0	508	955	24.21	
168 (Open Continuously).....	408	58	0	21	33	9,569	2,209	222	1,099	889	17.37	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	559	38	131	390	61,587	14,019	1,900	3,875	8,243	9.15	
Natural Gas.....	2,439	318	14	78	226	41,593	9,675	1,049	2,405	6,221	11.75	
Fuel Oil.....	586	84	7	18	59	12,584	3,920	401	995	2,523	16.08	
District Heat.....	105	44	7	23	13	6,856	3,273	0	1,695	445	24.20	
District Chilled Water.....	25	17	0	8	7	2,101	1,144	0	809	218	30.70	
Propane.....	348	51	0	0	36	4,695	1,465	0	0	733	30.15	
Any Other.....	130	27	0	0	22	1,542	511	0	0	350	36.47	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	505	34	113	358	57,868	13,361	1,885	3,635	7,841	9.49	
Air-Conditioned Buildings.....	3,184	348	25	90	234	51,771	11,130	1,812	3,101	6,217	10.68	
Buildings with Water Heating.....	3,184	405	34	91	280	53,585	12,630	1,853	3,396	7,381	9.86	
Buildings with Cooking.....	864	115	5	21	89	23,668	7,399	0	1,630	4,559	13.64	
Buildings with Manufacturing..	205	37	0	0	27	5,601	1,691	0	0	630	32.76	

See footnotes at end of table.

BUILDING USE

Table 36. Occupancy of Government Owned Buildings, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	Government Owned Buildings				All Buildings	Government Owned Buildings					
		All Government Owned Buildings	Federal	State	Local		All Government Owned Buildings	Federal	State	Local		
RSE Column Factor:	0.364	0.751	2.362	1.389	0.925	0.403	0.838	2.580	1.454	0.952		
Building Shell Conservation Features (Solely or in Combination)												
Roof or Ceiling Insulation....	3,057	393	25	92	276	45,092	10,354	1,606	2,869	5,880	10.80	
Wall Insulation.....	2,026	224	14	60	150	29,692	5,602	Q	1,717	2,989	13.29	
Storm or Multiple Glazing....	1,440	127	10	25	93	24,068	4,385	445	1,080	2,860	12.27	
Tinted, Reflective, or Shading Glass.....	944	124	8	27	88	22,040	4,659	Q	1,392	2,339	15.94	
Exterior or Interior Shadings or Awnings.....	1,473	212	16	53	143	26,173	7,347	Q	1,881	4,218	13.38	
Weather Stripping or Caulking.....	2,774	373	33	78	262	44,694	10,527	1,773	2,813	5,942	11.01	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 37. Occupancy of Nongovernment Owned Buildings, Number of Buildings
(Thousands)**

Building Characteristics	RSE Column Factor:	All Buildings	All Nongovern- ment Owned Buildings	Owner Occupied			Nonowner Occupied				RSE Row Factor
				All Buildings	Single Establishment	Multiple Establishment	All Buildings	Single Establishment	Multiple Establishment	Vacant	
		0.519	0.581	0.658	0.719	1.296	0.974	1.266	1.809	2.424	
All Buildings.....		4,528	3,951	2,814	2,445	369	1,136	672	259	206	5.42
Building Floorspace (Square Feet)											
1,001 to 5,000.....	2,529	2,300	1,612	1,460	152	688	441	104	143	7.24	
5,001 to 10,000.....	890	765	571	472	99	194	105	52	37	9.95	
10,001 to 25,000.....	644	536	383	327	56	154	80	55	19	11.07	
25,001 to 50,000.....	247	195	141	109	32	54	24	26	0	12.56	
50,001 to 100,000.....	127	92	64	48	16	28	14	11	0	13.63	
100,001 to 200,000.....	61	43	27	20	7	16	5	9	0	19.67	
200,001 to 500,000.....	23	15	13	8	5	3	1	1	0	27.47	
Over 500,000.....	7	5	4	2	2	1	Q	Q	Q	29.64	
Principal Building Activity											
Assembly.....	615	528	478	453	26	50	48	Q	--	16.96	
Education.....	284	92	91	84	0	0	0	NC	--	29.64	
Food Sales.....	102	99	71	67	0	28	26	0	--	31.66	
Food Service.....	241	228	190	179	0	38	35	0	--	20.54	
Health Care.....	80	71	53	39	14	0	0	0	--	26.75	
Lodging.....	140	126	115	109	0	11	Q	0	--	24.59	
Mercantile and Service.....	1,278	1,246	841	715	126	405	294	111	--	7.60	
Office.....	679	609	438	307	131	171	102	69	--	10.02	
Parking Garage.....	45	23	13	12	0	Q	0	Q	--	43.33	
Public Order and Safety.....	50	0	0	0	0	0	0	NC	--	74.17	
Warehouse.....	618	553	399	363	36	154	109	45	--	13.13	
Other.....	62	50	38	35	0	0	0	0	--	46.10	
Vacant.....	333	313	77	73	Q	236	16	Q	206	15.42	
Year Constructed											
1899 or Before.....	172	159	122	100	0	36	0	0	0	25.37	
1900 to 1919.....	242	219	163	134	28	57	30	0	17	17.57	
1920 to 1945.....	680	595	412	351	61	183	96	25	61	10.79	
1946 to 1959.....	868	732	532	464	68	200	127	41	32	11.30	
1960 to 1969.....	821	707	493	436	57	215	124	45	45	11.16	
1970 to 1979.....	884	754	531	464	66	223	138	56	29	11.02	
1980 to 1983.....	317	284	213	190	23	71	44	21	0	15.70	
1984 to 1986.....	329	309	215	186	29	94	55	33	0	15.57	
1987 to 1989.....	215	191	134	119	15	58	36	17	Q	19.50	
Census Region											
Northeast.....	783	693	546	442	103	148	88	41	18	14.64	
Midwest.....	1,046	937	718	625	93	219	118	55	46	9.98	
South.....	1,847	1,616	1,093	989	104	523	317	95	111	8.44	
West.....	851	705	458	388	69	247	148	67	31	14.03	
Metropolitan Status											
Metropolitan.....	3,073	2,670	1,827	1,542	285	843	494	221	127	6.54	
Nonmetropolitan.....	1,454	1,281	987	903	85	294	178	37	78	12.29	
Workers											
Fewer than 5.....	2,280	2,048	1,540	1,409	131	508	386	82	40	7.76	
5 to 9.....	906	807	580	501	79	227	160	59	0	9.20	
10 to 19.....	507	441	317	253	64	124	67	53	0	13.53	
20 to 49.....	381	281	214	155	59	67	34	28	0	13.80	
50 to 99.....	132	92	62	47	15	30	10	20	0	17.03	
100 to 249.....	79	62	40	26	14	22	9	12	0	17.70	
250 or More.....	32	23	17	10	7	7	2	5	0	21.12	
Weekly Operating Hours											
39 or Fewer.....	876	762	507	486	0	255	89	0	158	14.06	
40 to 48.....	1,117	897	630	502	128	268	171	80	17	9.16	
49 to 60.....	987	899	641	547	94	258	182	63	0	9.28	
61 to 84.....	625	563	388	324	64	175	114	55	0	11.10	
85 to 167.....	515	479	359	322	37	120	75	39	0	13.84	
168 (Open Continuously).....	408	350	290	265	24	61	40	14	0	14.17	
Energy Sources (Solely or in Combination)											
Electricity.....	4,297	3,738	2,734	2,366	367	1,005	659	256	91	5.57	
Natural Gas.....	2,439	2,121	1,569	1,323	246	551	368	147	37	6.77	
Fuel Oil.....	586	502	402	358	44	100	67	23	0	18.41	
District Heat.....	105	61	57	51	6	4	0	0	0	33.52	
District Chilled Water.....	25	8	7	7	0	0	0	0	0	36.08	
Propane.....	348	297	229	213	16	68	53	0	0	24.26	
Any Other.....	130	103	81	68	Q	Q	NC	Q	Q	32.37	
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	3,877	3,371	2,488	2,138	350	884	585	233	66	5.76	
Air-Conditioned Buildings.....	3,184	2,836	2,035	1,731	304	801	515	235	50	6.29	
Buildings with Water Heating.....	3,184	2,779	2,066	1,747	320	713	451	205	57	6.20	
Buildings with Cooking.....	864	748	595	516	79	153	85	63	0	11.33	
Buildings with Manufacturing..	205	167	116	107	9	51	30	20	0	17.53	

See footnotes at end of table.

BUILDING USE
Table 37. Occupancy of Nongovernment Owned Buildings, Number of Buildings (Continued)
 (Thousand)

Building Characteristics	All Buildings	All Nongovernment Owned Buildings	Owner Occupied			Nonowner Occupied				RSE Row Factor
			All Buildings	Single Establishment	Multiple Establishment	All Buildings	Single Establishment	Multiple Establishment	Vacant	
	RSE Column Factor:	0.519	0.581	0.658	0.719	1.296	0.974	1.266	1.809	2.424
Percent Heated										
Not Heated.....	662	588	333	313	20	255	87	26	142	13.86
1 to 50.....	630	593	416	377	40	176	131	31	0	12.52
51 to 99.....	496	455	345	283	62	110	72	34	0	13.65
100.....	2,739	2,315	1,720	1,472	248	595	382	168	45	6.30
Percent Cooled										
Not Cooled.....	1,344	1,115	779	714	65	335	157	23	155	10.13
1 to 50.....	1,037	938	672	585	87	266	187	60	20	10.60
51 to 99.....	597	550	422	345	77	128	58	61	0	11.40
100.....	1,550	1,348	941	801	140	406	270	114	21	9.48
Percent Lit When Open										
Not Lit.....	306	282	108	105	0	174	0	0	149	20.27
1 to 50.....	1,002	912	697	604	93	215	144	53	0	10.85
51 to 99.....	951	822	620	502	118	203	126	66	0	9.81
100.....	2,269	1,934	1,390	1,234	156	545	381	136	28	7.55
Occupant Control of:										
Heating Only.....	626	535	406	356	50	129	94	0	0	12.48
Cooling Only.....	204	168	124	102	23	44	25	17	0	25.99
Heating and Cooling.....	1,773	1,621	1,121	931	190	500	295	177	28	7.58
Reduced Use--Off-Hours										
Heating Only.....	790	644	501	440	61	143	113	0	0	13.33
Cooling Only.....	283	258	172	141	31	86	53	27	0	23.51
Heating and Cooling.....	2,397	2,136	1,534	1,304	230	602	387	183	33	7.03

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 38. Occupancy of Nongovernment Owned Buildings, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Nongovernment Owned Buildings	Owner Occupied			Nonowner Occupied				RSE Row Factor	
			All Buildings	Single Establishment	Multiple Establishment	All Buildings	Single Establishment	Multiple Establishment	Vacant		
	RSE Column Factor:		0.516	0.572	0.668	0.763	1.244	1.037	1.393	1.525	2.420
All Buildings.....	63,184	48,842	35,955	27,081	8,873	12,888	6,248	5,239	1,401	6.07	
Building Floorspace (Square Feet)											
1,001 to 5,000.....	6,790	6,145	4,347	3,901	446	1,798	1,110	338	351	7.30	
5,001 to 10,000.....	6,532	5,624	4,205	3,459	746	1,419	798	358	262	10.25	
10,001 to 25,000.....	10,393	8,641	6,192	5,301	891	2,449	1,240	908	301	11.07	
25,001 to 50,000.....	8,801	6,909	5,046	3,952	1,094	1,863	837	898	Q	13.04	
50,001 to 100,000.....	9,130	6,655	4,638	3,454	1,184	2,017	982	852	Q	13.36	
100,001 to 200,000.....	8,277	5,807	3,758	2,799	959	2,049	650	1,263	Q	19.04	
200,001 to 500,000.....	7,022	4,862	4,083	2,626	1,457	779	310	438	Q	28.00	
Over 500,000.....	6,239	4,199	3,685	1,589	2,096	514	Q	Q	Q	30.80	
Principal Building Activity											
Assembly.....	6,838	5,443	5,118	4,747	371	325	306	0	0	19.15	
Education.....	8,148	1,835	1,822	1,777	0	0	0	NC	0	31.09	
Food Sales.....	792	787	610	590	0	177	136	0	0	37.88	
Food Service.....	1,167	1,058	932	814	0	126	119	0	0	27.75	
Health Care.....	2,054	1,559	1,256	1,271	185	0	0	0	0	30.80	
Lodging.....	3,476	2,854	2,517	2,293	0	337	0	0	0	25.59	
Mercantile and Service.....	12,365	11,966	7,985	4,945	3,040	3,981	1,743	2,238	0	9.46	
Office.....	11,802	9,449	6,644	3,046	3,598	2,805	1,216	1,589	0	11.43	
Parking Garage.....	983	649	547	285	0	0	0	0	0	40.68	
Public Order and Safety.....	616	0	0	0	0	0	0	0	0	74.71	
Warehouse.....	9,253	8,656	5,871	5,160	711	2,785	1,942	843	0	16.37	
Other.....	1,529	1,148	949	846	0	0	0	0	0	45.71	
Vacant.....	4,161	3,397	1,468	Q	Q	1,929	314	Q	1,401	26.44	
Year Constructed											
1899 or Before.....	1,654	1,514	1,181	925	0	333	0	0	0	29.06	
1900 to 1919.....	4,245	2,990	2,372	1,903	470	618	231	0	213	29.44	
1920 to 1945.....	8,098	5,976	4,532	3,598	934	1,444	825	329	290	17.20	
1946 to 1959.....	10,511	7,022	5,298	4,159	1,138	1,724	901	527	297	14.12	
1960 to 1969.....	12,167	9,145	6,932	5,478	1,454	2,213	1,060	914	239	11.68	
1970 to 1979.....	13,329	10,401	7,511	5,470	2,040	2,890	1,397	1,328	165	12.49	
1980 to 1983.....	4,274	3,819	2,786	2,098	688	1,033	519	478	0	14.71	
1984 to 1986.....	5,670	5,345	3,534	2,200	1,434	1,711	617	1,053	0	17.74	
1987 to 1989.....	3,235	2,630	1,709	1,249	460	921	567	299	0	20.86	
Census Region											
Northeast.....	13,569	10,335	8,281	5,733	2,547	2,055	902	991	162	14.43	
Midwest.....	15,955	12,619	10,003	7,689	2,314	2,616	1,166	1,165	284	11.69	
South.....	22,040	17,087	11,894	9,364	2,529	5,193	2,861	1,588	744	10.66	
West.....	11,620	8,801	5,776	4,294	1,482	3,025	1,318	1,496	211	11.51	
Metropolitan Status											
Metropolitan.....	50,809	39,188	28,150	20,459	7,691	11,038	5,144	4,923	971	6.59	
Nonmetropolitan.....	12,375	9,655	7,805	6,622	1,183	1,850	1,103	317	430	14.64	
Workers											
Fewer than 5.....	13,292	11,716	9,360	8,373	987	2,356	1,742	478	136	10.74	
5 to 9.....	7,939	7,021	5,036	4,362	674	1,985	1,356	541	0	14.14	
10 to 19.....	6,445	5,477	3,880	3,119	760	1,597	770	769	0	14.50	
20 to 49.....	9,665	6,674	5,138	3,913	1,224	1,536	831	638	0	14.57	
50 to 99.....	7,389	4,653	3,107	2,449	658	1,546	586	959	0	19.01	
100 to 249.....	6,771	4,848	3,245	1,866	1,379	1,603	454	1,086	0	17.71	
250 or More.....	9,829	7,025	5,779	2,602	3,177	1,246	477	768	0	21.89	
Weekly Operating Hours											
39 or Fewer.....	6,073	4,564	3,039	2,819	0	1,525	455	0	1,017	14.88	
40 to 48.....	13,905	9,236	6,111	4,829	1,282	3,125	1,986	907	232	11.69	
49 to 60.....	13,473	11,275	8,144	5,703	2,442	3,131	1,562	1,510	0	10.88	
61 to 84.....	10,777	9,048	6,542	3,480	3,063	2,505	1,015	1,474	0	13.03	
85 to 167.....	9,387	7,359	5,825	4,629	1,196	1,535	700	784	0	17.83	
168 (Open Continuously).....	9,569	7,360	6,293	5,622	672	1,067	530	511	0	16.58	
Energy Sources (Solely or in Combination)											
Electricity.....	61,587	47,568	35,438	26,590	8,848	12,131	6,184	5,227	720	6.19	
Natural Gas.....	41,593	31,918	23,742	17,212	6,530	8,177	4,330	3,540	307	8.07	
Fuel Oil.....	12,684	8,764	6,939	5,549	1,389	1,826	1,104	606	0	13.17	
District Heat.....	6,856	3,563	3,304	2,230	1,074	279	0	0	0	28.17	
District Chilled Water.....	2,101	957	850	677	172	0	0	0	0	33.00	
Propane.....	4,695	3,230	2,584	2,194	390	645	420	0	0	21.79	
Any Other.....	1,542	1,031	931	768	0	0	0	0	NC	39.47	

See footnotes at end of table.

Table 38. Occupancy of Nongovernment Owned Buildings, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Nongovernment Owned Buildings	Owner Occupied			Nonowner Occupied			RSE Row Factor		
			All Buildings	Single Establishment	Multiple Establishment	All Buildings	Single Establishment	Multiple Establishment			
			RSE Column Factor:	0.516	0.572	0.668	0.763	1.244	1.037	1.393	1.525
Energy End Uses (Solely or in Combination)											
Heated Buildings.....	57,868	44,507	33,199	24,547	8,652	11,308	5,747	5,075	487	6.51	
Air-Conditioned Buildings.....	51,771	40,641	30,226	22,048	8,177	10,415	5,091	4,945	379	6.78	
Buildings with Water Heating.....	53,585	40,955	30,648	22,377	8,270	10,307	5,185	4,728	394	6.85	
Buildings with Cooking.....	23,668	16,269	13,230	8,686	4,545	3,039	1,051	1,963	0	12.26	
Buildings with Manufacturing.....	5,601	3,910	2,849	2,550	299	1,061	542	487	Q	21.07	
Percent Heated											
Not Heated.....	5,419	4,416	2,801	2,580	221	1,615	519	164	931	14.71	
1 to 50.....	9,314	8,666	6,280	5,102	1,177	2,386	1,558	695	0	15.77	
51 to 99.....	8,673	6,978	5,119	3,406	1,713	1,859	829	987	0	14.78	
100.....	39,777	28,783	21,755	15,993	5,762	7,028	3,342	3,392	294	7.40	
Percent Cooled											
Not Cooled.....	11,413	8,201	5,729	5,033	696	2,472	1,157	294	1,022	13.25	
1 to 50.....	17,821	14,099	10,604	9,003	1,601	3,495	2,211	1,076	207	12.48	
51 to 99.....	13,139	10,361	7,950	5,067	2,884	2,411	845	1,500	0	12.22	
100.....	20,811	16,181	11,672	7,979	3,693	4,509	2,034	2,369	106	10.26	
Percent Lit When Open											
Not Lit.....	2,359	1,889	768	731	0	1,121	0	0	1,008	24.46	
1 to 50.....	10,870	9,754	7,507	6,305	1,202	2,247	1,449	663	0	14.60	
51 to 99.....	16,950	12,636	9,404	6,216	3,188	3,232	1,445	1,728	0	12.38	
100.....	33,004	24,563	18,275	13,829	4,446	6,288	3,256	2,832	200	8.44	
Occupant Control of:											
Heating Only.....	4,872	3,687	2,600	2,124	476	1,087	790	0	0	16.58	
Cooling Only.....	4,143	2,744	2,193	1,797	396	551	265	274	0	22.33	
Heating and Cooling.....	22,172	19,508	13,911	9,874	4,036	5,597	2,098	3,296	204	9.99	
Reduced Use--Off-Hours											
Heating Only.....	7,147	4,892	3,609	2,933	676	1,283	863	0	0	17.35	
Cooling Only.....	4,112	3,586	2,660	2,091	570	926	475	391	0	21.52	
Heating and Cooling.....	38,689	29,875	22,203	15,788	6,415	7,672	3,677	3,758	237	7.84	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 39. Number of Establishments in Building, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Number of Buildings by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
		RSE Column Factor:	0.341	1.529	0.378	0.843	1.599	1.984
All Buildings.....	4,528	214	3,667	482	90	45	29	8.64
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	145	2,126	232	0	0	0	16.21
5,001 to 10,000.....	890	39	695	127	0	0	0	18.71
10,001 to 25,000.....	644	21	511	70	32	0	0	17.14
25,001 to 50,000.....	247	0	182	29	14	14	0	17.73
50,001 to 100,000.....	127	0	93	13	5	6	6	19.00
100,001 to 200,000.....	61	0	41	8	0	4	4	21.95
200,001 to 500,000.....	23	0	15	0	1	2	2	31.99
Over 500,000.....	7	Q	4	*	0	*	2	32.44
Principal Building Activity								
Assembly.....	615	--	582	28	0	0	Q	29.42
Education.....	284	--	276	0	0	0	NC	37.48
Food Sales.....	102	--	97	0	0	0	NC	53.30
Food Service.....	241	--	227	0	0	0	NC	36.30
Health Care.....	80	--	61	0	0	0	Q	43.70
Lodging.....	140	--	131	0	0	0	Q	39.83
Mercantile and Service.....	1,278	--	1,038	173	38	25	5	12.78
Office.....	679	--	473	150	32	16	9	13.53
Parking Garage.....	45	--	42	0	0	0	Q	47.94
Public Order and Safety.....	50	--	48	0	0	0	NC	58.33
Warehouse.....	618	--	536	56	0	0	Q	25.73
Other.....	62	--	58	0	0	0	Q	48.67
Vacant.....	333	214	100	17	Q	Q	Q	25.88
Year Constructed								
1899 or Before.....	172	0	134	21	0	0	NC	42.28
1900 to 1919.....	242	20	183	32	0	0	Q	25.97
1920 to 1945.....	680	62	532	72	0	0	Q	17.87
1946 to 1959.....	868	33	723	95	0	0	Q	18.32
1960 to 1969.....	821	45	670	83	14	6	3	15.97
1970 to 1979.....	884	31	726	92	13	11	11	18.14
1980 to 1983.....	317	0	264	24	14	5	Q	24.25
1984 to 1986.....	329	0	259	40	13	5	5	22.75
1987 to 1989.....	215	Q	178	21	Q	Q	Q	29.81
Census Region								
Northeast.....	783	22	613	114	19	11	4	18.32
Midwest.....	1,046	48	846	123	18	8	4	16.48
South.....	1,847	113	1,527	143	35	19	10	13.90
West.....	851	32	681	102	17	8	Q	20.23
Metropolitan Status								
Metropolitan.....	3,073	135	2,418	376	78	38	28	9.99
Nonmetropolitan.....	1,454	79	1,249	106	Q	Q	Q	20.64
Workers								
Fewer than 5.....	2,280	40	2,026	174	0	0	0	15.46
5 to 9.....	906	0	757	129	0	0	0	22.49
10 to 19.....	507	0	385	99	14	0	0	27.36
20 to 49.....	381	0	282	53	30	0	0	20.54
50 to 99.....	132	0	93	15	9	12	0	22.60
100 to 249.....	79	0	50	4	4	6	6	20.56
250 or More.....	32	Q	17	Q	2	2	7	28.44
Weekly Operating Hours								
39 or Fewer.....	876	164	681	27	0	0	0	26.83
40 to 48.....	1,117	17	886	171	30	0	0	16.72
49 to 60.....	987	0	814	122	21	12	5	16.08
61 to 84.....	625	0	498	77	17	16	11	16.91
85 to 167.....	515	0	428	57	11	0	0	22.92
168 (Open Continuously).....	408	Q	361	28	Q	Q	Q	24.35
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	94	3,561	480	88	44	29	8.84
Natural Gas.....	2,439	37	2,001	315	48	25	12	10.75
Fuel Oil.....	586	0	503	58	11	3	2	22.68
District Heat.....	105	0	93	8	0	0	0	33.76
District Chilled Water.....	25	NC	24	0	0	0	0	40.36
Propane.....	348	0	316	19	0	0	0	35.56
Any Other.....	130	Q	114	Q	0	0	Q	52.47

See footnotes at end of table.

Table 39. Number of Establishments In Building, Number of Buildings (Continued)
 (Thousand)

Building Characteristics		Number of Buildings by Number of Establishments in Building						RSE Row Factor
		All Buildings	Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	
	RSE Column Factor:	0.341	1.529	0.378	0.843	1.599	1.903	1.984
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	66	3,212	455	83	43	18	8.61
Air-Conditioned Buildings.....	3,184	50	2,578	409	86	44	18	9.22
Buildings with Water Heating..	3,184	57	2,585	410	75	37	18	9.07
Buildings with Cooking.....	864	Q	710	98	20	22	8	15.83
Buildings with Manufacturing..	205	Q	172	26	Q	Q	Q	28.80
Ownership and Occupancy								
Nongovernment Owned.....	3,951	206	3,117	468	87	45	29	8.95
Owner Occupied.....	2,814	NC	2,445	286	46	23	15	11.13
Nonowner Occupied.....	1,136	206	672	182	41	22	14	13.17
Government Owned.....	577	Q	550	14	Q	Q	Q	26.55
Occupant Control of:								
Heating Only.....	626	Q	539	63	0	0	0	27.64
Cooling Only.....	204	Q	162	25	0	0	0	37.23
Heating and Cooling.....	1,773	28	1,373	270	60	31	11	11.97

-- Data not applicable.

* Value rounds to zero in the units displayed.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 40. Number of Establishments in Building, Percent of Buildings

Building Characteristics	All Buildings	Percent of Buildings by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
		RSE Column Factor:	--	1.545	0.119	0.813	1.635	1.949
All Buildings.....	100.0	4.7	81.0	10.6	2.0	1.0	0.6	8.18
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	5.7	84.1	9.2	0	0	0	15.67
5,001 to 10,000.....	100.0	4.3	78.1	14.3	0	0	0	19.81
10,001 to 25,000.....	100.0	3.3	79.4	10.9	5.0	0	0	17.33
25,001 to 50,000.....	100.0	0	73.9	11.6	5.8	5.5	0	18.52
50,001 to 100,000.....	100.0	0	73.3	9.9	4.3	4.7	5.0	19.12
100,001 to 200,000.....	100.0	0	67.9	13.6	0	6.9	6.5	22.30
200,001 to 500,000.....	100.0	0	63.7	13.5	4.8	9.5	8.2	30.84
Over 500,000.....	100.0	0	56.7	6.2	0	2.7	27.6	35.23
Principal Building Activity								
Assembly.....	100.0	--	94.6	4.5	0	0	0	27.37
Education.....	100.0	--	97.0	0	0	0	NC	33.65
Food Sales.....	100.0	--	94.4	0	0	0	NC	47.79
Food Service.....	100.0	--	94.3	0	0	0	NC	36.56
Health Care.....	100.0	--	76.1	0	0	0	0	45.69
Lodging.....	100.0	--	93.5	0	0	0	0	39.22
Mercantile and Service.....	100.0	--	81.2	13.5	3.0	1.4	0	12.90
Office.....	100.0	--	69.7	22.0	4.7	2.3	1.3	13.11
Parking Garage.....	100.0	--	93.6	0	0	0	0	44.24
Public Order and Safety.....	100.0	--	95.2	0	0	0	NC	46.11
Warehouse.....	100.0	--	86.7	9.0	0	0	0	25.78
Other.....	100.0	--	92.8	0	0	0	NC	38.50
Vacant.....	100.0	64.2	30.1	5.1	0	0	0	28.92
Year Constructed								
1899 or Before.....	100.0	0	77.7	12.2	0	0	0	41.78
1900 to 1919.....	100.0	8.1	75.4	13.4	0	0	0	24.78
1920 to 1945.....	100.0	9.1	78.2	10.6	0	0	0	17.99
1946 to 1959.....	100.0	3.8	83.3	10.9	0	0	0	17.70
1960 to 1969.....	100.0	5.5	81.6	10.2	1.0	0	0	16.00
1970 to 1979.....	100.0	3.5	82.1	10.4	1.5	1.2	1.3	18.66
1980 to 1983.....	100.0	0	83.3	7.7	4.5	1.7	0	25.05
1984 to 1986.....	100.0	0	78.6	12.3	3.9	1.4	1.4	22.38
1987 to 1989.....	100.0	0	82.8	9.9	0	0	0	27.55
Census Region								
Northeast.....	100.0	2.8	78.2	14.6	2.5	1.3	.6	14.23
Midwest.....	100.0	4.6	80.9	11.7	1.7	.7	.3	16.39
South.....	100.0	6.1	82.7	7.7	1.9	1.0	.6	13.00
West.....	100.0	3.7	80.0	12.0	2.1	1.0	0	18.07
Metropolitan Status								
Metropolitan.....	100.0	4.4	78.7	12.2	2.5	1.3	.9	8.73
Nonmetropolitan.....	100.0	5.4	85.9	7.3	0	0	0	18.61
Workers								
Fewer than 5.....	100.0	1.8	88.9	7.6	0	0	0	15.97
5 to 9.....	100.0	0	83.6	14.3	0	0	0	24.21
10 to 19.....	100.0	0	76.0	19.5	2.8	0	0	28.25
20 to 49.....	100.0	0	74.0	13.8	8.0	0	0	22.88
50 to 99.....	100.0	0	70.3	11.2	7.0	9.0	0	23.67
100 to 249.....	100.0	0	63.0	11.1	5.6	11.4	7.5	21.45
250 or More.....	100.0	0	52.8	11.2	6.5	6.8	22.7	30.30
Weekly Operating Hours								
39 or Fewer.....	100.0	18.8	77.8	3.0	0	0	0	26.86
40 to 48.....	100.0	1.5	79.3	15.3	2.7	0	0	17.12
49 to 60.....	100.0	0	82.4	12.4	2.1	1.2	0	16.38
61 to 84.....	100.0	0	79.7	12.4	2.7	2.6	1.8	16.98
85 to 167.....	100.0	0	83.1	11.0	2.1	0	0	21.08
168 (Open Continuously).....	100.0	0	88.4	6.8	0	0	0	25.73
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	2.2	82.9	11.2	2.1	1.0	.7	8.38
Natural Gas.....	100.0	1.5	82.0	12.9	2.0	1.0	.5	10.29
Fuel Oil.....	100.0	0	85.8	9.9	1.8	.5	.4	17.04
District Heat.....	100.0	0	88.6	7.6	0	0	1.4	30.61
District Chilled Water.....	100.0	NC	94.6	0	0	0	0	34.77
Propane.....	100.0	0	90.8	5.5	0	0	0	28.75
Any Other.....	100.0	0	87.6	0	0	0	0	49.84
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	1.7	82.9	11.7	2.1	1.1	.5	7.86
Air-Conditioned Buildings.....	100.0	1.6	81.0	12.8	2.7	1.4	.6	8.58
Buildings with Water Heating.....	100.0	1.8	81.2	12.9	2.4	1.2	.6	8.11
Buildings with Cooking.....	100.0	0	82.2	11.3	2.3	2.5	1.0	15.44
Buildings with Manufacturing.....	100.0	0	84.2	12.6	0	0	0	28.25

See footnotes at end of table.

Table 40. Number of Establishments in Building, Percent of Buildings (Continued)

Building Characteristics	RSE Column Factor:	Percent of Buildings by Number of Establishments in Building						RSE Row Factor
		All Buildings	Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	
		--	1.545	0.119	0.813	1.635	1.949	2.110
Ownership and Occupancy								
Nongovernment Owned.....	100.0	5.2	78.9	11.8	2.2	1.1	.7	8.39
Owner Occupied.....	100.0	NC	86.9	10.2	1.6	.8	.5	10.00
Nonowner Occupied.....	100.0	18.1	59.1	16.0	3.6	1.9	1.2	13.33
Government Owned.....	100.0	Q	95.3	2.4	Q	Q	Q	24.62
Occupant Control of:								
Heating Only.....	100.0	0	86.1	10.1	0	0	0	29.67
Cooling Only.....	100.0	0	79.2	12.1	0	0	0	57.06
Heating and Cooling.....	100.0	1.6	77.4	15.3	3.4	1.7	.6	11.12

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 41. Number of Establishments in Building, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
	RSE Column Factor:	0.365	1.655	0.416	0.961	1.630	1.622	1.571
All Buildings.....	63,184	1,748	45,487	7,076	2,577	2,464	3,833	8.98
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	356	5,646	705	0	0	0	15.67
5,001 to 10,000.....	6,532	280	5,098	928	0	0	0	18.91
10,001 to 25,000.....	10,393	336	8,235	1,144	498	0	0	17.50
25,001 to 50,000.....	8,801	0	6,593	976	484	466	0	17.97
50,001 to 100,000.....	9,130	0	6,821	934	398	462	436	19.19
100,001 to 200,000.....	8,277	0	5,629	1,084	0	574	576	21.81
200,001 to 500,000.....	7,022	0	4,465	1,005	309	597	615	31.72
Over 500,000.....	6,239	0	3,199	300	0	173	1,983	33.78
Principal Building Activity								
Assembly.....	6,838	--	6,216	503	0	0	0	32.69
Education.....	8,148	--	7,991	0	0	0	NC	31.81
Food Sales.....	792	--	731	0	0	0	NC	58.53
Food Service.....	1,167	--	1,042	0	0	0	NC	42.16
Health Care.....	2,054	--	1,828	0	0	0	0	38.93
Lodging.....	3,476	--	3,070	0	0	0	0	40.25
Mercantile and Service.....	12,365	--	7,052	1,739	819	1,313	1,443	13.64
Office.....	11,802	--	5,571	2,481	1,132	983	1,635	15.44
Parking Garage.....	983	--	642	0	0	0	0	50.01
Public Order and Safety.....	616	--	534	0	0	0	0	59.66
Warehouse.....	9,253	--	7,664	1,127	0	0	0	27.35
Other.....	1,529	--	1,377	0	0	0	0	42.72
Vacant.....	4,161	1,748	1,770	250	0	0	0	38.49
Year Constructed								
1899 or Before.....	1,654	0	1,165	261	0	0	0	42.79
1900 to 1919.....	4,245	459	2,824	352	0	0	0	36.63
1920 to 1945.....	8,098	336	6,309	693	0	0	0	32
1946 to 1959.....	10,511	311	8,090	1,379	0	0	0	24.75
1960 to 1969.....	12,167	239	9,274	1,295	235	567	557	14.99
1970 to 1979.....	13,329	184	9,402	1,624	338	591	1,191	17.18
1980 to 1983.....	4,274	0	2,956	352	325	241	363	20.75
1984 to 1986.....	5,570	0	3,107	758	835	326	581	25.34
1987 to 1989.....	3,235	0	2,358	362	0	Q	Q	27.66
Census Region								
Northeast.....	13,569	254	9,238	1,640	0	673	1,045	17.97
Midwest.....	15,955	303	11,814	1,828	661	620	730	17.37
South.....	22,040	802	16,349	2,154	712	596	1,426	15.53
West.....	11,620	388	8,086	1,453	485	574	634	17.82
Metropolitan Status								
Metropolitan.....	50,809	1,314	35,199	6,285	2,376	1,987	3,648	9.82
Nonmetropolitan.....	12,375	434	10,288	790	0	Q	Q	20.09
Workers								
Fewer than 5.....	13,292	136	11,670	1,070	0	0	0	19.64
5 to 9.....	7,939	0	6,606	1,014	0	0	0	27.66
10 to 19.....	6,445	0	4,817	1,258	238	0	0	26.32
20 to 49.....	9,665	0	7,535	1,077	658	0	0	23.01
50 to 99.....	7,389	0	5,408	951	267	638	0	25.07
100 to 249.....	6,771	0	4,073	811	342	910	572	21.24
250 or More.....	9,829	0	4,846	Q	0	508	2,884	30.11
Weekly Operating Hours								
39 or Fewer.....	6,073	1,340	4,430	186	0	0	0	28.95
40 to 48.....	13,905	232	10,993	1,709	462	0	0	17.97
49 to 60.....	13,473	0	8,771	2,263	708	747	925	16.87
61 to 84.....	10,777	0	5,927	1,096	0	1,117	1,893	20.07
85 to 167.....	9,387	0	7,180	1,105	323	0	540	24.50
168 (Open Continuously).....	9,569	0	8,186	717	Q	0	Q	24.50
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	816	44,860	7,056	2,574	2,454	3,828	9.00
Natural Gas.....	41,593	319	30,085	4,779	1,832	1,590	2,988	11.39
Fuel Oil.....	12,684	0	9,944	1,059	376	363	805	16.22
District Heat.....	6,856	0	4,987	0	0	0	509	33.98
District Chilled Water.....	2,101	NC	1,587	0	0	0	317	39.48
Propane.....	4,695	0	4,059	273	0	0	0	33.34
Any Other.....	1,542	0	1,345	Q	0	0	0	42.64
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	509	41,829	6,863	2,546	2,393	3,728	9.52
Air-Conditioned Buildings.....	51,771	381	36,475	6,250	2,511	2,424	3,730	10.07
Buildings with Water Heating.....	53,585	395	38,398	6,391	2,455	2,336	3,609	10.19
Buildings with Cooking.....	23,668	0	16,091	2,308	1,198	1,478	2,568	16.92
Buildings with Manufacturing..	5,601	0	4,132	912	Q	Q	Q	36.66

See footnotes at end of table.

BUILDING USE

Table 41. Number of Establishments in Building, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
	RSE Column Factor:	0.365	1.655	0.416	0.961	1.630	1.622	1.571
Ownership and Occupancy								
Nongovernment Owned.....	48,842	1,401	33,329	5,925	2,411	2,366	3,411	8.93
Owner Occupied.....	35,955	NC	27,081	3,591	1,398	1,443	2,442	11.66
Nonowner Occupied.....	12,888	1,401	6,248	2,334	1,013	923	969	13.95
Government Owned.....	14,342	Q	12,158	1,151	Q	Q	Q	26.30
Occupant Control of:								
Heating Only.....	4,872	0	4,075	584	0	0	0	26.47
Cooling Only.....	4,143	0	3,386	339	0	0	0	30.04
Heating and Cooling.....	22,172	204	14,197	2,858	1,392	1,334	2,187	14.03

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 42. Number of Establishments in Building, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
	RSE Column Factor:	--	1.601	0.176	0.895	1.606	1.625	1.523
All Buildings.....	100.0	2.8	72.0	11.2	4.1	3.9	6.1	9.24
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	5.2	83.2	10.4	0	0	0	15.17
5,001 to 10,000.....	100.0	4.3	78.1	14.2	0	0	0	19.76
10,001 to 25,000.....	100.0	3.2	79.2	11.0	4.8	0	0	17.56
25,001 to 50,000.....	100.0	0	74.9	11.1	5.5	5.3	0	18.48
50,001 to 100,000.....	100.0	0	72.5	10.2	4.4	5.1	4.8	19.45
100,001 to 200,000.....	100.0	0	68.0	13.1	0	6.9	7.0	22.57
200,001 to 500,000.....	100.0	0	63.6	14.3	4.4	8.5	8.8	30.70
Over 500,000.....	100.0	0	51.3	4.8	0	2.8	31.8	36.81
Principal Building Activity								
Assembly.....	100.0	--	90.9	7.4	0	0	Q	31.53
Education.....	100.0	--	98.1	0	0	0	NC	25.51
Food Sales.....	100.0	--	92.4	0	0	0	NC	41.20
Food Service.....	100.0	--	89.3	0	0	0	NC	44.24
Health Care.....	100.0	--	89.0	0	0	0	Q	33.06
Lodging.....	100.0	--	88.3	0	0	0	Q	43.30
Mercantile and Service.....	100.0	--	57.0	14.1	6.6	10.6	11.7	14.66
Office.....	100.0	--	47.2	21.0	9.6	8.3	13.9	18.12
Parking Garage.....	100.0	--	65.2	0	0	0	Q	53.24
Public Order and Safety.....	100.0	--	86.6	0	0	0	NC	60.08
Warehouse.....	100.0	--	82.8	12.2	0	0	Q	23.98
Other.....	100.0	--	90.0	0	0	0	NC	32.28
Vacant.....	100.0	42.0	42.5	6.0	0	Q	Q	35.10
Year Constructed								
1899 or Before.....	100.0	0	70.4	15.8	0	0	NC	46.38
1900 to 1919.....	100.0	10.8	66.5	8.3	0	0	Q	30.64
1920 to 1945.....	100.0	4.1	77.9	8.6	0	0	4.0	21.53
1946 to 1959.....	100.0	3.0	77.0	13.1	0	0	Q	27.41
1960 to 1969.....	100.0	2.0	76.2	10.6	1.9	4.7	4.6	15.07
1970 to 1979.....	100.0	1.4	70.5	12.2	2.5	4.4	8.9	18.66
1980 to 1983.....	100.0	0	69.2	8.2	7.6	5.6	8.5	21.56
1984 to 1986.....	100.0	0	54.8	13.4	14.7	5.7	10.2	30.70
1987 to 1989.....	100.0	0	72.9	11.2	0	Q	Q	26.89
Census Region								
Northeast.....	100.0	1.9	68.1	12.1	0	5.0	7.7	17.35
Midwest.....	100.0	1.9	74.0	11.5	4.1	3.9	4.6	17.30
South.....	100.0	3.6	74.2	9.8	3.2	2.7	6.5	14.58
West.....	100.0	3.3	69.6	12.5	4.2	4.9	5.5	18.59
Metropolitan Status								
Metropolitan.....	100.0	2.6	69.3	12.4	4.7	3.9	7.2	9.85
Nonmetropolitan.....	100.0	3.5	83.1	6.4	Q	Q	Q	17.97
Workers								
Fewer than 5.....	100.0	1.0	87.8	8.1	0	0	Q	19.46
5 to 9.....	100.0	0	83.2	12.8	0	0	0	28.52
10 to 19.....	100.0	0	74.7	19.5	3.7	0	0	25.91
20 to 49.....	100.0	0	78.0	11.1	6.8	0	0	24.12
50 to 99.....	100.0	0	73.2	12.9	3.6	0	0	26.39
100 to 249.....	100.0	0	60.2	12.0	5.0	8.6	8.4	22.87
250 or More.....	100.0	0	49.3	9.1	0	13.4	29.3	30.56
Weekly Operating Hours								
39 or Fewer.....	100.0	22.1	73.0	3.1	0	0	0	34.30
40 to 48.....	100.0	1.7	79.1	12.3	3.3	0	0	17.26
49 to 60.....	100.0	0	65.1	16.8	5.3	5.5	6.9	17.86
61 to 84.....	100.0	0	55.0	10.2	0	10.4	17.6	23.67
85 to 167.....	100.0	0	76.5	11.8	3.4	0	5.8	22.46
168 (Open Continuously).....	100.0	0	85.5	7.5	Q	Q	Q	25.37
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	1.3	72.8	11.5	4.2	4.0	6.2	9.22
Natural Gas.....	100.0	.8	72.3	11.5	4.4	3.8	7.2	11.81
Fuel Oil.....	100.0	0	78.4	8.4	3.0	2.9	6.3	16.61
District Heat.....	100.0	0	72.7	0	0	0	7.4	36.05
District Chilled Water.....	100.0	NC	75.6	0	0	0	15.1	36.69
Propane.....	100.0	0	86.5	5.8	0	0	0	30.73
Any Other.....	100.0	0	87.2	Q	Q	Q	Q	39.37
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	.9	72.3	11.9	4.4	4.1	6.4	9.76
Air-Conditioned Buildings.....	100.0	.7	70.5	12.1	4.9	4.7	7.2	10.42
Buildings with Water Heating.....	100.0	.7	71.7	11.9	4.6	4.4	6.7	10.60
Buildings with Cooking.....	100.0	0	68.0	9.8	5.1	6.2	10.8	18.22
Buildings with Manufacturing..	100.0	0	73.8	16.3	Q	Q	Q	36.91

See footnotes at end of table.

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Table 42. Number of Establishments In Building, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace by Number of Establishments in Building						RSE Row Factor
		Vacant	One Establishment	2 to 5 Establishments	6 to 10 Establishments	11 to 20 Establishments	More than 20 Establishments	
RSE Column Factor:	--	1.601	0.176	0.895	1.606	1.625	1.523	
Ownership and Occupancy								
Nongovernment Owned.....	100.0	2.9	68.2	12.1	4.9	4.8	7.0	9.07
Owner Occupied.....	100.0	NC	75.3	10.0	3.9	4.0	6.8	12.12
Nonowner Occupied.....	100.0	10.9	48.5	18.1	7.9	7.2	7.5	12.81
Government Owned.....	100.0	Q	84.8	8.0	Q	Q	Q	29.80
Occupant Control of:								
Heating Only.....	100.0	0	83.6	12.0	0	0	0	26.03
Cooling Only.....	100.0	0	81.7	8.2	0	0	0	32.07
Heating and Cooling.....	100.0	.9	64.0	12.9	6.3	6.0	9.9	13.99

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 43. Previous or Intended Use of Predominantly Vacant Buildings, Number of Buildings
(Thousand)**

Building Characteristics	All Predominantly Vacant Buildings a/ ¹	Previous or Intended Use					RSE Row Factor
		Office	Mercantile	Industrial	Warehouse	All Other Uses	
	RSE Column Factor:	0.535	1.260	0.894	1.812	1.223	0.749
All Buildings.....	330	38	95	24	35	139	14.85
Building Floorspace (Square Feet)							
1,001 to 10,000.....	273	32	88	0	26	111	16.59
10,001 to 100,000.....	51	6	0	0	0	24	28.72
Over 100,000.....	6	Q	Q	Q	Q	4	62.88
Year Constructed							
1960 or Before.....	185	16	51	16	24	78	20.74
1961 to 1989.....	145	22	43	Q	Q	61	20.64
Census Region							
Northeast.....	44	0	0	0	0	24	34.84
Midwest.....	79	Q	Q	Q	Q	42	25.73
South.....	158	0	55	0	16	57	22.50
West.....	49	Q	Q	Q	Q	17	44.73
Metropolitan Status							
Metropolitan.....	199	27	44	17	24	86	17.01
Nonmetropolitan.....	132	Q	50	Q	Q	53	27.83

a/ "Predominantly Vacant" refers to buildings in which more than 50 percent of the floorspace was vacant at time of interview.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 44. Previous or Intended Use of Predominantly Vacant Buildings, Total Floorspace (Million Square Feet)

Building Characteristics	All Predominantly Vacant ^{a/} Buildings ^{a/}	Previous or Intended Use					RSE Row Factor
		Office	Mercantile	Industrial	Warehouse	All Other Uses	
RSE Column Factor:	0.773	1.128	0.876	0.856	1.525	1.003	
All Buildings.....	4,088	337	486	451	694	2,119	24.03
Building Floorspace (Square Feet)							
1,001 to 10,000.....	965	131	271	0	85	405	17.82
10,001 to 100,000.....	1,414	191	0	0	0	748	23.64
Over 100,000.....	Q	Q	Q	Q	Q	Q	99.99
Year Constructed							
1960 or Before.....	2,868	161	281	308	0	1,564	32.73
1961 to 1989.....	1,220	176	205	Q	Q	556	18.74
Census Region							
Northeast.....	889	0	0	0	0	332	35.34
Midwest.....	1,292	0	0	0	0	Q	59.72
South.....	1,326	0	315	0	144	600	24.31
West.....	581	Q	Q	Q	Q	196	33.83
Metropolitan Status							
Metropolitan.....	3,306	298	280	335	639	1,754	27.59
	781	Q	207	Q	Q	365	31.16

a/ "Predominantly Vacant" refers to buildings in which more than 50 percent of the floorspace was vacant at time of interview.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 45. Percent Vacant for at Least Three Months, Number of Buildings

Building Characteristics	Number of Buildings (thousand)						RSE Row Factor	
	All Buildings	Percent Vacant for at Least Three Months						
		None	1 to 25	26 to 50	51 to 99	100		
RSE Column Factor:	0.431	0.480	1.225	1.620	2.086	1.168		
All Buildings.....	4,528	3,581	219	156	102	469	6.46	
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	2,071	51	70	31	307	10.05	
5,001 to 10,000.....	890	687	52	39	0	92	12.54	
10,001 to 25,000.....	644	501	48	23	29	43	13.40	
25,001 to 50,000.....	247	179	33	12	7	16	13.30	
50,001 to 100,000.....	127	89	17	7	7	7	16.18	
100,001 to 200,000.....	61	38	10	0	6	3	21.29	
200,001 to 500,000.....	23	14	6	1	0	0	32.95	
Over 500,000.....	7	3	3	Q	Q	Q	33.58	
Principal Building Activity								
Assembly.....	615	536	9	0	0	51	19.01	
Education.....	284	216	4	0	14	43	19.47	
Food Sales.....	102	95	0	0	0	0	51.05	
Food Service.....	241	208	0	0	0	0	29.45	
Health Care.....	80	73	0	0	0	0	42.19	
Lodging.....	140	118	0	0	0	0	26.13	
Mercantile and Service.....	1,278	1,114	74	35	0	46	12.28	
Office.....	679	539	71	41	7	21	15.05	
Parking Garage.....	45	43	0	0	0	0	48.96	
Public Order and Safety.....	50	48	0	NC	NC	0	62.06	
Warehouse.....	618	512	35	24	18	29	17.25	
Other.....	62	52	0	0	0	0	45.02	
Vacant.....	333	26	Q	Q	41	250	18.49	
Year Constructed								
1899 or Before.....	172	119	0	0	0	0	28.11	
1900 to 1919.....	242	158	24	13	15	33	18.43	
1920 to 1945.....	580	533	27	18	20	83	15.34	
1946 to 1959.....	868	702	25	19	22	100	14.84	
1960 to 1969.....	821	656	32	23	16	95	13.65	
1970 to 1979.....	884	746	50	12	0	66	14.87	
1980 to 1983.....	317	260	11	0	0	25	19.98	
1984 to 1986.....	329	257	21	25	0	25	21.58	
1987 to 1989.....	215	150	18	15	Q	28	20.62	
Census Region								
Northeast.....	783	627	47	33	20	56	14.14	
Midwest.....	1,046	824	50	35	32	106	13.46	
South.....	1,847	1,447	77	63	35	225	11.52	
West.....	851	684	45	25	15	82	15.20	
Metropolitan Status								
Metropolitan.....	3,073	2,415	176	109	60	313	7.48	
Nonmetropolitan.....	1,454	1,166	43	47	42	157	14.67	
Workers								
Fewer than 5.....	2,280	1,929	59	82	48	162	9.86	
5 to 9.....	906	761	37	27	23	57	12.85	
10 to 19.....	507	426	33	18	12	19	18.06	
20 to 49.....	381	288	41	16	10	25	14.24	
50 to 99.....	132	104	18	Q	0	0	20.80	
100 to 249.....	79	49	19	7	0	0	22.14	
250 or More.....	32	18	11	2	0	0	24.43	
Weekly Operating Hours								
39 or Fewer.....	876	552	14	26	26	258	15.32	
40 to 48.....	1,117	901	55	55	28	79	11.82	
49 to 60.....	987	837	48	36	18	47	11.82	
61 to 84.....	625	515	49	18	10	34	14.25	
85 to 167.....	515	426	29	19	0	33	17.94	
168 (Open Continuously).....	408	351	23	Q	Q	18	17.80	
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	3,508	217	156	98	317	6.55	
Natural Gas.....	2,439	2,017	121	89	63	148	8.73	
Fuel Oil.....	586	504	32	13	14	23	21.15	
District Heat.....	105	84	8	0	0	10	29.85	
District Chilled Water.....	25	23	1	0	0	0	36.08	
Propane.....	348	297	13	0	0	28	28.28	
Any Other.....	130	113	Q	Q	Q	Q	37.55	

See footnotes at end of table.

Table 45. Percent Vacant for at Least Three Months, Number of Buildings (Continued)

Building Characteristics	Number of Buildings (thousand)						RSE Row Factor	
	All Buildings	Percent Vacant for at Least Three Months						
		None	1 to 25	26 to 50	51 to 99	100		
RSE Column Factor:	0.431	0.480	1.225	1.620	2.086	1.168		
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	3,211	198	141	86	240	6.98	
Air-Conditioned Buildings.....	3,184	2,630	192	126	68	169	7.79	
Buildings with Water Heating..	3,184	2,598	175	119	79	212	7.58	
Buildings with Cooking.....	864	717	51	31	20	44	12.74	
Buildings with Manufacturing..	205	178	12	Q	Q	Q	24.39	
Ownership and Occupancy								
Nongovernment Owned.....	3,951	3,119	202	148	90	392	7.25	
Owner Occupied.....	2,814	2,385	122	107	57	143	8.75	
Nonowner Occupied.....	1,136	734	80	41	32	250	11.20	
Government Owned.....	577	462	17	8	13	77	17.07	

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 46. Percent Vacant for at Least Three Months, Percent of Buildings

Building Characteristics	Percent of Buildings					RSE Row Factor	
	All Buildings	Percent Vacant for at Least Three Months					
		None	1 to 25	26 to 50	51 to 99	100	
RSE Column Factor:	--	0.171	1.291	1.704	2.257	1.177	
All Buildings.....	100.0	79.1	4.8	3.5	2.3	10.4	5.41
Building Floorspace (Square Feet)							
1,001 to 5,000.....	100.0	81.9	2.0	2.8	1.2	12.1	8.13
5,001 to 10,000.....	100.0	77.2	5.8	4.4	0	10.4	11.88
10,001 to 25,000.....	100.0	77.9	7.4	3.6	4.5	6.6	12.90
25,001 to 50,000.....	100.0	72.6	13.3	4.9	2.8	6.4	13.07
50,001 to 100,000.....	100.0	69.5	13.7	5.5	5.6	5.6	15.93
100,001 to 200,000.....	100.0	62.1	17.3	0	9.4	5.4	22.36
200,001 to 500,000.....	100.0	58.9	24.8	4.8	0	0	32.49
Over 500,000.....	100.0	44.9	35.6	Q	Q	Q	36.35
Principal Building Activity							
Assembly.....	100.0	87.2	1.5	0	0	8.2	17.28
Education.....	100.0	76.0	1.5	0	4.8	15.2	18.88
Food Sales.....	100.0	92.8	0	0	0	0	48.02
Food Service.....	100.0	86.4	0	0	0	0	30.54
Health Care.....	100.0	91.1	0	0	NC	0	39.12
Lodging.....	100.0	84.7	0	0	0	0	24.42
Mercantile and Service.....	100.0	87.2	5.8	2.7	0	3.6	12.05
Office.....	100.0	79.4	10.4	6.0	1.1	3.2	14.42
Parking Garage.....	100.0	96.9	0	0	0	0	38.06
Public Order and Safety.....	100.0	96.0	0	NC	NC	0	50.18
Warehouse.....	100.0	82.9	5.7	3.9	2.9	4.6	16.14
Other.....	100.0	84.0	0	0	0	0	38.36
Vacant.....	100.0	7.8	Q	Q	12.3	75.1	18.57
Year Constructed							
1899 or Before.....	100.0	69.4	0	0	0	0	27.40
1900 to 1919.....	100.0	65.3	9.7	5.4	6.1	13.5	16.66
1920 to 1945.....	100.0	78.3	4.0	2.6	2.9	12.2	15.15
1946 to 1959.....	100.0	80.9	2.8	2.2	2.6	11.5	14.17
1960 to 1969.....	100.0	79.9	3.9	2.8	1.9	11.6	12.51
1970 to 1979.....	100.0	84.4	5.6	1.4	0	7.5	13.78
1980 to 1983.....	100.0	82.1	3.5	0	0	7.9	20.33
1984 to 1986.....	100.0	77.9	6.3	7.5	0	7.5	19.91
1987 to 1989.....	100.0	70.1	8.6	7.0	Q	13.2	18.16
Census Region							
Northeast.....	100.0	80.1	6.0	4.2	2.5	7.2	12.02
Midwest.....	100.0	78.7	4.8	3.4	3.0	10.1	11.43
South.....	100.0	78.3	4.2	3.4	1.9	12.2	9.76
West.....	100.0	80.3	5.3	2.9	1.8	9.6	12.21
Metropolitan Status							
Metropolitan.....	100.0	78.6	5.7	3.5	2.0	10.2	6.10
Nonmetropolitan.....	100.0	80.2	3.0	3.3	2.9	10.8	11.11
Workers							
Fewer than 5.....	100.0	84.6	2.6	3.6	2.1	7.1	9.08
5 to 9.....	100.0	84.0	4.1	2.9	2.6	6.3	12.89
10 to 19.....	100.0	84.0	6.4	3.5	2.4	3.7	16.79
20 to 49.....	100.0	75.6	10.8	4.2	2.7	6.7	14.45
50 to 99.....	100.0	79.0	13.8	0	0	0	21.46
100 to 249.....	100.0	61.8	24.7	8.9	0	0	24.39
250 or More.....	100.0	57.3	33.2	5.3	0	0	22.88
Weekly Operating Hours							
39 or Fewer.....	100.0	63.0	1.6	2.9	3.0	29.5	14.35
40 to 48.....	100.0	80.6	4.9	4.9	2.5	7.1	10.82
49 to 60.....	100.0	84.8	4.9	3.7	1.9	4.8	10.87
61 to 84.....	100.0	82.4	7.9	2.8	1.5	5.4	13.76
85 to 167.....	100.0	82.7	5.7	3.7	0	6.5	16.18
168 (Open Continuously).....	100.0	85.9	5.7	Q	Q	4.5	18.06
Energy Sources (Solely or in Combination)							
Electricity.....	100.0	81.6	5.1	3.6	2.3	7.4	5.54
Natural Gas.....	100.0	82.7	5.0	3.7	2.6	6.1	7.25
Fuel Oil.....	100.0	86.0	5.4	2.2	2.4	4.0	17.47
District Heat.....	100.0	80.2	7.6	0	0	9.3	26.25
District Chilled Water.....	100.0	90.6	5.6	0	0	0	31.39
Propane.....	100.0	85.3	3.8	0	0	7.9	21.96
Any Other.....	100.0	87.1	Q	Q	Q	Q	28.06

See footnotes at end of table.

Table 46. Percent Vacant for at Least Three Months, Percent of Buildings (Continued)

Building Characteristics	Percent of Buildings						RSE Row Factor	
	All Buildings	Percent Vacant for at Least Three Months						
		None	1 to 25	26 to 50	51 to 99	100		
RSE Column Factor:	--	0.171	1.291	1.704	2.257	1.177		
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	82.8	5.1	3.6	2.2	6.2	5.86	
Air-Conditioned Buildings.....	100.0	82.6	6.0	3.9	2.1	5.3	6.60	
Buildings with Water Heating..	100.0	81.6	5.5	3.7	2.5	6.7	6.49	
Buildings with Cooking.....	100.0	83.1	5.9	3.6	2.3	5.1	11.46	
Buildings with Manufacturing..	100.0	87.0	6.1	Q	Q	Q	21.49	
Ownership and Occupancy								
Nongovernment Owned.....	100.0	78.9	5.1	3.8	2.3	9.9	6.17	
Owner Occupied.....	100.0	84.8	4.3	3.8	2.0	5.1	7.54	
Nonowner Occupied.....	100.0	64.6	7.0	3.6	2.8	22.0	10.68	
Government Owned.....	100.0	80.1	3.0	1.4	2.2	13.3	16.85	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 47. Percent Vacant for at Least Three Months, Floorspace

Building Characteristics	Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings	Total Floorspace Vacant at Least Three Months	Percent Vacant for at Least Three Months					
			None	1 to 25	26 to 50	51 to 99	100	
RSE Column Factor:	0.430	0.996	0.443	1.115	1.596	2.264	1.308	
All Buildings.....	63,184	8,968	43,081	9,571	2,865	3,519	4,149	7.68
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	930	5,588	165	186	109	741	10.06
5,001 to 10,000.....	6,532	945	5,045	402	297	Q	654	12.42
10,001 to 25,000.....	10,393	1,329	8,114	738	381	473	687	13.56
25,001 to 50,000.....	8,801	1,103	6,411	1,145	443	239	564	13.06
50,001 to 100,000.....	9,130	1,255	6,319	1,299	490	494	528	15.48
100,001 to 200,000.....	8,277	1,323	5,245	1,506	0	697	426	20.07
200,001 to 500,000.....	7,022	972	4,030	1,734	309	Q	Q	33.70
Over 500,000.....	6,239	1,112	2,328	2,580	Q	Q	Q	36.18
Principal Building Activity								
Assembly.....	6,838	469	6,131	173	Q	Q	364	22.44
Education.....	8,148	1,659	5,868	377	Q	1,073	710	21.26
Food Sales.....	792	0	711	Q	Q	Q	Q	54.25
Food Service.....	1,167	90	1,034	Q	Q	Q	Q	34.28
Health Care.....	2,054	80	1,369	624	Q	NC	Q	42.72
Lodging.....	3,476	283	2,628	Q	Q	Q	Q	25.62
Mercantile and Service.....	12,365	927	8,355	3,035	637	Q	231	14.25
Office.....	11,802	1,007	8,936	3,622	791	300	154	16.36
Parking Garage.....	983	28	867	Q	Q	Q	Q	45.19
Public Order and Safety.....	616	0	602	Q	Q	NC	Q	69.05
Warehouse.....	9,253	931	7,300	727	478	Q	277	21.11
Other.....	1,529	112	1,068	Q	Q	Q	Q	38.55
Vacant.....	4,161	3,311	211	Q	Q	1,358	2,114	27.81
Year Constructed								
1899 or Before.....	1,654	368	978	0	Q	Q	0	32.68
1900 to 1919.....	4,245	1,676	1,625	457	Q	Q	700	30.21
1920 to 1945.....	8,098	1,265	5,466	1,116	303	680	532	20.35
1946 to 1959.....	10,511	1,446	7,754	1,092	159	Q	689	18.20
1960 to 1969.....	12,167	1,390	9,011	1,777	242	400	738	12.45
1970 to 1979.....	13,329	1,031	10,068	2,216	366	Q	538	14.79
1980 to 1983.....	4,274	356	3,057	822	Q	Q	133	19.44
1984 to 1986.....	5,670	588	3,314	1,484	616	Q	168	23.43
1987 to 1989.....	3,235	848	1,808	399	313	Q	510	19.79
Census Region								
Northeast.....	13,569	1,977	8,899	2,257	829	673	910	16.57
Midwest.....	15,955	2,084	10,656	2,898	505	1,203	693	15.88
South.....	22,040	3,160	15,751	2,731	962	831	1,765	13.56
West.....	11,620	1,748	7,774	1,685	569	Q	780	16.32
Metropolitan Status								
Metropolitan.....	50,809	7,100	33,690	8,770	2,444	2,674	3,231	8.75
Nonmetropolitan.....	12,375	1,868	9,391	800	421	845	917	18.22
Workers								
Fewer than 5.....	13,292	1,977	10,233	484	586	Q	857	15.28
5 to 9.....	7,939	1,093	6,219	410	254	604	453	18.16
10 to 19.....	6,445	712	5,004	594	295	252	299	17.06
20 to 49.....	9,665	1,052	7,502	929	407	442	387	14.63
50 to 99.....	7,389	594	5,519	1,213	0	Q	Q	24.56
100 to 249.....	6,771	692	4,073	1,862	531	Q	Q	21.51
250 or More.....	9,829	1,063	4,488	4,069	555	Q	Q	29.49
Weekly Operating Hours								
39 or Fewer.....	6,073	2,347	3,402	210	188	272	2,000	16.59
40 to 48.....	13,905	2,073	10,172	1,094	897	972	770	13.80
49 to 60.....	13,473	1,285	9,738	1,997	988	364	386	14.91
61 to 84.....	10,777	998	6,389	3,372	352	451	213	15.38
85 to 167.....	9,387	1,619	6,108	1,187	330	Q	491	23.26
168 (Open Continuously).....	9,569	646	7,272	1,710	Q	Q	287	18.46
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	7,768	42,708	9,550	2,865	3,446	3,018	7.84
Natural Gas.....	41,593	5,295	27,810	7,312	1,964	2,859	1,648	10.08
Fuel Oil.....	12,684	1,328	9,045	2,083	399	719	438	16.96
District Heat.....	6,856	0	4,260	1,721	Q	Q	211	34.00
District Chilled Water.....	2,101	0	1,609	311	Q	Q	Q	40.38
Propane.....	4,695	623	3,550	328	Q	Q	208	29.14
Any Other.....	1,542	172	1,086	Q	Q	Q	Q	44.05

See footnotes at end of table.

Table 47. Percent Vacant for at Least Three Months, Floorspace (Continued)

Building Characteristics	Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Total Floorspace Vacant at Least Three Months	Percent Vacant for at Least Three Months				
			None	1 to 25	26 to 50	51 to 99	100
RSE Column Factor:	0.430	0.996	0.443	1.115	1.596	2.264	1.308
Energy End Uses (Solely or in Combination)							
Heated Buildings.....	57,868	6,974	40,059	9,363	2,712	3,333	2,401
Air-Conditioned Buildings.....	51,771	5,631	35,578	9,270	2,597	2,730	1,596
Buildings with Water Heating..	53,585	6,427	36,730	9,037	2,571	3,141	2,105
Buildings with Cooking.....	23,668	3,004	14,676	5,476	795	1,891	829
Buildings with Manufacturing..	5,601	683	4,081	487	Q	Q	Q
							32.90
Ownership and Occupancy							
Nongovernment Owned.....	48,842	6,785	32,242	8,689	2,431	2,557	2,923
Owner Occupied.....	35,955	3,753	25,436	6,076	1,509	1,735	1,199
Nonowner Occupied.....	12,888	3,032	6,807	2,613	923	822	1,723
Government Owned.....	14,342	2,183	10,838	882	Q	962	1,226
							19.88

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 48. Percent Vacant for at Least Three Months, Percent of Floorspace

Building Characteristics	Total Floorspace (percent)						RSE Row Factor
	All Buildings	Total Floorspace Vacant at Least Three Months	Percent Vacant for at Least Three Months				
			None	1 to 25	26 to 50	51 to 99	100
RSE Column Factor:	--	0.841	0.269	1.037	1.550	2.135	1.285
All Buildings.....	100.0	14.2	68.2	15.1	4.5	5.6	6.6
Building Floorspace (Square Feet)							
1,001 to 5,000.....	100.0	13.7	82.3	2.4	2.7	1.6	10.9
5,001 to 10,000.....	100.0	14.5	77.2	6.2	4.5	0	10.0
10,001 to 25,000.....	100.0	12.8	78.1	7.1	3.7	4.6	6.6
25,001 to 50,000.....	100.0	12.5	72.8	13.0	5.0	2.7	6.4
50,001 to 100,000.....	100.0	13.7	69.2	14.2	5.4	5.4	5.8
100,001 to 200,000.....	100.0	16.0	63.4	18.2	0	8.4	5.1
200,001 to 500,000.....	100.0	13.8	57.4	24.7	4.4	0	32.53
Over 500,000.....	100.0	17.8	37.3	41.4	Q	Q	36.36
Principal Building Activity							
Assembly.....	100.0	6.9	89.7	2.5	0	0	5.3
Education.....	100.0	20.4	72.0	4.6	0	13.2	8.7
Food Sales.....	100.0	7.0	89.8	0	0	0	50.05
Food Service.....	100.0	7.7	88.7	0	0	0	30.62
Health Care.....	100.0	3.9	66.7	30.4	0	0	44.99
Lodging.....	100.0	8.2	75.6	0	0	0	28.36
Mercantile and Service.....	100.0	7.5	67.6	24.5	5.2	0	15.22
Office.....	100.0	8.5	58.8	30.7	6.7	2.5	17.07
Parking Garage.....	100.0	2.8	88.1	0	0	0	42.17
Public Order and Safety.....	100.0	0	97.6	0	NC	0	48.11
Warehouse.....	100.0	10.1	78.9	7.9	5.2	5.1	3.0
Other.....	100.0	7.3	69.8	0	0	0	39.18
Vacant.....	100.0	79.6	5.1	Q	Q	32.6	50.8
Year Constructed							
1899 or Before.....	100.0	22.2	59.1	0	0	0	34.42
1900 to 1919.....	100.0	39.5	38.3	10.8	10.7	23.7	16.5
1920 to 1945.....	100.0	15.6	67.5	13.8	3.7	8.4	6.6
1946 to 1959.....	100.0	13.8	73.8	10.4	1.5	0	18.81
1960 to 1969.....	100.0	11.4	74.1	14.6	2.0	3.3	6.1
1970 to 1979.....	100.0	7.7	75.5	16.6	2.7	0	13.01
1980 to 1983.....	100.0	8.3	71.5	19.2	0	0	14.59
1984 to 1986.....	100.0	10.4	58.4	26.2	10.9	0	3.1
1987 to 1989.....	100.0	26.2	55.9	12.3	9.7	0	20.49
0	0	0	0	0	0	0	27.77
15.8	16.80	0	0	0	0	0	16.80
Census Region							
Northeast.....	100.0	14.6	65.6	16.6	6.1	5.0	6.7
Midwest.....	100.0	13.1	66.8	18.2	3.2	7.5	4.3
South.....	100.0	14.3	71.5	12.4	4.4	3.8	8.0
West.....	100.0	15.0	66.9	14.5	4.9	7.0	6.7
Metropolitan Status							
Metropolitan.....	100.0	14.0	66.3	17.3	4.8	5.3	6.4
Nonmetropolitan.....	100.0	15.1	75.9	6.5	3.4	6.8	7.4
Workers							
Fewer than 5.....	100.0	14.9	77.0	3.6	4.4	8.5	6.4
5 to 9.....	100.0	13.8	78.3	5.2	3.2	7.6	5.7
10 to 19.....	100.0	11.0	77.6	9.2	4.6	3.9	4.6
20 to 49.....	100.0	10.9	77.6	9.6	4.2	4.6	4.0
50 to 99.....	100.0	8.0	74.7	16.4	0	0	26.31
100 to 249.....	100.0	10.2	60.2	27.5	7.8	0	0
250 or More.....	100.0	10.8	45.7	41.4	5.6	0	0
0	0	0	0	0	0	0	22.87
26.88	0	0	0	0	0	0	26.88
Weekly Operating Hours							
39 or Fewer.....	100.0	38.7	56.0	3.5	3.1	4.5	32.9
40 to 48.....	100.0	14.9	73.2	7.9	6.5	7.0	5.5
49 to 60.....	100.0	9.5	72.3	14.8	7.3	2.7	2.9
61 to 84.....	100.0	9.3	59.3	31.3	3.3	4.2	2.0
85 to 167.....	100.0	17.2	65.1	12.7	3.5	0	5.2
168 (Open Continuously).....	100.0	6.7	76.0	17.9	Q	Q	24.32
0	0	0	0	0	0	0	19.05
3.0	17.49	0	0	0	0	0	12.82
19.05	0	0	0	0	0	0	14.29
0	0	0	0	0	0	0	16.57
0	0	0	0	0	0	0	24.32
0	0	0	0	0	0	0	29.46
0	0	0	0	0	0	0	47.88
Energy Sources (Solely or in Combination)							
Electricity.....	100.0	12.6	69.3	15.5	4.7	5.6	4.9
Natural Gas.....	100.0	12.7	66.9	17.6	4.7	6.9	4.0
Fuel Oil.....	100.0	10.5	71.3	16.4	3.1	5.7	3.5
District Heat.....	100.0	10.5	62.1	25.1	0	0	3.1
District Chilled Water.....	100.0	0	76.6	14.8	0	0	29.78
Propane.....	100.0	13.3	75.6	7.0	0	0	0
Any Other.....	100.0	11.1	70.4	Q	Q	Q	0
0	0	0	0	0	0	0	38.24
0	0	0	0	0	0	0	29.46
0	0	0	0	0	0	0	47.88

See footnotes at end of table.

Table 48. Percent Vacant for at Least Three Months, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace (percent)							RSE Row Factor	
	All Buildings	Total Floorspace Vacant at Least Three Months	Percent Vacant for at Least Three Months						
			None	1 to 25	26 to 50	51 to 99	100		
RSE Column Factor:	--	0.841	0.269	1.037	1.550	2.135	1.285		
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	12.1	69.2	16.2	4.7	5.8	4.1	8.39	
Air-Conditioned Buildings.....	100.0	10.9	68.7	17.9	5.0	5.3	3.1	9.42	
Buildings with Water Heating.....	100.0	12.0	68.5	16.9	4.8	5.9	3.9	8.77	
Buildings with Cooking.....	100.0	12.7	62.0	23.1	3.4	8.0	3.5	14.57	
Buildings with Manufacturing..	100.0	12.2	72.9	8.7	Q	Q	Q	31.16	
Ownership and Occupancy									
Nongovernment Owned.....	100.0	13.9	66.0	17.8	5.0	5.2	6.0	8.09	
Owner Occupied.....	100.0	10.4	70.7	16.9	4.2	4.8	3.3	11.24	
Nonowner Occupied.....	100.0	23.5	52.8	20.3	7.2	6.4	13.4	11.59	
Government Owned.....	100.0	15.2	75.6	6.1	Q	6.7	8.5	21.03	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 49. Months in Use Out of Past 12 Months, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousands)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months		
	RSE Column Factor	0.362	1.598	1.689	1.604	1.102	0.392	0.406	1.797	1.881	1.888	1.242	0.459	
All Buildings.....	4,528	211	111	150	272	3,785	63,184	1,854	1,066	1,632	3,780	54,853	7.55	
Building Floorspace (Square Feet)														
1,001 to 5,000.....	2,529	145	71	92	136	2,086	6,790	326	174	233	366	5,691	9.39	
5,001 to 10,000.....	890	34	9	30	63	740	6,532	237	0	232	449	5,447	13.48	
10,001 to 25,000.....	644	21	6	17	40	558	10,393	361	0	271	604	9,033	16.38	
25,001 to 50,000.....	247	6	0	0	18	215	8,801	224	0	0	677	7,643	18.40	
50,001 to 100,000.....	127	Q	0	0	9	108	9,130	22	0	0	627	7,773	19.42	
100,001 to 200,000.....	61	0	0	0	5	49	8,277	0	0	0	609	6,878	22.89	
200,001 to 500,000.....	23	Q	0	0	0	22	7,022	0	0	0	Q	6,638	36.73	
Over 500,000.....	7	Q	0	0	0	7	6,239	0	0	0	Q	5,751	41.22	
Principal Building Activity														
Assembly.....	615	NC	0	0	0	41	535	6,838	NC	0	0	342	6,286	19.15
Education.....	284	NC	0	0	127	148	8,148	NC	0	0	2,631	5,228	20.81	
Food Sales.....	102	NC	0	0	NC	95	792	NC	0	0	NC	722	45.15	
Food Service.....	241	NC	0	0	0	209	1,167	NC	0	0	0	1,029	25.97	
Health Care.....	80	NC	NC	0	0	79	2,054	NC	NC	0	0	2,035	47.70	
Lodging.....	140	NC	0	0	6	127	3,476	NC	0	0	167	3,199	28.28	
Mercantile and Service.....	1,278	NC	20	42	30	1,186	12,365	NC	129	284	95	11,857	15.48	
Office.....	679	NC	0	23	0	636	11,802	NC	0	180	0	11,414	20.27	
Parking Garage.....	45	NC	0	0	0	43	983	NC	0	0	0	960	48.79	
Public Order and Safety.....	50	Q	NC	NC	0	50	616	NC	0	0	0	608	55.85	
Warehouse.....	618	Q	0	25	16	556	9,253	0	0	0	178	8,387	23.27	
Other.....	62	NC	0	0	0	59	1,529	NC	0	0	0	1,465	55.95	
Vacant.....	333	199	21	22	29	62	4,161	1,733	151	410	205	0	20.99	
Year Constructed														
1899 or Before.....	172	0	0	0	0	150	1,654	0	0	0	0	1,466	35.18	
1900 to 1919.....	242	24	0	0	0	193	4,245	458	0	0	0	3,241	34.21	
1920 to 1945.....	680	48	0	30	563	8,098	272	0	0	0	488	6,729	17.80	
1946 to 1959.....	868	34	25	25	72	712	10,511	324	156	182	864	8,985	15.38	
1950 to 1969.....	821	47	0	22	57	679	12,167	286	0	220	993	10,508	15.37	
1970 to 1979.....	884	31	0	0	52	768	13,329	207	0	0	698	12,282	17.55	
1980 to 1983.....	217	0	0	0	0	280	4,274	0	0	0	0	4,114	22.74	
1984 to 1986.....	329	0	0	0	0	296	5,670	0	0	0	0	5,416	26.15	
1987 to 1989.....	215	Q	17	30	17	144	3,235	0	322	428	210	2,113	21.97	
Census Region														
Northeast.....	783	22	17	0	39	693	13,569	311	211	0	1,136	11,677	18.16	
Midwest.....	1,046	49	26	42	44	885	15,955	321	248	373	704	14,309	15.69	
South.....	1,847	107	52	73	107	1,508	22,040	819	404	790	1,180	18,847	12.12	
West.....	651	33	16	21	82	699	11,620	402	203	235	760	10,020	17.39	
Metropolitan Status														
Metropolitan.....	3,073	121	78	106	199	2,570	50,809	1,338	768	1,231	2,916	44,556	8.86	
Nonmetropolitan.....	1,454	90	33	44	73	1,215	12,375	515	297	Q	864	10,297	16.51	
Workers														
Fewer than 5.....	2,280	NC	66	90	139	1,985	13,292	NC	307	542	756	11,687	10.82	
5 to 9.....	906	NC	Q	32	56	794	7,939	NC	0	469	469	6,798	16.63	
10 to 19.....	507	NC	0	16	24	456	6,445	NC	0	232	307	5,775	18.38	
20 to 49.....	381	NC	0	9	36	327	9,665	NC	0	265	995	8,242	16.30	
50 to 99.....	132	NC	0	0	12	118	7,389	NC	0	0	921	6,376	27.80	
100 to 249.....	79	NC	0	0	0	72	6,771	NC	0	0	0	6,333	26.55	
250 or More.....	32	NC	0	0	Q	31	9,829	NC	0	0	0	9,642	39.71	
Weekly Operating Hours														
39 or Fewer.....	876	211	24	0	78	545	6,073	1,854	72	0	749	3,290	14.68	
40 to 48.....	1,117	NC	23	45	101	947	13,905	NC	261	697	1,566	11,381	13.44	
49 to 60.....	987	NC	23	28	47	889	13,473	NC	256	276	441	12,500	15.18	
61 to 84.....	625	NC	Q	24	13	568	10,777	NC	Q	143	281	10,175	18.12	
85 to 167.....	515	NC	0	24	22	456	9,387	NC	0	209	531	8,501	22.34	
168 (Open Continuously).....	408	NC	Q	11	11	379	9,569	NC	0	200	211	9,006	21.23	
Energy Sources (Solely or in Combination)														
Electricity.....	4,297	53	110	148	270	3,715	61,587	639	1,059	1,623	3,775	54,491	8.09	
Natural Gas.....	2,439	Q	53	64	156	2,149	41,593	Q	648	1,020	2,658	37,132	11.63	
Fuel Oil.....	586	Q	0	0	32	535	12,684	0	0	887	11,251	24.22		
District Heat.....	105	Q	0	0	11	84	6,856	0	0	327	6,298	35.24		
District Chilled Water.....	25	NC	0	0	0	20	2,101	NC	0	0	1,996	4,246	48.30	
Propane.....	348	NC	0	0	31	297	4,695	NC	0	264	4,246	4,246	26.74	
Any Other.....	130	NC	Q	Q	Q	108	1,542	NC	Q	Q	Q	1,159	41.53	
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	3,877	27	76	114	254	3,405	57,868	275	843	1,460	3,707	51,584	9.14	
Air-Conditioned Buildings.....	3,184	Q	56	104	166	2,845	51,771	Q	648	1,059	2,429	47,504	10.12	
Buildings with Water Heating.....	3,184	22	81	102	180	2,798	53,585	164	879	1,347	3,314	47,880	9.84	
Buildings with Cooking.....	864	Q	28	23	63	749	23,668	Q	395	370	1,904	20,994	18.49	
Buildings with Manufacturing.....	205	Q	Q	Q	Q	192	5,601	Q	Q	Q	Q	5,346	34.13	

See footnotes at end of table.

BUILDING USE

Table 49. Months In Use Out of Past 12 Months, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousands)						Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	
	RSE Column Factor	0.362	1.598	1.689	1.604	1.102	0.392	0.406	1.797	1.881	1.888	1.242	0.459
Percent Vacant for at Least Three Months													
None.....	3,581	0	0	34	151	3,380	43,081	0	0	248	2,067	40,606	13.87
1 to 25.....	219	0	0	0	0	204	9,571	0	0	0	0	9,326	30.15
26 to 50.....	156	0	0	0	0	122	2,865	0	0	0	0	2,423	30.11
51 to 99.....	102	0	0	18	68	3,519	0	0	0	0	501	2,419	35.73
100.....	469	201	88	86	85	Q	4,149	1,710	699	731	933	Q	15.47

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 198 Commercial Buildings Energy Consumption Survey.

Table 50. Months in Use Out of Past 12 Months, Percent of Buildings and Floorspace

Building Characteristics	Percent of Buildings						Percent of Total Floorspace						RSE Row Factor
	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	
	RSE Column Factor:	--	1.710	1.808	1.754	1.152	0.112	--	1.977	2.038	2.091	1.390	0.122
All Buildings.....	100.0	4.7	2.4	3.3	6.0	83.6	100.0	2.9	1.7	2.6	6.0	86.8	6.57
Building Floorspace (Square Feet)													
1,001 to 5,000.....	100.0	5.7	2.8	3.6	5.4	82.5	100.0	4.8	2.6	3.4	5.4	83.8	7.86
5,001 to 10,000.....	100.0	3.8	Q	3.3	7.1	83.1	100.0	3.6	Q	3.6	6.9	83.4	12.66
10,001 to 25,000.....	100.0	3.3	Q	2.6	6.1	86.8	100.0	3.5	Q	2.6	5.8	86.9	14.79
25,001 to 50,000.....	100.0	2.5	Q	Q	7.4	87.1	100.0	2.5	Q	2.0	7.7	86.8	18.39
50,001 to 100,000.....	100.0	Q	Q	Q	7.2	84.6	100.0	Q	Q	Q	6.9	85.1	18.02
100,001 to 200,000.....	100.0	Q	Q	Q	7.6	81.5	100.0	Q	Q	Q	7.4	83.1	23.64
200,001 to 500,000.....	100.0	Q	Q	Q	Q	93.8	100.0	Q	Q	Q	Q	94.5	28.18
Over 500,000.....	100.0	Q	Q	Q	Q	91.1	100.0	Q	Q	Q	Q	92.2	39.44
Principal Building Activity													
Assembly.....	100.0	NC	Q	Q	6.7	87.0	100.0	NC	Q	Q	5.0	91.9	15.84
Education.....	100.0	NC	Q	Q	44.7	52.1	100.0	NC	Q	Q	32.3	64.2	22.04
Food Sales.....	100.0	NC	Q	Q	NC	92.6	100.0	NC	Q	Q	NC	91.1	40.13
Food Service.....	100.0	NC	Q	Q	Q	86.6	100.0	NC	Q	Q	88.2	99.1	23.40
Health Care.....	100.0	NC	Q	Q	Q	98.4	100.0	NC	Q	Q	NC	99.1	25.93
Lodging.....	100.0	NC	Q	Q	4.3	91.0	100.0	NC	Q	Q	4.8	92.0	24.75
Mercantile and Service.....	100.0	NC	1.6	3.3	2.3	92.8	100.0	NC	1.0	2.3	4.8	95.9	13.99
Office.....	100.0	NC	Q	3.4	Q	93.6	100.0	NC	Q	1.5	Q	96.7	17.38
Parking Garage.....	100.0	NC	Q	Q	Q	96.1	100.0	NC	Q	Q	Q	97.6	36.29
Public Order and Safety.....	100.0	Q	Q	NC	NC	99.4	100.0	Q	Q	Q	NC	98.6	21.47
Warehouse.....	100.0	Q	Q	Q	4.0	2.5	90.0	100.0	Q	Q	4.3	90.6	20.93
Other.....	100.0	NC	Q	Q	Q	94.5	100.0	NC	Q	Q	Q	95.8	42.41
Vacant.....	100.0	59.7	6.3	6.6	8.8	18.7	100.0	41.7	3.6	9.9	4.9	39.9	21.73
Year Constructed													
1899 or Before.....	100.0	0	0	0	0	87.1	100.0	0	0	0	0	88.6	31.82
1900 to 1919.....	100.0	9.8	0	0	0	79.7	100.0	10.8	0	0	0	76.3	31.92
1920 to 1945.....	100.0	7.1	0	0	4.5	82.8	100.0	3.4	0	0	0	83.1	17.32
1946 to 1959.....	100.0	3.9	2.9	2.8	8.3	82.0	100.0	3.1	1.5	1.7	8.2	85.5	13.77
1960 to 1969.....	100.0	5.7	0	2.7	7.0	82.7	100.0	2.4	0	1.8	8.2	86.4	14.68
1970 to 1979.....	100.0	3.5	0	0	5.9	86.8	100.0	1.5	0	0	5.2	92.1	16.46
1980 to 1983.....	100.0	0	0	0	0	88.5	100.0	0	0	0	0	96.3	20.81
1984 to 1986.....	100.0	0	0	0	0	89.8	100.0	0	0	0	0	95.5	23.89
1987 to 1989.....	100.0	Q	7.8	14.1	7.7	67.2	100.0	Q	10.0	13.2	6.5	65.3	19.76
Census Region													
Northeast.....	100.0	2.7	2.1	0	4.9	88.5	100.0	2.3	1.6	0	8.4	86.1	15.35
Midwest.....	100.0	4.7	2.5	4.0	4.2	84.7	100.0	2.0	1.6	2.3	4.4	89.7	12.60
South.....	100.0	5.8	2.8	3.9	5.8	81.6	100.0	3.7	1.8	3.6	5.4	85.5	9.99
West.....	100.0	3.9	1.8	2.5	9.7	82.1	100.0	3.5	1.7	2.0	6.5	86.2	15.54
Metropolitan Status													
Metropolitan.....	100.0	3.9	2.5	3.4	6.5	83.6	100.0	2.6	1.5	2.4	5.7	87.7	7.52
Nonmetropolitan.....	100.0	6.2	2.2	3.0	5.0	83.5	100.0	4.2	2.4	3.2	7.0	83.2	13.50
Workers													
Fewer than 5.....	100.0	NC	2.9	3.9	6.1	87.1	100.0	NC	2.3	4.1	5.7	87.9	9.66
5 to 9.....	100.0	NC	Q	3.6	6.2	87.7	100.0	NC	5.4	5.9	85.6	17.04	
10 to 19.....	100.0	NC	Q	3.2	4.7	90.0	100.0	NC	3.6	4.8	89.6	14.75	
20 to 49.....	100.0	NC	Q	2.4	9.5	85.9	100.0	NC	2.7	10.3	85.3	16.28	
50 to 99.....	100.0	NC	Q	Q	9.4	89.9	100.0	NC	Q	12.5	86.3	29.04	
100 to 249.....	100.0	NC	Q	Q	Q	92.0	100.0	NC	Q	Q	93.5	26.82	
250 or More.....	100.0	NC	Q	Q	Q	97.1	100.0	NC	Q	Q	Q	98.1	28.76
Weekly Operating Hours													
39 or Fewer.....	100.0	24.1	2.8	0	8.9	62.3	100.0	30.5	1.2	0	12.3	54.2	14.37
40 to 48.....	100.0	NC	2.1	4.0	9.1	84.8	100.0	NC	1.9	5.0	11.3	81.8	13.04
49 to 60.....	100.0	NC	2.4	2.8	4.7	90.1	100.0	NC	1.9	2.0	3.3	92.8	13.30
61 to 84.....	100.0	NC	0	3.9	2.0	90.8	100.0	NC	0	1.3	2.6	94.4	16.50
85 to 167.....	100.0	NC	Q	4.6	4.3	88.5	100.0	NC	0	2.2	5.7	90.6	19.35
168 (Open Continuously).....	100.0	NC	Q	2.7	2.8	92.9	100.0	NC	0	2.1	2.2	94.1	19.88
Energy Sources (Solely or in Combination)													
Electricity.....	100.0	1.2	2.6	3.4	6.3	86.5	100.0	1.0	1.7	2.6	6.1	88.5	7.08
Natural Gas.....	100.0	Q	2.2	2.6	6.4	88.1	100.0	0	1.6	2.5	6.4	89.3	10.39
Fuel Oil.....	100.0	Q	Q	Q	5.4	91.2	100.0	Q	0	0	7.0	88.7	22.28
District Heat.....	100.0	Q	Q	Q	10.6	80.4	100.0	Q	0	0	4.8	91.9	29.16
District Chilled Water.....	100.0	NC	Q	Q	Q	80.2	100.0	NC	0	0	Q	95.0	51.36
Propane.....	100.0	NC	Q	Q	9.0	85.2	100.0	NC	0	0	5.6	90.4	20.12
Any Other.....	100.0	NC	Q	Q	Q	82.9	100.0	NC	0	0	Q	75.1	36.38
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	100.0	.7	2.0	2.9	6.6	87.8	100.0	.5	1.5	2.5	6.4	89.1	8.04
Air-Conditioned Buildings.....	100.0	.0	1.8	3.3	5.2	89.3	100.0	.0	1.3	2.0	4.7	91.8	8.88
Buildings with Water Heating.....	100.0	.7	2.5	3.2	5.7	87.9	100.0	.0	1.6	2.5	6.2	89.4	8.62
Buildings with Cooking.....	100.0	0	3.3	2.7	7.3	86.7	100.0	.0	1.7	1.6	8.0	88.7	18.10
Buildings with Manufacturing..	100.0	Q	Q	Q	Q	94.0	100.0	Q	0	0	Q	95.4	25.31

See footnotes at end of table.

BUILDING USE

Table 50. Months In Use Out of Past 12 Months, Percent of Buildings and Floorspace (Continued)

Building Characteristics	Percent of Buildings						Percent of Total Floorspace						RSE Row Factor
	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	All Buildings	0 Months	1 to 4 Months	5 to 8 Months	9 to 11 Months	12 Months	
	RSE Column Factor:	--	1.710	1.808	1.754	1.152	0.112	--	1.977	2.038	2.091	1.390	0.122
Percent Vacant for at Least Three Months													
None.....	100.0	0	0	.9	4.2	94.4	100.0	0	0	.6	4.8	94.3	12.98
1 to 25.....	100.0	0	0	0	0	93.0	100.0	0	0	0	0	97.4	28.03
26 to 50.....	100.0	0	0	0	0	78.3	100.0	0	0	0	0	84.6	30.76
51 to 99.....	100.0	0	0	0	17.9	67.1	100.0	0	0	0	0	68.8	33.44
100.....	100.0	42.8	18.7	18.3	18.1	Q	100.0	41.2	16.8	17.6	22.5	Q	16.20

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 51. Multibuilding Facilities, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)			Total Floorspace (million square feet)			RSE Row Factor	
	All Buildings	Part of Multibuilding Facility		All Buildings	Part of Multibuilding Facility			
		All Buildings in Multibuilding Facilities	Buildings in Multibuilding Facilities with Central Physical Plant		All Buildings in Multibuilding Facilities	Buildings in Multibuilding Facilities with Central Physical Plant		
RSE Column Factor:	0.588	0.826	1.749	0.647	0.971	1.873		
All Buildings.....	4,528	1,498	203	63,184	25,947	8,346	5.52	
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	708	54	6,790	1,852	150	7.89	
5,001 to 10,000.....	890	361	35	6,532	2,611	258	8.44	
10,001 to 25,000.....	644	240	55	10,393	4,010	940	9.24	
25,001 to 50,000.....	247	87	21	8,801	3,176	772	9.72	
50,001 to 100,000.....	127	59	21	9,130	4,270	1,534	10.18	
100,001 to 200,000.....	61	28	9	8,277	3,889	1,353	13.18	
200,001 to 500,000.....	23	12	6	7,022	3,416	1,671	19.08	
Over 500,000.....	7	3	2	6,239	2,724	1,668	21.11	
Principal Building Activity								
Assembly.....	615	229	27	6,838	2,941	1,014	13.83	
Education.....	284	196	44	8,148	4,650	1,660	13.07	
Food Sales.....	102	Q	Q	792	Q	Q	40.55	
Food Service.....	241	31	Q	1,167	206	Q	21.38	
Health Care.....	80	20	6	2,054	1,409	1,073	20.84	
Lodging.....	140	81	22	3,476	1,683	867	12.95	
Mercantile and Service.....	1,278	250	8	12,365	3,254	184	11.21	
Office.....	679	219	43	11,802	4,527	1,640	10.73	
Parking Garage.....	45	27	2	983	641	301	24.90	
Public Order and Safety.....	50	Q	Q	616	Q	Q	37.57	
Warehouse.....	618	300	26	9,253	4,026	639	13.01	
Other.....	62	38	11	1,529	866	542	28.72	
Vacant.....	333	83	7	4,161	1,451	226	20.50	
Year Constructed								
1899 or Before.....	172	35	Q	1,654	459	Q	25.08	
1900 to 1919.....	242	62	13	4,245	1,167	264	22.57	
1920 to 1945.....	680	162	29	8,098	3,156	1,073	13.62	
1946 to 1959.....	868	298	39	10,511	4,622	1,537	12.85	
1950 to 1969.....	821	271	49	12,167	5,019	1,898	8.37	
1970 to 1979.....	884	339	42	13,329	5,870	2,241	9.78	
1980 to 1983.....	317	125	16	4,274	1,972	493	15.64	
1984 to 1986.....	329	125	5	5,670	2,234	265	15.83	
1987 to 1989.....	215	82	6	3,235	1,449	307	20.41	
Census Region								
Northeast.....	783	247	34	13,569	4,766	1,732	13.11	
Midwest.....	1,046	232	36	15,955	5,483	2,075	12.14	
South.....	1,847	652	82	22,040	9,635	2,590	9.94	
West.....	851	367	51	11,620	6,062	1,949	11.64	
Metropolitan Status								
Metropolitan.....	3,073	1,076	151	50,809	21,456	7,441	6.41	
Nonmetropolitan.....	1,454	422	53	12,375	4,491	904	13.18	
Workers								
Fewer than 5.....	2,280	752	65	13,292	4,865	964	8.51	
5 to 9.....	906	263	28	7,939	2,497	426	11.37	
10 to 19.....	507	160	24	6,445	2,166	388	10.67	
20 to 49.....	381	144	36	9,665	4,024	1,148	10.57	
50 to 99.....	132	59	20	7,389	3,157	949	11.28	
100 to 249.....	79	38	15	6,771	3,359	1,391	12.96	
250 or More.....	32	18	8	9,829	4,986	2,911	16.98	
Weekly Operating Hours								
39 or Fewer.....	876	316	32	6,073	2,686	481	11.63	
40 to 48.....	1,117	409	55	13,905	5,513	1,458	10.38	
49 to 60.....	987	277	27	13,473	5,042	982	10.67	
61 to 84.....	625	165	21	10,777	3,710	862	10.35	
85 to 167.....	515	143	17	9,387	3,506	1,403	16.85	
168 (Open Continuously).....	408	188	51	9,569	5,491	3,160	10.36	
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	1,410	201	61,587	25,057	8,303	5.58	
Natural Gas.....	2,439	675	79	41,593	15,332	4,852	7.40	
Fuel Oil.....	586	145	28	12,684	4,879	2,347	12.54	
District Heat.....	105	98	89	6,856	5,564	4,714	16.05	
District Chilled Water.....	25	24	24	2,101	1,840	1,713	16.44	
Propane.....	348	126	13	4,695	2,113	Q	23.10	
Any Other.....	130	51	Q	1,542	684	Q	28.24	

See footnotes at end of tables.

Table 51. Multibuilding Facilities, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)			Total Floorspace (million square feet)			RSE Row Factor	
	All Buildings	Part of Multibuilding Facility		All Buildings	Part of Multibuilding Facility			
		All Buildings in Multibuilding Facilities	Buildings in Multibuilding Facilities with Central Physical Plant		All Buildings in Multibuilding Facilities	Buildings in Multibuilding Facilities with Central Physical Plant		
RSE Column Factor:	0.588	0.826	1.749	0.647	0.971	1.873		
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	1,182	179	57,868	23,019	7,881	6.10	
Air-Conditioned Buildings.....	3,184	934	143	51,771	20,338	6,982	6.34	
Buildings with Water Heating.....	3,184	977	168	53,585	21,524	7,593	6.32	
Buildings with Cooking.....	864	232	38	23,668	9,594	3,859	10.41	
Buildings with Manufacturing..	205	81	18	5,601	3,168	1,126	20.74	
Space-Heating Energy Source (Solely or in Combination)								
Electricity.....	1,284	421	40	18,703	7,185	1,424	10.56	
Natural Gas.....	2,172	592	60	33,278	11,817	2,981	8.23	
Fuel Oil.....	560	133	22	10,603	3,929	1,903	13.51	
District Heat.....	101	94	85	6,330	5,067	4,217	16.73	
Propane.....	238	81	0	1,767	708	0	28.08	
Other.....	110	38	Q	994	457	0	32.31	
Cooling Energy Sources (Solely or in Combination)								
Electricity.....	3,074	897	125	47,913	18,113	5,188	6.84	
Natural Gas.....	98	22	2	1,991	598	240	20.84	
District Chilled Water.....	25	24	24	2,101	1,840	1,713	16.44	
Other.....	13	Q	2	1,090	Q	Q	49.39	
Ownership and Occupancy								
Nongovernment Owned.....	3,951	1,102	105	48,842	16,968	4,355	6.53	
Owner Occupied.....	2,814	794	97	35,955	12,438	3,970	7.30	
Nonowner Occupied.....	1,136	308	8	12,888	4,530	385	13.27	
Government Owned.....	577	395	99	14,342	8,979	3,991	9.50	

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 52. Multibuilding Facilities, Number and Percent of Buildings and Floorspace

Buildings Characteristics	Number of Buildings (thousand)			Total Floorspace (million square feet)			RSE Row Factor	
	All		Percent of Buildings on Multibuilding Facilities	All		Percent of Floorspace of Buildings on Multibuilding Facilities		
	Number of Buildings (thousand)	Percent of Buildings		Floorspace (million square feet)	Percent of Floorspace			
	RSE Column Factor:	1.120	0.822	0.679	1.350	1.092	1.085	
All Buildings.....	4,528	100.0	--	63,184	100.0	--	2.59	
Not on Multibuilding Facility.....	3,030	66.9	--	37,237	58.9	--	2.36	
Part of Multibuilding Facility.....	1,498	33.1	100.0	25,947	41.1	100.0	3.48	
Buildings on Facilities that Have No Central Physical Plant.....	1,294	28.6	86.4	17,601	27.9	67.8	3.76	
Buildings on Facilities that Have a Central Physical Plant.....	203	4.5	13.6	8,346	13.2	32.2	10.95	
Building Receives District Heat or Cooling.....	97	2.1	6.5	5,314	8.4	19.5	14.19	

-- Data not applicable.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

**Table 53. Energy Sources, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Buildings Using Any Energy Source	Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood	
	0.464	0.470	0.470	0.568	1.189	1.770	2.287	1.573	2.271	
All Buildings.....	4,528	4,302	4,297	2,439	586	105	25	348	79	7.49
Building Floorspace (Square Feet)										
1,001 to 5,000.....	2,529	2,365	2,361	1,233	306	17	0	205	52	11.64
5,001 to 10,000.....	890	856	856	536	97	16	0	65	0	12.66
10,001 to 25,000.....	644	622	622	359	96	32	0	49	0	13.57
25,001 to 50,000.....	247	243	243	154	37	14	4	13	0	8.72
50,001 to 100,000.....	127	125	125	90	24	11	4	10	0	15.88
100,001 to 200,000.....	61	60	60	45	17	8	4	4	0	19.96
200,001 to 500,000.....	23	23	23	17	6	5	1	1	0	23.73
Over 500,000.....	7	7	7	6	3	2	1	Q	NC	23.25
Principal Building Activity										
Assembly.....	615	613	612	346	99	16	0	99	0	15.83
Education.....	284	284	284	199	38	19	0	22	0	18.03
Food Sales.....	102	102	102	60	0	0	0	0	0	37.31
Food Service.....	241	241	241	188	27	0	0	30	0	25.54
Health Care.....	80	80	80	40	13	4	0	0	0	28.73
Lodging.....	140	140	140	102	15	13	0	19	0	22.08
Mercantile and Service.....	1,278	1,278	1,276	739	223	4	0	101	45	12.43
Office.....	679	679	679	398	67	25	0	0	0	15.51
Parking Garage.....	45	45	45	0	0	0	0	0	0	41.60
Public Order and Safety.....	50	50	50	28	0	0	0	0	0	38.39
Warehouse.....	618	544	543	207	49	9	0	28	0	16.39
Other.....	62	62	62	28	0	9	0	0	0	35.46
Vacant.....	333	185	184	88	15	Q	0	Q	Q	27.70
Year Constructed										
1899 or Before.....	172	163	162	98	31	0	0	0	0	27.46
1900 to 1919.....	242	223	223	156	35	9	0	0	0	23.84
1920 to 1945.....	680	631	631	398	137	21	0	44	0	14.58
1946 to 1959.....	868	825	825	518	144	18	4	59	0	14.58
1960 to 1969.....	821	777	775	458	98	26	5	57	0	12.60
1970 to 1979.....	884	855	855	421	90	12	5	82	0	12.76
1980 to 1983.....	317	309	309	140	21	0	0	18	0	20.71
1984 to 1986.....	329	316	315	148	12	0	0	26	0	21.37
1987 to 1989.....	215	202	202	103	19	Q	0	24	0	25.60
Census Region										
Northeast.....	783	754	751	358	305	30	1	85	0	18.12
Midwest.....	1,046	1,003	1,001	737	90	16	3	76	25	13.52
South.....	1,847	1,727	1,726	815	158	35	14	146	0	13.58
West.....	851	819	819	530	33	23	7	42	0	16.52
Metropolitan Status										
Metropolitan.....	3,073	2,950	2,948	1,755	381	91	23	198	26	9.04
Nonmetropolitan.....	1,454	1,352	1,349	684	206	13	Q	150	53	18.36
Workers										
Fewer than 5.....	2,280	2,214	2,210	1,109	307	21	0	203	59	10.52
5 to 9.....	906	903	903	557	116	18	0	63	0	13.65
10 to 19.....	507	507	507	354	59	10	0	33	0	14.80
20 to 49.....	381	381	381	242	54	23	5	31	0	14.54
50 to 99.....	132	132	132	82	21	12	3	12	0	10.17
100 to 249.....	79	79	79	55	17	9	3	5	0	18.17
250 or More.....	32	32	32	23	11	9	3	1	NC	18.96
Weekly Operating Hours										
39 or Fewer.....	876	690	688	327	91	0	0	81	0	19.07
40 to 48.....	1,117	1,102	1,100	661	130	22	0	64	0	12.73
49 to 60.....	987	978	978	562	140	14	0	75	30	12.50
61 to 84.....	625	621	621	378	86	13	5	27	0	14.07
85 to 167.....	515	513	513	298	77	11	4	61	0	16.32
168 (Open Continuously).....	408	399	397	214	62	37	5	40	0	14.56
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	4,297	4,297	2,436	586	105	25	348	77	7.50
Natural Gas.....	2,439	2,439	2,436	2,439	146	29	9	32	22	9.64
Fuel Oil.....	586	586	586	146	586	12	6	64	0	18.10
District Heat.....	105	105	105	29	12	105	17	0	NC	21.26
District Chilled Water.....	25	25	25	9	6	17	25	0	NC	22.56
Propane.....	348	348	348	32	64	0	0	348	0	23.06
Any Other.....	130	130	129	36	22	Q	Q	Q	79	27.66

See footnotes at end of table.

Table 53. Energy Sources, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Buildings Using Any Energy Source	Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Mood	
			0.464	0.470	0.470	0.568	1.189	1.770	2.287	1.573
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	3,877	3,874	2,410	583	105	24	335	79	7.74
Air-Conditioned Buildings.....	3,184	3,184	3,184	1,983	374	77	25	248	0	9.02
Buildings with Water Heating..	3,184	3,184	3,182	2,043	458	95	22	271	45	8.17
Buildings with Cooking.....	864	864	864	586	141	26	4	117	0	14.03
Buildings with Manufacturing..	205	205	205	123	36	15	Q	32	Q	13.16
Ownership and Occupancy										
Nongovernment Owned.....	3,951	3,741	3,738	2,121	502	61	8	297	72	8.84
Owner Occupied.....	2,814	2,736	2,734	1,569	402	57	7	229	58	9.94
Nonowner Occupied.....	1,136	1,005	1,005	551	100	4	0	68	0	13.89
Government Owned.....	577	561	559	318	84	44	17	51	Q	13.00
Climate Zone: 45 Year Average										
Under 2,000 CDD and --										
Over 7,000 HDD.....	357	333	333	188	90	6	0	37	0	17.94
5,500-7,000 HDD.....	1,120	1,075	1,074	732	189	36	4	88	0	18.18
4,000-5,499 HDD.....	965	920	917	447	236	25	3	79	0	24.84
Under 4,000 HDD.....	1,024	982	982	561	45	19	7	97	0	23.26
2,000 CDD or More and --										
Under 4,000 HDD.....	1,063	992	992	512	27	19	11	48	0	23.03

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 54. Energy Sources, Percent of Buildings

Building Characteristics	All Buildings	All Buildings Using Any Energy Source	Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood	
			RSE Column Factor:	--	0.081	0.076	0.771	1.871	2.955	4.092
All Buildings.....	100.0	95.0	94.9	53.9	13.0	2.3	0.5	7.7	1.7	4.92
Building Floorspace (Square Feet)										
1,001 to 5,000.....	100.0	93.5	93.4	48.7	12.1	.7	0	8.1	2.0	8.29
5,001 to 10,000.....	100.0	96.2	96.2	60.3	11.0	1.8	0	7.3	0	8.58
10,001 to 25,000.....	100.0	96.6	96.6	55.7	14.9	4.9	0	7.6	0	9.03
25,001 to 50,000.....	100.0	98.6	98.6	62.3	15.0	5.6	1.7	5.4	0	5.39
50,001 to 100,000.....	100.0	98.1	97.9	70.6	18.5	8.8	3.1	8.1	0	8.83
100,001 to 200,000.....	100.0	99.4	99.4	74.0	27.4	13.7	7.3	6.3	0	8.46
200,001 to 500,000.....	100.0	99.8	99.8	73.4	26.8	21.6	3.9	6.4	NC	6.15
Over 500,000.....	100.0	97.5	97.3	85.5	48.2	28.0	9.7	Q	NC	12.76
Principal Building Activity										
Assembly.....	100.0	99.7	99.4	56.2	16.1	2.6	0	16.0	0	8.06
Education.....	100.0	100.0	100.0	69.9	13.5	6.5	3.2	7.8	0	9.72
Food Sales.....	100.0	100.0	100.0	58.4	0	0	0	0	0	21.92
Food Service.....	100.0	100.0	100.0	78.0	11.4	0	0	12.3	0	17.44
Health Care.....	100.0	100.0	100.0	50.5	16.0	4.7	0	0	0	15.75
Lodging.....	100.0	100.0	100.0	73.2	11.0	9.2	0	13.9	0	12.29
Mercantile and Service.....	100.0	99.9	99.8	57.8	17.4	3.3	0	7.9	3.5	5.21
Office.....	100.0	100.0	100.0	58.6	9.8	3.7	0	0	0	9.79
Parking Garage.....	100.0	100.0	100.0	0	0	0	0	0	0	25.19
Public Order and Safety.....	100.0	99.4	99.4	56.1	0	0	0	0	0	15.59
Warehouse.....	100.0	88.0	87.9	33.5	7.9	1.1	0	4.6	0	14.15
Other.....	100.0	99.3	99.3	44.9	0	14.2	0	0	0	15.19
Vacant.....	100.0	55.5	55.2	26.3	4.4	0	0	0	0	28.39
Year Constructed										
1899 or Before.....	100.0	95.0	94.1	56.7	17.8	0	0	0	0	16.10
1900 to 1919.....	100.0	92.2	92.0	64.4	14.5	3.9	0	0	0	16.40
1920 to 1945.....	100.0	92.7	92.7	58.5	20.2	3.1	0	6.4	0	10.25
1946 to 1959.....	100.0	95.1	95.1	59.7	16.5	2.1	0	6.8	0	9.58
1960 to 1969.....	100.0	94.7	94.4	55.8	11.9	3.2	1.1	7.0	0	9.37
1970 to 1979.....	100.0	96.7	96.7	47.6	10.2	1.4	0	9.3	0	8.46
1980 to 1983.....	100.0	97.6	97.6	44.1	6.7	0	0	5.6	0	14.18
1984 to 1986.....	100.0	95.9	95.7	45.1	3.6	0	0	7.8	0	15.42
1987 to 1989.....	100.0	94.2	94.2	47.8	8.8	0	0	11.3	0	17.00
Census Region										
Northeast.....	100.0	96.2	95.9	45.7	38.9	3.9	.1	10.8	0	10.70
Midwest.....	100.0	95.9	95.7	70.5	8.6	1.6	0	7.2	2.4	7.18
South.....	100.0	93.5	93.4	44.1	8.6	1.9	.8	7.9	0	8.56
West.....	100.0	96.2	96.2	62.2	3.9	2.7	.8	5.0	0	11.83
Metropolitan Status										
Metropolitan.....	100.0	96.0	95.9	57.1	12.4	3.0	.7	6.4	.8	5.38
Nonmetropolitan.....	100.0	92.9	92.8	47.0	14.1	.9	Q	10.3	3.6	11.70
Workers										
Fewer than 5.....	100.0	97.1	96.9	48.6	13.4	.9	0	8.9	2.6	7.30
5 to 9.....	100.0	99.7	99.7	61.5	12.8	2.0	0	6.9	0	6.75
10 to 19.....	100.0	99.9	99.9	69.8	11.6	1.9	0	6.5	0	5.24
20 to 49.....	100.0	100.0	100.0	63.5	14.3	6.0	1.4	8.2	0	9.15
50 to 99.....	100.0	100.0	100.0	62.5	16.1	9.4	2.7	9.2	0	6.30
100 to 249.....	100.0	100.0	100.0	69.5	21.5	11.7	3.6	6.3	0	10.32
250 or More.....	100.0	100.0	100.0	73.1	35.9	26.8	10.9	4.0	NC	7.67
Weekly Operating Hours										
39 or Fewer.....	100.0	78.8	78.6	37.4	10.4	0	0	9.3	0	14.52
40 to 48.....	100.0	98.6	98.5	59.1	11.6	1.9	0	5.7	0	7.68
49 to 60.....	100.0	99.1	99.1	57.0	14.2	1.4	0	7.6	3.1	7.70
61 to 84.....	100.0	99.3	99.3	60.4	13.8	2.0	.8	4.3	0	8.55
85 to 167.....	100.0	99.7	99.7	57.9	15.0	2.1	.7	11.8	0	7.45
168 (Open Continuously).....	100.0	97.7	97.2	52.3	15.2	9.2	1.2	9.9	0	11.09
Energy Sources (Solely or in Combination)										
Electricity.....	100.0	100.0	100.0	56.7	13.6	2.4	.6	8.1	1.8	4.65
Natural Gas.....	100.0	100.0	99.9	100.0	6.0	1.2	.4	1.3	.9	4.78
Fuel Oil.....	100.0	100.0	99.9	25.0	100.0	2.1	0	10.9	0	6.71
District Heat.....	100.0	100.0	100.0	27.6	11.5	100.0	16.2	0	NC	13.12
District Chilled Water.....	100.0	100.0	100.0	35.2	25.7	68.4	100.0	0	NC	14.12
Propane.....	100.0	100.0	100.0	9.2	18.3	0	0	100.0	0	15.13
Any Other.....	100.0	100.0	98.9	27.6	17.2	Q	Q	60.4	60.4	13.36
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	100.0	100.0	99.9	62.2	15.0	2.7	.6	8.6	2.0	4.61
Air-Conditioned Buildings.....	100.0	100.0	100.0	62.3	11.7	2.4	.8	7.8	0	5.45
Buildings with Water Heating.....	100.0	100.0	99.9	64.2	14.4	3.0	.7	8.5	1.4	3.68
Buildings with Cooking.....	100.0	100.0	100.0	67.9	16.3	3.0	.5	13.6	0	9.05
Buildings with Manufacturing.....	100.0	100.0	100.0	60.0	17.6	7.2	Q	15.4	Q	8.11

See footnotes at end of table.

Table 54. Energy Sources, Percent of Buildings (Continued)

Building Characteristics	All Buildings	All Buildings Using Any Energy Source	Energy Sources Used (Solely or in Combination)							RSE Row Factor	
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood		
			RSE Column Factor:	--	0.081	0.076	0.711	1.871	2.955	4.092	2.531
Ownership and Occupancy											
Nongovernment Owned.....	100.0	94.7	94.6	53.7	12.7	1.6	.2	7.5	1.8	5.94	
Owner Occupied.....	100.0	97.2	97.1	55.8	14.3	2.0	.3	8.1	2.0	6.17	
Nonowner Occupied.....	100.0	88.4	88.4	48.5	8.8	.4	0	6.0	0	10.90	
Government Owned.....	100.0	97.2	96.8	55.2	14.5	7.6	2.9	8.8	0	8.53	
Climate Zone: 45 Year Average											
Under 2,000 CDD and --	100.0	93.2	93.2	52.7	25.1	1.6	.9	10.4	0	12.74	
Over 2,000 HDD.....	100.0	96.0	95.9	65.3	16.9	3.2	.3	7.8	0	9.40	
5,500-7,000 HDD.....	100.0	95.4	95.0	46.3	24.4	2.6	0	8.1	0	11.73	
4,000-5,499 HDD.....	100.0	95.9	95.9	54.8	4.4	1.8	.6	9.4	0	10.52	
Under 4,000 HDD.....	100.0	95.9	93.3	48.1	2.6	1.8	1.0	4.5	0	12.14	
2,000 CDD or More and --	100.0	93.3	93.3	48.1	2.6	1.8	1.0	4.5	0		
Under 4,000 HDD.....	100.0	93.3	93.3	48.1	2.6	1.8	1.0	4.5	0		

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 55. Energy Sources, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings Using Any Energy Source	Total Floorspace of Buildings by Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood	
	0.482	0.485	0.486	0.605	0.912	1.800	2.205	1.537	2.612	
All Buildings.....	63,184	61,636	61,587	41,593	12,684	6,856	2,101	4,695	438	7.49
Building Floorspace (Square Feet)										
1,001 to 5,000.....	6,790	6,421	6,411	3,441	832	43	0	587	126	11.98
5,001 to 10,000.....	6,532	6,302	6,302	3,985	698	115	0	454	0	12.50
10,001 to 25,000.....	10,393	10,001	9,989	5,793	1,499	566	0	738	0	13.56
25,001 to 50,000.....	8,801	8,682	8,682	5,487	1,352	512	148	461	0	8.90
50,001 to 100,000.....	9,130	8,939	8,918	6,397	1,685	848	282	748	0	15.87
100,001 to 200,000.....	8,277	8,222	8,222	6,032	2,245	1,222	690	540	0	19.65
200,001 to 500,000.....	7,022	7,002	7,002	5,129	1,807	1,415	316	468	0	24.69
Over 500,000.....	6,239	6,067	6,062	5,328	2,566	2,135	542	Q	NC	25.15
Principal Building Activity										
Assembly.....	6,838	6,784	6,779	4,311	1,083	842	0	551	0	18.62
Education.....	8,148	8,148	8,148	6,640	2,253	1,143	371	1,143	0	17.94
Food Sales.....	792	792	792	548	0	0	0	0	0	44.27
Food Service.....	1,167	1,167	1,167	818	167	0	0	203	0	29.48
Health Care.....	2,054	2,054	2,054	1,616	1,397	710	155	0	0	24.92
Lodging.....	3,476	3,476	3,476	2,621	607	693	0	468	0	21.28
Mercantile and Service.....	12,365	12,363	12,361	8,846	1,608	150	0	910	268	13.13
Office.....	11,802	11,802	11,797	7,286	2,888	2,490	772	0	0	14.39
Parking Garage.....	983	983	983	0	0	0	0	0	0	46.85
Public Order and Safety.....	616	608	608	440	0	0	0	0	0	39.35
Warehouse.....	9,253	8,857	8,854	5,176	1,429	201	0	789	0	22.83
Other.....	1,529	1,528	1,528	1,070	0	301	0	0	0	34.40
Vacant.....	4,161	3,074	3,040	1,939	329	0	0	0	0	36.76
Year Constructed										
1899 or Before.....	1,654	1,574	1,568	1,005	406	0	0	0	0	29.63
1900 to 1919.....	4,245	3,871	3,849	3,102	809	274	0	0	0	34.78
1920 to 1945.....	8,098	7,880	7,880	5,768	2,460	1,276	0	515	0	18.97
1946 to 1959.....	10,511	10,211	10,198	7,436	2,072	1,638	216	960	0	18.09
1960 to 1969.....	12,167	11,934	11,926	8,577	2,369	1,307	510	831	0	11.27
1970 to 1979.....	13,329	13,178	13,178	8,143	2,410	1,338	885	1,020	0	13.42
1980 to 1983.....	4,274	4,209	4,209	2,199	935	0	0	308	0	17.95
1984 to 1986.....	5,670	5,631	5,628	3,490	580	0	0	474	0	23.53
1987 to 1989.....	3,235	3,150	3,150	1,873	643	0	0	272	0	28.09
Census Region										
Northeast.....	13,569	13,355	13,326	8,583	5,158	2,356	407	1,073	0	15.31
Midwest.....	15,955	15,718	15,710	12,923	3,261	1,546	318	1,061	150	14.25
South.....	22,040	21,246	21,233	11,883	2,852	1,694	911	1,738	0	14.64
West.....	11,620	11,318	11,318	8,205	1,412	1,259	465	0	0	16.96
Metropolitan Status										
Metropolitan.....	50,809	49,887	49,842	34,707	10,218	6,512	2,025	3,235	188	8.97
Nonmetropolitan.....	12,375	11,749	11,745	6,886	2,466	344	Q	1,460	249	18.18
Workers										
Fewer than 5.....	13,292	12,938	12,928	6,675	1,646	334	0	953	314	14.47
5 to 9.....	7,939	7,927	7,927	5,193	1,101	348	0	474	0	18.03
10 to 19.....	6,445	6,443	6,443	4,499	884	193	0	313	0	15.44
20 to 49.....	9,665	9,665	9,665	6,618	1,532	906	0	826	0	18.09
50 to 99.....	7,389	7,389	7,389	5,447	1,830	638	221	692	0	10.80
100 to 249.....	6,771	6,771	6,771	5,219	1,679	947	332	584	0	17.98
250 or More.....	9,829	9,829	9,824	7,806	3,897	3,427	1,004	0	NC	20.57
Weekly Operating Hours										
39 or Fewer.....	6,073	4,799	4,763	2,654	777	0	0	451	0	17.29
40 to 48.....	13,905	13,815	13,810	9,396	2,651	939	0	738	0	15.24
49 to 60.....	13,473	13,350	13,350	8,505	2,417	1,208	236	841	166	14.44
61 to 84.....	10,777	10,756	10,751	7,982	1,803	998	440	379	0	14.49
85 to 167.....	9,387	9,377	9,377	6,601	2,177	1,188	365	1,506	0	20.87
168 (Open Continuously).....	9,569	9,538	9,536	6,456	2,858	2,367	551	780	0	15.14
Energy Sources (Solely or in Combination)										
Electricity.....	61,587	61,587	61,587	41,571	12,663	6,856	2,101	4,695	432	7.52
Natural Gas.....	41,593	41,593	41,571	41,593	7,913	3,670	1,043	1,633	113	10.21
Fuel Oil.....	12,684	12,684	12,663	7,913	12,684	1,507	586	1,489	0	12.33
District Heat.....	6,856	6,856	6,856	3,670	1,507	6,856	1,733	0	NC	24.65
District Chilled Water.....	2,101	2,101	2,101	1,043	586	1,733	2,101	0	NC	26.42
Propane.....	4,695	4,695	4,695	1,633	1,489	0	0	4,695	0	24.29
Any Other.....	1,542	1,542	1,537	775	289	0	Q	Q	438	33.99

See footnotes at end of table.

Table 55. Energy Sources, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings Using Any Energy Source	Total Floorspace of Buildings by Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Mood	
	0.482	0.485	0.486	0.605	0.912	1.800	2.205	1.537	2.612	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	57,868	57,868	57,834	41,242	12,577	6,840	2,094	4,549	438	7.75
Air-Conditioned Buildings.....	51,771	51,771	51,765	37,067	10,468	6,175	2,101	4,021	Q	8.59
Buildings with Water Heating..	53,585	53,585	53,577	38,843	11,885	6,736	2,083	4,328	254	8.00
Buildings with Cooking.....	23,668	23,668	23,662	19,142	6,281	3,981	946	2,355	Q	12.62
Buildings with Manufacturing..	5,601	5,601	5,601	3,782	1,135	1,307	Q	1,357	Q	17.00
Ownership and Occupancy										
Nongovernment Owned.....	48,842	47,578	47,568	31,918	8,764	3,583	957	3,230	402	7.84
Owner Occupied.....	35,955	35,448	35,438	23,742	6,939	3,304	850	2,584	319	8.81
Nonowner Occupied.....	12,888	12,131	12,131	8,177	1,826	279	Q	645	Q	16.20
Government Owned.....	14,342	14,058	14,019	9,675	3,920	3,273	1,144	1,465	Q	15.36
Climate Zone: 45 Year Average										
Under 2,000 CDD and --										
Over 7,000 HDD.....	5,062	4,983	4,983	3,069	1,902	433	Q	790	Q	19.22
5,500-7,000 HDD.....	17,957	17,526	17,502	13,975	3,985	2,337	554	1,367	Q	16.77
4,000-5,499 HDD.....	15,386	15,058	15,045	9,953	4,280	2,145	291	1,012	Q	17.77
Under 4,000 HDD.....	12,903	12,584	12,584	8,483	1,847	1,181	553	728	Q	22.64
2,000 CDD or More and --										
Under 4,000 HDD.....	11,877	11,486	11,473	6,112	669	759	640	799	Q	23.02

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 56. Energy Sources, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings Using Any Energy Source	Total Floorspace of Buildings by Energy Sources Used (Solely or in Combination)								RSE Row Factor	
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood			
	--	0.073	0.069	0.625	1.566	3.109	4.310	2.828	5.362			
All Buildings.....	100.0	97.6	97.5	65.8	20.1	10.9	3.3	7.4	0.7	4.39		
Building Floorspace (Square Feet)												
1,001 to 5,000.....	100.0	94.6	94.4	50.7	12.3	.6	0	8.6	1.9	8.31		
5,001 to 10,000.....	100.0	96.5	96.5	61.0	10.7	1.8	0	6.9	0	8.03		
10,001 to 25,000.....	100.0	96.2	96.1	55.7	14.4	5.4	0	7.1	0	9.57		
25,001 to 50,000.....	100.0	98.6	98.6	62.3	15.4	5.8	1.7	0	0	5.53		
50,001 to 100,000.....	100.0	97.9	97.7	70.1	18.5	9.3	3.1	8.2	0	9.26		
100,001 to 200,000.....	100.0	99.3	99.3	72.9	27.1	14.8	8.3	6.5	0	8.83		
200,001 to 500,000.....	100.0	99.7	99.7	73.0	25.7	20.1	4.5	6.7	0	7.13		
Over 500,000.....	100.0	97.2	97.2	85.4	41.1	34.2	8.7	Q	NC	13.42		
Principal Building Activity												
Assembly.....	100.0	99.2	99.1	63.0	15.8	12.3	0	8.1	0	10.48		
Education.....	100.0	100.0	100.0	81.5	27.7	14.0	4.6	14.0	0	9.60		
Food Sales.....	100.0	100.0	100.0	69.3	0	0	0	0	0	21.64		
Food Service.....	100.0	100.0	100.0	70.1	14.3	0	0	17.4	0	16.92		
Health Care.....	100.0	100.0	100.0	78.7	68.0	34.6	7.6	0	0	8.16		
Lodging.....	100.0	100.0	100.0	75.4	17.5	19.9	0	13.5	0	11.52		
Mercantile and Service.....	100.0	100.0	100.0	71.5	13.0	1.2	0	7.4	2.0	7.65		
Office.....	100.0	100.0	100.0	61.7	24.5	21.1	6.5	0	0	8.05		
Parking Garage.....	100.0	100.0	100.0	0	0	0	0	0	0	NC	31.13	
Public Order and Safety.....	100.0	98.6	98.6	71.5	0	0	0	0	0	0	19.91	
Warehouse.....	100.0	95.7	95.7	55.9	15.4	2.2	NC	8.5	0	0	12.16	
Other.....	100.0	100.0	100.0	70.0	0	19.7	0	0	0	0	15.05	
Vacant.....	100.0	73.9	73.1	46.6	7.9	Q	Q	0	0	0	26.41	
Year Constructed												
1899 or Before.....	100.0	95.1	94.8	60.8	24.5	0	0	0	0	0	17.74	
1900 to 1919.....	100.0	91.2	90.7	73.1	19.1	6.5	0	0	0	0	21.06	
1920 to 1945.....	100.0	97.3	97.3	71.2	30.4	15.8	0	6.4	0	7.98		
1946 to 1959.....	100.0	97.1	97.0	70.7	19.7	15.6	2.1	9.1	0	10.55		
1960 to 1969.....	100.0	98.1	98.0	70.5	19.5	10.7	4.2	6.8	0	6.38		
1970 to 1979.....	100.0	98.9	98.9	61.1	18.1	10.0	6.6	7.7	0	6.85		
1980 to 1983.....	100.0	98.5	98.5	51.5	21.9	0	0	7.2	0	0	11.59	
1984 to 1986.....	100.0	99.3	99.3	61.6	10.2	0	0	8.4	0	0	10.75	
1987 to 1989.....	100.0	97.3	97.3	57.9	19.9	0	0	8.4	0	0	14.04	
Census Region												
Northeast.....	100.0	98.4	98.2	63.3	38.0	17.4	3.0	7.9	0	0	7.82	
Midwest.....	100.0	98.5	98.5	81.0	20.4	9.7	2.0	6.7	0	0	5.60	
South.....	100.0	96.4	96.3	53.9	12.9	7.7	4.1	7.9	0	0	8.09	
West.....	100.0	97.4	97.4	70.6	12.2	10.8	4.0	0	0	0	12.10	
Metropolitan Status												
Metropolitan.....	100.0	98.2	98.1	68.3	20.1	12.8	4.0	6.4	0	0	4.85	
Nonmetropolitan.....	100.0	94.9	94.9	55.6	19.9	2.8	0	11.8	2.0	0	11.84	
Workers												
Fewer than 5.....	100.0	97.3	97.3	50.2	12.4	2.5	0	7.2	2.4	0	9.50	
5 to 9.....	100.0	99.9	99.9	65.4	13.9	4.4	0	6.0	0	0	6.21	
10 to 19.....	100.0	100.0	100.0	69.8	13.7	3.0	0	4.9	0	0	7.90	
20 to 49.....	100.0	100.0	100.0	68.5	15.9	9.4	0	8.5	0	0	10.89	
50 to 99.....	100.0	100.0	100.0	73.7	24.8	8.6	3.0	9.4	0	0	5.95	
100 to 249.....	100.0	100.0	100.0	77.1	24.8	14.0	4.9	8.6	0	0	8.72	
250 or More.....	100.0	100.0	99.9	79.4	39.6	34.9	10.2	8.7	NC	0	5.10	
Weekly Operating Hours												
39 or Fewer.....	100.0	79.0	78.4	43.7	12.8	0	0	7.4	0	0	15.89	
40 to 48.....	100.0	99.4	99.3	67.6	19.1	6.7	0	5.3	0	0	7.09	
49 to 60.....	100.0	99.1	99.1	63.1	17.9	9.0	1.7	6.2	0	0	8.53	
61 to 84.....	100.0	99.8	99.8	74.1	16.7	9.3	4.1	3.5	0	0	5.43	
85 to 167.....	100.0	99.9	99.9	70.3	23.2	12.7	3.9	16.0	0	0	5.78	
168 (Open Continuously).....	100.0	99.7	99.7	67.5	29.9	24.7	5.8	8.1	0	0	5.64	
Energy Sources (Solely or in Combination)												
Electricity.....	100.0	100.0	100.0	67.5	20.6	11.1	3.4	7.6	.7	0	4.14	
Natural Gas.....	100.0	100.0	99.9	100.0	19.0	8.8	2.5	3.9	.3	0	6.36	
Fuel Oil.....	100.0	100.0	99.8	62.4	100.0	11.9	4.6	11.7	0	0	6.27	
District Heat.....	100.0	100.0	100.0	53.5	22.0	100.0	25.3	0	0	0	12.71	
District Chilled Water.....	100.0	100.0	100.0	49.7	27.9	82.5	100.0	0	0	0	12.74	
Propane.....	100.0	100.0	100.0	34.8	31.7	0	0	100.0	0	0	14.80	
Any Other.....	100.0	100.0	99.7	50.2	18.7	Q	Q	Q	28.4	0	14.07	

See footnotes at end of table.

Table 56. Energy Sources, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings Using Any Energy Source	Total Floorspace of Buildings by Energy Sources Used (Solely or in Combination)							RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	District Chilled Water	Propane	Wood	
			0.069	0.625	1.566	3.109	4.310	2.828	5.362	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	100.0	100.0	99.9	71.3	21.7	11.8	3.6	7.9	.8	4.17
Air-Conditioned Buildings.....	100.0	100.0	100.0	71.6	20.2	11.9	4.1	7.8	Q	4.69
Buildings with Water Heating..	100.0	100.0	100.0	72.5	22.2	12.6	3.9	8.1	Q	4.30
Buildings with Cooking.....	100.0	100.0	100.0	80.9	26.5	16.8	4.0	10.0	Q	6.36
Buildings with Manufacturing..	100.0	100.0	100.0	67.5	20.3	23.3	Q	24.2	Q	9.23
Ownership and Occupancy										
Nongovernment Owned.....	100.0	97.4	97.4	65.3	17.9	7.3	2.0	6.6	.8	4.52
Owner Occupied.....	100.0	98.6	98.6	66.0	19.3	9.2	2.4	7.2	Q	5.01
Nonowner Occupied.....	100.0	94.1	94.1	63.4	14.2	2.2	Q	5.0	Q	9.13
Government Owned.....	100.0	98.0	97.7	67.5	27.3	22.8	8.0	10.2	Q	9.30
Climate Zone: 45 Year Average										
Under 2,000 CDD and --										
Over 7,000 HDD.....	100.0	98.4	98.4	60.6	37.6	8.6	Q	15.6	Q	8.12
5,500-7,000 HDD.....	100.0	97.6	97.5	77.8	22.2	13.0	3.1	7.6	Q	8.63
4,000-5,499 HDD.....	100.0	97.9	97.8	64.7	27.8	13.9	1.9	6.6	Q	9.33
Under 4,000 HDD.....	100.0	97.5	97.5	65.7	14.3	9.2	4.3	5.6	Q	9.90
2,000 CDD or More and --										
Under 4,000 HDD.....	100.0	96.7	96.6	51.5	5.6	6.4	5.4	6.7	Q	10.31

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 57. Energy End Uses, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings	Energy Used For:					All Buildings	Energy Used For:						
		Space Heating	Cooling	Water Heating	Cooking	Manufacturing		Space Heating	Cooling	Water Heating	Cooking	Manufacturing		
RSE Column Factors	0.669	0.700	0.762	0.727	1.157	2.324	0.747	0.791	0.841	0.819	1.270	2.773		
All Buildings.....	4,528	3,877	3,184	3,184	864	205	63,184	57,868	51,771	53,585	23,668	5,601	4.70	
Building Floorspace (Square Feet)														
1,001 to 5,000.....	2,529	2,100	1,652	1,593	411	75	6,790	5,759	4,566	4,396	1,170	223	6.32	
5,001 to 10,000.....	890	760	647	658	152	37	5,532	5,620	4,809	4,892	1,138	265	8.26	
10,001 to 25,000.....	644	588	494	527	130	48	10,335	9,434	8,010	8,521	2,439	806	8.06	
25,001 to 50,000.....	247	224	205	206	75	8,801	7,994	7,271	7,400	2,598	710	8.66		
50,001 to 100,000.....	127	118	108	115	48	14	9,130	8,420	7,764	8,181	3,366	1,077	9.64	
100,001 to 200,000.....	61	58	50	56	28	5	8,277	7,902	6,916	7,644	4,015	753	10.73	
200,001 to 500,000.....	23	22	22	22	15	Q	7,022	6,763	6,460	6,930	4,403	Q	21.77	
Over 500,000.....	7	7	7	7	5	1	6,239	5,977	5,976	5,932	4,680	Q	18.40	
Principal Building Activity														
Assembly.....	615	589	432	481	178	Q	6,838	6,608	5,354	6,155	2,965	Q	12.67	
Education.....	284	279	211	214	98	12	8,148	8,088	6,499	7,622	5,288	Q	11.53	
Food Sales.....	102	89	85	97	55	Q	792	750	725	776	441	Q	25.28	
Food Service.....	241	228	215	234	216	N	1,167	1,061	1,082	1,149	1,111	N	13.32	
Health Care.....	80	75	77	73	18	Q	2,054	2,028	2,018	2,040	1,576	Q	20.54	
Lodging.....	140	134	113	138	62	Q	3,476	3,293	2,964	3,462	2,131	Q	14.94	
Mercantile and Service.....	1,278	1,219	929	963	122	78	12,365	12,040	10,803	10,163	4,035	863	7.05	
Office.....	679	663	655	609	47	23	11,802	11,693	11,625	11,196	3,917	968	10.06	
Parking Garage.....	45	27	17	21	9	Q	983	589	448	531	Q	33.87		
Public Order and Safety.....	50	50	31	42	19	Q	616	608	540	587	249	Q	28.47	
Warehouse.....	618	340	264	261	28	55	9,253	7,236	6,111	6,427	636	1,823	14.49	
Other.....	62	47	44	40	9	14	1,529	1,324	1,455	1,393	Q	495	28.07	
Vacant.....	333	137	110	111	17	Q	4,161	2,503	2,137	2,182	Q	Q	25.13	
Year Constructed														
1899 or Before.....	172	154	115	114	41	Q	1,654	1,536	1,223	1,254	441	Q	22.91	
1900 to 1919.....	242	204	137	165	43	Q	4,245	3,674	3,075	3,322	1,614	Q	22.51	
1920 to 1945.....	680	585	441	465	127	31	8,098	7,489	5,844	6,771	2,544	635	10.63	
1946 to 1959.....	868	758	572	617	176	47	10,511	9,793	8,285	9,074	4,777	1,626	9.59	
1960 to 1969.....	821	686	586	560	140	33	12,167	11,183	10,056	10,476	4,733	786	7.75	
1970 to 1979.....	884	771	666	633	173	41	13,329	12,374	11,616	11,305	5,213	1,085	8.18	
1980 to 1983.....	317	267	243	232	55	11	4,274	3,875	3,752	3,545	1,286	337	11.63	
1984 to 1986.....	329	277	264	238	58	27	5,670	5,078	5,215	5,044	1,926	428	12.49	
1987 to 1989.....	215	174	159	159	52	7	3,235	2,868	2,704	2,793	1,135	313	16.31	
Census Region														
Northeast.....	783	711	476	620	190	51	13,569	12,969	10,334	12,447	5,870	1,026	11.08	
Midwest.....	1,046	920	706	786	180	43	15,955	15,067	13,159	14,211	6,490	1,538	9.72	
South.....	1,847	1,512	1,427	1,149	311	64	22,040	19,170	18,958	16,525	7,194	1,732	8.87	
West.....	851	734	576	629	183	47	11,620	10,662	9,320	10,002	4,114	1,304	10.03	
Metropolitan Status														
Metropolitan.....	3,073	2,674	2,261	2,320	643	156	50,809	47,145	43,191	44,777	19,950	4,917	5.61	
Nonmetropolitan.....	1,454	1,203	923	863	220	48	12,375	10,723	8,580	8,808	3,718	684	9.97	
Workers														
Fewer than 5.....	2,280	1,892	1,400	1,375	341	77	13,292	10,858	8,141	8,689	2,726	399	7.82	
5 to 9.....	906	861	764	756	170	38	7,939	7,484	6,330	6,515	1,360	471	8.48	
10 to 19.....	507	492	446	448	116	39	6,445	6,151	5,577	5,729	1,242	775	10.47	
20 to 49.....	381	370	340	355	134	25	9,665	9,424	8,706	9,210	4,100	873	8.26	
50 to 99.....	132	126	117	124	56	14	7,389	7,232	6,713	7,045	3,897	815	9.60	
100 to 249.....	79	78	73	73	29	9	6,771	6,695	6,440	6,573	3,437	617	10.97	
250 or More.....	32	32	31	30	18	4	9,829	9,750	9,733	9,659	6,901	1,632	15.91	
Weekly Operating Hours														
39 or Fewer.....	876	586	394	391	116	Q	6,073	4,042	2,882	3,160	1,364	Q	12.11	
40 to 48.....	1,117	1,007	846	798	115	75	12,905	13,031	11,404	11,680	3,750	1,664	8.23	
49 to 60.....	987	917	753	739	111	56	13,473	12,884	11,544	11,588	3,391	1,494	8.56	
61 to 84.....	625	565	484	493	148	36	10,777	10,440	9,680	9,799	5,093	743	8.58	
85 to 167.....	515	443	403	422	215	15	9,387	8,714	8,182	8,451	4,836	1,242	12.18	
168 (Open Continuously).....	408	359	304	341	159	12	9,569	8,758	8,080	8,738	5,234	406	8.31	
Energy Sources (Solely or in Combination)														
Electricity.....	4,297	3,874	3,184	3,182	864	205	61,587	57,834	51,765	53,577	23,662	5,601	4.71	
Natural Gas.....	2,439	2,410	1,983	2,043	586	123	41,593	41,242	37,067	38,843	19,142	3,782	5.55	
Fuel Oil.....	586	583	374	458	141	36	12,684	12,577	10,468	11,885	6,281	1,135	10.70	
District Heat.....	105	105	77	95	26	15	6,856	6,840	6,175	6,736	3,981	1,307	20.00	
District Chilled Water.....	25	24	25	22	4	Q	2,101	2,094	2,101	2,083	946	Q	22.34	
Propane.....	348	335	248	271	117	32	4,695	4,549	4,021	4,328	2,355	1,357	16.93	
Any Other.....	130	129	50	82	19	Q	1,542	1,541	1,069	1,309	644	Q	23.76	
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	3,877	3,877	3,062	3,079	818	188	57,868	57,868	50,512	52,469	23,086	5,270	4.90	
Air-Conditioned Buildings.....	3,184	3,062	3,184	2,639	710	153	51,771	50,512	51,771	47,607	21,535	5,145	5.15	
Buildings with Water Heating.....	3,184	3,079	2,639	3,184	832	168	53,585	52,469	47,607	53,585	23,376	5,222	5.03	
Buildings with Cooking.....	864	818	710	832	864	33	23,668	23,085	21,535	23,376	23,668	1,847	7.31	
Buildings with Manufacturing..	205	188	153	168	33	205	5,601	5,270	5,145	5,222	1,847	5,601	15.07	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 58. Energy End Uses, Percent of Buildings and Floorspace

Building Characteristics RSE Column Factor	Percent of Buildings					Percent of Total Floorspace					RSE Row Factor	
	All Buildings	Energy Used For:				All Buildings	Energy Used For:					
		Space Heating	Cooling	Water Heating	Cooking		Space Heating	Cooling	Water Heating	Cooking		
--	0.365	0.728	0.647	2.138	5.033	--	0.273	0.506	0.354	1.925	5.734	
All Buildings.....	100.0	85.6	70.3	70.3	19.1	4.5	100.0	91.6	81.9	84.8	8.9	2.47
Building Floorspace (Square Feet)												
1,001 to 5,000.....	100.0	83.0	65.3	63.0	16.3	3.0	100.0	84.8	67.2	64.7	17.2	3.3
5,001 to 10,000.....	100.0	85.4	72.7	73.9	17.0	4.2	100.0	86.0	73.6	74.7	17.4	4.1
10,001 to 25,000.....	100.0	93.3	76.7	81.9	20.6	7.5	100.0	90.8	77.1	82.0	20.6	7.8
25,001 to 50,000.....	100.0	90.8	82.9	83.5	30.5	8.3	100.0	90.8	82.6	84.1	31.3	8.1
50,001 to 100,000.....	100.0	92.7	84.9	90.2	37.4	11.3	100.0	92.2	85.0	89.6	36.9	11.8
100,001 to 200,000.....	100.0	95.4	82.7	92.6	46.5	8.9	100.0	95.5	83.6	92.4	48.5	9.1
200,001 to 500,000.....	100.0	96.5	92.5	94.8	63.5	Q	100.0	96.3	92.0	94.4	62.7	Q
Over 500,000.....	100.0	95.8	96.2	95.5	72.2	14.3	100.0	95.8	95.8	95.1	75.0	16.9
Principal Building Activity												
Assembly.....	100.0	95.7	70.2	78.2	28.9	Q	100.0	96.6	78.3	90.0	43.4	Q
Education.....	100.0	98.3	74.3	75.4	34.6	4.2	100.0	99.3	79.8	93.6	64.9	4.24
Food Sales.....	100.0	86.7	83.3	94.8	53.8	Q	100.0	94.7	91.5	98.0	55.7	8.89
Food Service.....	100.0	94.7	89.3	97.3	89.5	NC	100.0	90.9	92.7	98.5	95.2	3.02
Health Care.....	100.0	94.2	96.1	91.0	22.2	Q	100.0	98.7	98.2	99.3	76.7	4.88
Lodging.....	100.0	95.4	80.7	98.7	44.6	Q	100.0	94.7	85.3	99.6	61.3	3.27
Mercantile and Service.....	100.0	95.3	72.7	67.5	9.6	6.1	100.0	97.4	87.4	82.2	32.6	6.9
Office.....	100.0	87.6	96.5	89.6	7.0	3.5	100.0	99.0	98.6	94.9	33.2	8.17
Parking Garage.....	100.0	60.7	39.0	46.3	Q	Q	100.0	59.9	45.5	43.9	Q	27.92
Public Order and Safety.....	100.0	99.4	62.9	83.3	34.5	Q	100.0	98.6	87.6	95.3	40.4	9.58
Warehouse.....	100.0	95.0	42.7	42.3	4.5	9.0	100.0	78.8	66.0	69.5	6.9	10.11
Other.....	100.0	76.1	70.4	63.7	Q	22.4	100.0	86.6	95.2	91.1	Q	32.4
Vacant.....	100.0	41.1	33.0	33.3	5.1	Q	100.0	60.1	51.4	52.4	22.4	Q
Year Constructed												
1899 or Before.....	100.0	89.6	66.9	66.5	23.9	Q	100.0	92.8	73.9	75.8	26.7	Q
1900 to 1919.....	100.0	84.3	56.8	68.0	17.6	Q	100.0	86.5	72.4	78.3	38.0	11.39
1920 to 1945.....	100.0	86.0	64.9	68.3	18.7	4.6	100.0	92.5	72.2	83.6	31.4	7.8
1946 to 1959.....	100.0	87.3	65.9	71.1	20.2	5.4	100.0	93.2	78.8	86.3	45.5	15.5
1960 to 1969.....	100.0	83.6	71.3	68.3	17.0	4.0	100.0	91.9	82.6	86.1	38.9	6.5
1970 to 1979.....	100.0	87.3	75.3	71.6	19.6	4.6	100.0	92.8	87.1	84.8	39.1	8.1
1980 to 1983.....	100.0	84.4	76.8	73.3	17.3	3.6	100.0	90.7	87.8	82.9	30.1	7.04
1984 to 1986.....	100.0	84.0	80.2	72.2	17.6	8.1	100.0	89.6	92.0	89.0	34.0	7.63
1987 to 1989.....	100.0	80.9	74.3	74.1	24.2	3.1	100.0	88.6	83.6	86.3	35.1	9.7
Census Region												
Northeast.....	100.0	90.8	60.8	79.1	24.3	6.5	100.0	95.6	76.2	91.7	43.3	7.6
Midwest.....	100.0	87.9	67.5	75.1	17.2	4.2	100.0	94.4	82.5	89.1	40.7	9.6
South.....	100.0	81.9	77.2	62.2	16.8	3.4	100.0	87.0	86.0	76.8	32.6	7.9
West.....	100.0	86.2	67.6	73.9	21.5	5.5	100.0	91.8	80.2	86.1	35.4	11.2
Metropolitan Status												
Metropolitan.....	100.0	87.0	73.6	75.5	20.9	5.1	100.0	92.8	85.0	88.1	39.3	9.7
Nonmetropolitan.....	100.0	82.7	63.5	59.4	15.2	3.3	100.0	86.7	69.3	71.2	30.0	5.5
Workers												
Fewer than 5.....	100.0	83.0	61.4	60.3	14.9	3.4	100.0	81.7	61.2	65.4	20.5	3.0
5 to 9.....	100.0	95.0	84.3	83.4	18.8	4.2	100.0	94.3	79.7	82.1	17.1	5.14
10 to 19.....	100.0	96.9	88.0	88.3	22.9	7.6	100.0	95.4	86.5	88.9	19.3	12.0
20 to 49.....	100.0	97.1	89.2	93.2	35.1	6.5	100.0	97.5	90.1	92.3	42.4	9.0
50 to 99.....	100.0	95.5	88.8	94.2	42.2	10.5	100.0	97.9	90.8	95.3	52.7	11.0
100 to 249.....	100.0	98.6	92.3	92.7	37.3	10.8	100.0	98.9	95.1	97.1	50.8	9.1
250 or More.....	100.0	99.3	97.6	95.3	55.1	11.6	100.0	99.2	99.0	98.3	70.2	16.6
Weekly Operating Hours												
39 or Fewer.....	100.0	66.9	45.0	44.7	13.3	Q	100.0	66.6	47.4	52.0	22.5	Q
40 to 48.....	100.0	90.1	75.7	71.4	10.2	7.1	100.0	93.7	82.0	84.0	27.0	12.0
49 to 60.....	100.0	92.9	76.3	74.9	11.3	5.7	100.0	95.6	85.7	87.3	25.2	11.1
61 to 84.....	100.0	90.4	77.4	78.9	23.6	5.8	100.0	96.9	89.8	90.9	47.3	6.9
85 to 167.....	100.0	86.2	78.4	81.9	41.7	2.9	100.0	92.8	87.2	90.0	51.5	13.2
168 (Open Continuously).....	100.0	87.9	74.4	83.7	39.0	3.0	100.0	91.5	84.4	91.3	54.7	4.2
Energy Sources (Solely or in Combination)												
Electricity.....	100.0	90.2	74.1	74.0	20.1	4.8	100.0	93.9	84.1	87.0	28.4	9.1
Natural Gas.....	100.0	88.8	81.3	83.8	24.0	5.0	100.0	98.1	93.4	46.0	9.1	2.39
Fuel Oil.....	100.0	89.5	63.8	78.2	24.1	6.1	100.0	99.2	82.5	93.7	49.5	8.9
District Heat.....	100.0	100.0	73.4	90.5	24.4	14.2	100.0	99.8	90.1	98.2	58.1	19.1
District Chilled Water.....	100.0	98.0	100.0	90.5	16.6	Q	100.0	99.7	100.0	99.1	45.0	6.38
Propane.....	100.0	96.3	71.3	78.0	33.5	9.1	100.0	96.9	85.6	92.2	50.2	28.9
Any Other.....	100.0	98.9	38.3	63.1	14.6	Q	100.0	99.9	69.3	84.9	41.8	Q
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	100.0	100.0	79.0	79.4	21.1	4.8	100.0	100.0	87.3	90.7	39.9	9.1
Air-Conditioned Buildings.....	100.0	96.2	100.0	82.9	22.3	4.8	100.0	97.6	100.0	92.0	41.6	9.9
Buildings with Water Heating.....	100.0	96.7	82.9	100.0	26.1	5.3	100.0	97.9	88.8	100.0	43.6	9.7
Buildings with Cooking.....	100.0	94.8	82.2	96.4	100.0	3.9	100.0	97.5	91.0	98.8	100.0	7.8
Building with Manufacturing.....	100.0	91.6	74.8	82.2	16.3	100.0	94.1	91.9	93.2	33.0	100.0	7.23

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 59. End-Use Combinations, Floorspace
(Million Square Feet)**

Building Characteristics	RSE Column Factor	Heated Buildings with Air Conditioning and --			Without Air Conditioning and --			Buildings Without Heating, Air Conditioning, Water Heating, or Cooking	All Other Combinations	RSE Row Factor	
		with Water Heating and Cooking	with Water Heating But Not Cooking	Without Water Heating or Cooking	with Water Heating and Cooking	with Water Heating But Not Cooking	Without Water Heating or Cooking				
		All Buildings									
All Buildings.....	0.376	63,184	20,786	25,904	3,641	2,079	3,700	1,538	3,858	1,678	8.63
Building Floorspace (Square Feet)											
1,001 to 5,000.....	6,790	869	2,596	903	195	583	568	796	281	11.41	
5,001 to 10,000.....	6,532	848	3,183	560	185	503	322	664	266	14.37	
10,001 to 25,000.....	10,393	1,615	5,384	814	404	985	205	786	202	16.04	
25,001 to 50,000.....	8,801	2,224	4,175	637	394	404	572	247	18.88		
50,001 to 100,000.....	9,130	2,850	4,164	450	Q	479	350	Q	22.58		
100,001 to 200,000.....	8,277	3,448	3,127	Q	Q	Q	294	Q	27.54		
200,001 to 500,000.....	7,022	4,277	2,048	Q	Q	Q	Q	Q	37.78		
Over 500,000.....	6,239	4,655	1,227	Q	NC	NC	Q	Q	Q	39.47	
Principal Building Activity											
Assembly.....	6,838	2,359	2,489	416	545	631	144	Q	Q	20.95	
Education.....	8,148	4,201	1,849	350	1,000	525	Q	Q	Q	24.93	
Food Sales.....	792	397	293	Q	Q	Q	NC	NC	NC	51.21	
Food Service.....	1,167	927	Q	Q	Q	Q	Q	Q	Q	38.28	
Health Care.....	2,054	1,553	432	Q	Q	Q	NC	NC	NC	47.62	
Lodging.....	3,476	1,758	1,018	Q	234	269	Q	Q	Q	33.38	
Mercantile and Service.....	12,365	3,865	5,281	1,393	Q	843	529	Q	302	16.51	
Office.....	11,802	3,751	7,242	472	Q	Q	Q	Q	170	29.60	
Parking Garage.....	983	Q	295	Q	NC	Q	Q	355	Q	46.37	
Public Order and Safety.....	616	Q	301	Q	Q	Q	Q	Q	NC	55.75	
Warehouse.....	9,253	547	4,757	608	Q	976	399	1,718	Q	24.38	
Other.....	1,529	Q	929	Q	NC	Q	Q	Q	Q	49.53	
Vacant.....	4,161	Q	977	238	Q	203	Q	1,519	Q	32.08	
Year Constructed											
1899 or Before.....	1,654	367	641	Q	Q	Q	Q	Q	Q	33.92	
1900 to 1919.....	4,245	1,399	1,367	290	Q	294	Q	511	Q	31.10	
1920 to 1945.....	8,098	2,099	3,160	544	404	1,060	191	561	Q	19.56	
1946 to 1959.....	10,511	4,065	3,504	611	657	760	185	598	132	17.07	
1960 to 1969.....	12,167	4,153	4,979	683	424	674	256	718	281	14.91	
1970 to 1979.....	13,329	4,778	5,620	757	Q	469	492	574	472	15.83	
1980 to 1983.....	4,274	1,109	2,222	244	Q	Q	Q	280	185	23.67	
1984 to 1986.....	5,670	1,822	2,941	192	Q	Q	Q	295	Q	26.52	
1987 to 1989.....	3,235	995	1,472	112	Q	Q	Q	222	146	30.46	
Census Region											
Northeast.....	13,569	4,965	5,163	176	849	1,423	365	552	Q	19.04	
Midwest.....	15,955	5,908	6,701	519	568	909	453	762	Q	18.36	
South.....	22,040	6,543	8,999	2,328	Q	582	556	1,847	1,125	16.49	
West.....	11,620	3,371	5,041	618	604	786	165	696	340	17.56	
Metropolitan Status											
Metropolitan.....	50,809	17,812	21,928	2,164	1,424	2,674	932	2,395	1,481	10.27	
Nonmetropolitan.....	12,375	2,974	3,976	1,477	655	1,027	607	1,463	197	15.72	
Workers											
Fewer than 5.....	13,292	1,944	4,422	1,409	586	1,388	1,065	1,952	525	13.29	
5 to 9.....	7,939	1,014	4,262	925	296	812	173	Q	171	22.11	
10 to 19.....	6,445	1,008	3,810	520	Q	530	Q	Q	Q	24.16	
20 to 49.....	9,665	3,673	4,463	316	283	599	Q	Q	257	23.32	
50 to 99.....	7,389	3,234	3,041	Q	483	Q	Q	Q	Q	29.51	
100 to 249.....	6,771	3,169	3,054	Q	Q	Q	Q	NC	Q	28.12	
250 or More.....	9,829	6,738	2,763	Q	Q	Q	NC	NC	Q	37.53	
Weekly Operating Hours											
39 or Fewer.....	6,073	1,029	1,308	485	314	471	416	1,955	96	17.87	
40 to 48.....	13,905	3,105	6,668	1,186	531	1,060	425	413	516	16.17	
49 to 60.....	13,473	2,977	7,431	948	293	912	301	387	224	16.91	
61 to 84.....	10,777	4,700	4,285	543	281	430	146	221	172	18.45	
85 to 167.....	9,387	4,425	3,192	289	226	435	Q	413	294	22.98	
168 (Open Continuously).....	9,569	4,550	3,020	190	435	391	Q	470	375	21.63	
Energy Sources (Solely or in Combination)											
Electricity.....	61,587	20,781	25,904	3,641	2,079	3,700	1,509	2,298	1,675	8.91	
Natural Gas.....	41,593	17,175	17,473	2,005	1,575	2,290	554	Q	505	14.14	
Fuel Oil.....	12,684	5,501	4,567	293	676	1,076	417	Q	Q	18.52	
District Heat.....	6,856	3,844	2,289	Q	Q	451	94	NC	Q	33.50	
District Chilled Water.....	2,101	946	1,131	Q	NC	NC	NC	NC	NC	49.90	
Propane.....	4,695	1,990	1,591	309	249	351	Q	NC	164	26.60	
Any Other.....	1,542	568	410	Q	253	143	Q	NC	Q	42.43	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 60. End-Use Combinations, Percent of Floorspace

Building Characteristics	All Buildings	Heated Buildings with Air Conditioning and --			Heated Buildings Without Air Conditioning and --			Buildings Without Heating, Air Conditioning, Water Heating, or Cooking	All Other Combinations	RSE Row Factor
		with Water Heating and Cooking	with Water Heating But Not Cooking	Without Water Heating or Cooking	with Water Heating and Cooking	with Water Heating But Not Cooking	Without Water Heating or Cooking			
		RSE Column Factor:	--	0.478	0.397	1.146	1.451	1.060	1.408	1.276
All Buildings.....	100.0	32.9	41.0	5.8	3.3	5.9	2.4	6.1	2.7	9.08
Building Floorspace (Square Feet)										
1,001 to 5,000.....	100.0	12.8	38.2	13.3	2.9	8.6	8.4	11.7	4.1	11.78
5,001 to 10,000.....	100.0	13.0	48.7	8.6	2.8	7.7	4.9	10.2	4.1	15.01
10,001 to 25,000.....	100.0	15.5	51.8	7.8	3.9	9.5	2.0	7.6	1.9	16.19
25,001 to 50,000.....	100.0	25.3	47.4	7.2	4.5	4.6	0	6.5	2.8	19.91
50,001 to 100,000.....	100.0	31.2	45.6	4.9	0	5.3	0	3.8	0	24.36
100,001 to 200,000.....	100.0	41.7	37.8	0	0	0	0	3.6	0	29.83
200,001 to 500,000.....	100.0	60.9	29.2	0	0	0	0	0	0	35.83
Over 500,000.....	100.0	74.6	19.7	Q	NC	NC	Q	Q	Q	39.73
Principal Building Activity										
Assembly.....	100.0	34.5	36.4	6.1	8.0	9.2	2.1	0	0	21.81
Education.....	100.0	51.6	22.7	4.3	12.3	6.4	0	NC	0	27.19
Food Sales.....	100.0	50.1	37.0	0	0	0	0	NC	0	51.41
Food Service.....	100.0	79.4	0	0	0	0	0	NC	0	39.93
Health Care.....	100.0	75.6	21.0	0	0	0	0	NC	0	45.64
Lodging.....	100.0	50.6	29.3	0	6.7	7.7	0	NC	0	36.46
Mercantile and Service.....	100.0	31.3	42.7	11.3	6.0	6.8	4.3	0	2.4	17.96
Office.....	100.0	31.8	61.4	4.0	0	0	0	0	1.4	33.41
Parking Garage.....	100.0	0	30.0	0	NC	0	0	36.1	0	47.20
Public Order and Safety.....	100.0	0	48.8	0	0	0	0	18.6	0	63.77
Warehouse.....	100.0	5.9	51.4	6.6	0	10.6	4.0	0	0	24.58
Other.....	100.0	0	60.7	0	NC	0	0	36.5	0	50.93
Vacant.....	100.0	Q	23.5	5.7	Q	4.9	Q	0	Q	31.18
Year Constructed										
1899 or Before.....	100.0	22.2	38.7	0	0	0	0	12.0	0	36.73
1900 to 1919.....	100.0	33.0	32.2	6.8	0	6.9	0	0	0	31.03
1920 to 1945.....	100.0	25.9	39.0	6.7	5.0	13.1	2.4	6.8	1.3	20.05
1946 to 1959.....	100.0	38.7	33.3	5.8	6.2	7.2	1.8	5.7	1.3	17.14
1960 to 1969.....	100.0	34.1	40.9	5.6	3.5	5.5	2.1	5.9	2.3	15.61
1970 to 1979.....	100.0	35.8	42.2	5.7	0	3.5	3.7	4.3	3.5	16.88
1980 to 1983.....	100.0	25.9	52.0	5.7	0	0	0	6.5	4.3	24.58
1984 to 1986.....	100.0	32.1	51.9	3.4	0	0	0	5.2	3.4	30.45
1987 to 1989.....	100.0	30.7	45.5	3.5	Q	Q	Q	6.9	4.5	31.64
Census Region										
Northeast.....	100.0	36.6	38.1	1.3	6.3	10.5	2.7	4.1	0	19.92
Midwest.....	100.0	37.0	42.0	3.3	3.6	5.7	2.8	4.8	0	19.54
South.....	100.0	29.7	40.8	10.6	0	2.6	2.5	8.4	5.1	15.84
West.....	100.0	29.0	43.4	5.3	5.2	6.8	1.4	6.0	2.9	16.99
Metropolitan Status										
Metropolitan.....	100.0	35.1	43.2	4.3	2.8	5.3	1.8	4.7	2.9	10.72
Nonmetropolitan.....	100.0	24.0	32.1	11.9	5.3	8.3	4.9	11.8	1.6	14.66
Workers										
Fewer than 5.....	100.0	14.6	33.3	10.6	4.4	10.4	8.0	14.7	3.9	14.34
5 to 9.....	100.0	12.8	53.7	11.6	3.7	10.2	2.2	0	2.2	24.26
10 to 19.....	100.0	15.6	59.1	8.1	0	8.2	0	0	0	25.05
20 to 49.....	100.0	38.0	46.2	3.3	2.9	6.2	0	0	2.7	25.31
50 to 99.....	100.0	43.8	41.2	0	6.5	0	0	0	0	31.74
100 to 249.....	100.0	46.8	45.1	0	0	0	0	0	0	30.43
250 or More.....	100.0	68.6	28.1	Q	Q	Q	NC	NC	Q	33.51
Weekly Operating Hours										
39 or Fewer.....	100.0	16.9	21.5	8.0	5.2	7.8	6.8	32.2	1.6	19.20
40 to 48.....	100.0	22.3	48.0	8.5	3.8	7.6	3.1	3.0	3.7	17.13
49 to 60.....	100.0	22.1	55.2	7.0	2.2	6.8	2.2	2.9	1.7	17.31
61 to 84.....	100.0	43.6	39.8	5.0	2.6	4.0	1.4	2.0	1.6	20.28
85 to 167.....	100.0	47.1	34.0	3.1	2.4	4.6	0	4.4	3.1	22.51
168 (Open Continuously).....	100.0	47.6	31.6	2.0	4.5	4.1	Q	4.9	3.9	22.50
Energy Sources (Solely or in Combination)										
Electricity.....	100.0	33.7	42.1	5.9	3.4	6.0	2.5	3.7	2.7	9.40
Natural Gas.....	100.0	41.3	42.0	4.8	3.8	5.5	1.3	0	1.2	15.27
Fuel Oil.....	100.0	43.4	36.0	2.3	5.3	8.5	3.3	0	0	19.84
District Heat.....	100.0	56.1	33.4	0	Q	6.6	1.4	NC	0	31.69
District Chilled Water.....	100.0	45.0	53.8	0	NC	NC	0	0	0	56.88
Propane.....	100.0	42.4	33.9	6.6	5.3	7.5	0	NC	3.5	27.03
Any Other.....	100.0	36.8	26.6	Q	Q	16.4	9.3	NC	Q	42.47

-- Data not applicable.

NC No cases in sample.

Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

**Table 61. Space-Heating Energy Sources, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Heated Buildings	Energy Sources for Space Heating (Solely or in Combination)						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.446	0.462	0.786	0.596	1.211	1.794	1.853	2.574
All Buildings.....	4,528	3,877	1,284	2,172	560	101	238	78	7.96
Building Floorspace (Square Feet)									
1,001 to 5,000.....	2,529	2,100	668	1,118	301	17	168	51	10.55
5,001 to 10,000.....	890	760	228	489	95	16	37	0	14.06
10,001 to 25,000.....	644	588	239	305	89	30	22	0	13.43
25,001 to 50,000.....	247	224	85	134	34	13	0	NC	14.95
50,001 to 100,000.....	127	118	39	76	21	10	0	0	17.08
100,001 to 200,000.....	61	58	17	32	14	8	0	0	21.00
200,001 to 500,000.....	23	22	6	14	4	5	0	NC	26.01
Over 500,000.....	7	7	2	3	3	2	NC	NC	26.01
Principal Building Activity									
Assembly.....	615	589	185	311	99	15	71	0	14.93
Education.....	284	279	56	182	36	17	12	0	18.93
Food Sales.....	102	89	38	44	0	0	0	0	36.03
Food Service.....	241	228	66	142	27	0	0	0	24.13
Health Care.....	80	75	37	36	12	0	0	NC	29.12
Lodging.....	140	134	64	66	11	12	0	0	23.44
Mercantile and Service.....	1,278	1,219	351	693	220	4	74	45	11.58
Office.....	679	663	283	358	58	25	0	0	15.49
Parking Garage.....	45	27	7	0	0	0	0	NC	45.77
Public Order and Safety.....	50	50	0	26	0	0	0	0	39.68
Warehouse.....	618	340	112	195	48	7	23	0	17.46
Other.....	62	47	23	25	0	8	0	0	38.86
Vacant.....	333	137	50	79	14	0	0	0	26.36
Year Constructed									
1899 or Before.....	172	154	41	88	31	0	0	0	26.01
1900 to 1919.....	242	204	45	144	33	0	0	0	23.61
1920 to 1945.....	680	585	117	346	137	21	26	0	15.29
1946 to 1959.....	868	758	180	478	138	16	35	0	14.51
1960 to 1969.....	821	686	218	411	91	25	41	0	13.69
1970 to 1979.....	884	771	333	365	86	12	56	0	12.46
1980 to 1983.....	317	267	126	125	19	0	0	0	20.65
1984 to 1986.....	329	277	147	129	9	0	21	0	19.43
1987 to 1989.....	215	174	77	86	18	Q	Q	Q	25.95
Census Region									
Northeast.....	783	711	136	303	298	30	32	0	15.61
Midwest.....	1,046	920	159	707	88	14	62	25	13.43
South.....	1,847	1,512	705	695	152	34	114	0	14.17
West.....	851	734	284	467	22	23	Q	Q	18.76
Metropolitan Status									
Metropolitan.....	3,073	2,674	918	1,526	361	88	121	25	9.18
Nonmetropolitan.....	1,454	1,203	367	646	199	13	117	53	17.20
Workers									
Fewer than 5.....	2,280	1,892	565	1,010	303	20	159	59	10.42
5 to 9.....	906	861	319	505	110	18	41	0	12.85
10 to 19.....	507	492	179	303	58	9	19	0	17.15
20 to 49.....	381	370	127	205	49	22	13	0	15.02
50 to 99.....	132	126	49	70	18	12	0	NC	15.78
100 to 249.....	79	78	27	45	14	9	0	0	20.39
250 or More.....	32	32	9	17	8	8	0	NC	23.27
Weekly Operating Hours									
39 or Fewer.....	876	586	167	307	91	0	66	0	17.27
40 to 48.....	1,117	1,007	302	614	128	21	45	0	12.54
49 to 60.....	987	917	326	520	133	14	56	30	11.74
61 to 84.....	625	565	181	336	84	12	19	0	14.38
85 to 167.....	515	443	141	240	75	11	29	0	16.61
168 (Open Continuously).....	408	359	168	155	50	36	24	0	15.42
Energy Sources (Solely or in Combination)									
Electricity.....	4,297	3,874	1,284	2,172	560	101	238	77	7.98
Natural Gas.....	2,439	2,410	463	2,172	136	26	15	22	10.53
Fuel Oil.....	586	583	78	85	560	9	0	0	18.61
District Heat.....	105	105	17	9	8	101	0	NC	28.97
District Chilled Water.....	25	24	0	5	0	16	0	NC	35.97
Propane.....	348	335	85	28	58	0	238	0	22.93
Any Other.....	130	129	30	27	21	0	0	78	26.06
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	3,877	3,877	1,284	2,172	560	101	238	78	8.06
Air-Conditioned Buildings.....	3,184	3,062	1,145	1,756	351	74	168	0	9.73
Buildings with Water Heating.....	3,184	3,079	1,060	1,784	434	91	163	45	8.40
Buildings with Cooking.....	864	818	279	457	133	24	45	0	13.37
Buildings with Manufacturing.....	205	188	72	102	32	15	0	NC	21.51

See footnotes at end of table.

Table 61. Space-Heating Energy Sources, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Heated Buildings	Energy Sources for Space Heating (Solely or in Combination)						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.446	0.462	0.786	0.596	1.211	1.794	1.853	2.574
Primary Space-Heating Fuel									
Electricity.....	959	959	959	70	20	0	0	0	20.13
Natural Gas.....	2,093	2,093	242	2,093	58	13	Q	Q	12.72
Fuel Oil.....	475	475	43	21	475	Q	Q	Q	27.29
District Heat.....	98	98	15	5	5	98	Q	Q	33.31
Propane.....	208	208	33	0	Q	208	Q	Q	35.18
Any Other.....	70	70	Q	Q	Q	Q	Q	44	47.25
Percent Heated									
Not Heated.....	662	0	0	0	0	0	0	NC	59.84
1 to 50.....	630	630	237	335	74	Q	52	Q	15.14
51 to 99.....	496	496	180	256	87	16	26	Q	16.46
100.....	2,739	2,739	866	1,576	397	82	160	43	8.12
Heating Equipment (Solely or in Combination)									
Furnaces.....	1,619	1,619	356	1,132	280	0	92	29	13.61
Boilers.....	704	704	118	443	238	10	25	Q	14.33
Individual Space Heaters.....	1,389	1,389	531	764	180	26	129	59	10.45
Packaged Heating Units.....	859	859	418	494	27	9	36	Q	17.01
Heat Pumps.....	453	453	366	133	17	6	20	Q	20.36
Air Ducts.....	1,990	1,990	722	1,169	218	61	110	Q	11.61
Heating or Reheating Coils.....	243	243	121	101	38	39	10	NC	13.00
Fan-Coil Units.....	185	185	31	114	52	31	Q	Q	18.40
Steam or Hot Water Radiators or Baseboards.....	498	498	77	269	186	57	Q	Q	16.68
Other.....	57	57	16	41	Q	7	NC	NC	33.04
Wall Materials									
Masonry.....	2,849	2,571	812	1,532	380	64	127	37	9.07
Siding or Shingles.....	802	655	204	313	107	10	72	Q	16.73
Metal Panels.....	557	398	160	196	50	0	30	Q	17.54
Concrete Panels.....	240	182	78	95	18	16	Q	NC	22.88
Window Glass.....	33	28	13	13	Q	Q	Q	NC	42.64
Other.....	46	43	17	23	Q	Q	Q	NC	42.06
Roof Materials									
Built-Up.....	1,614	1,454	493	865	191	49	52	Q	11.23
Shingles (Not Wood).....	1,392	1,218	375	675	200	15	102	Q	13.75
Metal Surfacing.....	901	657	239	318	98	8	56	37	15.92
Synthetic or Rubber.....	211	206	59	128	38	15	Q	Q	21.40
Slate or Tile.....	193	184	57	106	21	10	Q	Q	25.83
Concrete.....	72	33	15	15	0	0	Q	NC	40.06
Wooden Materials.....	106	86	34	46	Q	Q	Q	Q	30.80
Other.....	38	37	12	19	Q	Q	Q	Q	47.29
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	3,057	2,849	1,013	1,548	402	77	172	54	8.55
Wall Insulation.....	2,026	1,909	708	1,006	266	45	115	39	9.89
Storm or Multiple Glazing.....	1,440	1,391	482	757	259	25	83	29	9.54
Tinted, Reflective, or Shading Glass.....	944	883	386	475	78	22	44	Q	12.52
Exterior or Interior Shadings or Awnings.....	1,473	1,405	516	801	171	46	69	Q	10.88
Weather Stripping or Caulking.....	2,774	2,585	908	1,411	363	72	159	45	9.28
Occupant Control of:									
Heating Only.....	626	626	137	335	143	12	53	36	12.77
Cooling Only.....	204	140	23	86	32	15	0	NC	22.48
Heating and Cooling.....	1,773	1,773	725	1,009	175	26	88	Q	11.61
Reduced Use--Off-Hours									
Heating Only.....	790	790	158	403	194	16	66	47	13.18
Cooling Only.....	283	174	64	93	33	7	0	Q	26.93
Heating and Cooling.....	2,397	2,397	857	1,419	273	37	138	Q	10.31
Climate Zone: 45 Year Average									
Under 2,000 CDD and --	357	310	62	178	87	5	18	Q	19.90
Over 7,000 HDD.....	1,120	1,004	165	697	185	35	49	Q	15.72
4,000-5,499 HDD.....	965	857	279	377	229	24	61	Q	24.13
Under 4,000 HDD.....	1,024	886	369	498	36	18	86	Q	25.47
2,000 CDD or More and --	1,063	819	409	422	24	19	24	Q	25.37

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

Table 62. Space-Heating Energy Sources, Percent of Buildings

Building Characteristics	All Heated Buildings	Energy Sources for Space Heating (Solely or in Combination)						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	--	0.512	0.395	0.977	1.508	1.549	2.165
All Buildings.....	100.0	33.1	56.0	14.5	2.6	6.1	2.0	9.51
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	31.8	53.3	14.3	.8	8.0	2.4	12.84
5,001 to 10,000.....	100.0	30.0	64.3	12.5	2.1	4.8	0	17.18
10,001 to 25,000.....	100.0	40.7	51.9	15.1	5.1	3.7	0	15.07
25,001 to 50,000.....	100.0	38.1	60.0	15.0	6.0	0	0	17.23
50,001 to 100,000.....	100.0	32.6	64.6	17.4	8.7	0	0	18.69
100,001 to 200,000.....	100.0	29.8	56.0	24.2	13.8	0	0	24.84
200,001 to 500,000.....	100.0	27.1	62.3	19.9	21.7	0	0	22.79
Over 500,000.....	100.0	24.3	48.0	38.7	24.0	NC	NC	28.39
Principal Building Activity								
Assembly.....	100.0	31.4	52.8	16.7	2.6	12.0	0	17.26
Education.....	100.0	20.2	65.1	13.1	6.2	4.4	0	21.52
Food Sales.....	100.0	42.6	50.1	0	0	0	0	40.47
Food Service.....	100.0	28.8	62.1	12.0	0	0	0	31.48
Health Care.....	100.0	49.4	48.2	16.0	3.7	0	0	31.02
Lodging.....	100.0	47.6	49.7	8.0	9.2	0	0	26.10
Mercantile and Service.....	100.0	28.8	56.9	18.0	3.3	6.1	3.7	14.82
Office.....	100.0	42.8	54.1	8.7	3.8	0	0	18.30
Parking Garage.....	100.0	24.1	0	0	0	0	0	50.84
Public Order and Safety.....	100.0	0	52.5	0	0	0	0	42.56
Warehouse.....	100.0	33.0	57.3	14.0	2.1	6.3	0	20.75
Other.....	100.0	49.2	53.3	0	18.0	0	0	36.20
Vacant.....	100.0	36.8	57.6	10.2	0	0	0	33.12
Year Constructed								
1899 or Before.....	100.0	26.8	57.2	19.8	0	0	0	26.75
1900 to 1919.....	100.0	22.1	70.3	16.2	4.4	0	0	26.94
1920 to 1945.....	100.0	19.9	59.2	23.4	3.5	4.4	0	18.87
1946 to 1959.....	100.0	23.8	63.1	18.2	2.1	4.6	0	17.13
1960 to 1969.....	100.0	31.8	59.8	13.2	3.7	5.9	0	16.00
1970 to 1979.....	100.0	43.1	47.3	11.1	1.5	7.3	0	13.94
1980 to 1983.....	100.0	47.1	46.8	6.9	0	0	0	25.56
1984 to 1986.....	100.0	53.1	46.6	3.2	0	7.5	0	24.10
1987 to 1989.....	100.0	44.4	49.6	10.1	0	0	0	28.00
Census Region								
Northeast.....	100.0	19.2	42.7	42.0	4.2	4.6	0	18.29
Midwest.....	100.0	17.3	76.9	9.6	1.6	6.7	2.9	13.84
South.....	100.0	46.6	46.0	10.0	2.3	7.6	0	17.06
West.....	100.0	38.7	63.6	3.0	3.1	4.0	0	22.05
Metropolitan Status								
Metropolitan.....	100.0	34.3	57.1	13.5	3.3	4.5	0	10.70
Nonmetropolitan.....	100.0	30.5	53.7	16.5	1.1	9.7	4.4	19.29
Workers								
Fewer than 5.....	100.0	29.8	53.4	16.0	1.1	8.4	3.1	13.18
5 to 9.....	100.0	37.1	58.7	12.8	2.1	4.7	0	15.49
10 to 19.....	100.0	36.3	61.6	11.8	1.8	3.9	0	20.18
20 to 49.....	100.0	34.3	55.5	13.1	6.0	3.4	0	18.41
50 to 99.....	100.0	36.6	55.6	14.6	9.9	0	0	17.13
100 to 249.....	100.0	35.1	58.0	18.2	11.0	0	0	24.83
250 or More.....	100.0	28.2	55.2	24.8	24.5	0	NC	23.33
Weekly Operating Hours								
39 or Fewer.....	100.0	28.6	52.4	15.5	0	11.2	0	20.08
40 to 48.....	100.0	30.0	61.0	12.7	2.1	4.4	0	14.98
49 to 60.....	100.0	35.5	56.7	14.6	1.5	6.1	3.3	14.11
61 to 84.....	100.0	32.0	59.4	14.8	2.2	3.3	0	18.23
85 to 167.....	100.0	31.8	54.2	16.8	2.4	6.5	0	19.14
168 (Open Continuously).....	100.0	46.8	43.3	13.9	9.9	6.7	0	20.03
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	33.2	56.1	14.5	2.6	6.1	2.0	9.51
Natural Gas.....	100.0	19.2	90.1	5.6	1.1	0	0	10.57
Fuel Oil.....	100.0	13.3	14.5	96.1	1.6	0	0	14.25
District Heat.....	100.0	16.4	8.2	7.5	96.1	0	0	22.42
District Chilled Water.....	100.0	0	20.2	0	65.6	0	0	46.72
Propane.....	100.0	25.2	8.2	17.3	0	71.0	0	22.00
Any Other.....	100.0	23.6	21.1	16.7	0	Q	60.7	25.25
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	33.1	56.0	14.5	2.6	6.1	2.0	9.51
Air-Conditioned Buildings.....	100.0	37.4	57.3	11.5	2.4	5.5	0	11.47
Buildings with Water Heating.....	100.0	34.4	58.0	14.1	3.0	5.3	1.5	9.55
Buildings with Cooking.....	100.0	34.1	55.8	16.3	2.9	5.5	0	15.74
Buildings with Manufacturing..	100.0	38.5	54.6	17.0	7.8	0	NC	22.81

See footnotes at end of table.

Table 62. Space-Heating Energy Sources, Percent of Buildings (Continued)

Building Characteristics	All Heated Buildings	Energy Sources for Space Heating (Solely or in Combination)						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	--	0.512	0.395	0.977	1.508	1.549	2.165
Primary Space-Heating Fuel								
Electricity.....	100.0	100.0	7.3	2.1	.9	0	0	30.88
Natural Gas.....	100.0	11.5	100.0	2.8	.9	0	0	18.42
Fuel Oil.....	100.0	9.0	4.3	100.0	0	0	0	39.58
District Heat.....	100.0	15.3	4.6	4.8	100.0	0	0	62.41
Propane.....	100.0	15.9	0	0	0	100.0	0	55.39
Any Other.....	100.0	0	0	0	0	0	62.5	49.38
Percent Heated								
Not Heated.....	0	0	0	0	0	0	0	92.57
1 to 50.....	100.0	37.6	53.1	11.9	0	8.3	NC	16.73
51 to 99.....	100.0	36.3	51.7	17.6	3.3	5.3	0	19.12
100.....	100.0	31.6	57.5	14.5	3.0	5.8	1.6	9.67
Heating Equipment (Solely or in Combination)								
Furnaces.....	100.0	22.0	69.9	17.3	0	5.7	1.8	16.03
Boilers.....	100.0	16.8	63.0	33.8	1.5	3.5	0	17.41
Individual Space Heaters.....	100.0	38.2	55.0	12.9	1.9	9.3	4.3	11.87
Packaged Heating Units.....	100.0	48.7	57.5	3.1	1.0	4.2	0	18.48
Heat Pumps.....	100.0	80.8	29.4	3.7	1.4	4.4	0	20.63
Air Ducts.....	100.0	36.3	58.7	11.0	3.1	5.5	0	12.62
Heating or Reheating Coils.....	100.0	49.6	41.7	15.5	16.1	4.0	NC	14.19
Fan-Coil Units.....	100.0	16.5	61.5	27.9	16.5	0	Q	21.25
Steam or Hot Water Radiators or Baseboards.....	100.0	15.4	54.0	37.4	11.4	0	Q	17.60
Other.....	100.0	28.6	72.1	Q	12.5	NC	NC	33.50
Wall Materials								
Masonry.....	100.0	31.6	59.6	14.8	2.5	5.0	1.4	10.83
Siding or Shingles.....	100.0	31.1	47.9	16.3	1.5	11.0	0	16.90
Metal Panels.....	100.0	40.2	49.2	12.5	0	7.6	0	17.05
Concrete Panels.....	100.0	43.1	52.0	9.9	8.8	0	NC	22.97
Window Glass.....	100.0	46.5	47.4	0	0	0	NC	47.62
Other.....	100.0	38.7	53.2	Q	Q	0	NC	50.50
Roof Materials								
Built-Up.....	100.0	33.9	59.5	13.1	3.4	3.5	0	13.54
Shingles (Not Wood).....	100.0	30.8	55.4	16.4	1.3	8.4	0	15.19
Metal Surfacing.....	100.0	36.4	48.4	14.9	1.3	8.5	5.6	17.13
Synthetic or Rubber.....	100.0	28.6	62.2	18.3	7.3	0	0	23.57
Slate or Tile.....	100.0	30.9	57.5	11.4	5.2	0	0	28.42
Concrete.....	100.0	46.2	46.2	0	0	0	NC	41.96
Wooden Materials.....	100.0	39.7	53.0	0	0	0	0	34.09
Other.....	100.0	33.1	50.3	Q	Q	0	Q	51.03
Building Shell Conservation Features (Solely or in Combination)								
Roof or Ceiling Insulation.....	100.0	35.5	54.4	14.1	2.7	6.0	1.9	10.25
Wall Insulation.....	100.0	37.1	52.7	13.9	2.3	6.0	2.0	11.44
Storm or Multiple Glazing.....	100.0	34.7	54.4	18.6	1.8	6.0	2.1	11.74
Tinted, Reflective, or Shading Glass.....	100.0	43.8	53.8	8.8	2.5	5.0	0	15.68
Exterior or Interior Shadings or Awnings.....	100.0	36.8	57.1	12.2	3.3	4.9	0	12.43
Weather Stripping or Caulking.....	100.0	35.1	54.6	14.0	2.8	6.2	1.7	10.58
Occupant Control of:								
Heating Only.....	100.0	21.9	53.5	22.9	2.0	8.5	5.7	14.71
Cooling Only.....	100.0	16.8	61.4	23.1	11.0	0	NC	25.38
Heating and Cooling.....	100.0	40.9	56.9	9.9	1.4	4.9	Q	13.20
Reduced Use—Off-Hours								
Heating Only.....	100.0	20.0	51.0	24.6	2.0	8.3	5.9	15.11
Cooling Only.....	100.0	36.7	53.2	18.7	4.2	0	Q	30.41
Heating and Cooling.....	100.0	35.8	59.2	11.4	1.5	5.8	0	12.07
Climate Zone: 45 Year Average								
Under 2,000 CDD and --								
Over 7,000 HDD.....	100.0	20.0	57.3	28.0	1.5	5.9	0	21.50
5,500-7,000 HDD.....	100.0	16.4	69.5	18.4	3.5	4.8	0	16.20
4,000-5,499 HDD.....	100.0	32.6	44.0	26.7	2.8	7.1	0	19.30
Under 4,000 HDD.....	100.0	41.6	56.2	4.1	2.0	9.8	0	21.72
2,000 CDD or More and --								
Under 4,000 HDD.....	100.0	50.0	51.6	2.9	2.3	2.9	Q	26.51

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors.

* See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A,

"Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

**Table 63. Space-Heating Energy Sources, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Total Floorspace by Energy Source for Space Heating (Solely or in Combination)						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.456	0.483	0.730	0.641	0.984	1.759	1.852	3.025
All Buildings.....	63,184	57,868	18,703	33,278	10,603	6,330	1,767	435	7.58
Building Floorspace (Square Feet)									
1,001 to 5,000.....	6,790	5,759	1,817	3,124	813	43	463	123	10.99
5,001 to 10,000.....	6,532	5,620	1,698	3,628	682	115	266	Q	14.43
10,001 to 25,000.....	10,393	9,434	3,817	4,908	1,380	532	325	Q	13.25
25,001 to 50,000.....	8,801	7,994	3,013	4,835	1,230	495	Q	NC	15.51
50,001 to 100,000.....	9,130	8,420	2,766	5,459	1,450	758	Q	Q	17.14
100,001 to 200,000.....	8,277	7,902	2,341	4,420	1,859	1,166	Q	Q	20.48
200,001 to 500,000.....	7,022	6,763	1,781	4,303	1,299	1,372	Q	NC	27.00
Over 500,000.....	6,239	5,977	1,470	2,602	1,891	1,849	NC	NC	29.14
Principal Building Activity									
Assembly.....	6,838	6,608	1,805	3,837	1,036	829	366	Q	17.36
Education.....	8,148	8,088	1,191	5,082	2,196	1,044	158	*	18.86
Food Sales.....	792	750	298	438	Q	Q	Q	Q	43.78
Food Service.....	1,167	1,061	333	640	167	Q	Q	Q	29.05
Health Care.....	2,054	2,028	422	1,337	1,198	406	Q	NC	29.30
Lodging.....	3,476	3,293	1,338	1,610	404	668	Q	Q	22.94
Mercantile and Service.....	12,365	12,040	4,530	7,456	1,463	148	510	268	13.04
Office.....	11,802	11,683	4,545	5,033	1,819	2,453	Q	Q	15.18
Parking Garage.....	983	589	322	Q	Q	Q	Q	NC	52.19
Public Order and Safety.....	616	608	Q	383	Q	Q	Q	NC	43.40
Warehouse.....	9,253	7,296	2,499	4,565	1,342	199	367	Q	23.11
Other.....	1,529	1,324	601	926	Q	273	Q	Q	41.42
Vacant.....	4,161	2,503	723	1,746	310	Q	Q	Q	37.04
Year Constructed									
1899 or Before.....	1,654	1,536	379	889	406	Q	Q	Q	27.32
1900 to 1919.....	4,245	3,674	601	2,632	794	260	Q	Q	35.29
1920 to 1945.....	8,098	7,489	1,323	4,341	2,398	1,017	160	Q	19.11
1946 to 1959.....	10,511	9,793	2,108	6,150	1,872	1,555	139	Q	16.73
1960 to 1969.....	12,167	11,183	3,292	7,095	2,114	1,184	390	Q	12.32
1970 to 1979.....	13,329	12,374	5,014	6,568	1,651	1,299	431	Q	13.39
1980 to 1983.....	4,274	3,875	2,143	1,777	668	Q	Q	Q	19.52
1984 to 1986.....	5,670	5,078	2,518	2,419	240	Q	167	Q	22.70
1987 to 1989.....	3,235	2,868	1,325	1,408	460	Q	Q	Q	28.29
Census Region									
Northeast.....	13,569	12,969	2,558	6,008	4,772	2,323	324	Q	14.55
Midwest.....	15,955	15,067	2,808	11,711	2,810	1,175	435	150	13.90
South.....	22,040	19,170	8,958	9,270	2,318	1,631	887	Q	14.75
West.....	11,620	10,662	4,379	6,290	703	1,202	121	Q	18.39
Metropolitan Status									
Metropolitan.....	50,809	47,145	15,277	27,151	8,369	6,004	988	186	9.13
Nonmetropolitan.....	12,375	10,723	3,426	6,127	2,234	326	779	249	16.33
Workers									
Fewer than 5.....	13,292	10,858	3,481	6,024	1,616	299	632	314	14.00
5 to 9.....	7,939	7,484	2,581	4,495	1,038	347	344	Q	17.29
10 to 19.....	6,445	6,151	2,333	3,881	866	173	175	Q	17.07
20 to 49.....	9,665	9,424	3,188	5,437	1,365	869	256	Q	17.28
50 to 99.....	7,389	7,232	2,220	4,576	1,535	635	Q	NC	16.52
100 to 249.....	6,771	6,695	2,251	4,097	1,414	859	Q	*	20.29
250 or More.....	9,829	9,750	2,592	4,645	2,673	3,084	*	NC	24.44
Weekly Operating Hours									
39 or Fewer.....	6,073	4,042	1,090	2,362	749	Q	326	Q	16.89
40 to 48.....	13,905	13,031	3,744	8,044	2,486	908	313	Q	14.21
49 to 60.....	13,473	12,884	4,791	7,131	1,917	1,193	395	166	14.45
61 to 84.....	10,777	10,440	3,794	6,039	1,492	934	186	Q	15.77
85 to 167.....	9,387	8,714	2,210	5,039	1,932	1,155	319	Q	21.21
168 (Open Continuously).....	9,569	8,758	3,074	4,665	2,028	1,991	227	Q	16.43
Energy Sources (Solely or in Combination)									
Electricity.....	61,587	57,834	18,703	33,271	10,582	6,330	1,767	430	7.62
Natural Gas.....	41,593	41,242	9,321	33,278	6,461	3,224	279	113	10.67
Fuel Oil.....	12,684	12,577	2,045	5,435	10,603	1,112	Q	Q	14.46
District Heat.....	6,856	6,840	687	926	862	6,330	Q	NC	32.38
District Chilled Water.....	2,101	2,094	0	397	407	1,593	Q	NC	34.37
Propane.....	4,695	4,549	1,499	980	1,353	Q	1,767	Q	22.43
Any Other.....	1,542	1,541	285	454	253	Q	Q	435	33.44
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	57,868	57,868	18,703	33,278	10,603	6,330	1,767	435	7.66
Air-Conditioned Buildings.....	51,771	50,512	17,248	29,676	8,467	5,671	1,457	Q	8.90
Buildings with Water Heating.....	53,585	52,469	16,803	30,659	9,905	6,212	1,434	251	8.10
Buildings with Cooking.....	23,668	23,085	6,520	13,478	5,151	3,603	375	Q	12.18
Buildings with Manufacturing..	5,601	5,270	1,418	2,813	976	1,296	Q	NC	28.05

See footnotes at end of table.

Table 63. Space-Heating Energy Sources, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Total Floorspace by Energy Source for Space Heating (Solely or in Combination)						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.456	0.483	0.730	0.641	0.984	1.759	1.852	3.025
Primary Space-Heating Fuel									
Electricity.....	13,450	13,450	13,450	1,543	582	0	0	0	17.47
Natural Gas.....	31,402	31,402	4,152	31,402	3,990	328	244	0	12.71
Fuel Oil.....	5,598	5,598	581	521	5,598	0	0	0	21.76
District Heat.....	6,168	6,168	573	383	434	6,168	0	NC	33.62
Propane.....	1,230	1,230	266	0	0	0	1,230	0	38.89
Any Other.....	766	766	Q	Q	Q	Q	Q	284	50.42
Percent Heated									
Not Heated.....	5,419	0	0	0	0	0	0	0	56.24
1 to 50.....	9,314	9,314	3,876	5,474	843	0	565	0	18.86
51 to 99.....	8,673	8,673	3,160	4,598	1,997	1,249	146	0	18.45
100.....	39,777	39,777	11,656	23,143	7,748	4,947	1,049	195	8.42
Heating Equipment (Solely or in Combination)									
Furnaces.....	15,592	15,592	4,531	11,749	2,481	0	682	151	13.42
Boilers.....	19,907	19,907	3,145	14,426	7,438	696	462	0	12.61
Individual Space Heaters.....	22,542	22,542	8,596	13,280	3,790	2,088	795	329	12.57
Packaged Heating Units.....	15,598	15,598	7,384	9,883	1,456	595	378	0	14.22
Heat Pumps.....	8,357	8,357	5,158	4,069	955	589	208	0	17.97
Air Ducts.....	37,297	37,297	12,283	21,761	6,444	5,369	1,077	0	9.74
Heating or Reheating Coils.....	15,693	15,693	4,453	7,894	3,906	4,373	273	NC	15.14
Fan-Coil Units.....	11,839	11,839	1,775	7,739	3,457	2,878	0	*	18.39
Steam or Hot Water Radiators or Baseboards.....	15,822	15,822	1,671	9,146	5,767	3,661	0	NC	15.29
Other.....	1,476	1,476	446	1,003	0	170	0	NC	40.83
Wall Materials									
Masonry.....	42,074	39,608	11,797	24,068	8,252	3,611	1,227	232	8.61
Siding or Shingles.....	4,788	4,124	1,421	2,082	670	167	303	0	18.24
Metal Panels.....	5,689	4,588	1,964	2,619	602	0	172	0	18.12
Concrete Panels.....	7,221	6,300	2,457	3,308	882	1,305	0	NC	22.55
Window Glass.....	1,924	1,812	654	646	0	0	0	NC	38.34
Other.....	1,487	1,437	412	555	0	0	0	NC	45.05
Roof Materials									
Built-Up.....	31,057	29,323	9,693	17,743	5,308	3,293	566	0	11.09
Shingles (Not Wood).....	10,917	9,841	2,949	5,793	1,979	437	519	0	15.02
Metal Surfacing.....	8,197	6,582	2,754	3,621	707	256	368	180	16.36
Synthetic or Rubber.....	6,911	6,828	1,882	3,532	1,471	1,430	0	0	21.70
Slate or Tile.....	2,582	2,500	490	1,230	621	344	0	0	30.91
Concrete.....	1,932	1,355	395	450	0	0	0	NC	39.86
Wooden Materials.....	727	621	203	444	0	0	0	0	31.82
Other.....	860	819	339	Q	Q	Q	*	Q	50.87
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation.....	45,092	43,220	15,052	24,055	7,746	4,954	1,392	354	8.70
Wall Insulation.....	29,692	28,840	10,598	16,129	5,162	2,746	1,055	260	9.63
Storm or Multiple Glazing.....	24,068	23,717	8,202	13,725	5,563	2,124	680	148	10.17
Tinted, Reflective, or Shading Glass.....	22,040	21,461	8,273	11,579	3,546	3,072	305	*	12.76
Exterior or Interior Shadings or Awnings.....	26,173	25,586	7,692	14,300	4,570	4,115	497	Q	10.90
Weather Stripping or Caulking.....	44,694	43,250	14,613	23,981	7,830	5,346	1,302	223	8.34
Occupant Control of:									
Heating Only.....	4,872	4,872	1,242	2,525	1,465	268	227	128	15.51
Cooling Only.....	4,143	3,629	575	2,250	927	593	0	NC	20.31
Heating and Cooling.....	22,172	22,172	8,891	13,156	2,862	1,341	648	Q	12.04
Reduced Use--Off-Hours									
Heating Only.....	7,147	7,147	1,664	3,578	2,045	569	280	216	14.33
Cooling Only.....	4,112	3,047	800	1,781	591	382	0	0	28.83
Heating and Cooling.....	38,689	38,689	13,144	22,838	6,371	3,929	1,005	Q	9.72
Climate Zone: 45 Year Average									
Under 2,000 CDD and --									
Over 7,000 HDD.....	5,062	4,785	963	2,737	1,753	406	313	0	19.17
5,500-7,000 HDD.....	17,957	17,044	3,243	12,062	3,407	2,219	301	0	13.66
4,000-5,499 HDD.....	15,385	14,408	4,204	7,124	3,893	1,867	486	0	18.61
Under 4,000 HDD.....	12,903	11,826	5,140	6,548	1,174	1,114	434	0	24.09
2,000 CDD or More and --									
Under 4,000 HDD.....	11,877	9,805	5,154	4,807	376	725	233	Q	25.37

* Value rounds to zero in the units displayed.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES
Table 64. Space-Heating Energy Sources, Percent of Floorspace

Building Characteristics	Total Floorspace of All Heated Buildings	Total Floorspace by Energy Source for Space Heating (Solely or in Combination)						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
		RSE Column Factor:	--	0.564	0.385	0.786	1.388	1.612
All Buildings.....	100.0	32.3	57.5	18.3	10.9	3.1	0.8	8.95
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	31.6	54.2	14.1	.7	8.0	2.1	13.59
5,001 to 10,000.....	100.0	30.2	64.5	12.1	2.1	4.7	Q	17.35
10,001 to 25,000.....	100.0	40.5	52.0	14.6	5.6	3.4	Q	14.75
25,001 to 50,000.....	100.0	37.7	60.5	15.4	6.2	0	NC	17.91
50,001 to 100,000.....	100.0	32.9	64.8	17.2	9.0	0	Q	18.85
100,001 to 200,000.....	100.0	29.6	55.9	23.5	14.8	0	Q	24.67
200,001 to 500,000.....	100.0	26.3	63.6	19.2	20.3	0	NC	24.37
Over 500,000.....	100.0	24.6	43.5	31.6	30.9	NC	NC	32.05
Principal Building Activity								
Assembly.....	100.0	27.3	58.1	15.7	12.5	5.5	Q	20.08
Education.....	100.0	14.7	62.8	27.2	12.9	2.0	Q	24.24
Food Sales.....	100.0	39.8	58.4	0	0	0	Q	44.97
Food Service.....	100.0	31.4	60.3	15.9	0	0	Q	33.62
Health Care.....	100.0	20.8	65.9	59.1	20.0	0	Q	24.80
Lodging.....	100.0	40.6	48.9	12.3	20.3	0	Q	26.84
Mercantile and Service.....	100.0	37.6	61.9	12.1	1.2	4.2	2.2	16.11
Office.....	100.0	38.9	43.1	15.6	21.0	0	Q	19.16
Parking Garage.....	100.0	54.7	0	0	0	0	NC	60.40
Public Order and Safety.....	100.0	0	63.0	0	0	0	NC	53.01
Warehouse.....	100.0	34.3	62.6	18.4	2.7	5.0	Q	23.10
Other.....	100.0	45.4	69.9	0	20.6	0	Q	36.50
Vacant.....	100.0	28.9	69.8	12.4	Q	Q	Q	39.00
Year Constructed								
1899 or Before.....	100.0	24.7	57.9	26.4	0	0	Q	27.06
1900 to 1919.....	100.0	16.4	71.6	21.6	7.1	0	Q	37.07
1920 to 1945.....	100.0	17.7	58.0	32.0	13.6	2.1	Q	20.27
1946 to 1959.....	100.0	21.5	62.8	19.1	15.9	1.4	Q	20.74
1950 to 1969.....	100.0	29.4	63.4	18.9	10.6	3.5	Q	14.24
1970 to 1979.....	100.0	40.5	53.1	13.3	10.5	3.5	Q	16.04
1980 to 1983.....	100.0	55.3	45.8	17.2	0	0	Q	22.49
1984 to 1986.....	100.0	49.6	47.6	4.7	0	3.3	Q	32.48
1987 to 1989.....	100.0	46.2	49.1	16.0	Q	Q	Q	29.87
Census Region								
Northeast.....	100.0	19.7	46.3	36.8	17.9	2.5	Q	17.59
Midwest.....	100.0	18.6	77.7	18.6	7.8	2.9	1.0	13.42
South.....	100.0	46.7	48.4	12.1	8.5	4.6	Q	15.29
West.....	100.0	41.1	59.0	6.6	11.3	Q	Q	24.80
Metropolitan Status								
Metropolitan.....	100.0	32.4	57.6	17.8	12.7	2.1	2.4	10.65
Nonmetropolitan.....	100.0	32.0	57.1	20.8	3.0	7.3	2.3	18.43
Workers								
Fewer than 5.....	100.0	32.1	55.5	14.9	2.8	5.8	2.9	16.83
5 to 9.....	100.0	34.5	60.1	13.9	4.6	4.6	Q	19.68
10 to 19.....	100.0	37.9	63.1	14.1	2.8	2.8	Q	18.55
20 to 49.....	100.0	33.8	57.7	14.5	9.2	2.7	Q	20.14
50 to 99.....	100.0	30.7	63.3	21.2	8.8	0	NC	18.32
100 to 249.....	100.0	33.6	61.2	21.1	12.8	0	*	23.45
250 or More.....	100.0	26.6	47.6	27.4	31.6	*	NC	26.64
Weekly Operating Hours								
39 or Fewer.....	100.0	27.0	58.4	18.5	0	8.1	Q	19.74
40 to 48.....	100.0	28.7	61.7	19.1	7.0	2.4	Q	16.16
49 to 60.....	100.0	37.2	55.3	14.9	9.3	3.1	1.3	17.35
61 to 84.....	100.0	36.3	57.8	14.3	8.9	1.8	Q	20.19
85 to 167.....	100.0	25.4	57.8	22.2	13.3	3.7	Q	22.99
168 (Open Continuously).....	100.0	35.1	53.3	23.2	22.7	2.6	Q	17.23
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	32.3	57.5	18.3	10.9	3.1	.7	8.97
Natural Gas.....	100.0	22.6	80.7	15.7	7.8	.7	.3	12.29
Fuel Oil.....	100.0	16.3	43.2	84.3	8.8	0	Q	15.30
District Heat.....	100.0	10.0	13.5	12.6	92.5	0	NC	29.76
District Chilled Water.....	100.0	0	18.9	19.5	76.1	0	NC	36.66
Propane.....	100.0	32.9	21.6	29.7	0	38.8	Q	24.14
Any Other.....	100.0	18.5	29.5	16.4	Q	Q	28.3	36.90
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	32.3	57.5	18.3	10.9	3.1	.8	8.95
Air-Conditioned Buildings.....	100.0	34.1	58.8	16.8	11.2	2.9	Q	10.96
Buildings with Water Heating.....	100.0	32.0	58.4	18.9	11.8	2.7	.5	9.52
Buildings with Cooking.....	100.0	28.2	58.4	22.3	15.6	1.6	Q	14.51
Buildings with Manufacturing..	100.0	26.9	53.4	18.5	24.6	Q	NC	28.72

See footnotes at end of table.

Table 64. Space-Heating Energy Sources, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Heated Buildings	Total Floorspace by Energy Source for Space Heating (Solely or in Combination)						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
		RSE Column Factor:	0.564	0.385	0.786	1.388	1.612	2.621
Primary Space-Heating Fuel								
Electricity.....	100.0	100.0	11.5	4.3	0	0	0	29.27
Natural Gas.....	100.0	13.2	100.0	12.7	1.0	.8	0	17.59
Fuel Oil.....	100.0	10.4	9.3	100.0	0	0	0	36.41
District Heat.....	100.0	9.3	6.2	7.0	100.0	0	0	59.80
Propane.....	100.0	21.6	0	0	0	100.0	0	69.27
Any Other.....	100.0	Q	Q	Q	Q	Q	37.0	51.81
Percent Heated								
Not Heated.....	0	0	0	0	0	0	NC	81.51
1 to 50.....	100.0	41.6	58.8	9.1	0	6.1	0	19.63
51 to 99.....	100.0	36.4	53.0	23.0	14.4	1.7	0	20.50
100.....	100.0	29.3	58.2	19.5	12.4	2.6	.5	10.47
Heating Equipment (Solely or in Combination)								
Furnaces.....	100.0	29.1	75.4	15.9	0	4.4	1.0	15.20
Boilers.....	100.0	15.8	72.5	37.4	3.5	2.3	0	14.94
Individual Space Heaters.....	100.0	38.1	58.9	16.8	9.3	3.5	1.5	13.71
Packaged Heating Units.....	100.0	47.3	63.4	9.3	3.8	2.4	0	15.66
Heat Pumps.....	100.0	61.7	48.7	11.4	7.0	2.5	0	21.10
Air Ducts.....	100.0	32.9	58.3	17.3	14.4	2.9	0	11.70
Heating or Reheating Coils.....	100.0	28.4	50.3	24.9	27.9	1.7	NC	15.36
Fan-Coil Units.....	100.0	15.0	65.4	29.2	24.3	Q	*	21.51
Steam or Hot Water Radiators or Baseboards.....	100.0	10.6	57.8	36.4	23.1	0	0	17.63
Other.....	100.0	30.2	67.9	Q	11.5	NC	NC	32.40
Wall Materials								
Masonry.....	100.0	29.8	60.8	20.8	9.1	3.1	.6	9.66
Siding or Shingles.....	100.0	34.5	50.5	16.2	4.0	7.3	0	20.36
Metal Panels.....	100.0	42.8	57.1	13.1	0	3.8	0	20.24
Concrete Panels.....	100.0	39.0	52.5	14.0	20.7	0	NC	25.37
Window Glass.....	100.0	36.1	35.7	0	35.3	0	NC	55.85
Other.....	100.0	28.6	38.6	Q	Q	Q	NC	47.11
Roof Materials								
Built-Up.....	100.0	33.1	60.5	18.1	11.2	1.9	0	13.11
Shingles (Not Wood).....	100.0	30.0	58.9	20.1	4.4	5.3	0	16.54
Metal Surfacing.....	100.0	41.8	55.0	10.7	3.9	5.6	2.7	18.67
Synthetic or Rubber.....	100.0	27.6	51.7	21.5	20.9	0	0	24.05
Slate or Tile.....	100.0	19.6	49.2	24.9	13.8	0	0	36.73
Concrete.....	100.0	29.1	32.2	0	0	0	NC	60.12
Wooden Materials.....	100.0	32.6	71.6	0	0	0	0	35.10
Other.....	100.0	41.3	56.7	Q	Q	Q	0	50.83
Building Shell Conservation Features (Solely or in Combination)								
Roof or Ceiling Insulation....	100.0	34.8	55.7	17.9	11.5	3.2	.8	9.87
Wall Insulation.....	100.0	37.1	55.9	17.9	9.5	3.7	.9	11.23
Storm or Multiple Glazing.....	100.0	34.6	57.9	23.5	9.0	2.9	.6	11.22
Tinted, Reflective, or Shading Glass.....	100.0	38.5	54.0	16.5	14.3	1.4	*	15.97
Exterior or Interior Shadings or Awnings.....	100.0	30.1	55.9	17.9	16.1	1.9	Q	12.94
Weather Stripping or Caulking.....	100.0	33.8	55.4	18.1	12.4	3.0	.5	10.28
Occupant Control of:								
Heating Only.....	100.0	25.5	51.8	30.1	5.5	4.6	2.6	17.04
Cooling Only.....	100.0	15.8	62.0	25.5	16.3	0	NC	24.00
Heating and Cooling.....	100.0	40.1	59.3	12.9	6.0	2.9	Q	12.64
Reduced Use--Off-Hours								
Heating Only.....	100.0	23.3	50.1	28.6	8.0	3.9	3.0	16.82
Cooling Only.....	100.0	26.2	58.4	19.4	12.5	0	0	32.51
Heating and Cooling.....	100.0	34.0	59.0	16.5	10.2	2.6	Q	11.46
Climate Zone: 45 Year Average								
Under 2,000 HDD and --								
Over 7,000 HDD.....	100.0	20.1	57.2	36.6	8.5	6.5	0	18.42
5,500-7,000 HDD.....	100.0	19.0	70.8	20.0	13.0	1.8	0	14.99
4,000-5,499 HDD.....	100.0	29.2	49.4	27.0	13.0	3.4	0	19.49
Under 4,000 HDD.....	100.0	43.5	55.4	9.9	9.4	3.7	Q	22.83
2,000 CDD or More and --								
Under 4,000 HDD.....	100.0	52.6	49.0	3.8	7.4	2.4	Q	26.05

-- Data not applicable.

* Value rounds to zero in the units displayed.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors.

• See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A,

"Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES
Table 65. Primary Space-Heating Energy Sources, Number of Buildings (Thousand)

Building Characteristics	All Buildings	All Heated Buildings	Primary Space-Heating Energy Sources						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
RSE Column Factor:	0.406	0.420	0.836	0.544	1.307	1.639	1.876	3.213	
All Buildings.....	4,528	3,877	959	2,093	475	98	208	40	8.90
Building Floorspace (Square Feet)									
1,001 to 5,000.....	2,529	2,100	532	1,085	280	17	159	Q	11.47
5,001 to 10,000.....	890	760	153	472	78	16	30	Q	14.86
10,001 to 25,000.....	644	588	176	293	73	29	Q	Q	14.41
25,001 to 50,000.....	247	224	55	127	24	13	Q	NC	16.60
50,001 to 100,000.....	127	118	24	70	11	10	Q	Q	19.09
100,001 to 200,000.....	61	58	13	31	7	7	Q	Q	25.31
200,001 to 500,000.....	23	22	5	12	1	5	Q	NC	32.63
Over 500,000.....	7	7	1	3	Q	2	NC	NC	32.53
Principal Building Activity									
Assembly.....	615	589	118	303	87	15	67	Q	17.45
Education.....	284	279	43	178	26	17	Q	Q	20.06
Food Sales.....	102	89	35	39	9	Q	Q	NC	37.51
Food Service.....	241	228	51	140	27	Q	Q	NC	26.90
Health Care.....	80	75	31	33	Q	Q	Q	NC	32.81
Lodging.....	140	134	48	64	Q	12	Q	Q	25.52
Mercantile and Service.....	1,278	1,219	251	666	194	Q	66	Q	12.53
Office.....	679	663	235	349	49	23	Q	Q	16.78
Parking Garage.....	45	27	0	0	Q	Q	Q	NC	49.91
Public Order and Safety.....	50	50	Q	25	Q	Q	Q	NC	43.95
Warehouse.....	618	340	83	186	39	7	20	Q	19.97
Other.....	62	47	16	20	Q	8	Q	NC	44.21
Vacant.....	333	137	37	77	Q	Q	Q	Q	28.50
Year Constructed									
1899 or Before.....	172	154	0	86	27	Q	Q	Q	28.32
1900 to 1919.....	242	204	21	138	28	Q	Q	NC	24.75
1920 to 1945.....	680	585	68	337	127	20	Q	Q	17.08
1946 to 1959.....	868	758	114	468	120	16	Q	Q	16.07
1960 to 1969.....	821	686	161	394	73	24	35	Q	15.58
1970 to 1979.....	884	771	280	348	71	11	47	Q	13.88
1980 to 1983.....	317	267	111	116	Q	Q	Q	Q	22.22
1984 to 1986.....	329	277	125	123	Q	Q	Q	Q	21.61
1987 to 1989.....	215	174	63	83	Q	Q	Q	Q	26.95
Census Region									
Northeast.....	783	711	81	284	281	30	25	Q	18.25
Midwest.....	1,046	920	90	693	52	14	61	Q	15.76
South.....	1,847	1,512	564	665	130	32	97	Q	15.25
West.....	851	734	224	452	Q	22	Q	Q	19.31
Metropolitan Status									
Metropolitan.....	3,073	2,674	712	1,466	308	86	103	Q	10.14
Nonmetropolitan.....	1,454	1,203	246	627	167	13	104	Q	18.99
Workers									
Fewer than 5.....	2,280	1,892	433	982	273	20	147	Q	11.56
5 to 9.....	906	861	221	488	93	16	35	Q	13.31
10 to 19.....	507	492	134	291	49	9	Q	NC	17.99
20 to 49.....	381	370	99	196	40	22	Q	NC	13.99
50 to 99.....	132	126	36	63	12	12	Q	NC	18.43
100 to 249.....	79	78	20	43	6	8	Q	NC	23.06
250 or More.....	32	32	8	15	2	7	Q	NC	23.42
Weekly Operating Hours									
39 or Fewer.....	876	586	119	299	88	Q	63	Q	18.99
40 to 48.....	1,117	1,007	231	596	107	21	38	Q	13.80
49 to 60.....	987	917	230	491	111	14	50	Q	12.73
61 to 84.....	625	565	132	329	70	12	Q	Q	15.94
85 to 167.....	515	443	113	235	63	10	Q	Q	18.22
168 (Open Continuously).....	408	359	133	143	36	34	Q	Q	15.91
Energy Sources (Solely or in Combination)									
Electricity.....	4,297	3,874	959	2,093	475	98	208	39	8.94
Natural Gas.....	2,439	2,410	225	2,093	75	25	Q	Q	12.64
Fuel Oil.....	586	583	29	66	475	9	Q	Q	23.90
District Heat.....	105	105	Q	7	Q	98	Q	NC	38.33
District Chilled Water.....	25	24	Q	3	Q	16	Q	NC	37.43
Propane.....	348	335	42	27	55	Q	208	Q	25.92
Any Other.....	130	129	Q	22	Q	Q	Q	40	26.77
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	3,877	3,877	959	2,093	475	98	208	40	9.01
Air-Conditioned Buildings.....	3,184	3,062	862	1,689	290	71	146	Q	10.64
Buildings with Water Heating.....	3,184	3,079	770	1,719	360	88	135	Q	9.78
Buildings with Cooking.....	864	818	201	444	110	23	37	Q	14.53
Buildings with Manufacturing.....	205	188	48	97	20	15	Q	NC	24.52

See footnotes at end of table.

Table 65. Primary Space-Heating Energy Sources, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Heated Buildings	Primary Space-Heating Energy Sources						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.406	0.420	0.836	0.544	1.307	1.639	1.876	3.213
Space-Heating Energy Source (Solely or in Combination)									
Electricity.....	1,284	1,284	959	242	43	15	33	0	16.25
Natural Gas.....	2,172	2,172	70	2,093	21	55	00	00	17.46
Fuel Oil.....	560	560	20	58	475	00	00	00	26.87
District Heat.....	101	101	0	4	0	98	00	00	42.76
Propane.....	238	238	0	13	0	0	208	00	34.59
Other.....	110	110	0	0	0	0	0	40	33.62
Percent Heated									
Not Heated.....	662	0	0	0	0	0	0	0	61.76
1 to 50.....	630	630	192	326	57	0	43	0	17.47
51 to 99.....	496	496	130	246	72	16	0	0	17.92
100.....	2,739	2,739	635	1,517	343	79	142	0	9.03
Heating Equipment (Solely or in Combination)									
Furnaces.....	1,619	1,619	186	1,098	252	0	78	0	15.67
Boilers.....	704	704	45	429	197	10	0	0	15.88
Individual Space Heaters.....	1,389	1,389	346	723	144	26	118	34	11.40
Packaged Heating Units.....	859	859	337	472	16	0	31	NC	18.14
Heat Pumps.....	453	453	314	115	11	6	0	NC	20.74
Air Ducts.....	1,990	1,990	545	1,130	171	59	89	0	13.79
Heating or Reheating Coils.....	243	243	90	95	19	38	0	NC	16.83
Fan-Coil Units.....	185	185	11	110	33	30	0	0	21.09
Steam or Hot Water Radiators or Baseboards.....	498	498	11	260	157	56	0	0	19.36
Other.....	57	57	11	39	0	7	NC	NC	37.44
Wall Materials									
Masonry.....	2,849	2,571	581	1,478	319	62	105	0	10.15
Siding or Shingles.....	802	655	162	304	102	10	67	0	17.65
Metal Panels.....	557	398	133	186	37	0	28	0	18.95
Concrete Panels.....	240	182	59	91	0	16	0	0	25.33
Window Glass.....	33	28	11	12	0	0	0	0	43.49
Other.....	46	43	13	23	0	0	0	0	44.20
Roof Materials									
Built-Up.....	1,614	1,454	380	835	154	47	39	0	12.30
Shingles (Not Wood).....	1,392	1,218	264	650	189	15	92	0	15.22
Metal Surfacing.....	901	657	185	303	81	8	50	0	16.24
Synthetic or Rubber.....	211	206	36	126	22	15	0	0	22.93
Slate or Tile.....	193	184	45	102	19	10	0	0	27.27
Concrete.....	72	33	11	15	0	0	0	0	46.61
Wooden Materials.....	106	86	29	44	0	0	0	0	33.60
Other.....	38	37	Q	19	0	0	0	0	48.02
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation.....	3,057	2,849	774	1,489	340	77	143	0	9.49
Wall Insulation.....	2,026	1,909	551	972	223	44	100	0	10.92
Storm or Multiple Glazing.....	1,440	1,391	344	726	214	25	77	0	10.91
Tinted, Reflective, or Shading Glass.....	944	883	306	458	60	22	39	NC	11.85
Exterior or Interior Shadings or Awnings.....	1,473	1,405	393	770	138	45	54	Q	11.74
Weather Stripping or Caulking.....	2,774	2,585	691	1,359	299	72	139	Q	10.39
Occupant Control of:									
Heating Only.....	626	626	99	321	128	12	45	0	13.94
Cooling Only.....	204	140	11	84	29	13	0	NC	25.09
Heating and Cooling.....	1,773	1,773	541	973	153	25	81	0	12.23
Reduced Use-Off-Hours									
Heating Only.....	790	790	118	392	171	16	58	0	14.27
Cooling Only.....	283	174	41	87	31	7	0	NC	27.09
Heating and Cooling.....	2,397	2,397	634	1,372	228	37	123	0	11.40
Climate Zone: 45 Year Average									
Under 2,000 CDD and --									
Over 7,000 HDD.....	357	310	36	173	73	5	0	0	20.83
5,500-7,000 HDD.....	1,120	1,004	83	677	155	35	42	0	18.20
4,000-5,499 HDD.....	965	857	190	360	201	24	52	0	24.61
Under 4,000 HDD.....	1,024	886	284	475	29	17	79	0	26.27
2,000 CDD or More and --									
Under 4,000 HDD.....	1,063	819	366	408	17	17	0	NC	24.25

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

Table 66. Primary Space-Heating Energy Sources, Percent of Buildings

Building Characteristics	All Heated Buildings	Primary Space-Heating Energy Sources						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
RSE Column Factor:	--	0.563	0.348	1.025	1.276	1.479	2.635	
All Buildings.....	100.0	24.7	54.0	12.3	2.5	5.4	1.0	11.35
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	25.3	51.7	13.3	.8	7.6	0	14.57
5,001 to 10,000.....	100.0	20.2	62.1	10.3	2.1	3.9	0	18.74
10,001 to 25,000.....	100.0	29.9	49.8	12.5	4.9	0	0	17.24
25,001 to 50,000.....	100.0	24.4	56.4	10.9	5.8	0	0	20.67
50,001 to 100,000.....	100.0	20.7	59.6	9.3	8.7	0	0	22.74
100,001 to 200,000.....	100.0	21.7	54.3	11.7	12.8	0	0	32.13
200,001 to 500,000.....	100.0	21.0	54.2	4.0	21.3	0	0	34.19
Over 500,000.....	100.0	21.2	46.2	0	23.7	NC	NC	40.35
Principal Building Activity								
Assembly.....	100.0	20.1	51.5	14.8	2.6	11.3	0	21.68
Education.....	100.0	15.3	63.8	9.2	6.2	0	0	23.22
Food Sales.....	100.0	39.9	44.1	0	0	0	NC	43.01
Food Service.....	100.0	22.3	61.2	12.0	0	0	0	38.05
Health Care.....	100.0	41.9	44.0	0	3.7	0	0	37.39
Lodging.....	100.0	35.8	48.0	0	8.9	0	0	29.80
Mercantile and Service.....	100.0	20.6	54.7	15.9	0	5.4	0	16.96
Office.....	100.0	35.4	52.7	7.4	3.4	0	0	20.71
Parking Garage.....	100.0	11.0	0	0	0	0	NC	60.50
Public Order and Safety.....	100.0	0	50.6	0	0	0	NC	49.70
Warehouse.....	100.0	24.4	54.7	11.6	2.1	6.0	0	25.34
Other.....	100.0	32.9	41.5	0	18.0	0	NC	45.41
Vacant.....	100.0	27.2	56.1	0	Q	0	Q	37.60
Year Constructed								
1899 or Before.....	100.0	0	55.5	17.2	0	0	0	30.77
1900 to 1919.....	100.0	10.1	67.5	13.8	4.4	0	NC	29.07
1920 to 1945.....	100.0	11.6	57.6	21.7	3.5	0	0	22.13
1946 to 1959.....	100.0	15.1	61.8	15.8	2.1	0	0	20.41
1960 to 1969.....	100.0	23.4	57.5	10.7	3.5	5.3	0	19.31
1970 to 1979.....	100.0	36.3	45.1	9.2	1.5	6.0	0	16.47
1980 to 1983.....	100.0	41.4	43.5	0	0	0	0	28.42
1984 to 1986.....	100.0	45.3	44.5	0	0	0	0	28.38
1987 to 1989.....	100.0	36.1	47.9	0	0	0	0	31.51
Census Region								
Northeast.....	100.0	11.4	40.0	39.5	4.2	3.5	0	20.81
Midwest.....	100.0	9.8	75.3	5.6	1.6	6.7	0	17.78
South.....	100.0	37.3	44.0	8.6	2.1	6.4	0	19.23
West.....	100.0	30.5	61.6	0	3.0	0	0	23.40
Metropolitan Status								
Metropolitan.....	100.0	26.6	54.8	11.5	3.2	3.9	0	12.51
Nonmetropolitan.....	100.0	20.5	52.1	13.9	1.0	8.7	0	22.94
Workers								
Fewer than 5.....	100.0	22.9	51.9	14.4	1.0	7.8	0	15.51
5 to 9.....	100.0	25.6	56.7	10.8	1.9	4.1	0	16.63
10 to 19.....	100.0	27.2	59.2	9.9	1.8	0	NC	21.91
20 to 49.....	100.0	26.9	53.0	10.7	6.0	0	NC	17.13
50 to 99.....	100.0	28.8	50.5	9.5	9.9	0	NC	22.05
100 to 249.....	100.0	26.2	54.7	8.0	10.4	0	NC	29.96
250 or More.....	100.0	26.4	46.3	6.7	23.6	NC	NC	23.77
Weekly Operating Hours								
39 or Fewer.....	100.0	20.3	51.1	15.0	0	10.8	0	23.28
40 to 48.....	100.0	22.9	59.2	10.6	2.1	3.8	0	17.30
49 to 60.....	100.0	25.1	53.5	12.1	1.5	5.4	0	16.31
61 to 84.....	100.0	23.3	58.2	12.4	2.1	0	0	21.23
85 to 167.....	100.0	25.5	53.0	14.3	2.3	0	0	21.63
168 (Open Continuously).....	100.0	37.2	39.9	10.1	9.4	0	0	20.81
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	24.7	54.0	12.3	2.5	5.4	1.0	11.39
Natural Gas.....	100.0	9.4	86.9	3.1	1.0	0	0	14.49
Fuel Oil.....	100.0	5.0	11.4	81.5	1.5	0	0	24.84
District Heat.....	100.0	0	7.1	0	93.6	0	NC	36.76
District Chilled Water.....	100.0	0	13.2	0	64.3	0	NC	51.75
Propane.....	100.0	12.6	8.0	16.3	0	62.0	0	28.15
Any Other.....	100.0	Q	16.8	Q	Q	Q	31.4	31.62
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	24.7	54.0	12.3	2.5	5.4	1.0	11.35
Air-Conditioned Buildings.....	100.0	28.2	59.2	9.5	2.3	4.8	0	13.27
Buildings with Water Heating.....	100.0	25.0	55.8	11.7	2.9	4.4	0	12.07
Buildings with Cooking.....	100.0	24.6	54.3	13.5	2.9	4.5	0	18.19
Buildings with Manufacturing..	100.0	25.7	51.6	10.9	7.8	Q	NC	28.19

See footnotes at end of table.

Table 66. Primary Space-Heating Energy Sources, Percent of Buildings (Continued)

Building Characteristics	All Heated Buildings	Primary Space-Heating Energy Sources						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Mood	
	RSE Column Factor:	--	0.563	0.348	1.025	1.276	1.479	2.635
Space-Heating Energy Source (Solely or in Combination)								
Electricity.....	100.0	74.6	18.8	3.3	1.2	2.6	0	17.93
Natural Gas.....	100.0	3.2	96.4	.9	.2	0	0	18.94
Fuel Oil.....	100.0	3.6	10.4	84.8	.8	0	0	28.75
District Heat.....	100.0	0	4.4	0	97.3	0	NC	39.94
Propane.....	100.0	0	5.5	0	0	87.2	0	35.00
Other.....	100.0	Q	Q	Q	Q	Q	36.6	41.41
Percent Heated								
Not Heated.....	0	0	0	0	0	0	NC	96.28
1 to 50.....	100.0	30.5	51.7	9.1	0	6.8	0	21.04
51 to 99.....	100.0	26.2	49.5	14.5	3.3	5.0	0	22.09
100.....	100.0	23.2	55.4	12.5	2.9	5.2	Q	11.35
Heating Equipment (Solely or in Combination)								
Furnaces.....	100.0	11.5	67.8	15.6	0	4.8	0	20.12
Boilers.....	100.0	6.5	60.9	28.0	1.5	0	0	20.55
Individual Space Heaters.....	100.0	24.9	52.0	10.3	1.9	8.5	2.4	13.86
Packaged Heating Units.....	100.0	39.2	54.9	1.8	0	3.6	NC	20.97
Heat Pumps.....	100.0	69.2	25.4	2.5	1.3	0	NC	22.95
Air Ducts.....	100.0	27.4	56.8	8.6	2.9	4.5	0	16.42
Heating or Reheating Coils....	100.0	37.0	38.9	7.6	15.7	0	NC	21.21
Fan-Coil Units.....	100.0	6.1	59.3	18.0	16.1	0	Q	25.50
Steam or Hot Water Radiators or Baseboards.....	100.0	2.2	52.2	31.4	11.3	0	NC	21.80
Other.....	100.0	19.5	68.0	Q	12.5	NC	NC	42.26
Wall Materials								
Masonry.....	100.0	22.6	57.5	12.4	2.4	4.1	0	12.85
Siding or Shingles.....	100.0	24.7	46.4	15.5	1.5	10.2	0	18.44
Metal Panels.....	100.0	33.4	46.8	9.3	0	7.0	0	19.42
Concrete Panels.....	100.0	32.3	50.0	0	8.6	0	NC	27.73
Window Glass.....	100.0	40.4	41.6	0	0	0	NC	51.22
Other.....	100.0	30.2	52.4	0	0	0	NC	54.97
Roof Materials								
Built-Up.....	100.0	26.1	57.4	10.6	3.2	2.7	0	15.60
Shingles (Not Wood).....	100.0	21.6	53.4	15.6	1.2	7.6	0	18.31
Metal Surfacing.....	100.0	28.2	46.1	12.4	1.3	7.7	0	17.83
Synthetic or Rubber.....	100.0	17.4	61.3	10.7	7.3	0	0	27.47
Slate or Tile.....	100.0	24.2	55.2	10.4	5.2	0	0	30.85
Concrete.....	100.0	32.7	45.3	0	0	0	NC	54.04
Wooden Materials.....	100.0	33.9	50.4	0	0	0	NC	38.75
Other.....	100.0	Q	50.3	Q	Q	Q	Q	53.11
Building Shell Conservation Features (Solely or in Combination)								
Roof or Ceiling Insulation....	100.0	27.2	52.3	11.9	2.7	5.0	0	12.00
Wall Insulation.....	100.0	28.8	50.9	11.7	2.3	5.3	0	13.33
Storm or Multiple Glazing.....	100.0	24.7	52.2	15.4	1.8	5.5	0	14.27
Tinted, Reflective, or Shading Glass.....	100.0	34.6	51.9	6.8	2.5	4.4	NC	15.06
Exterior or Interior Shadings or Awnings.....	100.0	28.0	54.8	9.8	3.2	3.9	Q	14.07
Weather Stripping or Caulking.....	100.0	26.7	52.6	11.6	2.8	5.4	Q	12.85
Occupant Control of:								
Heating Only.....	100.0	15.8	51.2	20.4	2.0	7.2	0	16.85
Cooling Only.....	100.0	8.2	59.8	20.4	9.6	0	NC	29.56
Heating and Cooling.....	100.0	30.5	54.9	8.6	1.4	4.6	Q	14.61
Reduced Use--Off-Hours								
Heating Only.....	100.0	14.9	49.6	21.6	2.0	7.4	0	17.42
Cooling Only.....	100.0	23.6	50.0	17.7	4.2	0	NC	31.01
Heating and Cooling.....	100.0	26.4	57.3	9.5	1.5	5.1	Q	14.19
Climate Zone: 45 Year Average								
Under 2,000 CDD and --								
Over 7,000 HDD.....	100.0	11.5	55.8	23.6	1.5	0	0	23.76
5,500-7,000 HDD.....	100.0	8.3	67.5	15.4	3.5	4.2	0	20.18
4,000-5,499 HDD.....	100.0	22.2	41.9	23.5	2.8	6.1	0	21.17
Under 4,000 HDD.....	100.0	32.1	53.7	3.2	2.0	8.9	0	24.38
2,000 CDD or More and --								
Under 4,000 HDD.....	100.0	44.6	49.8	2.1	2.1	Q	NC	24.01

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES

**Table 67. Primary Space-Heating Energy Sources, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Total Floorspace by Primary Space-Heating Energy Sources						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
	RSE Column Factor:	0.411	0.436	0.759	0.596	1.137	1.598	1.927	3.522
All Buildings.....	63,184	57,868	13,450	31,402	5,598	6,168	1,230	276	8.35
Building Floorspace (Square Feet)									
1,001 to 5,000.....	6,790	5,759	1,414	3,031	747	43	438	0	12.01
5,001 to 10,000.....	6,532	5,620	1,150	3,497	563	115	214	0	15.09
10,001 to 25,000.....	10,393	9,434	2,790	4,727	1,125	506	0	0	14.22
25,001 to 50,000.....	8,801	7,994	1,896	4,535	887	483	0	0	17.17
50,001 to 100,000.....	9,130	8,420	1,763	5,039	744	756	0	0	19.12
100,001 to 200,000.....	8,277	7,902	1,724	4,265	895	1,101	0	0	24.25
200,001 to 500,000.....	7,022	6,763	1,420	3,798	234	1,337	0	0	32.88
Over 500,000.....	6,239	5,977	1,294	2,510	0	1,826	NC	NC	35.99
Principal Building Activity									
Assembly.....	6,838	6,608	952	3,734	791	829	324	0	19.91
Education.....	8,148	8,088	744	4,779	1,205	1,039	0	0	20.50
Food Sales.....	792	750	277	332	0	0	0	NC	47.04
Food Service.....	1,167	1,061	196	632	159	0	0	0	32.23
Health Care.....	2,054	2,028	296	1,216	0	400	0	0	33.81
Lodging.....	3,476	3,293	1,072	1,560	0	656	0	0	26.22
Mercantile and Service.....	12,365	12,040	3,330	6,990	1,102	0	362	0	14.48
Office.....	11,802	11,683	3,908	4,884	723	2,347	0	0	17.59
Parking Garage.....	983	589	247	0	0	0	0	0	56.05
Public Order and Safety.....	616	608	0	314	0	0	0	0	46.96
Warehouse.....	9,253	7,296	1,650	4,302	819	199	266	0	24.46
Other.....	4,529	4,324	270	733	0	273	0	0	48.30
Vacant.....	4,161	2,503	486	1,705	0	Q	0	0	39.71
Year Constructed									
1899 or Before.....	1,654	1,536	0	848	291	0	0	0	29.63
1900 to 1919.....	4,245	3,674	157	2,608	567	258	0	0	38.54
1920 to 1945.....	8,098	7,489	662	4,079	1,544	991	0	0	21.16
1946 to 1959.....	10,511	9,793	940	5,970	1,176	1,543	0	0	19.07
1960 to 1969.....	12,167	11,183	2,209	6,822	1,002	1,122	171	0	14.15
1970 to 1979.....	13,329	12,374	4,131	5,920	728	1,262	264	0	14.78
1980 to 1983.....	4,274	3,875	1,820	1,621	0	0	0	0	20.59
1984 to 1986.....	5,670	5,078	2,255	2,292	0	0	0	0	23.97
1987 to 1989.....	3,235	2,868	1,142	1,241	0	0	0	0	28.68
Census Region									
Northeast.....	13,569	12,969	1,351	5,383	3,860	2,261	168	0	16.99
Midwest.....	15,955	15,067	1,746	11,354	518	1,158	370	0	16.58
South.....	22,040	19,170	6,913	8,786	1,116	1,586	608	0	15.46
West.....	11,620	10,662	3,441	5,879	0	1,163	0	0	21.32
Metropolitan Status									
Metropolitan.....	50,809	47,145	11,231	25,524	4,135	5,877	657	0	10.15
Nonmetropolitan.....	12,375	10,723	2,219	5,877	1,463	291	573	0	17.79
Workers									
Fewer than 5.....	13,292	10,858	2,476	5,879	1,420	288	558	0	15.26
5 to 9.....	7,939	7,484	1,704	4,346	833	321	236	0	17.77
10 to 19.....	6,445	6,151	1,670	3,667	579	173	0	0	18.11
20 to 49.....	9,665	9,424	2,194	5,110	962	864	0	0	17.19
50 to 99.....	7,389	7,232	1,446	4,304	783	635	0	0	20.13
100 to 249.....	6,771	6,695	1,576	3,834	517	790	0	0	22.76
250 or More.....	9,829	9,750	2,347	4,140	453	3,033	NC	NC	26.04
Weekly Operating Hours									
39 or Fewer.....	6,073	4,042	620	2,306	635	0	303	0	19.09
40 to 48.....	13,905	13,031	2,531	7,734	1,267	905	247	0	15.34
49 to 60.....	13,473	12,884	3,362	6,671	1,316	1,193	254	0	16.12
61 to 84.....	10,777	10,440	2,884	5,644	908	894	0	0	17.90
85 to 167.....	9,387	8,714	1,664	4,807	1,008	1,113	0	0	24.28
168 (Open Continuously).....	9,569	8,758	2,389	4,239	464	1,916	0	0	17.65
Energy Sources (Solely or in Combination)									
Electricity.....	61,587	57,834	13,450	31,394	5,576	6,168	1,230	271	8.39
Natural Gas.....	41,593	41,242	5,154	31,402	1,983	3,090	0	0	13.46
Fuel Oil.....	12,684	12,577	1,177	4,781	5,598	1,011	0	0	18.31
District Heat.....	6,856	6,840	0	750	0	6,168	0	0	39.17
District Chilled Water.....	2,101	2,094	0	284	0	1,575	0	0	39.04
Propane.....	4,695	4,549	1,046	878	877	0	1,230	0	24.41
Any Other.....	1,542	1,541	0	420	Q	Q	276	0	38.29
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	57,868	57,868	13,450	31,402	5,598	6,168	1,230	276	8.44
Air-Conditioned Buildings.....	51,771	50,512	12,511	27,985	3,749	5,545	1,007	0	9.88
Buildings with Water Heating.....	53,585	52,469	11,792	28,914	4,985	6,050	919	0	9.22
Buildings with Cooking.....	23,668	23,085	4,691	12,627	2,174	3,508	207	0	14.22
Buildings with Manufacturing.....	5,601	5,270	881	2,634	289	1,296	0	0	33.02

See footnotes at end of table.

Table 67. Primary Space-Heating Energy Sources, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Total Floorspace by Primary Space-Heating Energy Sources						RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
RSE Column Factor:	0.411	0.436	0.759	0.596	1.137	1.598	1.927	3.522	
Space-Heating Energy Source (Solely or in Combination)									
Electricity.....	18,703	18,703	13,450	4,152	581	573	266	0	15.76
Natural Gas.....	33,278	33,278	1,543	31,402	521	383	0	0	16.97
Fuel Oil.....	10,603	10,603	582	3,990	5,598	434	0	0	21.45
District Heat.....	6,330	6,330	0	328	0	6,168	0	0	41.29
Propane.....	1,767	1,767	0	244	0	0	1,230	0	32.62
Other.....	994	994	0	Q	0	0	276	0	43.03
Percent Heated									
Not Heated.....	5,419	0	0	0	0	0	0	NC	57.47
1 to 50.....	9,314	9,314	2,945	5,216	592	0	381	0	20.64
51 to 99.....	8,573	8,573	2,289	4,481	662	1,230	0	0	20.11
100.....	39,777	39,777	8,206	21,641	4,329	4,803	717	0	9.59
Heating Equipment (Solely or in Combination)									
Furnaces.....	15,592	15,592	2,378	11,064	1,770	0	467	0	16.19
Boilers.....	19,907	19,907	1,371	13,750	3,708	668	0	0	14.59
Individual Space Heaters.....	22,542	22,542	5,448	12,486	1,817	2,051	608	222	13.60
Packaged Heating Units.....	15,598	15,598	5,636	9,025	379	529	219	NC	14.85
Heat Pumps.....	8,357	8,357	3,886	3,651	317	535	0	NC	18.97
Air Ducts.....	37,297	37,297	8,926	20,456	2,439	5,243	636	0	11.68
Heating or Reheating Coils.....	15,693	15,693	3,328	7,188	986	4,273	0	NC	17.98
Fan-Coil Units.....	11,839	11,839	845	7,414	874	2,805	0	Q	21.87
Steam or Hot Water Radiators or Baseboards.....	15,822	15,822	354	8,674	3,023	3,619	0	NC	18.72
Other.....	1,476	1,476	329	969	Q	170	NC	NC	44.55
Wall Materials									
Masonry.....	42,074	39,608	7,956	22,719	4,427	3,527	812	0	9.44
Siding or Shingles.....	4,788	4,124	1,113	2,032	605	167	216	0	19.64
Metal Panels.....	5,589	4,588	1,588	2,411	299	0	154	0	18.80
Concrete Panels.....	7,221	6,300	1,811	3,076	0	1,260	0	NC	25.22
Window Glass.....	1,924	1,812	605	622	0	0	0	NC	42.34
Other.....	1,487	1,437	377	542	0	0	0	NC	49.41
Roof Materials									
Built-Up.....	31,057	29,323	6,956	16,707	2,256	3,223	310	0	12.01
Shingles (Not Wood).....	10,917	9,841	1,978	5,590	1,592	399	419	0	15.99
Metal Surfacing.....	8,197	6,582	2,061	3,315	579	222	268	0	17.06
Synthetic or Rubber.....	6,911	6,828	1,366	3,297	530	1,427	0	0	23.68
Slate or Tile.....	2,582	2,500	324	1,204	0	342	0	0	31.65
Concrete.....	1,932	1,355	357	420	0	0	0	NC	46.39
Wooden Materials.....	727	621	150	404	0	0	0	NC	35.72
Other.....	860	819	0	Q	0	0	0	Q	49.30
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation.....	45,092	43,220	11,050	22,499	3,820	4,887	941	0	9.64
Wall Insulation.....	29,692	28,840	8,124	15,060	2,256	2,691	719	0	11.04
Storm or Multiple Glazing.....	24,068	23,717	6,053	12,809	2,553	2,061	514	0	11.70
Tinted, Reflective, or Shading Glass.....	22,040	21,461	6,761	10,588	1,056	2,999	192	NC	11.63
Exterior or Interior Shadings or Awnings.....	26,173	25,586	5,714	13,470	2,045	4,030	305	0	11.85
Weather Stripping or Caulking.....	44,694	43,250	10,939	22,677	3,597	5,307	869	0	9.20
Occupant Control of:									
Heating Only.....	4,872	4,872	651	2,393	1,305	268	145	0	16.62
Cooling Only.....	4,143	3,629	289	2,235	498	542	0	NC	22.58
Heating and Cooling.....	22,172	22,172	6,582	12,402	1,445	1,322	479	0	12.90
Reduced Use--Off-Hours									
Heating Only.....	7,147	7,147	1,077	3,396	1,667	533	193	0	15.77
Cooling Only.....	4,112	3,047	492	1,732	301	382	0	NC	31.01
Heating and Cooling.....	38,689	38,689	9,624	21,671	3,006	3,870	716	0	10.72
Climate Zone: 45 Year Average									
Under 2,000 CDD and --									
Over 7,000 HDD.....	5,062	4,785	575	2,586	1,006	406	0	0	21.22
5,500-7,000 HDD.....	17,957	17,044	1,697	11,383	1,775	2,170	213	0	16.99
4,000-5,499 HDD.....	15,385	14,408	2,806	6,680	2,344	1,837	393	0	19.39
Under 4,000 HDD.....	12,903	11,826	3,935	6,117	Q	1,056	Q	0	27.57
2,000 CDD or More and --									
Under 4,000 HDD.....	11,877	9,805	4,437	4,635	80	700	Q	NC	23.77

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 68. Primary Space-Heating Energy Sources, Percent of Floorspace

Building Characteristics	Total Floorspace of All Heated Buildings	Total Floorspace by Primary Space-Heating Energy Sources						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Mood	
		RSE Column Factor:	--	0.576	0.349	0.958	1.162	1.555
All Buildings.....	100.0	23.2	54.3	9.7	10.7	2.1	0.5	10.66
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	24.5	52.6	13.0	.7	7.6	0	15.53
5,001 to 10,000.....	100.0	20.5	62.2	10.0	2.1	3.8	0	18.68
10,001 to 25,000.....	100.0	29.6	50.1	11.9	5.4	0	0	16.86
25,001 to 50,000.....	100.0	23.7	56.7	11.1	6.0	0	0	21.42
50,001 to 100,000.....	100.0	20.9	59.8	8.8	9.0	0	0	22.83
100,001 to 200,000.....	100.0	21.8	54.0	11.3	13.9	0	0	31.21
200,001 to 500,000.....	100.0	21.0	56.2	3.5	19.8	0	0	34.36
Over 500,000.....	100.0	21.6	42.0	Q	30.6	NC	NC	42.81
Principal Building Activity								
Assembly.....	100.0	14.4	56.5	12.0	12.5	4.9	0	24.68
Education.....	100.0	9.2	59.1	14.9	12.8	0	0	27.17
Food Sales.....	100.0	36.9	44.2	0	0	0	NC	52.59
Food Service.....	100.0	18.5	59.6	15.0	0	0	0	39.46
Health Care.....	100.0	14.6	59.9	0	19.7	0	0	34.54
Lodging.....	100.0	32.6	47.4	0	19.9	0	0	32.24
Mercantile and Service.....	100.0	27.7	58.1	9.2	0	3.0	0	19.14
Office.....	100.0	33.4	41.8	6.2	20.1	0	0	23.50
Parking Garage.....	100.0	42.0	0	0	0	0	NC	68.50
Public Order and Safety.....	100.0	0	51.7	0	0	0	NC	59.64
Warehouse.....	100.0	22.6	59.0	11.2	2.7	3.6	0	25.83
Other.....	100.0	20.4	55.3	Q	20.6	0	NC	51.60
Vacant.....	100.0	19.4	68.1	Q	Q	Q	Q	41.58
Year Constructed								
1899 or Before.....	100.0	0	55.2	18.9	0	0	0	32.46
1900 to 1919.....	100.0	4.3	71.0	15.4	7.0	0	NC	38.77
1920 to 1945.....	100.0	8.8	54.5	20.6	13.2	0	0	24.47
1946 to 1959.....	100.0	9.6	61.0	12.0	15.8	0	0	24.97
1960 to 1969.....	100.0	19.8	61.0	9.0	10.0	1.5	0	17.35
1970 to 1979.....	100.0	33.4	47.8	5.9	10.2	2.1	0	18.95
1980 to 1983.....	100.0	47.0	41.8	0	0	0	0	25.21
1984 to 1986.....	100.0	44.4	45.1	0	0	0	0	34.85
1987 to 1989.....	100.0	39.8	43.3	Q	Q	Q	Q	33.19
Census Region								
Northeast.....	100.0	10.4	41.5	29.8	17.4	1.3	0	21.60
Midwest.....	100.0	11.6	75.4	3.4	7.7	2.5	0	18.42
South.....	100.0	36.1	45.8	5.8	8.3	3.2	0	18.06
West.....	100.0	32.3	55.1	Q	10.9	Q	Q	30.78
Metropolitan Status								
Metropolitan.....	100.0	23.8	54.1	8.8	12.5	1.4	0	12.66
Nonmetropolitan.....	100.0	20.7	54.8	13.6	2.7	5.3	0	21.55
Workers								
Fewer than 5.....	100.0	22.8	54.1	13.1	2.6	5.1	0	18.59
5 to 9.....	100.0	22.8	58.1	11.1	4.3	3.2	0	21.10
10 to 19.....	100.0	27.2	59.6	9.4	2.8	0	NC	20.94
20 to 49.....	100.0	23.3	54.5	10.2	9.2	0	0	20.27
50 to 99.....	100.0	20.0	59.5	10.8	8.8	0	NC	24.02
100 to 249.....	100.0	23.5	57.3	7.7	11.8	0	NC	28.40
250 or More.....	100.0	24.1	42.5	4.6	31.1	NC	NC	28.78
Weekly Operating Hours								
39 or Fewer.....	100.0	15.3	57.0	15.7	0	7.5	0	23.97
40 to 48.....	100.0	19.4	59.4	9.7	6.9	1.9	0	18.73
49 to 60.....	100.0	26.1	51.8	10.2	9.3	2.0	0	20.14
61 to 84.....	100.0	27.6	54.1	8.7	8.6	0	0	24.05
85 to 167.....	100.0	19.1	55.2	11.6	12.8	0	0	26.71
168 (Open Continuously).....	100.0	27.3	48.4	5.3	21.9	0	0	20.29
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	23.3	54.3	9.6	10.7	2.1	.5	10.68
Natural Gas.....	100.0	12.5	76.1	4.8	7.5	0	0	17.75
Fuel Oil.....	100.0	9.4	38.0	44.5	8.0	0	0	25.15
District Heat.....	100.0	0	11.0	0	90.2	NC	NC	40.30
District Chilled Water.....	100.0	0	13.6	0	75.2	NC	NC	41.93
Propane.....	100.0	23.0	19.3	19.3	0	27.0	0	27.36
Any Other.....	100.0	Q	27.3	Q	Q	Q	17.9	45.47
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	23.2	54.3	9.7	10.7	2.1	.5	10.66
Air-Conditioned Buildings.....	100.0	24.8	55.4	7.4	11.0	2.0	0	12.66
Buildings with Water Heating.....	100.0	22.5	55.1	9.5	11.5	1.8	0	11.80
Buildings with Cooking.....	100.0	20.3	54.7	9.4	15.2	.9	0	18.34
Buildings with Manufacturing.....	100.0	16.7	50.0	5.5	24.6	Q	NC	38.15

See footnotes at end of table.

Table 68. Primary Space-Heating Energy Sources, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Heated Buildings	Total Floorspace by Primary Space-Heating Energy Sources						RSE Row Factor
		Electricity	Natural Gas	Fuel Oil	District Heat	Propane	Wood	
		RSE Column Factor:	--	0.576	0.349	0.958	1.162	1.555
Space-Heating Energy Source (Solely or in Combination)								
Electricity.....	100.0	71.9	22.2	3.1	3.1	1.4	0	18.42
Natural Gas.....	100.0	4.6	94.4	1.6	1.2	0	0	20.07
Fuel Oil.....	100.0	5.5	37.6	52.8	4.1	0	0	29.86
District Heat.....	100.0	0	5.2	0	97.4	0	NC	34.10
Propane.....	100.0	0	0	0	0	69.6	0	33.59
Other.....	100.0	0	13.8	0	0	0	27.8	51.62
Percent Heated								
Not Heated.....	0	0	0	0	0	0	NC	83.01
1 to 50.....	100.0	31.6	56.0	6.4	0	4.1	Q	22.60
51 to 99.....	100.0	26.4	51.7	7.6	14.2	0	Q	24.12
100.....	100.0	20.6	54.4	10.9	12.1	1.8	Q	12.68
Heating Equipment (Solely or in Combination)								
Furnaces.....	100.0	15.2	71.0	11.4	0	3.0	0	20.43
Boilers.....	100.0	6.9	69.1	18.6	3.4	0	Q	19.07
Individual Space Heaters.....	100.0	24.2	55.4	8.1	9.1	2.7	1.0	15.59
Packaged Heating Units.....	100.0	36.1	57.9	2.4	3.4	1.4	NC	17.69
Heat Pumps.....	100.0	46.5	43.7	3.8	6.4	0	NC	24.37
Air Ducts.....	100.0	23.9	54.8	6.5	14.1	1.7	Q	15.70
Heating or Reheating Coils.....	100.0	21.2	45.8	6.3	27.2	0	NC	20.32
Fan-Coil Units.....	100.0	7.1	62.6	7.4	23.7	0	Q	27.51
Steam or Hot Water Radiators or Baseboards.....	100.0	2.2	54.8	19.1	22.9	0	Q	23.34
Other.....	100.0	22.3	65.6	Q	11.5	NC	NC	42.62
Wall Materials								
Masonry.....	100.0	20.1	57.4	11.2	8.9	2.1	0	11.46
Siding or Shingles.....	100.0	27.0	49.3	14.7	4.0	5.2	Q	22.32
Metal Panels.....	100.0	34.6	52.6	6.5	0	3.4	Q	22.12
Concrete Panels.....	100.0	28.8	48.8	Q	20.0	0	NC	30.22
Window Glass.....	100.0	33.4	34.3	0	35.3	0	NC	62.75
Other.....	100.0	26.3	37.7	Q	Q	0	NC	51.47
Roof Materials								
Built-Up.....	100.0	23.7	57.0	7.7	11.0	1.1	Q	15.11
Shingles (Not Wood).....	100.0	20.1	56.8	16.2	4.1	4.3	Q	18.90
Metal Surfacing.....	100.0	31.3	50.4	8.8	3.4	4.1	Q	20.14
Synthetic or Rubber.....	100.0	20.0	48.3	7.8	20.9	0	Q	29.17
Slate or Tile.....	100.0	13.0	48.2	22.2	13.7	0	Q	38.16
Concrete.....	100.0	26.4	31.0	0	0	0	NC	70.38
Wooden Materials.....	100.0	24.1	65.1	0	0	0	NC	42.01
Other.....	100.0	Q	56.7	Q	Q	Q	Q	54.30
Building Shell Conservation Features (Solely or in Combination)								
Roof or Ceiling Insulation.....	100.0	25.6	52.1	8.8	11.3	2.2	Q	12.10
Wall Insulation.....	100.0	28.2	52.2	7.8	9.3	2.5	Q	14.29
Storm or Multiple Glazing.....	100.0	25.5	54.0	10.8	8.7	2.2	Q	14.19
Tinted, Reflective, or Shading Glass.....	100.0	31.5	49.3	4.9	14.0	.9	NC	14.82
Exterior or Interior Shadings or Awnings.....	100.0	22.3	52.6	8.0	15.7	1.2	Q	14.96
Weather Stripping or Caulking.....	100.0	25.3	52.4	8.3	12.3	2.0	Q	12.20
Occupant Control of:								
Heating Only.....	100.0	13.4	49.1	26.8	5.5	3.0	Q	18.82
Cooling Only.....	100.0	8.0	61.6	13.7	14.9	0	NC	27.73
Heating and Cooling.....	100.0	29.7	55.9	6.5	6.0	2.2	Q	14.14
Reduced Use-Off-Hours								
Heating Only.....	100.0	15.1	47.5	23.3	7.5	2.7	Q	19.38
Cooling Only.....	100.0	16.2	56.8	9.9	12.5	0	NC	36.09
Heating and Cooling.....	100.0	24.9	56.0	7.8	10.0	1.9	Q	13.55
Climate Zone: 45 Year Average								
Under 2,000 CDD and --								
Over 7,000 HDD.....	100.0	12.0	54.0	21.0	8.5	0	Q	22.76
5,500-7,000 HDD.....	100.0	10.0	66.8	10.4	12.7	1.2	Q	19.56
4,000-5,499 HDD.....	100.0	19.5	46.4	16.3	12.8	2.7	Q	21.55
Under 4,000 HDD.....	100.0	33.3	51.7	Q	8.9	2.7	Q	28.72
2,000 CDD or More and --								
Under 4,000 HDD.....	100.0	45.2	47.3	.8	7.1	Q	NC	22.79

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 69. Alternate Main Heating Fuel, Number of Buildings
(Thousand)**

Main Heating Fuel	All Heated Buildings	No Alternate Main Heating Fuel	Could Switch Main Heating Fuel	Alternate Main Heating Fuel						RSE Row Factor
				Electricity Only	Natural Gas Only	Fuel Oil Only	Propane Only	Any Other Single Fuel	More than One Fuel	
	0.441	0.473	0.617	0.949	0.905	0.920	1.481	2.493	2.660	
All Buildings.....	3,877	2,970	907	325	191	163	118	55	55	9.49
Electricity.....	959	796	162	0	92	25	0	0	0	19.56
Natural Gas.....	2,093	1,618	475	256	0	99	64	0	24	10.83
Fuel Oil.....	475	328	147	27	55	0	28	0	0	26.96
District Heat.....	98	78	20	0	0	11	0	0	0	35.78
Propane.....	208	130	78	32	0	0	0	0	0	35.04
Any Other.....	70	38	32	0	0	0	0	0	0	63.89

^Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.
 Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.
 Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 70. Alternate Main Heating Fuel, Percent of Buildings

Main Heating Fuel	All Heated Buildings	No Alternate Main Heating Fuel	Could Switch Main Heating Fuel	Alternate Main Heating Fuel						RSE Row Factor
				Electricity Only	Natural Gas Only	Fuel Oil Only	Propane Only	Any Other Single Fuel	More than One Fuel	
RSE Column Factor:	--	0.176	0.467	0.972	1.027	1.058	1.584	2.501	2.907	
All Buildings.....	100.0	76.6	23.4	8.4	4.9	4.2	3.0	1.4	1.4	9.01
Electricity.....	100.0	83.1	16.9	0	9.6	2.6	0	0	0	15.55
Natural Gas.....	100.0	77.3	22.7	12.2	0	4.8	3.0	0	1.1	10.00
Fuel Oil.....	100.0	69.1	30.9	5.7	11.6	0	5.9	0	0	18.88
District Heat.....	100.0	79.3	20.7	0	0	11.1	0	0	0	37.47
Propane.....	100.0	62.4	37.6	15.4	0	0	0	0	0	28.21
Any Other.....	100.0	54.4	45.6	Q	Q	Q	Q	Q	Q	67.31

-- Data not applicable.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 71. Alternate Main Heating Fuel, Floorspace
(Million Square Feet)**

Main Heating Fuel	All Heated Building	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Alternate Main Heating Fuel						RSE Row Factor
				Electricity Only	Natural Gas Only	Fuel Oil Only	Propane Only	Any Other Single Fuel	More than One Fuel	
RSE Column Factor:	0.386	0.418	0.694	1.343	1.244	0.899	1.580	2.262	1.667	
All Buildings.....	57,868	44,295	13,573	3,457	2,257	5,613	1,416	342	488	10.86
Electricity.....	13,450	11,802	1,648	0	991	240	0	0	0	18.74
Natural Gas.....	31,402	22,361	9,041	3,014	0	4,483	1,036	0	225	13.20
Fuel Oil.....	5,598	4,096	1,502	227	890	0	164	0	0	22.99
District Heat.....	6,168	5,045	1,123	0	0	714	0	0	0	37.76
Propane.....	1,230	897	333	134	0	0	0	0	0	33.67
Any Other.....	766	575	191	Q	Q	Q	Q	Q	Q	67.18

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 72. Alternate Main Heating Fuel, Percent of Floorspace

Main Heating Fuel	All Heated Buildings	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Alternate Main Heating Fuel						RSE Row Factor
				Electricity Only	Natural Gas Only	Fuel Oil Only	Propane Only	Any Other Single Fuel	More than One Fuel	
RSE Column Factor:	--	0.186	0.641	1.266	1.245	0.932	1.532	2.278	1.635	
All Buildings.....	100.0	76.5	23.5	6.0	3.9	9.7	2.4	0.6	0.8	10.83
Electricity.....	100.0	87.8	12.2	0	7.4	1.8	0	0	0	16.85
Natural Gas.....	100.0	71.2	28.8	9.6	0	14.3	3.3	0	.7	13.13
Fuel Oil.....	100.0	73.2	26.8	4.0	15.9	0	2.9	0	0	23.68
District Heat.....	100.0	81.8	18.2	0	0	11.6	0	0	0	29.19
Propane.....	100.0	72.9	27.1	10.9	0	0	0	0	0	29.60
Any Other.....	100.0	75.1	24.9	0	0	0	0	0	0	45.98

-- Data not applicable.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 73. Fuel Switching, Number of Buildings
(Thousand)**

Building Characteristics	RSE Column Factor:	All Heated Buildings	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Able to Switch Main Heating Fuel Within One Week						RSE Row Factor		
					From Electricity to		From Natural Gas to			From Fuel Oil to			
					Natural Gas	Fuel Oil	Electricity	Fuel Oil	Propane	Electricity	Natural Gas		
RSE Column Factor:	0.304	0.330	0.520	1.439	2.365	1.033	0.900	1.578	2.445	1.571			
All Buildings.....	3,877	2,970	907	92	25	256	99	64	27	55	11.13		
Building Floorspace (Square Feet)													
1,001 to 10,000.....	2,860	2,145	715	75	0	212	54	45	0	36	13.16		
10,001 to 100,000.....	930	763	166	16	Q	39	34	18	Q	16	16.77		
Over 100,000.....	87	61	26	Q	Q	Q	11	Q	Q	Q	30.82		
Principal Building Activity													
Assembly.....	589	470	119	0	0	34	0	0	0	0	30.00		
Education.....	279	231	48	0	0	0	16	0	0	0	33.16		
Food Sales.....	89	64	0	0	0	0	NC	NC	0	0	47.64		
Food Service.....	228	181	47	0	0	0	0	0	0	0	37.18		
Health Care.....	75	61	14	0	0	0	4	0	0	0	49.17		
Lodging.....	134	105	28	0	0	0	0	0	0	0	42.96		
Mercantile and Service.....	1,219	877	342	23	0	102	32	0	0	0	18.30		
Office.....	663	524	139	0	0	49	18	0	0	0	25.71		
Parking Garage.....	27	16	0	0	0	0	0	0	0	0	67.94		
Public Order and Safety.....	50	35	0	0	0	0	0	0	0	0	78.18		
Warehouse.....	340	268	73	0	0	20	0	0	0	0	29.85		
Other.....	47	29	18	0	0	0	0	0	0	0	58.42		
Vacant.....	137	107	30	Q	NC	Q	Q	Q	Q	Q	47.26		
Year Constructed													
1959 or Before.....	1,701	1,293	408	28	Q	135	46	28	Q	38	16.94		
1960 to 1989.....	2,175	1,676	499	64	Q	121	53	36	Q	17	15.19		
Census Region													
Northeast.....	711	532	179	0	0	32	27	0	0	26	24.58		
Midwest.....	920	708	211	0	0	63	46	21	0	Q	24.20		
South.....	1,512	1,100	412	58	Q	115	21	32	Q	Q	18.64		
West.....	734	629	104	22	Q	46	5	Q	Q	Q	29.63		
Metropolitan Status													
Metropolitan.....	2,674	2,124	550	68	Q	162	77	35	Q	39	12.88		
Nonmetropolitan.....	1,203	845	357	Q	Q	94	22	28	Q	Q	23.17		
Energy Sources (Solely or in Combination)													
Electricity.....	3,874	2,967	907	92	25	256	99	64	27	55	11.14		
Natural Gas.....	2,410	1,849	561	43	Q	256	99	64	Q	19	15.51		
Fuel Oil.....	583	386	197	0	0	0	28	0	27	55	27.56		
District Heat.....	105	82	23	NC	NC	NC	4	0	NC	Q	51.58		
District Chilled Water.....	24	16	8	NC	NC	NC	0	0	NC	NC	55.00		
Propane.....	335	226	109	0	NC	NC	0	0	Q	Q	44.69		
Any Other.....	129	59	70	Q	Q	Q	Q	Q	NC	NC	30.08		
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	3,877	2,970	907	92	25	256	99	64	27	55	11.13		
Air-Conditioned Buildings.....	3,062	2,350	712	86	21	222	77	54	Q	38	12.54		
Buildings with Water Heating.....	3,079	2,384	695	74	17	205	89	56	23	40	12.17		
Buildings with Cooking.....	818	642	176	26	Q	47	31	Q	Q	15	21.10		
Buildings with Manufacturing..	188	143	45	Q	Q	Q	5	Q	NC	Q	36.86		
Space-Heating Energy Source (Solely or in Combination)													
Electricity.....	1,284	1,010	275	92	25	47	9	0	Q	Q	22.10		
Natural Gas.....	2,172	1,659	513	16	Q	256	99	64	Q	19	17.10		
Fuel Oil.....	560	364	196	0	0	0	28	0	27	55	28.69		
District Heat.....	101	80	21	NC	NC	NC	0	0	NC	Q	58.58		
Propane.....	238	146	92	NC	NC	NC	0	0	NC	NC	52.48		
Other.....	110	49	61	NC	NC	NC	0	0	NC	NC	63.36		
Percent Heated													
Not Heated.....	--	--	--	--	--	--	--	--	--	--	--		
1 to 50.....	630	472	158	20	Q	52	0	0	0	Q	24.63		
51 to 99.....	496	358	139	Q	37	11	0	0	0	Q	26.23		
100.....	2,739	2,131	607	59	Q	167	81	49	0	41	13.08		
Heating Equipment (Solely or in Combination)													
Furnaces.....	1,619	1,200	420	27	0	139	44	39	0	26	18.05		
Boilers.....	704	549	155	Q	0	31	44	13	0	22	20.65		
Individual Space Heaters.....	1,389	1,031	358	31	0	92	34	19	0	Q	15.41		
Packaged Heating Units.....	859	706	153	34	0	60	11	0	0	Q	26.93		
Heat Pumps.....	453	378	75	21	0	0	3	0	0	Q	31.94		
Air Ducts.....	1,990	1,541	448	53	0	148	52	42	0	17	15.92		
Heating or Reheating Coils.....	243	198	45	0	0	0	20	0	0	Q	28.80		
Fan-Coil Units.....	185	136	50	Q	0	0	25	0	0	Q	34.99		
Steam or Hot Water Radiators or Baseboards.....	498	398	100	0	Q	0	34	0	0	0	16	27.46	
Other.....	57	42	15	Q	Q	Q	Q	Q	Q	NC	56.14		

See footnotes at end of table.

Table 73. Fuel Switching, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Heated Buildings	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Able to Switch Main Heating Fuel Within One Week								RSE Row Factor	
				From Electricity to		From Natural Gas to			From Fuel Oil to				
				Natural Gas	Fuel Oil	Electricity	Fuel Oil	Propane	Electricity	Natural Gas			
RSE Column Factor:	0.304	0.330	0.520	1.439	2.365	1.033	0.900	1.578	2.445	1.571			
Climate Zone: 45 Year Average													
Under 2,000 CDD and --													
Over 7,000 HDD.....	310	231	79	0	0	0	11	0	0	0	0	36.37	
5,500-7,000 HDD.....	1,004	775	228	0	0	57	52	12	0	0	19	23.73	
4,000-5,499 HDD.....	857	644	214	0	0	49	18	13	0	0	24	30.38	
Under 4,000 HDD.....	886	709	177	32	Q	44	12	Q	Q	Q	Q	31.99	
2,000 CDD or More and --													
Under 4,000 HDD.....	819	611	209	45	Q	88	Q	Q	NC	Q		35.54	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 74. Fuel Switching, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Heated Buildings	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Able to Switch Main Heating Fuel Within One Week								RSE Row Factor	
				From Electricity to		From Natural Gas to			From Fuel Oil to				
				Natural Gas	Fuel Oil	Electricity	Fuel Oil	Propane	Electricity	Natural Gas			
RSE Column Factor:	0.297	0.319	0.532	1.440	2.167	1.366	0.822	1.447	2.298	1.706			
All Buildings.....	57,868	44,295	13,573	991	240	3,014	4,483	1,036	227	890	13.44		
Building Floorspace (Square Feet)													
1,001 to 10,000.....	11,379	8,622	2,757	295	0	815	254	257	0	103	13.99		
10,001 to 100,000.....	25,848	20,769	5,080	455	0	1,015	1,424	667	0	356	16.88		
Over 100,000.....	20,641	14,905	5,736	Q	0	2,804	0	0	0	Q	30.49		
Principal Building Activity													
Assembly.....	6,608	5,439	1,169	0	0	229	0	0	0	0	29.30		
Education.....	8,088	5,991	2,096	0	0	0	1,204	0	0	0	30.95		
Food Sales.....	750	591	0	0	0	0	0	0	0	0	54.98		
Food Service.....	1,061	845	216	0	0	0	0	0	0	0	43.80		
Health Care.....	2,028	792	1,236	0	0	0	903	0	0	0	45.94		
Lodging.....	3,293	2,610	683	0	0	0	0	0	0	0	42.00		
Mercantile and Service.....	12,040	9,769	2,271	367	0	668	350	0	0	0	20.33		
Office.....	11,683	9,596	2,087	0	0	332	900	0	0	0	25.40		
Parking Garage.....	589	426	0	0	0	0	0	0	0	0	65.23		
Public Order and Safety.....	608	435	0	0	0	0	0	0	0	0	77.71		
Warehouse.....	7,296	5,609	1,686	0	0	0	219	174	0	0	37.36		
Other.....	1,324	808	516	0	0	0	0	0	0	0	63.41		
Vacant.....	2,503	1,385	Q	0	NC	0	0	0	0	0	64.49		
Year Constructed													
1959 or Before.....	22,491	16,138	6,353	233	0	1,741	1,847	466	0	603	22.27		
1960 to 1989.....	35,377	28,158	7,220	758	0	1,273	2,636	570	0	286	14.67		
Census Region													
Northeast.....	12,969	10,191	2,779	0	0	0	796	0	0	0	435	27.57	
Midwest.....	15,067	10,700	4,366	0	0	1,169	2,093	269	0	0	28.88		
South.....	19,170	14,423	4,747	492	0	1,028	1,031	552	0	0	23.30		
West.....	10,662	8,981	1,681	341	0	311	1,562	Q	0	0	28.95		
Metropolitan Status													
Metropolitan.....	47,145	36,423	10,722	809	0	2,469	3,850	677	0	618	14.26		
Nonmetropolitan.....	10,723	7,872	2,851	Q	0	545	633	359	0	0	28.26		
Energy Sources (Solely or in Combination)													
Electricity.....	57,834	44,266	13,568	991	240	3,014	4,483	1,030	227	890	13.46		
Natural Gas.....	41,242	30,245	10,998	571	0	3,014	4,483	1,036	0	631	17.55		
Fuel Oil.....	12,577	7,085	5,492	0	0	0	3,286	0	227	890	23.01		
District Heat.....	6,840	5,336	1,504	NC	0	0	0	0	0	0	59.17		
District Chilled Water.....	2,094	1,573	521	NC	0	0	0	0	0	0	54.62		
Propane.....	4,549	3,371	1,178	0	0	0	0	0	0	0	42.90		
Any Other.....	1,541	1,140	1,400	Q	NC	0	0	0	0	0	32.15		
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	57,868	44,295	13,573	991	240	3,014	4,483	1,036	227	890	13.44		
Air-Conditioned Buildings.....	50,512	38,573	11,939	882	232	2,867	4,097	897	0	502	13.90		
Buildings with Water Heating.....	52,469	40,075	12,394	823	177	2,805	4,392	921	221	832	14.29		
Buildings with Cooking.....	23,085	17,062	6,023	319	0	0	2,757	Q	0	377	21.95		
Buildings with Manufacturing.....	5,270	4,306	5,964	Q	0	0	420	0	NC	Q	35.88		
Space-Heating Energy Source (Solely or in Combination)													
Electricity.....	18,703	15,488	3,216	991	240	724	193	0	0	0	21.25		
Natural Gas.....	33,278	23,430	9,848	327	0	3,014	4,483	1,036	0	348	18.94		
Fuel Oil.....	10,603	5,304	5,299	0	0	0	3,268	0	227	890	25.46		
District Heat.....	6,330	5,168	1,162	NC	0	0	0	0	0	0	55.69		
Propane.....	1,767	1,234	532	NC	0	0	0	0	0	0	49.02		
Other.....	994	661	333	NC	0	0	0	0	0	0	70.71		
Percent Heated													
Not Heated.....	9,314	6,580	2,734	339	--	1,430	--	--	--	0	31.59		
1 to 50.....	8,673	6,571	2,102	0	0	257	911	0	0	0	28.97		
51 to 99.....				559	0	1,327	3,396	805	0	771	14.58		
Heating Equipment (Solely or in Combination)													
Furnaces.....	15,592	11,961	3,631	413	0	946	681	486	0	228	20.72		
Boilers.....	19,907	13,666	6,240	0	0	676	3,600	425	492	0	19.74		
Individual Space Heaters.....	22,542	16,703	5,839	433	0	1,793	1,656	213	0	0	22.07		
Packaged Heating Units.....	15,598	12,574	2,924	448	0	794	846	0	0	0	24.57		
Heat Pumps.....	8,357	6,556	1,702	292	0	542	779	0	0	0	28.13		
Air Ducts.....	37,297	28,768	8,530	624	0	1,385	3,538	777	420	0	14.86		
Heating or Reheating Coils.....	15,693	11,501	4,192	0	0	0	2,650	0	0	0	27.97		
Fan-Coil Units.....	11,839	7,699	4,140	Q	0	0	2,581	0	0	0	31.88		
Steam or Hot Water Radiators or Baseboards.....	15,822	11,346	4,476	519	0	0	2,439	0	0	453	26.41		
Other.....	1,476	957	0	0	0	0	0	0	0	NC	59.33		

See footnotes at end of table.

Table 74. Fuel Switching, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Heated Buildings	No Alternate Main Heating Fuel	Have Alternate Main Heating Fuel	Able to Switch Main Heating Fuel Within One Week								RSE Row Factor	
				From Electricity to		From Natural Gas to			From Fuel Oil to				
				Natural Gas	Fuel Oil	Electricity	Fuel Oil	Propane	Electricity	Natural Gas			
RSE Column Factor:	0.297	0.319	0.532	1.440	2.167	1.366	0.822	1.447	2.298	1.706			
Climate Zone: 45 Year Average													
Under 2,000 CDD and --													
Over 7,000 HDD.....	4,785	3,531	1,254	0	0	0	603	0	0	0	0	39.03	
5,500-7,000 HDD.....	17,044	12,583	4,461	0	0	1,235	1,596	165	0	0	382	25.26	
4,000-5,499 HDD.....	14,408	11,136	3,272	0	0	0	1,260	159	0	0	0	28.65	
Under 4,000 HDD.....	11,826	9,310	2,517	274	Q	463	713	Q	Q	Q	Q	31.99	
2,000 CDD or More and --													
Under 4,000 HDD.....	9,805	7,736	2,069	397	Q	561	311	Q	NC	Q	Q	32.83	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 75. Cooling Energy Sources, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	All Cooled Buildings	Energy Source Used for Cooling			All Buildings	All Cooled Buildings	Energy Source Used for Cooling				
			Electricity	Natural Gas	District Chilled Water			Electricity	Natural Gas	District Chilled Water		
RSE Column Factor:	0.518	0.578	0.613	1.934	2.504	0.557	0.616	0.657	2.010	2.483		
All Buildings.....	4,528	3,184	3,074	98	25	63,184	51,771	47,913	1,991	2,101	6.28	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	1,652	1,611	43	0	6,790	4,566	4,444	121	0	10.60	
5,001 to 10,000.....	890	647	619	23	0	6,532	4,809	4,617	167	0	9.28	
10,001 to 25,000.....	644	494	477	17	0	10,393	8,010	7,739	248	0	11.61	
25,001 to 50,000.....	247	205	195	7	4	8,801	7,271	6,934	259	148	11.84	
50,001 to 100,000.....	127	108	101	0	4	9,130	7,764	7,214	0	282	12.52	
100,001 to 200,000.....	61	50	46	0	4	8,277	6,916	6,297	0	690	17.55	
200,001 to 500,000.....	23	22	20	1	1	7,022	6,460	5,888	321	316	22.31	
Over 500,000.....	7	7	6	0	1	6,239	5,976	4,800	0	542	20.23	
Principal Building Activity												
Assembly.....	615	432	418	0	0	6,838	5,354	4,961	0	0	17.06	
Education.....	284	211	201	3	0	8,148	6,499	5,444	348	371	14.77	
Food Sales.....	102	85	84	0	0	792	725	716	0	0	34.43	
Food Service.....	241	215	199	0	0	1,167	1,082	1,034	0	0	22.62	
Health Care.....	80	77	73	0	0	2,054	2,018	1,804	0	155	23.99	
Lodging.....	140	113	108	0	0	3,476	2,964	2,722	0	0	19.44	
Mercantile and Service.....	1,278	929	907	23	0	12,365	10,803	10,448	339	0	11.70	
Office.....	679	655	632	22	6	11,802	11,635	10,596	283	772	11.03	
Parking Garage.....	45	17	15	0	0	983	448	422	0	0	41.76	
Public Order and Safety.....	50	31	29	0	0	616	540	482	0	0	40.93	
Warehouse.....	618	264	257	6	0	9,253	6,111	5,845	287	NC	18.38	
Other.....	62	44	42	0	0	1,529	1,455	1,325	0	0	33.37	
Vacant.....	333	110	108	0	0	4,161	2,137	2,114	0	0	33.73	
Year Constructed												
1899 or Before.....	172	115	108	0	0	1,654	1,223	1,188	0	0	31.70	
1900 to 1919.....	242	137	134	0	0	4,245	3,075	3,011	0	0	30.29	
1920 to 1945.....	680	441	425	17	0	8,098	5,844	5,403	228	0	15.16	
1946 to 1959.....	868	572	559	9	4	10,511	8,285	7,372	243	216	12.98	
1960 to 1969.....	821	586	567	16	9	12,167	10,056	9,032	663	510	10.59	
1970 to 1979.....	884	666	642	17	5	13,329	11,616	10,753	353	885	11.57	
1980 to 1983.....	317	243	230	0	0	4,274	3,752	3,564	0	0	15.43	
1984 to 1986.....	329	264	255	0	0	5,670	5,215	4,953	0	0	17.52	
1987 to 1989.....	215	159	154	0	0	3,235	2,704	2,638	0	0	22.58	
Census Region												
Northeast.....	783	476	448	29	1	13,569	10,334	9,308	517	407	15.61	
Midwest.....	1,046	706	678	28	3	15,955	13,159	12,298	673	318	14.12	
South.....	1,847	1,427	1,396	21	14	22,040	18,958	18,065	445	911	11.35	
West.....	651	576	551	20	7	11,620	9,320	8,243	356	465	12.27	
Metropolitan Status												
Metropolitan.....	3,073	2,261	2,170	77	23	50,809	43,191	39,580	1,713	2,025	7.16	
Nonmetropolitan.....	1,454	923	904	21	Q	12,375	8,580	8,333	277	Q	17.45	
Workers												
Fewer than 5.....	2,280	1,400	1,366	32	0	13,292	8,141	7,876	224	0	11.93	
5 to 9.....	906	764	738	27	0	7,939	6,330	6,091	231	0	12.74	
10 to 19.....	507	446	427	17	0	6,445	5,577	5,315	239	0	11.89	
20 to 49.....	381	340	324	12	0	9,665	8,706	8,329	329	0	13.24	
50 to 99.....	132	117	113	0	4	7,389	6,713	6,320	0	221	15.19	
100 to 249.....	79	73	66	5	3	6,771	6,440	5,649	520	332	14.24	
250 or More.....	32	31	28	1	3	9,829	9,733	8,212	229	1,004	16.50	
Weekly Operating Hours												
39 or Fewer.....	876	394	382	0	0	6,073	2,882	2,750	0	0	19.24	
40 to 48.....	1,117	846	824	20	0	13,905	11,404	10,751	498	0	12.33	
49 to 60.....	987	753	737	18	0	13,473	11,544	11,084	310	236	12.28	
61 to 84.....	625	484	461	20	5	10,777	9,680	8,896	377	440	12.16	
85 to 167.....	515	403	381	22	4	9,387	8,182	7,086	443	365	14.10	
168 (Open Continuously).....	408	304	289	10	5	9,569	8,080	7,345	297	551	12.29	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	3,184	3,074	98	25	61,587	51,765	47,913	1,985	2,101	6.29	
Natural Gas.....	2,439	1,983	1,894	98	9	41,593	37,067	34,101	1,991	1,043	7.48	
Fuel Oil.....	586	374	363	4	6	12,684	10,468	9,767	317	586	16.14	
District Heat.....	105	77	63	0	0	6,856	6,175	4,251	0	1,733	22.69	
District Chilled Water.....	25	25	9	0	25	2,101	2,101	768	0	2,101	24.62	
Propane.....	348	248	240	0	0	4,695	4,021	3,434	0	0	25.11	
Any Other.....	130	50	49	0	0	1,542	1,069	1,045	0	0	37.64	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	3,062	2,952	97	24	57,868	50,512	46,666	1,983	2,094	6.54	
Air-Conditioned Buildings.....	3,184	3,184	3,074	98	25	51,771	51,771	47,913	1,991	2,101	6.49	
Buildings with Water Heating.....	3,184	2,639	2,535	95	22	53,585	47,607	43,838	1,923	2,083	6.70	
Buildings with Cooking.....	864	710	678	31	4	23,658	21,535	19,559	892	946	11.17	
Buildings with Manufacturing.....	205	153	148	0	Q	5,601	5,145	4,356	0	0	20.26	

See footnotes at end of table.

Table 75. Cooling Energy Sources, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	All Cooled Buildings	Energy Source Used for Cooling			All Buildings	All Cooled Buildings	Energy Source Used for Cooling				
			Electricity	Natural Gas	District Chilled Water			Electricity	Natural Gas	District Chilled Water		
	RSE Column Factor:	0.518	0.578	0.613	1.934	2.504	0.557	0.616	0.657	2.010	2.483	
Cooling Energy Sources (Solely or in Combination)												
Electricity.....	3,074	3,074	3,074	15	9	47,913	47,913	47,913	298	768	9.16	
Natural Gas.....	98	98	15	Q	Q	1,991	1,991	298	1,991	0	20.39	
District Chilled Water.....	25	25	9	Q	25	2,101	2,101	768	Q	2,101	24.62	
Percent Cooled												
Not Cooled.....	1,344	NC	NC	NC	NC	11,413	NC	NC	NC	NC	9.32	
1 to 50.....	1,037	1,037	1,003	36	Q	17,821	17,821	17,018	753	Q	13.16	
51 to 99.....	597	597	569	22	5	13,139	13,139	12,331	467	613	10.48	
100.....	1,550	1,550	1,501	40	19	20,811	20,811	18,564	770	1,404	8.89	
Cooling Equipment (Solely or in Combination)												
Central Chillers.....	201	201	183	12	7	14,048	14,048	12,279	677	668	12.13	
Individual Air Conditioners.....	1,074	1,074	1,052	26	5	19,239	19,239	18,173	715	586	11.50	
Packaged Cooling Units.....	1,980	1,980	1,906	79	6	34,753	34,753	32,512	1,483	838	8.82	
Heat Pumps.....	437	437	423	11	0	7,827	7,827	7,470	255	Q	16.97	
Air Ducts.....	1,712	1,712	1,642	59	18	34,225	34,225	31,256	1,529	1,681	8.17	
Fan-Coil Units.....	110	110	96	3	15	10,787	10,787	8,767	445	1,604	13.11	
Other.....	100	100	98	Q	Q	1,468	1,468	998	Q	Q	23.11	
Wall Materials												
Masonry.....	2,849	2,149	2,076	65	14	42,074	35,101	32,716	1,546	1,332	7.40	
Siding or Shingles.....	802	483	469	0	Q	4,788	3,165	3,041	Q	Q	18.62	
Metal Panels.....	557	298	288	0	0	5,689	3,891	3,805	Q	Q	18.61	
Concrete Panels.....	240	195	185	4	6	7,221	6,374	5,414	146	518	18.63	
Window Glass.....	33	23	22	0	Q	1,924	1,851	1,632	Q	Q	34.46	
Other.....	46	36	34	Q	Q	1,487	1,390	1,304	Q	Q	37.20	
Roof Materials												
Built-Up.....	1,614	1,226	1,177	38	12	31,057	26,695	24,358	1,068	973	8.52	
Shingles (Not Wood).....	1,392	995	970	26	Q	10,917	8,717	8,224	307	Q	13.27	
Metal Surfacing.....	901	494	479	Q	Q	8,197	5,447	5,283	Q	Q	16.26	
Synthetic or Rubber.....	211	180	172	9	4	6,911	6,255	5,542	348	620	18.01	
Slate or Tile.....	193	141	132	Q	Q	2,582	1,993	1,846	Q	Q	19.28	
Concrete.....	72	52	52	NC	Q	1,932	1,426	1,351	NC	Q	45.65	
Wooden Materials.....	106	67	64	Q	NC	727	483	461	Q	NC	28.27	
Other.....	38	28	28	NC	Q	860	754	747	NC	Q	41.63	
Building Shell Conservation Features (Solely or in Combination)												
Roof or Ceiling Insulation.....	3,057	2,423	2,342	72	21	45,092	39,354	36,352	1,516	1,738	7.24	
Wall Insulation.....	2,026	1,647	1,586	57	13	29,692	26,432	24,360	1,004	780	7.95	
Storm or Multiple Glazing.....	1,440	1,196	1,145	53	7	24,068	21,699	20,002	1,095	881	8.63	
Tinted, Reflective, or Shading Glass.....	944	855	821	26	11	22,040	20,934	18,779	828	1,314	8.85	
Exterior or Interior Shadings or Awnings.....	1,473	1,278	1,231	42	11	26,173	24,119	22,021	914	1,271	8.77	
Weather Stripping or Caulking.....	2,774	2,192	2,113	73	17	44,694	39,360	36,293	1,540	1,689	7.35	
Occupant Control of:												
Heating Only.....	626	134	130	0	0	4,872	1,503	1,361	0	0	21.33	
Cooling Only.....	204	204	200	0	0	4,143	4,143	3,959	0	0	22.79	
Heating and Cooling.....	1,773	1,773	1,717	57	8	22,172	22,172	21,001	767	705	9.16	
Reduced Use--Off-Hours												
Heating Only.....	790	128	123	0	0	7,147	1,495	1,395	0	0	20.20	
Cooling Only.....	283	283	281	0	0	4,112	4,112	3,973	0	0	21.86	
Heating and Cooling.....	2,397	2,397	2,312	73	18	38,689	38,689	35,801	1,429	1,509	7.44	
Climate Zone: 45 Year Average												
Under 2,000 CDD and -- Over 7,000 HDD.....	357	200	190	0	0	5,062	3,497	3,325	0	0	20.27	
5,500-7,000 HDD.....	1,120	711	673	40	4	17,957	13,989	12,289	933	554	14.93	
4,000-5,499 HDD.....	1,965	656	632	19	3	15,385	12,791	11,849	476	291	18.76	
Under 4,000 HDD.....	1,024	757	738	19	7	12,903	10,900	10,317	294	553	17.21	
2,000 CDD or More and -- Under 4,000 HDD.....	1,063	860	842	Q	11	11,877	10,594	10,133	Q	640	18.11	

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

ENERGY SOURCES/END USES
**Table 76. Water-Heating Energy Sources, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Buildings with Water Heating	Energy Sources Used for Water Heating (Solely or in Combination)					RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	
	RSE Column Factor:	0.438	0.470	0.677	0.672	2.124	2.026	2.479
All Buildings.....	4,528	3,184	1,556	1,401	126	53	88	7.98
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	1,593	838	642	62	0	47	12.28
5,001 to 10,000.....	890	658	314	312	17	0	Q	14.74
10,001 to 25,000.....	644	527	254	229	27	15	17	12.59
25,001 to 50,000.....	247	206	82	106	12	8	0	15.23
50,001 to 100,000.....	127	115	40	64	5	8	0	16.29
100,001 to 200,000.....	61	56	17	33	2	6	0	20.52
200,001 to 500,000.....	23	22	9	12	1	2	NC	26.97
Over 500,000.....	7	7	2	3	Q	2	Q	25.92
Principal Building Activity								
Assembly.....	615	481	219	207	20	6	31	15.52
Education.....	284	214	73	127	10	7	0	16.01
Food Sales.....	102	97	49	40	NC	0	0	35.53
Food Service.....	241	234	52	155	0	0	0	22.78
Health Care.....	80	73	42	25	0	3	0	32.57
Lodging.....	140	138	24	91	0	10	0	20.15
Mercantile and Service.....	1,278	863	501	327	37	0	0	12.98
Office.....	679	609	331	239	23	13	0	15.05
Parking Garage.....	45	21	13	0	0	0	0	47.38
Public Order and Safety.....	50	42	22	17	0	0	0	38.37
Warehouse.....	618	261	152	101	0	0	0	24.00
Other.....	62	40	22	16	0	0	NC	44.53
Vacant.....	333	111	56	50	Q	0	NC	26.82
Year Constructed								
1899 or Before.....	172	114	46	50	0	0	0	27.84
1900 to 1919.....	242	165	68	83	0	3	0	23.12
1920 to 1945.....	680	465	197	221	33	7	0	15.24
1946 to 1959.....	868	617	246	329	27	11	0	14.00
1960 to 1969.....	821	560	243	275	23	13	0	12.72
1970 to 1979.....	884	633	367	228	15	9	17	13.54
1980 to 1983.....	317	232	148	73	0	0	0	21.65
1984 to 1986.....	329	238	146	87	0	0	0	20.19
1987 to 1989.....	215	159	94	55	0	0	0	26.07
Census Region								
Northeast.....	783	620	252	232	105	17	29	16.07
Midwest.....	1,046	786	317	444	0	10	20	15.29
South.....	1,847	1,149	697	410	12	15	24	12.92
West.....	851	629	290	315	Q	11	0	18.97
Metropolitan Status								
Metropolitan.....	3,073	2,320	1,071	1,088	96	46	49	9.67
Nonmetropolitan.....	1,454	863	485	312	30	7	39	18.42
Workers								
Fewer than 5.....	2,280	1,375	713	552	57	7	50	11.71
5 to 9.....	906	756	390	322	29	0	Q	12.90
10 to 19.....	507	448	195	235	12	6	0	16.33
20 to 49.....	381	355	147	177	19	17	0	11.89
50 to 99.....	132	124	50	60	7	6	0	16.83
100 to 249.....	79	73	33	35	1	5	0	18.71
250 or More.....	32	30	13	13	2	5	NC	22.26
Weekly Operating Hours								
39 or Fewer.....	876	391	204	159	0	0	0	18.70
40 to 48.....	1,117	798	418	344	23	9	0	13.15
49 to 60.....	987	739	408	295	30	4	0	12.60
61 to 84.....	625	493	211	245	29	4	0	14.32
85 to 167.....	515	422	190	193	15	7	0	15.85
168 (Open Continuously).....	408	341	125	165	20	28	14	13.47
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	3,182	1,556	1,399	126	53	88	7.96
Natural Gas.....	2,439	2,043	634	1,401	27	15	NC	9.15
Fuel Oil.....	586	458	237	85	126	5	23	16.84
District Heat.....	105	95	32	15	0	53	NC	27.14
District Chilled Water.....	25	22	7	3	0	11	0	31.23
Propane.....	348	271	147	20	21	8	88	23.56
Any Other.....	130	82	55	18	Q	0	Q	35.93
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	3,079	1,482	1,377	124	53	77	8.24
Air-Conditioned Buildings.....	3,184	2,639	1,311	1,174	97	40	55	8.63
Buildings with Water Heating.....	3,184	3,184	1,556	1,401	126	53	88	8.19
Buildings with Cooking.....	864	832	311	439	38	17	46	11.87
Buildings with Manufacturing..	205	168	89	68	Q	5	Q	25.20

See footnotes at end of table.

Table 76. Water-Heating Energy Sources, Number of Buildings (Continued)
 (Thousand)

Building Characteristics	All Buildings	All Buildings with Water Heating	Energy Sources Used for Water Heating (Solely or in Combination)					RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	
	RSE Column Factor:	0.438	0.470	0.677	0.672	2.124	2.026	2.479
Space-Heating Energy Source (Solely or in Combination)								
Electricity.....	1,284	1,060	751	286	7	7	18	15.22
Natural Gas.....	2,172	1,784	581	1,205	13	4	NC	11.36
Fuel Oil.....	560	434	229	77	119	4	Q	18.15
District Heat.....	101	91	31	14	0	49	NC	28.07
Propane.....	238	163	97	0	0	0	52	30.86
Any Other.....	110	62	42	Q	Q	Q	Q	41.64
Water-Heating Energy Source (Solely or in Combination)								
Electricity.....	1,556	1,556	1,556	32	0	0	Q	16.21
Natural Gas.....	1,401	1,401	32	1,401	4	4	NC	14.33
Fuel Oil.....	126	126	0	4	126	0	Q	39.39
District Heat.....	53	53	0	4	0	53	NC	36.14
Propane.....	88	88	Q	NC	Q	NC	88	36.76

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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**Table 77. Water-Heating Energy Sources, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings with Water Heating	Total Floorspace by Energy Sources Used for Water Heating (Solely or in Combination)					RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	
	0.454	0.492	0.684	0.683	1.829	2.036	2.576	
All Buildings.....	63,184	53,585	21,496	26,179	2,284	4,845	1,023	7.94
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	4,396	2,273	1,815	172	0	133	12.50
5,001 to 10,000.....	6,532	4,882	2,352	2,314	125	0	Q	15.13
10,001 to 25,000.....	10,393	8,521	4,041	3,756	409	274	244	12.40
25,001 to 50,000.....	8,801	7,400	2,946	3,763	456	283	Q	15.64
50,001 to 100,000.....	9,130	8,181	2,904	4,481	317	608	Q	16.33
100,001 to 200,000.....	8,277	7,644	2,358	4,338	384	991	Q	20.53
200,001 to 500,000.....	7,022	6,530	2,598	3,725	273	671	NC	26.60
Over 500,000.....	6,239	5,932	2,023	1,987	Q	1,955	Q	27.81
Principal Building Activity								
Assembly.....	6,838	6,155	1,889	3,171	356	645	197	18.67
Education.....	8,148	7,622	1,495	4,963	663	1,003	0	16.48
Food Sales.....	792	776	473	260	NC	Q	Q	40.27
Food Service.....	1,167	1,149	342	626	Q	Q	Q	27.27
Health Care.....	2,054	2,040	354	980	Q	640	Q	28.33
Lodging.....	3,476	3,462	549	2,024	Q	625	Q	20.29
Mercantile and Service.....	12,365	10,163	5,785	4,573	269	Q	Q	13.95
Office.....	11,802	11,196	5,522	4,129	328	1,461	Q	14.83
Parking Garage.....	983	431	295	0	Q	Q	NC	53.15
Public Order and Safety.....	616	587	170	272	Q	Q	NC	43.73
Warehouse.....	9,253	6,427	3,172	3,072	Q	Q	Q	25.62
Other.....	1,529	1,393	630	673	Q	Q	NC	43.91
Vacant.....	4,161	2,182	821	1,325	Q	Q	Q	47.92
Year Constructed								
1899 or Before.....	1,654	1,254	427	516	Q	Q	Q	31.43
1900 to 1919.....	4,245	3,322	812	2,190	Q	187	Q	36.83
1920 to 1945.....	8,098	6,771	2,112	3,672	340	823	Q	17.93
1946 to 1959.....	10,511	9,074	2,773	5,272	514	992	Q	18.35
1960 to 1969.....	12,167	10,476	3,408	5,805	532	1,026	Q	12.33
1970 to 1979.....	13,229	11,305	5,662	4,509	324	1,075	172	13.13
1980 to 1983.....	4,274	3,545	2,239	1,231	Q	Q	Q	18.57
1984 to 1986.....	5,670	5,044	2,409	2,034	Q	Q	Q	22.36
1987 to 1989.....	3,235	2,793	1,654	951	Q	Q	Q	26.82
Census Region								
Northeast.....	13,569	12,447	4,029	5,468	1,747	1,801	276	14.08
Midwest.....	15,955	14,211	4,384	8,854	Q	1,258	324	15.86
South.....	22,040	16,925	9,139	6,620	273	917	334	15.29
West.....	11,620	10,002	3,945	5,236	Q	Q	Q	18.68
Metropolitan Status								
Metropolitan.....	50,809	44,777	17,321	22,126	1,780	4,591	648	9.17
Nonmetropolitan.....	12,375	8,808	4,175	4,053	504	253	374	18.06
Workers								
Fewer than 5.....	13,292	8,689	3,721	4,132	439	Q	254	15.90
5 to 9.....	7,939	6,515	2,956	3,192	213	Q	Q	17.42
10 to 19.....	6,445	5,729	2,646	2,783	138	118	Q	16.55
20 to 49.....	9,665	9,210	3,353	4,941	507	764	Q	16.12
50 to 99.....	7,389	7,045	2,109	4,213	303	407	Q	17.95
100 to 249.....	6,771	6,573	2,576	3,483	253	663	Q	19.02
250 or More.....	9,829	9,659	4,066	3,361	430	2,461	NC	20.96
Weekly Operating Hours								
39 or Fewer.....	6,073	3,160	1,126	1,683	Q	Q	Q	19.40
40 to 48.....	13,905	11,680	5,011	5,712	445	716	Q	15.00
49 to 60.....	13,473	11,758	5,750	5,307	578	496	Q	14.66
61 to 84.....	10,777	9,799	4,215	4,991	398	768	Q	15.07
85 to 167.....	9,387	8,451	3,187	4,027	278	Q	Q	21.41
168 (Open Continuously).....	9,569	8,738	2,206	4,458	435	1,780	Q	14.69
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	53,577	21,496	26,171	2,284	4,845	1,023	7.96
Natural Gas.....	41,593	38,843	10,778	26,179	917	2,943	NC	9.36
Fuel Oil.....	12,684	11,885	3,935	5,186	2,284	1,024	425	12.90
District Heat.....	6,856	6,736	1,446	709	Q	4,845	NC	28.02
District Chilled Water.....	2,101	2,083	422	418	Q	1,295	Q	33.45
Propane.....	4,695	4,328	2,012	621	468	Q	1,023	22.89
Any Other.....	1,542	1,309	601	530	Q	Q	Q	38.95

See footnotes at end of table.

Table 77. Water-Heating Energy Sources, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Buildings with Water Heating	Total Floorspace by Energy Sources Used for Water Heating (Solely or in Combination)					RSE Row Factor
			Electricity	Natural Gas	Fuel Oil	District Heat	Propane	
RSE Column Factor:	0.454	0.492	0.684	0.683	1.829	2.036	2.576	
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	52,469	20,717	25,922	2,236	4,830	954	8.24
Air-Conditioned Buildings.....	51,771	47,607	19,428	23,263	1,712	4,410	747	8.63
Buildings with Water Heating..	53,585	53,585	21,496	26,179	2,284	4,845	1,023	8.07
Buildings with Cooking.....	23,668	23,376	7,556	12,462	1,141	3,123	463	11.09
Buildings with Manufacturing..	5,601	5,222	2,578	1,884	Q	Q	Q	32.25
Space-Heating Energy Source (Solely or in Combination)								
Electricity.....	18,703	16,803	11,048	5,440	283	369	Q	13.92
Natural Gas.....	33,278	30,659	8,651	22,329	492	548	NC	12.13
Fuel Oil.....	10,603	9,905	3,135	4,417	2,089	599	Q	14.76
District Heat.....	6,330	6,212	1,420	639	Q	4,357	NC	29.71
Propane.....	1,767	1,434	761	0	0	0	486	30.54
Any Other.....	994	761	401	Q	Q	Q	Q	44.14
Water-Heating Energy Source (Solely or in Combination)								
Electricity.....	21,496	21,496	21,496	1,592	Q	Q	Q	15.66
Natural Gas.....	26,179	26,179	1,592	26,179	305	223	NC	12.68
Fuel Oil.....	2,284	2,284	Q	305	2,284	Q	Q	32.75
District Heat.....	4,845	4,845	Q	223	Q	4,845	NC	33.13
Propane.....	1,023	1,023	Q	NC	Q	NC	1,023	41.59

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 78. Cooking Energy Sources, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	All Buildings with Cooking	Energy Source Used for Cooking (Solely or in Combination)			All Buildings	All Buildings with Cooking	Energy Source Used for Cooking (Solely or in Combination)				
			Electricity	Natural Gas	Propane			Electricity	Natural Gas	Propane		
RSE Column Factor:	0.438	0.758	1.122	0.865	2.838	0.489	0.832	1.129	1.014	2.348		
All Buildings.....	4,528	864	387	465	93	63,184	23,668	10,850	14,902	923	7.28	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	411	191	210	53	6,790	1,170	533	587	163	10.94	
5,001 to 10,000.....	890	152	56	89	0	6,532	1,138	423	676	0	13.11	
10,001 to 25,000.....	644	130	62	62	14	10,393	2,139	1,072	990	213	13.72	
25,001 to 50,000.....	247	75	33	41	0	8,801	2,758	1,210	1,517	0	11.17	
50,001 to 100,000.....	127	48	23	31	0	9,130	3,366	1,177	2,108	0	15.82	
100,001 to 200,000.....	61	28	12	19	0	8,277	4,015	1,694	2,663	0	15.71	
200,001 to 500,000.....	23	15	8	10	0	7,022	4,403	2,223	2,922	0	25.88	
Over 500,000.....	7	5	2	4	0	6,239	4,680	1,978	3,439	0	22.94	
Principal Building Activity												
Assembly.....	615	178	74	79	30	6,838	2,965	1,559	1,319	163	15.65	
Education.....	284	98	51	54	0	8,148	5,288	2,534	3,390	0	14.48	
Food Sales.....	102	55	28	27	0	792	441	232	212	0	28.16	
Food Service.....	241	216	63	163	23	1,167	1,111	325	765	178	16.54	
Health Care.....	80	18	12	7	0	2,054	1,576	1,030	881	0	27.39	
Lodging.....	140	62	34	35	0	3,476	2,131	983	1,655	0	18.56	
Mercantile and Service.....	1,278	122	58	55	15	12,365	4,035	1,537	2,981	182	13.70	
Office.....	679	47	30	20	0	11,802	3,917	1,690	2,406	0	21.00	
Parking Garage.....	45	0	0	0	0	NC	983	0	0	0	NC	
Public Order and Safety.....	50	17	0	0	0	0	616	249	0	0	0	
Warehouse.....	618	28	0	0	0	9,253	636	493	0	0	36.73	
Other.....	62	0	0	0	0	NC	1,529	0	0	0	NC	
Vacant.....	333	17	0	0	0	0	4,161	0	0	0	0	
Year Constructed												
1899 or Before.....	172	41	0	25	0	1,654	441	0	301	0	29.67	
1900 to 1919.....	242	43	17	25	0	4,245	1,614	410	0	0	23.84	
1920 to 1945.....	680	127	45	73	0	8,098	2,544	1,225	1,595	0	17.10	
1946 to 1959.....	868	176	74	95	0	10,511	4,777	2,325	2,778	0	15.41	
1960 to 1969.....	821	140	65	73	15	12,167	4,733	2,274	3,022	206	11.36	
1970 to 1979.....	884	173	88	92	17	13,329	5,213	2,753	2,990	255	13.17	
1980 to 1983.....	317	55	33	25	0	4,274	1,285	658	785	0	18.35	
1984 to 1986.....	329	58	27	31	0	5,670	1,926	505	1,522	0	21.89	
1987 to 1989.....	215	52	22	25	0	3,235	1,135	562	698	0	23.05	
Census Region												
Northeast.....	783	190	62	95	0	13,569	5,870	2,705	3,437	412	15.62	
Midwest.....	1,046	180	77	116	29	15,955	6,490	2,923	4,674	0	14.06	
South.....	1,847	311	162	151	29	22,040	7,194	3,666	3,882	367	12.74	
West.....	851	183	87	103	0	11,620	4,114	1,555	2,909	0	17.56	
Metropolitan Status												
Metropolitan.....	3,073	643	276	370	64	50,809	19,950	9,046	12,890	546	9.07	
Nonmetropolitan.....	1,454	220	111	95	29	12,375	3,718	1,804	2,012	377	14.05	
Workers												
Fewer than 5.....	2,280	341	158	156	41	13,292	2,726	951	1,657	195	14.10	
5 to 9.....	906	170	73	98	0	7,939	1,360	731	646	0	14.12	
10 to 19.....	507	116	44	76	0	6,445	1,242	474	854	0	17.08	
20 to 49.....	381	134	65	73	15	9,665	4,100	2,299	2,146	237	13.26	
50 to 99.....	132	56	23	34	0	7,389	3,897	1,683	2,665	0	13.84	
100 to 249.....	79	29	15	16	0	6,771	3,437	1,685	2,118	0	16.28	
250 or More.....	32	18	8	11	0	9,829	6,901	3,026	4,812	0	19.58	
Weekly Operating Hours												
39 or Fewer.....	876	116	53	51	0	6,073	1,364	567	813	0	15.72	
40 to 48.....	1,117	115	54	59	0	13,905	3,750	2,107	1,937	0	14.89	
49 to 60.....	987	111	57	47	0	13,473	3,391	1,704	1,915	0	14.92	
61 to 84.....	625	148	54	103	0	10,777	5,093	1,990	3,745	0	14.17	
85 to 167.....	515	215	77	135	30	9,387	4,836	1,665	3,287	258	15.39	
168 (Open Continuously).....	408	159	92	70	17	9,569	5,234	2,817	3,205	276	12.12	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	864	387	465	93	61,587	23,662	10,850	14,896	923	7.29	
Natural Gas.....	2,439	586	193	465	0	41,593	19,142	7,106	14,902	0	10.66	
Fuel Oil.....	586	141	67	50	34	12,684	6,281	3,239	3,787	451	14.11	
District Heat.....	105	26	18	9	0	6,856	3,981	2,004	2,186	0	32.19	
District Chilled Water.....	25	4	0	2	0	2,101	946	0	557	0	42.38	
Propane.....	348	117	29	9	93	4,695	2,355	868	0	923	24.05	
Any Other.....	130	19	9	Q	0	1,542	644	499	Q	Q	36.45	

See footnotes at end of table.

Table 78. Cooking Energy Sources, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings	All Buildings with Cooking	Energy Source Used for Cooking (Solely or in Combination)			All Buildings	All Buildings with Cooking	Energy Source Used for Cooking (Solely or in Combination)			Electricity	Natural Gas	Propane	
			Electricity	Natural Gas	Propane			Electricity	Natural Gas	Propane				
RSE Column Factor:	0.438	0.758	1.122	0.865	2.838	0.489	0.832	1.129	1.014	2.348				
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	3,877	818	360	451	85	57,868	23,085	10,486	14,732	832	7.57			
Air-Conditioned Buildings....	3,184	710	316	405	62	51,771	21,535	9,893	13,748	782	7.88			
Buildings with Water Heating..	3,184	832	369	454	91	53,585	23,376	10,735	14,742	906	7.49			
Buildings with Cooking.....	864	864	387	465	93	23,668	23,668	10,850	14,902	923	8.15			
Buildings with Manufacturing..	205	33	24	10	NC	5,601	1,847	985	Q	NC	32.42			

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE PERCENTAGE

Table 79. Percent Heated, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Heated	1 to 50 Percent Heated	51 to 99 Percent Heated	100 Percent Heated	All Buildings	Total Heated Floorspace in All Buildings	Not Heated	1 to 50 Percent Heated	51 to 99 Percent Heated	100 Percent Heated	
	RSE Column Factor:	0.542	1.770	1.353	1.211	0.606	0.584	0.610	1.914	1.652	1.385	0.673
All Buildings.....	4,528	662	630	496	2,739	63,184	49,295	5,419	9,314	8,673	39,777	5.36
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	436	313	235	1,545	6,790	4,971	1,047	924	679	4,139	6.76
5,001 to 10,000.....	890	134	122	111	523	6,532	4,804	937	913	841	3,841	9.59
10,001 to 25,000.....	644	57	127	98	362	10,393	7,669	971	2,006	1,580	5,836	9.65
25,001 to 50,000.....	247	23	38	23	162	8,801	6,788	823	1,376	807	5,795	12.55
50,001 to 100,000.....	127	10	17	13	88	9,130	7,218	734	1,251	994	6,151	13.54
100,001 to 200,000.....	61	3	8	9	40	8,277	6,830	375	1,095	1,239	5,567	16.23
200,001 to 500,000.....	23	1	4	5	14	7,022	5,397	270	1,508	1,430	3,813	24.87
Over 500,000.....	7	Q	*	1	5	6,239	5,617	Q	239	1,101	4,636	24.14
Principal Building Activity												
Assembly.....	615	26	62	53	474	6,838	6,120	229	574	539	5,496	13.97
Education.....	284	0	0	18	256	8,148	7,988	0	0	636	7,426	18.82
Food Sales.....	102	0	0	0	65	792	708	0	0	0	621	29.66
Food Service.....	241	0	28	34	166	1,167	931	0	151	255	654	20.68
Health Care.....	80	0	0	9	66	2,054	1,951	0	0	189	1,772	29.01
Lodging.....	140	0	0	16	108	3,476	3,139	0	0	664	2,525	21.16
Mercantile and Service.....	1,278	62	225	197	794	12,365	10,244	329	1,905	2,011	8,121	8.81
Office.....	679	18	37	104	519	11,802	10,789	125	495	3,045	8,138	13.39
Parking Garage.....	45	18	9	0	0	983	198	395	447	0	0	31.63
Public Order and Safety.....	50	0	0	44	616	493	0	0	0	0	457	45.16
Warehouse.....	618	281	185	20	132	9,253	4,024	2,008	3,996	618	2,632	14.04
Other.....	62	0	0	32	1,529	1,196	0	0	0	0	836	35.97
Vacant.....	333	200	53	Q	73	4,161	1,513	1,703	Q	Q	1,043	20.09
Year Constructed												
1899 or Before.....	172	0	32	29	93	1,654	1,297	0	268	274	989	22.29
1900 to 1919.....	242	40	58	32	112	4,245	2,816	591	0	384	2,184	21.27
1920 to 1945.....	680	95	87	80	418	8,098	6,335	627	1,225	1,038	5,208	11.89
1946 to 1969.....	868	113	97	97	560	10,511	8,535	740	1,346	1,671	6,755	11.74
1960 to 1969.....	821	137	115	65	505	12,167	9,754	1,018	1,556	1,530	8,064	9.31
1970 to 1979.....	884	113	121	96	555	13,329	10,706	957	1,910	1,537	8,926	9.96
1980 to 1983.....	317	52	46	45	175	4,274	3,259	402	613	836	2,424	14.09
1984 to 1986.....	329	53	50	30	195	5,670	4,238	595	755	1,022	3,298	17.22
1987 to 1989.....	215	41	25	23	126	3,235	2,355	368	554	382	1,931	17.93
Census Region												
Northeast.....	783	77	95	96	515	13,569	11,504	629	1,766	1,215	9,959	12.36
Midwest.....	1,046	128	125	91	702	15,955	13,057	907	2,396	1,801	10,851	11.18
South.....	1,847	338	283	197	1,029	22,040	15,949	2,902	3,338	3,549	12,250	9.17
West.....	851	119	126	113	493	11,620	8,784	982	1,814	2,108	6,716	12.20
Metropolitan Status												
Metropolitan.....	3,073	408	414	351	1,901	50,809	39,978	3,756	7,748	7,320	31,986	6.27
Nonmetropolitan.....	1,454	254	216	146	838	12,375	9,316	1,664	1,566	1,353	7,791	11.38
Workers												
Fewer than 5.....	2,280	393	350	230	1,308	13,292	8,227	2,470	3,222	1,202	6,398	7.66
5 to 9.....	906	45	149	113	599	7,939	5,808	455	2,033	946	4,506	11.59
10 to 19.....	507	18	97	59	334	6,445	4,631	0	1,863	867	3,416	14.74
20 to 49.....	381	11	20	58	291	9,665	8,532	259	832	1,141	7,433	12.72
50 to 99.....	132	0	16	105	7,389	6,770	0	429	954	5,849	15.82	
100 to 249.....	79	0	5	11	63	6,771	6,009	0	544	1,042	5,109	19.28
250 or More.....	32	Q	1	9	22	9,829	9,121	Q	356	2,494	6,900	22.35
Weekly Operating Hours												
39 or Fewer.....	876	298	93	56	429	6,073	3,555	2,094	530	438	3,011	11.42
40 to 48.....	1,117	111	157	115	735	13,905	11,235	880	1,983	1,642	9,400	9.99
49 to 60.....	987	70	201	119	597	13,473	10,099	589	3,129	2,453	7,303	10.46
61 to 84.....	625	63	93	69	401	10,777	9,128	354	1,341	1,602	7,480	10.67
85 to 167.....	515	71	54	84	306	9,387	7,280	672	1,683	1,192	5,839	14.68
168 (Open Continuously).....	408	49	32	53	273	9,569	7,998	829	648	1,347	6,745	12.56
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	433	630	496	2,737	61,587	49,263	3,855	9,314	8,668	39,751	5.71
Natural Gas.....	2,439	35	362	299	1,743	41,593	35,745	426	6,043	5,973	29,152	7.86
Fuel Oil.....	586	0	75	93	413	12,684	11,402	0	995	2,427	9,140	14.70
District Heat.....	105	0	0	17	85	6,856	6,596	0	0	1,266	5,438	30.53
District Chilled Water.....	25	0	0	3	22	2,101	2,026	0	0	303	1,760	36.98
Propane.....	348	13	61	48	227	4,695	3,831	153	761	711	3,071	20.83
Any Other.....	130	Q	Q	Q	80	1,542	1,337	Q	Q	Q	1,129	31.97
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	--	630	496	2,739	57,868	49,295	--	9,314	8,673	39,777	7.20
Air-Conditioned Buildings.....	3,184	125	469	415	2,175	51,771	43,321	1,268	7,708	8,102	34,693	7.58
Buildings with Water Heating.....	3,184	108	429	411	2,235	53,585	45,443	1,170	7,922	8,134	36,758	6.99
Buildings with Cooking.....	854	45	83	105	629	23,668	21,417	588	1,723	3,329	18,028	11.44
Buildings with Manufacturing.....	205	17	46	36	106	5,601	4,184	331	1,170	1,327	2,774	21.85

See footnotes at end of table.

Table 79. Percent Heated, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Heated	1 to 50 Percent Heated	51 to 99 Percent Heated	100 Percent Heated	All Buildings	Total Heated Floorspace in All Buildings	Not Heated	1 to 50 Percent Heated	51 to 99 Percent Heated	100 Percent Heated	
	RSE Column Factor:	0.542	1.770	1.353	1.211	0.606	0.584	0.610	1.914	1.652	1.385	0.673
Percent Cooled												
Not Cooled.....	1,344	538	161	81	564	11,413	5,974	4,151	1,606	572	5,084	8.59
1 to 50.....	1,037	0	407	101	474	17,821	11,950	0	6,696	1,957	8,574	12.23
51 to 99.....	597	19	26	296	257	13,139	11,437	210	529	5,905	6,495	12.61
100.....	1,550	50	37	19	1,445	20,811	19,934	465	483	239	19,624	14.85
Percent Lit When Open												
Not Lit.....	306	277	0	0	19	2,359	235	2,064	0	0	184	23.39
1 to 50.....	1,002	137	325	100	440	10,870	6,365	1,206	4,231	1,100	4,333	10.62
51 to 99.....	951	45	80	258	568	16,950	14,582	458	1,440	4,821	10,231	10.34
100.....	2,269	204	217	136	1,712	33,004	28,112	1,691	3,574	2,710	25,029	8.12
Heating Equipment (Solely or in Combination)												
Furnaces.....	1,619	--	239	214	1,167	15,592	12,833	--	3,228	2,284	10,080	8.94
Boilers.....	704	--	50	95	558	19,907	18,244	--	1,557	3,178	15,163	13.46
Individual Space Heaters.....	1,389	--	317	210	863	22,542	18,122	--	5,014	3,608	13,920	8.64
Packaged Heating Units.....	859	--	117	122	619	15,598	13,443	--	2,159	2,448	10,992	10.80
Heat Pumps.....	453	--	80	65	308	8,357	7,139	--	1,190	1,416	5,751	13.62
Air Ducts.....	1,990	--	284	262	1,444	37,297	32,770	--	4,585	6,313	26,399	7.98
Heating or Reheating Coils.....	243	--	17	33	193	15,693	14,783	--	586	2,863	12,244	19.07
Fan-Coil Units.....	185	--	10	24	151	11,839	11,147	--	648	1,855	9,337	16.40
Steam or Hot Water Radiators or Baseboards.....	498	--	26	69	404	15,822	14,861	--	920	1,946	12,957	14.90
Other.....	57	--	Q	13	37	1,476	1,366	--	Q	153	1,199	33.76
Cooling Equipment (Solely or in Combination)												
Central Chillers.....	201	12	15	24	151	14,048	12,777	333	737	2,780	10,199	15.15
Individual Air Conditioners...	1,074	40	202	170	663	19,239	15,727	579	3,322	2,852	12,486	11.02
Packaged Cooling Units.....	1,980	72	256	263	1,390	34,753	29,129	682	5,294	5,132	23,645	8.53
Heat Pumps.....	437	0	75	60	292	7,827	6,497	0	1,310	1,188	5,175	16.79
Air Ducts.....	1,712	39	220	233	1,222	34,225	29,771	465	3,932	5,998	23,831	9.15
Fan-Coil Units.....	110	0	6	14	86	10,787	9,962	0	462	2,055	8,134	17.72
Other.....	100	Q	Q	Q	63	1,468	1,166	Q	Q	Q	1,048	50.11
Ownership and Occupancy												
Nongovernment Owned.....	3,951	588	593	455	2,315	48,842	36,692	4,416	8,666	6,978	28,783	5.58
Owner Occupied.....	2,814	333	416	345	1,720	35,955	27,643	2,801	6,280	5,119	21,755	6.53
Nonowner Occupied.....	1,136	255	176	110	595	12,888	9,050	1,615	2,386	1,859	7,028	9.78
Government Owned.....	577	74	37	42	424	14,342	12,602	1,004	648	1,695	10,994	12.43
Occupant Control of:												
Heating Only.....	626	NC	117	66	443	4,872	4,147	NC	919	555	3,399	12.17
Cooling Only.....	204	67	13	23	102	4,143	3,265	519	369	460	2,796	19.26
Heating and Cooling.....	1,773	NC	275	240	1,258	22,172	18,428	NC	4,229	3,378	14,565	8.66
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 7,000 HDD.....	357	47	32	46	233	5,062	4,314	277	536	646	3,604	18.42
5,500-7,000 HDD.....	1,120	119	132	99	770	17,957	14,894	967	2,565	1,711	12,715	12.77
4,000-5,499 HDD.....	965	113	112	121	619	15,385	12,707	996	1,760	1,976	10,652	17.21
Under 4,000 HDD.....	1,024	139	167	118	599	12,903	9,682	1,103	2,101	2,648	7,051	16.51
2,000 CDD or More and --												
Under 4,000 HDD.....	1,063	244	187	113	519	11,877	7,697	2,076	2,352	1,693	5,756	14.33

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

* Value rounds to zero in the units displayed.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 80. Percent Cooled, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Cooled	1 to 50 Percent Cooled	51 to 99 Percent Cooled	100 Percent Cooled	All Buildings	Total Cooled Floorspace in All Buildings	Not Cooled	1 to 50 Percent Cooled	51 to 99 Percent Cooled	100 Percent Cooled	
	RSE Column Factor:	0.606	1.117	1.098	1.182	0.976	0.656	0.814	1.204	1.280	1.260	1.124
All Buildings.....	4,528	1,344	1,037	597	1,550	63,184	35,090	11,413	17,821	13,139	20,811	4.96
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	877	449	288	915	6,790	3,431	2,224	1,332	826	2,408	6.72
5,001 to 10,000.....	890	243	246	111	289	6,532	3,286	1,723	1,842	838	2,129	8.83
10,001 to 25,000.....	644	150	197	99	199	10,393	5,229	2,384	3,225	1,596	3,188	8.86
25,001 to 50,000.....	247	42	79	48	77	8,801	4,567	1,530	2,845	1,697	2,729	10.46
50,001 to 100,000.....	127	19	40	24	43	9,130	4,964	1,366	2,894	1,777	3,093	10.85
100,001 to 200,000.....	61	10	17	16	18	8,277	4,699	1,361	2,252	2,165	2,489	15.59
200,001 to 500,000.....	23	2	7	8	6	7,022	4,358	562	2,204	2,475	2,780	23.14
Over 500,000.....	7	Q	2	2	3	6,239	4,557	Q	1,216	1,765	2,995	24.94
Principal Building Activity												
Assembly.....	615	183	92	85	255	6,838	4,099	1,484	1,207	1,617	2,530	12.94
Education.....	284	73	49	23	139	8,148	4,160	1,649	2,472	1,298	2,729	12.62
Food Sales.....	102	Q	Q	Q	51	792	499	Q	Q	0	306	27.86
Food Service.....	241	26	34	68	113	1,167	638	85	207	420	454	18.49
Health Care.....	80	Q	Q	14	53	2,054	1,803	Q	Q	858	1,034	28.64
Lodging.....	140	27	18	22	73	3,476	2,412	512	515	783	1,666	16.87
Mercantile and Service.....	1,278	349	405	178	346	12,365	7,335	1,562	3,848	2,640	4,315	7.92
Office.....	679	24	82	149	425	11,802	10,105	167	984	4,431	6,221	11.95
Parking Garage.....	45	27	17	Q	NC	983	88	536	445	0	NC	33.53
Public Order and Safety.....	50	Q	22	Q	Q	616	239	Q	341	Q	Q	35.56
Warehouse.....	618	354	213	15	36	9,253	1,695	3,142	5,202	345	564	17.88
Other.....	62	Q	20	8	15	1,529	954	Q	582	390	483	32.33
Vacant.....	333	224	61	Q	35	4,161	863	2,024	Q	Q	344	20.43
Year Constructed												
1899 or Before.....	172	57	49	30	36	1,654	574	1,431	740	299	185	21.62
1900 to 1919.....	242	105	71	35	31	4,245	1,404	1,170	1,969	514	591	21.15
1920 to 1945.....	680	239	182	70	189	8,098	3,403	2,253	2,848	886	2,110	11.78
1946 to 1959.....	868	296	169	111	292	10,511	5,668	2,226	2,795	2,437	3,053	10.28
1960 to 1969.....	821	235	183	98	305	12,167	6,698	2,111	3,354	2,942	3,760	8.88
1970 to 1979.....	884	218	183	114	368	13,329	8,286	1,713	3,066	2,836	5,714	9.09
1980 to 1983.....	317	74	75	51	117	4,274	2,777	522	994	1,076	1,681	12.78
1984 to 1986.....	329	65	92	47	125	5,670	3,751	455	1,449	1,384	2,382	14.45
1987 to 1989.....	215	55	33	40	86	3,235	2,028	531	606	764	1,335	17.76
Census Region												
Northeast.....	783	307	219	113	145	13,569	5,887	3,234	4,866	2,462	3,006	11.80
Midwest.....	1,046	340	257	133	316	15,955	8,327	2,797	5,302	3,495	4,361	10.09
South.....	1,847	421	395	243	788	22,040	13,899	3,082	5,288	4,834	8,836	8.73
West.....	851	276	166	108	302	11,620	6,977	2,300	2,364	2,347	4,608	11.44
Metropolitan Status												
Metropolitan.....	3,073	813	728	439	1,094	50,809	29,401	7,618	14,474	11,650	17,067	5.81
Nonmetropolitan.....	1,454	531	309	158	456	12,375	5,689	3,795	3,346	1,489	3,745	11.31
Workers												
Fewer than 5.....	2,280	881	473	232	695	13,292	5,110	5,151	3,732	1,238	3,171	8.00
5 to 9.....	906	142	275	134	355	7,939	3,619	1,609	3,288	1,002	2,040	9.72
10 to 19.....	507	61	161	82	203	6,445	3,159	868	2,902	867	1,808	12.56
20 to 49.....	381	41	85	77	177	9,665	5,712	959	3,021	2,111	3,575	10.99
50 to 99.....	132	15	28	32	57	7,389	4,443	676	2,310	1,724	2,679	12.80
100 to 249.....	79	6	10	25	38	6,771	4,774	331	1,385	2,304	2,751	14.69
250 or More.....	32	Q	3	13	15	9,829	8,156	Q	1,177	5,854	4,702	21.31
Weekly Operating Hours												
39 or Fewer.....	876	481	98	65	231	6,073	2,045	3,191	866	666	1,350	11.34
40 to 48.....	1,117	272	297	119	430	13,905	7,102	2,501	4,807	1,896	4,701	8.67
49 to 60.....	987	234	307	133	313	13,473	7,352	1,929	4,705	3,169	3,670	9.78
61 to 84.....	625	141	151	113	221	10,777	7,067	1,098	2,630	2,695	4,355	10.16
85 to 167.....	515	111	113	104	186	9,387	5,191	1,204	3,211	2,232	2,740	13.81
168 (Open Continuously).....	408	104	71	62	170	9,569	6,332	1,490	1,603	2,481	3,996	10.79
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	1,113	1,037	597	1,550	61,587	35,085	9,822	17,821	13,133	20,811	5.04
Natural Gas.....	2,439	456	671	366	945	41,593	24,634	4,526	13,353	9,192	14,522	6.57
Fuel Oil.....	586	212	175	81	117	12,684	6,871	2,217	3,745	3,432	3,290	11.69
District Heat.....	105	28	24	16	37	6,856	4,961	681	1,116	1,854	3,205	20.90
District Chilled Water.....	25	NC	0	5	19	2,101	1,944	NC	0	613	1,404	26.77
Propane.....	348	100	90	58	100	4,695	2,619	674	1,440	1,147	1,433	20.12
Any Other.....	130	80	23	Q	15	1,542	775	474	361	Q	492	27.66
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	815	983	578	1,501	57,868	34,335	7,356	17,232	12,929	20,351	5.43
Air-Conditioned Buildings.....	3,184	--	1,037	597	1,550	51,771	35,090	--	17,821	13,139	20,811	5.31
Buildings with Water Heating.....	3,184	544	807	535	1,298	53,585	32,556	5,978	15,874	12,606	19,128	5.62
Buildings with Cooking.....	864	154	170	184	356	23,668	16,185	2,132	5,243	6,582	9,710	8.92
Buildings with Manufacturing.....	205	52	90	26	37	5,601	2,703	456	2,830	1,083	1,232	20.64

See footnotes at end of tables.

Table 80. Percent Cooled, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Cooled	1 to 50 Percent Cooled	51 to 99 Percent Cooled	100 Percent Cooled	All Buildings	Total Cooled Floorspace In All Buildings	Not Cooled	1 to 50 Percent Cooled	51 to 99 Percent Cooled	100 Percent Cooled	
	RSE Column Factor:	0.606	1.117	1.098	1.182	0.976	0.656	0.814	1.204	1.280	1.260	1.124
Percent Heated												
Not Heated.....	662	538	0	19	50	5,419	762	4,151	0	210	465	20.17
1 to 50.....	630	161	407	26	37	9,314	2,505	1,606	6,696	529	483	16.80
51 to 99.....	496	81	101	296	19	8,673	5,400	5,572	1,957	5,905	239	13.78
100.....	2,739	564	474	257	1,445	39,777	26,423	5,084	8,574	6,495	19,624	5.82
Percent Lit When Open												
Not Lit.....	306	288	0	0	0	2,359	129	2,186	0	0	0	25.39
1 to 50.....	1,002	345	419	64	173	10,870	3,678	2,879	5,393	977	1,521	11.10
51 to 99.....	951	161	197	319	274	16,950	10,611	1,803	4,031	6,898	4,217	8.96
100.....	2,269	550	416	211	1,092	33,004	20,672	4,545	8,353	5,224	14,882	6.80
Heating Equipment (Solely or in Combination)												
Furnaces.....	1,619	337	436	239	607	15,592	8,589	2,100	5,442	3,202	4,848	8.36
Boilers.....	704	177	217	122	188	19,907	11,030	2,787	6,453	5,144	5,523	8.62
Individual Space Heaters.....	1,389	395	442	196	356	22,542	11,549	3,314	8,279	5,213	5,737	8.93
Packaged Heating Units.....	859	27	181	158	493	15,598	10,986	313	4,502	3,610	7,174	10.57
Heat Pumps.....	453	14	96	103	239	8,357	5,791	334	1,976	2,796	3,252	13.00
Air Ducts.....	1,990	210	458	345	977	37,297	25,783	2,426	9,030	10,349	15,492	7.24
Heating or Reheating Coils.....	243	20	49	59	115	15,693	11,722	662	2,976	5,405	6,650	12.37
Fan-Coil Units.....	185	48	47	28	62	11,839	8,180	863	2,671	3,388	4,917	13.87
Steam or Hot Water Radiators or Baseboards.....	498	143	173	85	98	15,822	8,243	2,518	5,305	3,882	4,117	12.25
Other.....	57	23	Q	13	17	1,476	1,048	168	Q	381	729	30.04
Cooling Equipment (Solely or in Combination)												
Central Chillers.....	201	--	33	55	112	14,048	11,832	--	1,773	5,185	7,090	11.34
Individual Air Conditioners.....	1,074	--	545	208	322	19,239	10,356	--	9,863	4,635	4,740	8.78
Packaged Cooling Units.....	1,980	--	518	385	1,077	34,753	24,396	--	11,045	8,820	14,888	6.51
Heat Pumps.....	137	--	103	99	235	7,827	5,686	--	2,209	2,488	3,130	12.03
Air Ducts.....	1,712	--	388	344	979	34,225	26,142	--	7,937	10,299	15,990	6.92
Fan-Coil Units.....	110	--	11	34	65	10,787	9,256	--	1,077	3,905	5,805	14.04
Other.....	100	--	Q	17	69	1,468	1,306	--	Q	246	Q	42.81
Ownership and Occupancy												
Nongovernment Owned.....	3,951	1,115	938	550	1,348	48,842	27,621	8,201	14,099	10,361	16,181	5.59
Owner Occupied.....	2,814	779	672	422	941	35,955	20,594	5,729	10,604	7,950	11,672	6.22
Nonowner Occupied.....	1,136	355	266	128	406	12,888	7,027	2,472	3,495	2,411	4,509	9.68
Government Owned.....	577	229	99	47	202	14,342	7,469	3,212	3,722	2,778	4,631	11.21
Occupant Control of:												
Heating Only.....	626	492	62	27	45	4,872	902	3,369	659	387	457	13.21
Cooling Only.....	204	NC	110	33	62	4,143	1,907	NC	2,464	477	1,203	15.58
Heating and Cooling.....	1,773	NC	518	332	922	22,172	15,299	NC	7,457	5,821	8,893	7.36
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 2,000 HDD.....	357	157	74	48	78	5,062	2,194	1,565	1,383	1,108	1,006	14.36
5,500-7,000 HDD.....	1,120	408	283	151	277	17,957	8,770	3,968	5,794	3,216	4,979	11.48
4,000-5,499 HDD.....	965	309	226	126	304	15,385	8,336	2,594	4,681	3,472	4,638	15.63
Under 4,000 HDD.....	1,024	267	218	116	422	12,903	7,957	2,003	3,043	2,897	4,960	16.59
2,000 CDD or More and --												
Under 4,000 HDD.....	1,063	203	235	155	469	11,877	7,832	1,283	2,920	2,446	5,228	13.34

-- Data not Applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE PERCENTAGE

Table 81. Percent Lit, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Lit	1 to 50 Percent Lit	51 to 99 Percent Lit	100 Percent Lit	All Buildings	Total Lit Floorspace in All Buildings	Not Lit	1 to 50 Percent Lit	51 to 99 Percent Lit	100 Percent Lit	
	RSE Column Factor:	0.551	2.290	1.106	0.947	0.706	0.591	0.622	2.521	1.353	1.092	0.782
All Buildings.....	4,528	306	1,002	951	2,269	63,184	50,614	2,359	10,870	16,950	33,004	5.27
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	211	549	456	1,312	6,790	5,056	486	1,503	1,278	3,522	6.46
5,001 to 10,000.....	890	54	219	208	408	6,532	4,800	371	1,586	1,558	3,018	8.71
10,001 to 25,000.....	644	29	155	156	303	10,393	7,747	507	2,435	2,482	4,969	9.75
25,001 to 50,000.....	247	7	45	64	130	8,801	6,862	244	1,722	2,261	4,574	10.93
50,001 to 100,000.....	127	4	20	37	66	9,130	7,359	293	1,402	2,703	4,732	12.41
100,001 to 200,000.....	61	0	9	20	31	8,277	7,091	Q	980	2,661	4,454	17.97
200,001 to 500,000.....	23	0	0	7	13	7,022	5,999	Q	0	1,883	3,936	27.14
Over 500,000.....	7	Q	Q	2	5	6,239	5,701	Q	Q	2,124	3,798	26.74
Principal Building Activity												
Assembly.....	615	Q	178	151	283	6,838	5,049	Q	1,894	2,102	2,784	15.78
Education.....	284	20	66	197	8,148	7,628	NC	341	2,369	5,437	14.94	
Food Sales.....	102	NC	0	74	792	760	NC	0	0	670	34.52	
Food Service.....	241	NC	40	53	147	1,167	918	NC	234	367	566	19.10
Health Care.....	80	NC	Q	23	50	2,054	1,938	NC	Q	645	1,355	28.13
Lodging.....	140	NC	48	26	65	3,476	2,893	NC	707	1,022	1,747	18.27
Mercantile and Service.....	1,278	Q	284	277	710	12,365	10,498	Q	1,911	3,287	7,145	10.19
Office.....	679	0	104	229	345	11,802	10,475	Q	1,035	4,582	6,180	14.48
Parking Garage.....	45	NC	19	0	22	983	772	NC	257	0	564	35.72
Public Order and Safety.....	50	0	0	0	21	616	506	Q	0	0	345	37.91
Warehouse.....	618	91	195	63	269	9,253	6,663	494	2,457	1,614	4,687	13.15
Other.....	62	Q	0	12	35	1,529	1,285	Q	0	419	850	38.59
Vacant.....	333	203	67	Q	50	4,161	1,230	1,770	1,594	Q	674	20.78
Year Constructed												
1899 or Before.....	172	0	57	45	60	1,654	975	Q	677	432	426	21.81
1900 to 1919.....	242	27	79	69	66	4,245	2,370	485	1,670	910	1,180	20.41
1920 to 1945.....	680	56	169	143	312	8,098	6,263	296	1,779	1,983	4,040	11.26
1946 to 1959.....	868	57	198	167	446	10,511	8,456	472	1,680	2,851	5,507	10.48
1960 to 1969.....	821	64	166	169	423	12,167	10,226	346	1,554	3,069	7,198	10.07
1970 to 1979.....	884	43	164	161	515	13,329	11,661	276	1,331	3,517	8,204	9.64
1980 to 1983.....	317	0	71	70	159	4,274	3,546	Q	716	1,245	2,206	14.98
1984 to 1986.....	329	Q	65	77	172	5,670	4,547	Q	1,121	1,866	2,632	15.11
1987 to 1989.....	215	16	33	50	115	3,235	2,570	207	1,342	1,076	1,610	17.62
Census Region												
Northeast.....	783	38	183	167	395	13,569	11,354	408	1,765	3,806	7,590	12.39
Midwest.....	1,046	76	237	242	491	15,955	12,570	429	3,175	4,529	7,822	10.09
South.....	1,847	148	376	346	978	22,040	17,195	1,085	4,087	5,520	11,348	8.34
West.....	851	45	205	197	404	11,620	9,497	437	1,843	3,096	6,245	13.59
Metropolitan Status												
Metropolitan.....	3,073	171	633	695	1,575	50,809	41,574	1,579	7,662	14,427	27,141	6.05
Nonmetropolitan.....	1,454	136	368	256	694	12,375	9,040	780	3,208	2,523	5,863	11.38
Workers												
Fewer than 5.....	2,280	91	698	403	1,088	13,292	8,728	466	5,167	2,224	5,434	8.03
5 to 9.....	906	0	184	227	492	7,939	5,781	Q	2,460	2,202	3,243	12.32
10 to 19.....	507	Q	79	137	291	6,445	5,114	Q	1,474	1,563	3,406	14.77
20 to 49.....	581	Q	29	115	237	9,665	8,582	Q	747	3,452	5,462	14.30
50 to 99.....	132	NC	7	39	86	7,389	6,833	NC	462	2,167	4,760	15.41
100 to 249.....	79	NC	0	21	55	6,771	6,286	NC	0	2,008	4,501	19.46
250 or More.....	32	NC	1	11	20	9,829	9,290	NC	298	3,333	6,198	22.34
Weekly Operating Hours												
39 or Fewer.....	876	254	169	119	333	6,073	3,204	2,009	1,021	978	2,065	10.48
40 to 48.....	1,117	23	285	249	561	13,905	11,102	133	2,982	3,335	7,455	10.08
49 to 60.....	987	0	245	222	508	13,473	10,570	Q	3,090	4,076	6,172	12.10
61 to 84.....	625	Q	109	171	340	10,777	9,453	Q	1,038	3,868	5,836	12.27
85 to 167.....	515	Q	101	117	295	9,387	7,896	Q	1,576	2,281	5,516	17.88
168 (Open Continuously).....	408	Q	92	73	232	9,569	8,390	Q	1,164	2,413	5,960	13.54
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	76	1,002	951	2,269	61,587	50,609	768	10,870	16,950	32,999	5.72
Natural Gas.....	2,439	29	563	582	1,266	41,593	34,736	189	7,076	12,052	22,277	7.55
Fuel Oil.....	586	0	162	138	285	12,684	10,815	Q	1,725	3,757	7,074	14.05
District Heat.....	105	Q	7	27	68	6,856	6,420	Q	179	2,283	4,318	26.10
District Chilled Water.....	25	NC	0	6	18	2,101	1,965	NC	0	606	1,415	31.55
Propane.....	348	NC	88	67	193	4,695	4,004	NC	750	1,266	2,679	20.32
Any Other.....	130	Q	43	34	52	1,542	1,158	Q	507	446	584	30.90
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	36	865	908	2,067	57,868	48,344	355	9,683	16,497	31,334	6.39
Air-Conditioned Buildings.....	3,184	18	657	791	1,719	51,771	43,796	174	7,991	15,147	28,459	7.05
Buildings with Water Heating.....	3,184	29	692	799	1,663	53,585	44,980	203	8,802	15,697	28,883	6.77
Buildings with Cooking.....	864	0	189	205	468	23,668	20,605	Q	3,112	7,248	13,297	12.04
Buildings with Manufacturing.....	205	Q	35	59	109	5,601	4,917	Q	606	1,906	3,065	23.93

See footnotes at end of table.

Table 81. Percent Lit, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)						RSE Row Factor
	All Buildings	Not Lit	1 to 50 Percent Lit	51 to 99 Percent Lit	100 Percent Lit	All Buildings	Total Lit Floorspace in All Buildings	Not Lit	1 to 50 Percent Lit	51 to 99 Percent Lit	100 Percent Lit	
	RSE Column Factor:	0.551	2.290	1.106	0.947	0.706	0.591	0.622	2.521	1.353	1.092	0.782
Percent Lit When Closed												
Not Lit.....	2,693	268	650	481	1,293	28,054	20,482	1,927	6,488	5,645	13,994	7.01
1 to 50.....	1,706	21	343	446	896	31,825	27,152	257	4,303	10,613	16,652	9.07
51 to 99.....	68	NC	Q	22	40	2,309	2,199	NC	Q	682	1,590	27.46
100.....	62	Q	Q	40	781	997	781	Q	Q	769	36.56	
Lighting Equipment (Solely or in Combination)												
Incandescent.....	2,404	23	602	611	1,168	38,790	32,406	267	6,019	12,357	20,147	7.02
Fluorescent.....	3,920	23	904	905	2,088	58,893	48,972	359	10,139	16,615	31,780	6.45
High-Intensity Discharge.....	456	Q	85	104	257	18,188	16,373	Q	1,440	5,613	11,058	14.36
Other.....	24	NC	Q	Q	12	513	476	NC	Q	286	38.50	
Ownership and Occupancy												
Nongovernment Owned.....	3,951	282	912	822	1,934	48,842	38,101	1,889	9,754	12,636	24,563	5.60
Owner Occupied.....	2,814	108	697	620	1,390	35,955	28,412	769	7,507	9,404	18,275	7.06
Nonowner Occupied.....	1,136	174	215	203	545	12,888	9,689	1,121	2,247	3,232	6,288	9.41
Government Owned.....	577	25	90	129	334	14,342	12,513	470	1,116	4,314	8,441	12.48
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 7,000 HDD.....	357	32	62	85	178	5,062	4,189	151	724	1,602	2,585	19.64
5,500-7,000 HDD.....	1,120	60	287	247	526	17,957	14,074	644	3,576	4,503	9,234	11.99
4,000-5,499 HDD.....	965	67	204	217	476	15,385	12,786	527	1,968	4,412	8,478	16.97
Under 4,000 HDD.....	1,024	62	218	203	541	12,903	10,329	534	2,326	3,496	6,548	17.70
2,000 CDD or More and --												
Under 4,000 HDD.....	1,063	86	231	199	548	11,877	9,235	504	2,276	2,937	6,159	12.85

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
Table 82. Heating Equipment, Number of Buildings (Thousand)

Building Characteristics	All Buildings	All Heated Buildings	Heating Equipment Used (Solely or in Combination)											RSE Row Factor
			Burners	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other		
	RSE Column Factor:	0.531	0.550	0.925	0.882	0.813	1.053	1.322	0.747	1.155	1.354	1.166	2.723	
All Buildings.....	4,528	3,877	704	1,619	1,389	859	453	1,990	243	185	498	57	6.45	
Building Floorspace (Square Feet)														
1,001 to 5,000.....	2,529	2,100	223	954	755	407	200	965	56	40	172	0	9.80	
5,001 to 10,000.....	890	760	156	348	256	192	84	424	20	22	94	0	13.17	
10,001 to 25,000.....	644	588	145	217	224	136	97	328	60	42	108	0	10.58	
25,001 to 50,000.....	247	224	91	58	79	63	44	126	40	33	61	0	11.82	
50,001 to 100,000.....	127	118	50	28	36	36	15	83	30	20	34	0	13.24	
100,001 to 200,000.....	61	58	27	10	27	16	8	41	20	17	18	0	14.76	
200,001 to 500,000.....	23	22	11	4	10	7	3	17	12	8	8	0	21.65	
Over 500,000.....	7	7	3	*	3	2	1	5	5	4	4	0	22.15	
Principal Building Activity														
Assembly.....	615	589	130	264	212	123	71	319	27	35	104	0	13.79	
Education.....	284	279	106	73	69	69	24	152	37	45	75	0	15.06	
Food Sales.....	102	89	0	45	0	33	0	59	0	0	0	0	33.67	
Food Service.....	241	228	32	95	42	73	0	141	0	0	0	0	20.96	
Health Care.....	80	75	17	27	22	14	18	44	12	9	15	0	25.07	
Lodging.....	140	134	45	38	67	22	12	58	19	15	33	0	20.89	
Mercantile and Service.....	1,278	1,219	158	582	513	226	100	524	31	30	104	0	10.25	
Office.....	679	663	122	280	169	176	122	436	68	22	84	0	11.23	
Parking Garage.....	45	27	0	0	16	0	0	9	0	0	0	0	50.98	
Public Order and Safety.....	50	50	16	0	21	0	0	15	0	0	0	0	41.02	
Warehouse.....	618	340	32	122	176	79	49	137	10	12	21	0	17.29	
Other.....	62	47	13	16	15	12	0	25	13	4	7	0	33.93	
Vacant.....	333	137	19	47	52	33	13	70	2	Q	15	0	23.80	
Year Constructed														
1899 or Before.....	172	154	50	72	69	0	0	67	0	0	38	0	27.62	
1900 to 1919.....	242	204	62	85	81	22	15	81	8	5	52	0	21.97	
1920 to 1945.....	580	585	167	255	225	72	35	238	19	29	141	0	13.68	
1946 to 1959.....	868	758	162	352	283	134	59	350	37	49	119	0	11.63	
1960 to 1969.....	821	686	113	307	220	166	63	372	57	45	77	1	11.22	
1970 to 1979.....	884	771	87	291	289	223	93	430	55	31	44	0	11.74	
1980 to 1983.....	317	267	21	91	94	93	52	154	23	6	7	0	17.88	
1984 to 1986.....	329	277	18	99	84	97	73	188	24	8	8	0	15.77	
1987 to 1989.....	215	174	25	68	45	31	45	110	15	7	11	0	21.27	
Census Region														
Northeast.....	783	711	276	322	220	65	59	270	51	60	242	10	13.48	
Midwest.....	1,046	920	195	527	330	125	30	472	50	42	134	22	10.68	
South.....	1,847	1,512	131	503	592	456	238	822	98	50	53	12	12.25	
West.....	851	734	101	267	248	212	127	425	44	34	70	14	14.39	
Metropolitan Status														
Metropolitan.....	3,073	2,674	523	1,102	867	669	348	1,475	200	151	370	43	7.36	
Nonmetropolitan.....	1,454	1,203	181	518	522	189	105	514	43	34	129	Q	15.02	
Workers														
Fewer than 5.....	2,280	1,892	248	827	744	304	165	802	55	52	200	0	9.71	
5 to 9.....	906	861	138	398	292	211	102	482	40	21	87	0	11.13	
10 to 19.....	507	492	108	205	164	146	75	291	19	16	63	0	14.27	
20 to 49.....	381	370	111	133	110	112	67	233	48	47	81	0	11.21	
50 to 99.....	132	126	47	25	38	43	23	82	31	19	33	0	12.67	
100 to 249.....	79	78	33	21	26	25	12	60	29	16	20	0	14.54	
250 or More.....	32	32	16	3	11	8	5	27	21	13	12	1	16.37	
Weekly Operating Hours														
39 or Fewer.....	876	586	75	255	212	128	56	286	15	17	63	0	15.71	
40 to 48.....	1,117	1,007	181	413	359	221	139	511	62	48	120	0	10.09	
49 to 60.....	987	917	152	418	380	182	103	437	47	33	99	20	10.54	
61 to 84.....	625	565	130	228	164	135	56	323	39	35	82	9	12.00	
85 to 167.....	515	443	84	201	138	105	54	249	26	20	67	0	13.76	
168 (Open Continuously).....	408	359	82	105	137	88	45	183	54	32	68	5	12.36	
Energy Sources (Solely or in Combination)														
Electricity.....	4,297	3,874	704	1,619	1,388	859	453	1,989	243	185	498	57	6.46	
Natural Gas.....	2,439	2,410	506	1,176	838	569	170	1,293	135	132	322	44	7.15	
Fuel Oil.....	586	583	243	288	191	30	21	231	45	56	192	6	15.88	
District Heat.....	105	105	12	0	26	9	7	64	41	32	60	8	25.01	
District Chilled Water.....	25	24	0	0	0	0	0	19	12	10	6	0	32.73	
Propane.....	348	335	55	132	155	55	32	157	17	8	45	0	22.03	
Any Other.....	130	129	22	50	83	Q	Q	34	Q	Q	11	Q	33.26	
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	3,877	3,877	704	1,619	1,389	859	453	1,990	243	185	498	57	6.51	
Air-Conditioned Buildings.....	3,184	3,062	527	1,283	994	831	438	1,779	223	137	355	35	7.10	
Buildings with Water Heating.....	3,184	3,079	647	1,333	1,000	732	389	1,718	224	174	463	54	6.73	
Buildings with Cooking.....	864	818	223	317	228	231	105	492	88	65	174	17	9.97	
Buildings with Manufacturing.....	205	188	43	72	93	31	22	84	22	13	29	Q	20.17	

See footnotes at end of table.

Table 82. Heating Equipment, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Heated Buildings	Heating Equipment Used (Solely or in Combination)											RSE Row Factor
			Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other		
			RSE Column Factor:	0.531	0.550	0.925	0.882	0.813	1.053	1.322	0.747	1.155	1.354	1.166
Primary-Space Heating Fuel														
Electricity.....	959	959	45	186	346	337	314	545	90	11	11	11	11	14.11
Natural Gas.....	2,093	2,093	429	1,098	723	472	115	1,130	95	110	260	39	39	7.81
Fuel Oil.....	475	475	197	252	144	16	11	171	19	33	157	9	9	21.16
District Heat.....	98	98	10	Q	26	Q	6	59	38	30	56	7	7	26.54
Propane.....	208	208	Q	78	118	31	Q	89	Q	Q	Q	NC	NC	31.69
Any Other.....	70	70	13	Q	48	Q	Q	Q	Q	Q	Q	NC	NC	55.56
Percent Heated														
Not Heated.....	662	--	--	--	--	--	--	--	--	--	--	--	--	43.43
1 to 50.....	630	630	50	239	317	117	80	284	17	10	26	Q	Q	15.87
51 to 99.....	496	496	95	214	210	122	65	262	33	24	69	13	13	13.11
100.....	2,739	2,739	558	1,167	863	619	308	1,444	193	151	404	37	37	6.93
Heating Equipment (Solely or in Combination)														
Furnaces.....	1,619	1,619	108	1,619	401	180	105	1,033	45	20	81	Q	Q	11.04
Boilers.....	704	704	108	182	56	58	262	89	131	399	22	22	22	10.02
Individual Space Heaters.....	1,389	1,389	182	401	1,389	196	92	481	67	57	132	9	9	9.74
Packaged Heating Units.....	859	859	56	180	196	859	105	686	76	25	31	Q	Q	12.35
Heat Pumps.....	453	453	58	105	92	105	453	315	49	18	25	Q	Q	14.73
Air Ducts.....	1,990	1,990	262	1,033	481	686	315	1,990	229	112	144	29	29	8.51
Heating or Reheating Coils.....	243	243	89	45	67	76	49	229	243	62	69	8	8	10.71
Fan-Coil Units.....	185	185	131	20	57	25	18	112	62	185	85	5	5	13.75
Steam or Hot Water Radiators or Baseboards.....	498	498	399	81	132	31	25	144	69	85	498	12	12	13.18
Other.....	57	57	22	Q	9	Q	Q	29	8	5	12	57	57	27.63
Wall Materials														
Masonry.....	2,849	2,571	558	1,076	844	598	296	1,350	162	143	382	39	39	7.05
Siding or Shingles.....	802	655	81	309	272	97	70	318	21	13	76	Q	Q	17.38
Metal Panels.....	557	398	29	155	194	84	47	177	18	8	17	Q	Q	18.59
Concrete Panels.....	240	182	25	65	56	61	30	101	30	14	14	Q	Q	18.53
Window Glass.....	33	28	Q	Q	8	9	1	15	5	5	4	Q	Q	32.80
Other.....	46	43	Q	Q	15	10	Q	27	6	Q	Q	Q	Q	37.41
Roof Materials														
Built-Up.....	1,614	1,454	312	535	483	388	177	778	132	94	214	23	23	8.18
Shingles (Not Wood).....	1,392	1,218	196	616	413	233	126	646	36	38	142	Q	Q	11.45
Metal Surfacing.....	901	657	53	262	316	117	75	292	19	15	30	Q	Q	16.82
Synthetic or Rubber.....	211	206	66	81	57	52	32	124	32	22	46	Q	Q	14.93
Slate or Tile.....	193	184	54	62	61	36	24	88	12	8	50	Q	Q	22.12
Concrete.....	72	33	7	Q	10	11	Q	15	3	Q	Q	Q	Q	35.21
Wooden Materials.....	106	86	0	41	32	Q	Q	30	Q	Q	Q	Q	Q	33.47
Other.....	38	37	Q	Q	17	Q	Q	18	Q	Q	Q	Q	Q	39.90
Building Shell Conservation Features (Solely or in Combination)														
Roof or Ceiling Insulation....	3,057	2,849	498	1,201	940	687	380	1,616	206	142	349	45	45	6.94
Wall Insulation.....	2,026	1,909	296	855	622	441	279	1,112	144	83	211	30	30	7.90
Storm or Multiple Glazing.....	1,440	1,391	347	625	463	281	186	777	102	74	270	21	21	8.11
Tinted, Reflective, or Shading Glass.....	944	883	160	319	266	311	159	610	94	54	95	19	19	8.77
Exterior or Interior Shadings or Awnings.....	1,473	1,405	285	565	454	380	198	837	119	75	212	22	22	8.36
Weather Stripping or Caulking.....	2,774	2,585	508	1,091	859	601	365	1,432	187	149	377	41	41	7.19
Occupant Control of:														
Heating Only.....	626	626	112	275	327	45	27	200	14	26	81	Q	Q	14.68
Cooling Only.....	204	140	69	43	35	28	13	59	10	20	62	Q	Q	19.45
Heating and Cooling.....	1,773	1,773	218	791	614	448	283	1,016	103	52	158	15	15	9.07
Reduced Use--Off-Hours														
Heating Only.....	790	790	163	331	393	49	27	244	19	42	121	21	21	13.45
Cooling Only.....	283	174	63	68	62	25	31	75	8	11	46	0	0	20.94
Heating and Cooling.....	2,397	2,397	382	1,036	786	647	339	1,386	157	102	262	20	20	7.81
Climate Zone: 45 Year Average														
Under 2,000 CDD and --														
Over 7,000 HDD.....	357	310	96	153	127	20	9	152	14	21	76	Q	Q	17.32
5,500-7,000 HDD.....	1,120	1,004	301	532	316	137	52	463	67	62	255	19	19	13.15
4,000-5,499 HDD.....	965	857	170	418	323	97	111	400	51	52	127	8	8	18.69
Under 4,000 HDD.....	1,024	886	81	294	341	287	153	504	56	29	25	11	11	18.39
2,000 CDD or More and --														
Under 4,000 HDD.....	1,063	819	56	221	282	319	128	470	54	21	16	Q	Q	19.29

-- Data not applicable.

* Value rounds to zero in the units displayed.

NC No cases in sample.

O Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
Table 83. Heating Equipment, Percent of Buildings

Building Characteristics	RSE Column Factor:	Heating Equipment Used (Solely or in Combination)											RSE Row Factor
		All Heated Buildings	Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other	
		--	0.831	0.664	0.603	0.957	1.226	0.488	1.172	1.418	1.113	2.838	
All Buildings.....	100.0	18.2	41.8	35.8	22.1	11.7	51.3	6.3	4.8	12.9	1.5	6.42	
Building Floorspace (Square Feet)													
1,001 to 5,000.....	100.0	10.6	45.4	35.9	19.4	9.5	46.0	2.7	1.9	8.2	0	10.12	
5,001 to 10,000.....	100.0	20.5	45.9	33.6	25.3	11.1	55.8	2.6	2.9	12.4	0	13.12	
10,001 to 25,000.....	100.0	24.6	36.9	38.1	23.1	16.6	55.7	10.2	7.2	18.4	0	10.02	
25,001 to 50,000.....	100.0	40.6	26.0	35.5	28.0	19.8	56.2	17.8	14.6	27.3	0	11.24	
50,001 to 100,000.....	100.0	41.9	23.4	30.4	30.8	12.8	70.1	25.5	17.2	29.0	0	11.62	
100,001 to 200,000.....	100.0	46.4	17.9	45.9	27.7	13.8	71.2	35.2	30.0	30.4	0	13.44	
200,001 to 500,000.....	100.0	46.8	17.4	42.5	29.5	12.0	75.6	52.6	34.1	33.6	0	17.72	
Over 500,000.....	100.0	42.2	4.2	49.9	30.0	17.0	79.5	67.2	55.2	58.9	0	18.61	
Principal Building Activity													
Assembly.....	100.0	22.0	44.8	35.9	20.9	12.1	54.1	4.7	5.9	17.6	0	13.64	
Education.....	100.0	38.0	26.0	24.7	24.6	8.7	54.4	13.2	16.0	27.0	0	14.52	
Food Sales.....	100.0	0	51.0	0	36.6	0	66.7	0	0	0	0	33.43	
Food Service.....	100.0	14.3	41.7	18.6	31.9	0	61.9	0	0	0	0	22.66	
Health Care.....	100.0	22.2	35.3	28.6	18.8	23.5	58.8	15.9	8.9	19.6	0	24.18	
Lodging.....	100.0	33.6	28.3	49.9	16.3	9.0	43.2	13.9	11.0	24.8	0	21.68	
Mercantile and Service.....	100.0	13.0	47.8	42.1	18.5	8.2	43.0	2.6	2.5	8.5	0	10.66	
Office.....	100.0	18.4	42.2	25.5	26.6	18.4	65.8	10.3	3.4	12.6	0	11.11	
Parking Garage.....	100.0	0	0	58.7	0	0	34.1	0	0	0	0	55.79	
Public Order and Safety.....	100.0	31.6	0	42.2	0	0	30.5	0	0	0	0	42.99	
Warehouse.....	100.0	9.3	35.8	51.6	21.3	14.4	40.3	3.0	3.4	6.0	0	18.02	
Other.....	100.0	26.5	33.5	31.6	26.4	0	53.7	27.1	8.9	14.3	0	30.52	
Vacant.....	100.0	14.0	34.4	37.9	23.9	9.5	50.9	1.7	0	11.0	0	26.14	
Year Constructed													
1899 or Before.....	100.0	32.2	46.5	44.9	0	0	43.2	0	0	24.8	0	25.01	
1900 to 1919.....	100.0	30.2	41.6	39.9	10.6	7.3	39.7	3.7	2.5	25.6	0	22.20	
1920 to 1945.....	100.0	28.5	43.6	38.4	12.4	6.0	40.6	3.3	5.0	24.1	0	14.43	
1946 to 1959.....	100.0	21.4	46.4	37.4	17.7	7.7	46.2	4.9	6.5	15.8	0	11.34	
1960 to 1969.....	100.0	16.4	44.8	32.0	24.2	9.2	54.2	8.3	6.6	11.2	1	11.42	
1970 to 1979.....	100.0	11.3	37.7	37.5	28.9	12.0	55.8	7.1	4.0	5.7	0	11.90	
1980 to 1983.....	100.0	7.9	34.1	35.0	34.8	19.5	57.5	8.8	2.2	0	0	19.15	
1984 to 1986.....	100.0	6.7	35.7	30.2	35.1	26.3	68.1	8.7	2.8	2.9	0	16.61	
1987 to 1989.....	100.0	14.4	39.4	26.0	17.7	25.7	63.2	8.4	3.9	6.6	0	20.59	
Census Region													
Northeast.....	100.0	38.8	45.3	31.0	9.2	8.2	38.0	7.1	8.4	34.0	1	11.38	
Midwest.....	100.0	21.2	57.3	35.9	13.6	3.2	51.3	5.5	4.6	14.6	2	10.09	
South.....	100.0	8.7	33.3	39.1	30.1	15.7	54.4	6.5	3.3	3.5	0	12.03	
West.....	100.0	13.8	36.4	33.8	28.9	17.3	57.9	6.0	4.6	9.5	1	14.40	
Metropolitan Status													
Metropolitan.....	100.0	19.6	41.2	32.4	25.0	13.0	55.2	7.5	5.7	13.8	1	6.87	
Nonmetropolitan.....	100.0	15.1	43.0	43.4	15.7	8.8	42.7	3.6	2.9	10.7	0	14.60	
Workers													
Fewer than 5.....	100.0	13.1	43.7	39.3	16.1	8.7	42.4	2.9	2.8	10.6	0	10.51	
5 to 9.....	100.0	16.1	46.2	33.9	24.5	11.8	56.0	4.6	2.6	10.1	0	11.59	
10 to 19.....	100.0	22.0	41.8	33.4	29.6	15.2	59.2	3.8	3.3	12.9	0	13.50	
20 to 49.....	100.0	30.1	35.8	29.6	30.4	18.2	62.9	12.9	12.7	21.8	0	11.05	
50 to 99.....	100.0	37.0	20.0	30.3	34.2	18.3	65.4	24.9	15.1	26.5	0	11.89	
100 to 249.....	100.0	42.3	26.7	33.6	32.4	15.0	77.0	36.8	21.1	25.5	0	13.83	
250 or More.....	100.0	50.6	8.7	35.0	25.4	16.9	85.3	67.6	39.6	36.3	4	13.53	
Weekly Operating Hours													
39 or Fewer.....	100.0	12.8	43.5	36.2	21.8	9.5	48.8	2.6	2.9	10.7	0	16.27	
40 to 48.....	100.0	17.9	41.1	35.6	22.0	13.8	50.8	6.2	4.7	11.9	0	9.75	
49 to 60.....	100.0	16.6	45.6	41.5	19.8	11.3	47.7	5.1	3.6	10.8	2	10.61	
61 to 84.....	100.0	23.0	40.3	29.0	23.8	10.0	57.1	7.0	6.3	14.5	1	12.59	
85 to 167.....	100.0	19.0	45.4	31.0	23.6	12.1	56.2	5.9	4.5	15.1	0	13.61	
168 (Open Continuously).....	100.0	22.8	29.1	38.1	24.6	12.6	51.1	14.9	8.9	18.9	1	13.73	
Energy Sources (Solely or in Combination)													
Electricity.....	100.0	18.2	41.8	35.8	22.2	11.7	51.3	6.3	4.8	12.9	1	6.42	
Natural Gas.....	100.0	21.0	48.8	34.8	23.6	7.0	53.6	5.6	5.5	13.4	1	6.93	
Fuel Oil.....	100.0	41.6	49.4	32.8	5.1	3.5	39.6	7.7	9.5	32.9	1	14.07	
District Heat.....	100.0	11.3	0	25.2	8.8	6.6	61.0	39.2	30.2	57.1	2	23.19	
District Chilled Water.....	100.0	0	0	0	0	0	77.5	49.9	42.8	26.3	0	36.49	
Propane.....	100.0	16.4	39.4	46.3	16.5	9.6	46.8	5.0	2.4	13.5	0	20.97	
Any Other.....	100.0	16.8	39.1	64.7	Q	Q	26.7	Q	Q	8.8	0	32.55	
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	100.0	18.2	41.8	35.8	22.1	11.7	51.3	6.3	4.8	12.9	1	6.42	
Air-Conditioned Buildings.....	100.0	17.2	41.9	32.5	27.1	14.3	58.1	7.3	4.5	11.6	1	6.83	
Buildings with Water Heating.....	100.0	21.0	43.3	32.5	23.8	12.6	55.8	7.3	5.7	15.0	1	6.34	
Buildings with Cooking.....	100.0	27.3	38.8	27.9	28.2	12.8	60.1	10.7	8.0	21.3	2	9.59	
Buildings with Manufacturing.....	100.0	22.9	38.6	49.5	16.7	11.7	44.9	11.7	6.7	15.6	0	19.35	

See footnotes at end of table

Table 83. Heating Equipment, Percent of Buildings (Continued)

Building Characteristics	All Heated Buildings	Heating Equipment Used (Solely or in Combination)										RSE Row Factor
		Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other	
		RSE Column Factor:	--	0.831	0.664	0.603	0.957	1.226	0.488	1.172	1.418	1.113
Primary Space-Heating Fuel												
Electricity.....	100.0	4.7	19.4	36.0	35.1	32.7	56.8	9.4	1.2	1.1	1.2	13.45
Natural Gas.....	100.0	20.5	52.5	34.5	22.5	5.5	54.0	4.5	5.3	12.4	1.9	7.45
Fuel Oil.....	100.0	41.4	53.0	30.2	3.3	2.4	36.1	3.9	7.0	32.9	Q	18.25
District Heat.....	100.0	10.4	Q	26.3	7.1	6.2	59.7	38.9	30.5	57.4	7.3	24.90
Propane.....	100.0	0	37.4	56.8	14.9	Q	42.9	Q	Q	Q	0	NC
Any Other.....	100.0	19.0	Q	68.2	Q	Q	Q	Q	Q	Q	0	NC
Percent Heated												
Not Heated.....	100.0	--	--	--	--	--	--	--	--	--	--	--
1 to 50.....	100.0	7.9	37.9	50.3	18.6	12.8	45.1	2.7	1.6	4.1	0	16.26
51 to 99.....	100.0	19.1	43.0	42.2	24.6	13.1	52.7	6.7	4.8	13.9	2.6	12.18
100.....	100.0	20.4	42.6	31.5	22.6	11.2	52.7	7.0	5.5	14.7	1.3	6.91
Heating Equipment (Solely or in Combination)												
Furnaces.....	100.0	6.7	100.0	24.8	11.1	6.5	63.8	2.8	1.2	5.0	0	11.54
Boilers.....	100.0	100.0	15.3	25.8	8.0	8.2	37.2	12.6	18.6	56.7	3.1	10.12
Individual Space Heaters.....	100.0	13.1	28.9	100.0	14.1	6.6	34.6	4.8	4.1	9.5	0	10.27
Packaged Heating Units.....	100.0	6.5	20.9	22.8	100.0	12.2	79.9	8.8	2.9	3.6	0	12.87
Heat Pumps.....	100.0	12.7	23.1	20.3	23.1	100.0	69.6	10.7	3.9	5.6	0	16.41
Air Ducts.....	100.0	13.1	51.9	24.2	34.5	15.8	100.0	11.5	5.7	7.2	1.5	8.05
Heating or Reheating Coils.....	100.0	36.5	18.4	27.6	31.3	20.0	94.4	100.0	25.6	28.3	3.4	10.08
Fan-Coil Units.....	100.0	70.7	10.6	30.7	13.5	9.5	60.6	33.5	100.0	45.8	2.7	13.87
Steam or Hot Water Radiators or Baseboards.....	100.0	80.0	16.3	26.4	6.2	5.0	28.9	13.8	17.0	100.0	2.3	11.33
Other.....	100.0	38.5	Q	15.4	Q	5.0	50.8	14.4	8.8	20.4	100.0	31.52
Wall Materials												
Masonry.....	100.0	21.7	41.9	32.8	23.3	11.5	52.5	6.3	5.6	14.9	1.5	7.01
Siding or Shingles.....	100.0	12.4	47.2	41.5	14.8	10.7	48.6	3.2	2.0	11.6	0	16.32
Metal Panels.....	100.0	7.2	38.9	48.7	21.1	11.8	44.5	4.6	1.9	4.4	0	17.74
Concrete Panels.....	100.0	13.9	35.5	30.8	33.3	16.3	55.5	16.6	7.9	7.9	0	17.73
Window Glass.....	100.0	18.8	Q	29.0	31.0	5.2	54.3	16.7	18.4	15.0	0	33.45
Other.....	100.0	Q	Q	35.6	23.6	Q	63.7	15.1	Q	Q	0	40.05
Roof Materials												
Built-Up.....	100.0	21.5	36.8	33.2	26.6	12.2	53.5	9.1	6.5	14.7	1.6	8.13
Shingles (Not Wood).....	100.0	16.1	50.6	33.9	19.1	10.4	53.0	3.0	3.1	11.7	0	10.49
Metal Surfacing.....	100.0	8.1	39.9	48.1	17.8	11.4	44.4	2.8	2.3	4.6	0	16.09
Synthetic or Rubber.....	100.0	32.3	39.2	27.4	25.1	15.4	60.2	15.6	10.6	22.1	0	14.75
Slate or Tile.....	100.0	29.2	33.8	33.2	19.3	13.2	47.8	6.5	4.4	27.4	0	20.85
Concrete.....	100.0	21.7	Q	31.6	32.9	Q	44.2	9.5	Q	Q	0	35.58
Wooden Materials.....	100.0	Q	47.6	37.3	Q	Q	34.7	Q	Q	Q	0	36.36
Other.....	100.0	Q	Q	46.1	Q	Q	48.4	Q	Q	Q	0	37.64
Building Shell Conservation Features (Solely or in Combination)												
Roof or Ceiling Insulation.....	100.0	17.5	42.2	33.0	24.1	13.4	56.7	7.2	5.0	12.2	1.6	6.85
Wall Insulation.....	100.0	15.5	44.8	32.6	23.1	14.6	58.2	7.5	4.4	11.1	1.6	7.60
Storm or Multiple Glazing.....	100.0	24.9	44.9	33.2	20.2	13.4	55.8	7.3	5.3	19.4	1.5	8.06
Tinted, Reflective, or Shading Glass.....	100.0	18.1	36.1	30.1	35.3	18.0	69.0	10.7	6.2	10.8	2.2	9.23
Exterior or Interior Shadings or Awnings.....	100.0	20.3	40.2	32.3	27.1	14.1	59.6	8.5	5.3	15.1	1.6	8.42
Weather Stripping or Caulking.....	100.0	19.7	42.2	33.2	23.3	14.1	55.4	7.3	5.8	14.6	1.6	7.10
Occupant Control of:												
Heating Only.....	100.0	17.9	43.9	52.3	7.2	4.2	31.9	2.3	4.1	12.9	0	15.31
Cooling Only.....	100.0	49.2	31.0	25.3	20.1	9.1	42.0	7.1	14.3	44.6	0	19.58
Heating and Cooling.....	100.0	12.3	44.6	34.7	25.2	16.0	57.3	5.8	3.0	8.9	.8	8.68
Reduced Use--Off-Hours												
Heating Only.....	100.0	20.7	41.9	49.7	6.2	3.4	30.9	2.4	5.3	15.4	2.6	13.64
Cooling Only.....	100.0	35.9	39.2	35.3	14.2	17.8	43.0	4.6	6.2	26.1	0	18.93
Heating and Cooling.....	100.0	15.9	43.2	32.8	27.0	14.1	57.8	6.6	4.3	10.9	.8	7.64
Climate Zone: 45 Year Average												
Under 2,000 CDD and --												
Over 2,000 HDD.....	100.0	31.1	49.4	41.1	6.5	2.8	48.9	4.6	6.9	24.4	0	15.80
5,500-7,000 HDD.....	100.0	30.0	53.1	31.5	13.6	5.2	46.2	6.7	6.2	25.4	1.9	10.48
4,000-5,499 HDD.....	100.0	19.8	48.8	37.6	11.3	12.9	46.7	6.0	6.1	14.8	1.0	13.59
Under 4,000 HDD.....	100.0	9.1	33.2	38.4	32.3	17.3	56.9	6.3	3.2	2.8	1.3	13.48
2,000 CDD or More and --												
Under 4,000 HDD.....	100.0	6.8	27.0	34.4	38.9	15.7	57.4	6.6	2.6	2.0	0	15.20

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

**Table 84. Heating Equipment, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings		Heating Equipment Used (Solely or in Combination)											RSE Row Factor	
			Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other			
			0.538	0.570	0.853	0.886	0.938	0.961	1.244	0.686	1.212	1.375	1.170	2.878	
All Buildings.....	63,184	57,868	19,907	15,592	22,542	15,598	8,357	37,297	15,693	11,839	15,822	1,476	6.35		
Building Floorspace (Square Feet)															
1,001 to 5,000.....	6,790	5,759	660	2,588	2,101	1,174	580	2,673	151	135	505	0	10.15		
5,001 to 10,000.....	6,532	5,620	1,170	2,561	1,912	1,416	653	3,138	151	158	710	0	13.48		
10,001 to 25,000.....	10,393	9,434	2,327	3,533	3,663	2,199	1,521	5,386	1,015	716	1,767	0	10.68		
25,001 to 50,000.....	8,801	7,994	3,231	2,061	2,786	2,258	1,612	4,489	1,448	1,209	2,255	0	12.17		
50,001 to 100,000.....	9,130	8,420	3,469	2,009	2,478	2,640	1,040	5,952	2,261	1,550	2,476	0	13.45		
100,001 to 200,000.....	8,277	7,902	3,700	1,480	3,552	2,194	1,053	5,761	2,955	2,490	2,432	0	14.84		
200,001 to 500,000.....	7,022	6,763	3,136	1,100	2,927	1,865	768	4,978	3,447	2,263	2,121	0	21.53		
Over 500,000.....	6,239	5,977	2,213	261	3,123	1,851	1,131	4,920	4,266	3,318	3,556	0	24.30		
Principal Building Activity															
Assembly.....	6,838	6,608	2,237	2,339	2,584	1,216	1,144	4,549	1,137	1,503	1,888	0	17.18		
Education.....	8,148	8,088	5,282	1,112	2,140	1,530	720	5,365	3,036	2,907	4,071	0	14.17		
Food Sales.....	792	750	0	277	0	235	0	386	0	0	0	0	0	40.88	
Food Service.....	1,167	1,061	309	436	235	267	0	722	0	0	247	0	27.39		
Health Care.....	2,054	2,028	1,123	208	821	331	433	1,773	1,545	1,381	1,192	0	22.98		
Lodging.....	3,476	3,293	1,412	627	1,200	817	441	2,008	916	976	1,120	0	20.75		
Mercantile and Service.....	12,365	12,040	2,162	5,048	5,142	4,692	1,560	6,923	1,619	656	1,491	0	12.07		
Office.....	11,802	11,683	3,963	1,978	3,571	2,934	2,153	9,091	5,154	2,571	3,449	353	10.55		
Parking Garage.....	983	589	0	0	348	0	0	277	0	0	0	0	0	44.52	
Public Order and Safety.....	616	608	414	0	230	0	0	393	0	0	0	0	0	42.02	
Warehouse.....	9,253	7,296	1,496	2,540	4,039	2,283	999	3,655	733	792	1,095	0	20.82		
Other.....	1,529	1,324	493	304	386	510	0	1,137	699	399	247	0	31.53		
Vacant.....	4,161	2,503	614	449	1,683	740	498	1,018	0	0	554	0	39.79		
Year Constructed															
1899 or Before.....	1,654	1,536	723	532	561	0	0	598	0	0	733	0	28.83		
1900 to 1919.....	4,245	3,674	1,480	742	1,941	753	613	1,284	683	570	1,450	0	31.07		
1920 to 1945.....	8,098	7,489	3,282	1,820	3,139	1,049	531	3,644	1,526	1,216	3,501	0	17.31		
1946 to 1959.....	10,511	9,793	3,603	3,305	3,779	2,069	1,298	6,335	2,672	2,306	3,557	0	15.75		
1960 to 1969.....	12,167	11,183	4,284	3,177	3,839	2,759	1,174	7,663	3,334	2,687	2,796	369	10.66		
1970 to 1979.....	13,329	12,374	3,893	2,926	5,009	4,513	1,817	8,611	3,838	3,204	2,427	203	11.29		
1980 to 1983.....	4,274	3,875	934	962	1,624	1,380	846	2,875	1,127	544	410	0	15.77		
1984 to 1986.....	5,670	5,078	925	1,335	1,616	2,016	1,128	3,922	1,570	650	0	0	17.40		
1987 to 1989.....	3,235	2,868	783	792	1,032	840	651	2,374	876	512	267	0	21.10		
Census Region															
Northeast.....	13,569	12,969	6,499	3,131	5,264	2,356	2,053	6,956	4,029	3,643	7,134	272	14.42		
Midwest.....	15,955	15,067	6,170	5,432	6,237	3,146	2,917	9,484	4,021	3,211	5,161	544	12.04		
South.....	22,040	19,170	4,344	4,653	7,299	6,553	3,224	13,095	4,612	2,747	1,625	319	12.44		
West.....	11,620	10,662	2,894	2,376	3,741	3,543	2,163	7,763	3,031	2,238	1,902	340	13.96		
Metropolitan Status															
Metropolitan.....	50,809	47,145	16,554	11,837	18,051	13,141	7,080	31,950	14,457	10,667	13,379	1,332	7.19		
Nonmetropolitan.....	12,375	10,723	3,353	3,755	4,491	2,458	1,277	5,348	1,236	1,172	2,442	0	14.77		
Workers															
Fewer than 5.....	13,292	10,858	1,897	3,994	4,815	1,786	959	4,842	484	546	1,506	0	12.08		
5 to 9.....	7,939	7,484	1,635	3,074	3,207	1,748	868	3,760	409	0	1,220	0	15.83		
10 to 19.....	6,445	6,151	1,759	2,327	2,317	1,579	987	3,411	394	400	1,106	0	14.81		
20 to 49.....	9,665	9,424	3,480	2,666	3,577	3,004	1,988	6,228	1,702	1,842	2,701	0	13.83		
50 to 99.....	7,389	7,232	3,493	1,234	2,087	2,103	1,041	4,928	2,191	1,702	2,467	0	14.08		
100 to 249.....	6,771	6,695	3,197	1,564	2,381	2,468	865	5,231	2,788	2,088	2,450	0	14.34		
250 or More.....	9,829	9,750	4,340	691	4,075	2,854	1,589	8,741	7,664	4,740	4,274	0	18.20		
Weekly Operating Hours															
39 or Fewer.....	6,073	4,042	1,196	1,599	1,377	890	440	2,333	353	409	959	0	17.53		
40 to 48.....	13,905	13,031	4,486	3,357	5,392	3,643	2,047	7,692	2,992	2,604	3,198	0	11.82		
49 to 60.....	13,473	12,884	4,026	3,946	4,825	3,647	1,706	8,163	2,784	2,026	2,952	293	12.00		
61 to 84.....	10,777	10,140	3,468	2,588	3,759	3,392	1,559	7,463	3,520	1,930	2,881	258	13.12		
85 to 167.....	9,387	8,714	3,034	2,682	4,092	1,864	1,033	5,436	2,222	1,565	2,553	0	17.86		
168 (Open Continuously).....	9,569	8,758	3,698	1,420	3,097	2,163	1,572	6,211	3,822	3,305	3,280	0	13.72		
Energy Sources (Solely or in Combination)															
Electricity.....	61,587	57,834	19,880	15,592	22,537	15,598	8,357	37,270	15,687	11,839	15,795	1,476	6.36		
Natural Gas.....	41,593	41,242	16,332	12,602	16,394	12,153	4,951	27,447	11,667	9,885	12,455	1,106	7.61		
Fuel Oil.....	12,684	12,577	8,333	2,803	4,719	1,894	1,516	8,166	5,218	4,434	6,528	0	10.84		
District Heat.....	6,856	6,840	770	0	2,365	634	598	5,842	4,780	3,228	4,015	0	25.00		
District Chilled Water.....	2,101	2,094	502	0	628	0	0	1,784	1,492	1,259	744	0	30.01		
Propane.....	4,695	4,549	1,561	1,406	2,302	1,241	471	3,086	1,481	966	1,642	0	24.78		
Any Other.....	1,542	1,541	787	336	770	Q	Q	726	Q	Q	340	0	34.36		
Energy End Uses (Solely or in Combination)															
Heated Buildings.....	57,868	57,868	19,907	15,592	22,542	15,598	8,357	37,297	15,693	11,839	15,822	1,476	6.39		
Air-Conditioned Buildings.....	51,771	50,512	17,120	13,492	19,228	15,286	8,023	34,871	15,031	10,976	13,304	1,307	6.79		
Buildings with Water Heating.....	53,585	52,469	19,049	14,006	20,021	14,407	7,849	34,969	15,278	11,672	15,392	1,412	6.64		
Buildings with Cooking.....	23,668	23,085	9,893	4,738	8,336	6,688	3,494	17,026	9,758	7,260	8,673	795	9.74		
Buildings with Manufacturing.....	5,601	5,270	1,813	1,583	2,763	1,493	899	3,455	2,132	1,265	1,759	0	24.72		

See footnotes at end of table.

END USE EQUIPMENT
Table 84. Heating Equipment, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Heating Equipment Used (Solely or in Combination)										RSE Row Factor
			Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other	
	RSE Column Factor:	0.538	0.570	0.853	0.886	0.938	0.961	1.244	0.686	1.212	1.375	1.170	2.878
Primary Space-Heating Fuel													
Electricity.....	13,450	13,450	1,371	2,378	5,448	5,636	3,886	8,926	3,328	845	354	329	12.37
Natural Gas.....	31,402	31,402	13,750	11,064	12,486	9,025	3,651	20,456	7,188	7,414	8,674	969	8.63
Fuel Oil.....	5,598	5,598	3,708	1,770	1,817	379	317	2,439	986	874	3,023	0	16.83
District Heat.....	6,168	6,168	668	0	2,051	529	535	5,243	4,273	2,805	3,619	170	25.28
Propane.....	1,230	1,230	0	467	608	219	0	636	0	Q	Q	NC	34.17
Any Other.....	766	766	379	Q	400	Q	Q	Q	Q	Q	Q	NC	53.13
Percent Heated													
Not Heated.....	5,419	--	--	--	--	--	--	--	--	--	--	--	43.02
1 to 50.....	9,314	9,314	1,557	3,228	5,014	2,159	1,190	4,585	586	648	920	0	19.06
51 to 99.....	8,673	8,673	3,178	2,284	3,608	2,448	1,416	6,313	2,863	1,855	1,946	153	14.16
100.....	39,777	39,777	15,163	10,080	13,920	10,992	5,751	26,399	12,244	9,337	12,957	1,199	7.13
Heating Equipment (Solely or in Combination)													
Furnaces.....	15,592	15,592	2,469	15,592	5,711	3,525	1,611	10,980	1,914	944	1,733	0	11.72
Boilers.....	19,907	19,907	19,907	2,469	6,076	3,236	2,838	12,473	1,384	7,456	11,168	451	8.72
Individual Space Heaters.....	22,542	22,542	6,076	5,711	22,542	5,610	3,007	12,803	6,119	5,120	5,722	0	11.10
Packaged Heating Units.....	15,598	15,598	3,236	3,525	5,610	15,598	2,335	12,742	4,568	2,438	2,371	0	11.42
Heat Pumps.....	8,357	8,357	2,838	1,611	3,007	2,335	8,357	5,994	2,567	2,299	2,015	0	14.03
Air Ducts.....	37,297	37,297	12,473	10,980	12,803	12,742	5,994	37,297	13,076	9,645	9,597	1,178	7.39
Heating or Reheating Coils.....	15,693	15,693	7,384	1,914	6,119	4,568	2,567	15,076	15,693	7,609	7,003	819	12.16
Fan-Coil Units.....	11,839	11,839	7,456	944	5,120	2,438	2,299	9,645	7,609	11,839	6,475	0	14.54
Steam or Hot Water Radiators or Baseboards.....	15,822	15,822	11,168	1,733	5,722	2,371	2,015	9,597	7,003	6,475	15,822	0	13.50
Other.....	1,476	1,476	451	Q	Q	Q	Q	1,178	819	Q	1,476	0	37.69
Wall Materials													
Masonry.....	42,074	39,608	15,276	10,852	14,859	10,451	5,685	25,221	9,878	7,742	11,942	1,140	6.98
Siding or Shingles.....	4,788	4,124	997	1,653	1,942	744	426	2,156	270	0	933	0	21.01
Metal Panels.....	5,589	4,588	927	1,555	2,195	1,460	766	2,699	834	760	518	0	18.18
Concrete Panels.....	7,221	6,300	1,805	1,261	2,854	2,276	1,059	4,603	2,786	2,299	1,438	0	20.22
Window Glass.....	1,924	1,812	532	Q	389	370	192	1,415	1,057	514	Q	0	29.71
Other.....	1,487	1,437	370	Q	303	297	Q	1,202	857	153	351	0	36.49
Roof Materials													
Built-Up.....	31,057	29,323	10,901	6,766	11,475	9,351	4,084	19,534	9,658	7,118	8,354	839	8.06
Shingles (Not Wood).....	10,917	9,841	2,972	3,940	3,536	2,029	1,523	5,743	758	1,035	2,614	0	13.89
Metal Surfacing.....	8,197	6,582	1,084	2,515	3,106	1,735	1,013	3,707	635	738	802	0	18.23
Synthetic or Rubber.....	6,911	6,828	3,092	1,459	2,555	1,720	1,051	5,084	2,971	1,939	1,989	0	14.90
Slate or Tile.....	2,582	2,500	1,166	410	816	260	251	1,243	286	0	875	0	25.36
Concrete.....	1,932	1,355	476	0	335	280	0	1,068	849	208	0	0	34.33
Wooden Materials.....	727	621	Q	293	278	Q	Q	344	574	Q	Q	0	32.51
Other.....	860	819	Q	Q	Q	Q	Q	Q	Q	Q	Q	0	46.98
Building Shell Conservation Features (Solely or in Combination)													
Roof or Ceiling Insulation.....	45,092	43,220	15,124	11,833	16,023	12,463	6,351	30,046	12,983	9,398	11,156	1,326	7.38
Wall Insulation.....	29,592	28,840	9,211	8,875	10,898	8,503	4,480	20,918	8,430	6,165	6,580	957	8.67
Storm or Multiple Glazing.....	24,068	23,717	10,105	7,049	9,292	6,110	3,653	16,575	7,688	5,523	7,322	880	8.46
Tinted, Reflective, or Shading Glass.....	22,040	21,461	7,333	4,725	8,188	7,678	3,787	17,474	9,455	6,205	5,520	981	9.73
Exterior or Interior Shadings or Awnings.....	26,173	25,586	9,959	5,762	9,184	7,267	4,463	18,661	9,093	6,722	8,621	886	9.17
Weather Stripping or Caulking.....	44,694	43,250	15,654	11,602	16,356	12,030	6,958	30,333	13,585	10,691	12,881	1,182	7.14
Occupant Control of:													
Heating Only.....	4,872	4,872	1,661	1,533	2,324	500	437	1,969	599	643	1,373	0	15.19
Cooling Only.....	4,143	3,629	2,166	608	1,222	751	434	1,959	1,008	1,003	2,020	0	17.47
Heating and Cooling.....	22,172	22,172	5,318	6,949	9,381	7,103	4,100	14,257	4,822	3,777	4,659	543	10.71
Reduced Use--Off-Hours													
Heating Only.....	7,147	7,147	2,733	2,141	3,274	529	398	2,836	781	894	2,216	140	12.50
Cooling Only.....	4,112	3,047	1,130	776	1,432	525	0	1,809	738	787	1,330	0	24.54
Heating and Cooling.....	38,689	38,689	13,030	10,535	14,791	11,988	5,881	26,405	11,484	8,176	10,208	948	7.55
Climate Zone: 45 Year Average													
Under 2,000 CDD and --													
Over 7,000 HDD.....	5,062	4,785	2,354	1,653	1,752	798	406	2,974	1,101	838	2,157	0	17.01
5,500-7,000 HDD.....	17,957	17,044	7,604	5,732	6,858	3,362	1,384	10,020	4,903	3,981	7,182	532	12.95
4,000-5,499 HDD.....	15,385	14,408	5,577	3,316	6,551	2,789	2,484	8,767	4,531	3,884	5,359	0	16.28
Under 4,000 HDD.....	12,903	11,826	2,660	2,703	4,160	4,449	2,222	8,603	3,509	1,994	759	224	16.85
2,000 CDD or More and --													
Under 4,000 HDD.....	11,877	9,805	1,712	2,188	3,221	4,202	1,862	6,932	1,648	1,143	365	0	19.70

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
Table 85. Heating Equipment, Percent of Floorspace

Building Characteristics	Total Floorspace of All Heated Buildings	Heating Equipment Used (Solely or in Combination)										RSE Row Factor
		Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other	
		RSE Column Factor:	--	0.760	0.897	0.731	0.944	1.247	0.421	1.006	1.287	1.019
All Buildings.....	100.0	34.4	26.9	39.0	27.0	14.4	64.5	27.1	20.5	27.3	2.6	6.29
Building Floorspace (Square Feet)												
1,001 to 5,000.....	100.0	11.5	44.9	36.5	20.4	10.1	46.4	2.6	2.3	8.8	0	10.50
5,001 to 10,000.....	100.0	20.8	45.6	34.0	25.2	11.6	55.8	2.7	2.8	12.6	0	13.19
10,001 to 25,000.....	100.0	24.7	37.4	38.8	23.3	16.1	57.1	10.8	7.6	18.7	0	9.97
25,001 to 50,000.....	100.0	40.4	25.8	34.9	28.2	20.2	56.2	18.1	15.1	28.2	0	11.57
50,001 to 100,000.....	100.0	41.2	23.9	29.4	31.4	12.3	70.7	26.9	18.4	29.4	0	11.92
100,001 to 200,000.....	100.0	46.8	18.7	45.0	27.8	13.3	72.9	37.4	31.5	30.8	0	13.66
200,001 to 500,000.....	100.0	46.4	16.3	43.3	27.6	11.4	73.6	51.0	33.5	31.4	0	18.74
Over 500,000.....	100.0	37.0	4.4	52.2	31.0	18.9	82.3	71.4	55.5	59.5	0	18.51
Principal Building Activity												
Assembly.....	100.0	33.8	35.4	39.1	18.4	17.3	68.8	17.2	22.7	28.6	0	16.17
Education.....	100.0	65.3	13.7	26.5	18.9	8.9	66.3	37.5	35.9	50.3	0	13.43
Food Sales.....	100.0	Q	36.9	Q	31.3	Q	51.5	Q	Q	Q	0	41.22
Food Service.....	100.0	29.1	41.1	22.2	25.2	Q	68.1	Q	Q	23.3	0	27.87
Health Care.....	100.0	55.3	10.3	40.5	16.3	21.3	87.4	76.2	68.1	58.8	0	15.20
Lodging.....	100.0	42.9	19.0	36.4	24.8	13.4	61.0	27.8	29.6	34.0	0	21.32
Mercantile and Service.....	100.0	18.0	41.9	42.7	39.0	13.0	57.5	13.4	5.5	12.4	0	12.32
Office.....	100.0	33.9	16.9	30.6	25.1	18.4	77.8	44.1	22.0	29.5	3.0	10.36
Parking Garage.....	100.0	Q	Q	59.0	Q	Q	47.1	Q	Q	Q	0	45.04
Public Order and Safety.....	100.0	68.1	Q	37.8	Q	Q	64.6	Q	Q	Q	NC	38.90
Warehouse.....	100.0	20.5	34.8	55.4	31.3	13.7	50.1	10.0	10.9	15.0	0	17.36
Other.....	100.0	37.2	23.0	29.2	38.5	Q	85.9	52.8	30.1	18.7	0	22.69
Vacant.....	100.0	24.5	17.9	67.2	29.6	19.9	40.7	14.7	Q	22.2	0	25.41
Year Constructed												
1899 or Before.....	100.0	47.1	34.6	36.6	0	0	38.4	0	Q	47.7	0	27.90
1900 to 1919.....	100.0	40.3	20.2	52.8	20.5	16.7	34.9	18.6	15.5	39.5	0	23.35
1920 to 1945.....	100.0	43.8	24.3	41.9	14.0	7.1	48.7	20.4	16.2	46.7	0	15.90
1946 to 1959.....	100.0	36.8	33.8	38.6	21.1	13.3	64.7	27.3	23.5	36.3	0	14.83
1960 to 1969.....	100.0	38.3	26.4	34.3	24.7	10.5	68.5	29.8	24.0	25.0	3.3	10.24
1970 to 1979.....	100.0	31.5	23.6	40.5	36.5	14.7	69.6	31.0	25.9	19.6	1.6	10.81
1980 to 1983.....	100.0	24.1	24.8	41.9	35.6	21.8	74.2	29.1	14.0	10.6	0	14.82
1984 to 1986.....	100.0	18.2	26.3	31.8	39.7	22.2	77.2	30.9	12.8	Q	0	18.76
1987 to 1989.....	100.0	27.3	27.6	36.0	29.3	22.7	82.8	30.6	17.8	9.3	0	16.97
Census Region												
Northeast.....	100.0	50.1	24.1	40.6	18.2	15.8	53.6	31.1	28.1	55.0	2.1	12.64
Midwest.....	100.0	41.0	36.1	41.4	20.9	6.1	62.9	26.7	21.3	34.3	3.6	11.45
South.....	100.0	22.7	24.3	38.1	34.2	16.8	68.3	24.1	14.3	8.5	1.7	10.72
West.....	100.0	27.1	22.3	35.1	33.2	20.3	72.8	28.4	21.0	17.8	3.2	14.51
Metropolitan Status												
Metropolitan.....	100.0	35.1	25.1	38.3	27.9	15.0	67.8	30.7	22.6	28.4	2.8	6.86
Nonmetropolitan.....	100.0	31.3	35.0	41.9	22.9	11.9	49.9	11.5	10.9	22.8	0	14.48
Workers												
Fewer than 5.....	100.0	17.5	36.8	44.3	16.5	8.8	44.6	4.5	5.0	13.9	0	13.83
5 to 9.....	100.0	21.8	41.1	42.8	23.4	11.6	50.2	5.5	Q	16.3	0	16.70
10 to 19.....	100.0	28.6	37.8	37.7	25.7	16.0	55.5	6.4	6.5	18.0	0	14.03
20 to 49.....	100.0	36.9	28.3	38.0	31.9	21.1	66.1	18.1	19.5	28.7	0	12.84
50 to 99.....	100.0	48.3	17.1	28.9	29.1	14.4	68.1	30.3	23.5	34.1	0	12.91
100 to 249.....	100.0	47.8	23.4	35.6	36.9	12.9	78.1	41.6	31.2	36.6	5.3	12.99
250 or More.....	100.0	44.5	7.1	41.8	29.3	16.3	89.7	78.6	48.6	43.8	5.3	12.35
Weekly Operating Hours												
39 or Fewer.....	100.0	29.6	39.6	34.1	22.0	10.9	57.7	8.7	10.1	23.7	0	17.96
40 to 48.....	100.0	34.4	25.8	41.4	28.0	15.7	59.0	23.0	20.0	24.5	0	11.10
49 to 60.....	100.0	31.2	30.6	37.4	28.3	13.2	63.4	21.6	15.7	22.9	2.3	11.34
61 to 84.....	100.0	33.2	24.8	36.0	32.5	14.9	71.5	33.7	18.5	27.6	2.5	13.41
85 to 167.....	100.0	34.8	30.8	47.0	21.4	11.9	62.4	25.5	18.0	29.3	0	17.04
168 (Open Continuously).....	100.0	42.2	16.2	35.4	24.7	17.9	70.9	43.6	37.7	37.4	0	12.09
Energy Sources (Solely or in Combination)												
Electricity.....	100.0	34.4	27.0	39.0	27.0	14.5	64.4	27.1	20.5	27.3	2.6	6.29
Natural Gas.....	100.0	39.6	30.6	39.8	29.5	12.0	66.6	28.3	24.0	30.2	2.7	7.24
Fuel Oil.....	100.0	66.3	22.3	37.5	15.1	12.1	64.9	41.5	35.3	51.9	4.7	9.51
District Heat.....	100.0	11.3	Q	34.6	9.3	8.7	85.4	69.9	47.2	58.7	0	17.11
District Chilled Water.....	100.0	24.0	Q	30.0	Q	Q	85.2	71.2	60.1	35.5	0	27.55
Propane.....	100.0	34.3	30.9	50.6	27.3	10.4	67.9	32.6	21.2	36.1	0	20.67
Any Other.....	100.0	51.1	21.8	50.0	Q	Q	47.1	Q	Q	22.1	0	34.33
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	100.0	34.4	26.9	39.0	27.0	14.4	64.5	27.1	20.5	27.3	2.6	6.29
Air-Conditioned Buildings.....	100.0	33.9	26.7	38.1	30.3	15.9	69.0	29.8	21.7	26.3	2.6	6.71
Buildings with Water Heating.....	100.0	36.3	26.7	38.2	27.5	15.0	66.6	29.1	22.2	29.3	2.7	6.48
Buildings with Cooking.....	100.0	42.9	20.5	36.1	29.0	15.1	73.8	42.3	31.4	37.6	3.4	9.76
Buildings with Manufacturing.....	100.0	34.4	30.0	52.4	28.3	17.1	65.6	40.5	24.0	33.4	0	20.72

See footnotes at end of table.

Table 85. Heating Equipment, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Heated Buildings	Heating Equipment Used (Solely or in Combination)										RSE Row Factor
		Boilers	Furnaces	Individual Space Heaters	Packaged Heating Units	Heat Pumps	Air Ducts	Heating or Reheating Coils	Fan-Coil Units	Steam or Hot Water Baseboards or Radiators	Other	
		RSE Column Factor:	--	0.760	0.897	0.731	0.944	1.247	0.421	1.006	1.287	1.019
Primary Space-Heating Fuel												
Electricity.....	100.0	10.2	17.7	40.5	41.9	28.9	66.4	24.7	6.3	2.6	2.4	12.71
Natural Gas.....	100.0	43.8	35.2	39.8	28.7	11.6	65.1	22.9	23.6	27.6	3.1	7.72
Fuel Oil.....	100.0	66.2	31.6	32.5	6.8	5.7	43.6	17.6	15.6	54.0	Q	15.96
District Heat.....	100.0	10.8	Q	33.3	8.6	8.7	85.0	69.3	45.5	58.7	2.8	17.15
Propane.....	100.0	Q	37.9	49.4	17.8	Q	51.7	Q	Q	Q	NC	34.17
Any Other.....	100.0	49.5	Q	52.2	Q	Q	Q	Q	Q	Q	NC	50.07
Percent Heated												
Not Heated.....	100.0	16.7	34.7	53.8	23.2	12.8	49.2	6.3	7.0	9.9	Q	19.87
1 to 50.....	100.0	36.6	26.3	41.6	28.2	16.3	72.8	33.0	21.4	22.4	1.8	12.19
51 to 99.....	100.0	38.1	25.3	35.0	27.6	14.5	66.4	30.8	23.5	32.6	3.0	6.86
Heating Equipment (Solely or in Combination)												
Furnaces.....	100.0	15.8	100.0	36.6	22.6	10.3	70.4	12.3	6.1	11.1	Q	12.78
Boilers.....	100.0	100.0	12.4	30.5	16.3	14.3	62.7	37.1	37.5	56.1	2.3	8.43
Individual Space Heaters.....	100.0	27.0	25.3	100.0	24.9	13.3	56.8	27.1	22.7	25.4	Q	10.87
Packaged Heating Units.....	100.0	20.7	22.6	36.0	100.0	15.0	81.7	29.3	15.6	15.2	Q	12.16
Heat Pumps.....	100.0	34.0	19.3	36.0	27.9	100.0	71.7	30.7	27.5	24.1	Q	14.60
Air Ducts.....	100.0	33.4	29.4	34.3	34.2	16.1	100.0	40.4	25.9	25.7	3.2	7.20
Heating or Reheating Coils.....	100.0	47.1	12.2	39.0	29.1	16.4	96.1	100.0	48.5	44.6	5.2	9.36
Fan-Coil Units.....	100.0	63.0	8.0	43.2	20.6	19.4	81.5	64.3	100.0	54.7	Q	12.74
Steam or Hot Water Radiators or Baseboards.....	100.0	70.6	11.0	36.2	15.0	12.7	60.7	44.3	40.9	100.0	3.8	12.77
Other.....	100.0	30.6	Q	37.7	Q	Q	79.8	55.5	31.2	41.3	100.0	31.66
Wall Materials												
Masonry.....	100.0	38.6	27.4	37.5	26.4	14.4	63.7	24.9	19.5	30.2	2.9	6.86
Siding or Shingles.....	100.0	24.2	40.1	47.1	18.1	10.3	52.3	6.5	Q	22.6	Q	22.67
Metal Panels.....	100.0	20.2	33.9	47.8	31.8	16.7	58.8	18.2	16.6	11.3	Q	17.00
Concrete Panels.....	100.0	28.7	20.0	45.3	36.1	16.8	73.1	44.2	35.4	22.8	Q	17.67
Window Glass.....	100.0	29.3	Q	21.4	20.4	10.6	78.1	58.9	28.4	33.3	Q	31.99
Other.....	100.0	25.8	Q	21.1	20.7	Q	83.7	59.7	10.6	24.4	Q	31.24
Roof Materials												
Built-Up.....	100.0	37.2	23.1	39.1	31.9	13.9	66.6	32.9	24.3	28.5	2.9	7.75
Shingles (Not Wood).....	100.0	30.2	40.0	35.9	20.6	15.5	58.4	7.7	10.5	26.6	Q	12.86
Metal Surfacing.....	100.0	16.5	38.2	47.2	26.4	15.4	56.3	9.6	11.2	12.2	Q	18.92
Synthetic or Rubber.....	100.0	45.3	21.4	37.4	25.2	15.4	74.5	43.5	28.4	29.1	Q	13.28
Slate or Tile.....	100.0	46.7	16.4	32.6	10.4	10.1	49.7	11.4	15.3	35.0	Q	26.76
Concrete.....	100.0	35.2	Q	47.2	Q	Q	78.9	62.7	Q	Q	Q	39.18
Wooden Materials.....	100.0	Q	Q	53.8	Q	Q	70.1	Q	Q	Q	NC	35.03
Other.....	100.0	Q	Q	Q	Q	Q	Q	Q	Q	Q	Q	34.74
Building Shell Conservation Features (Solely or in Combination)												
Roof or Ceiling Insulation.....	100.0	35.0	27.4	37.1	28.8	14.7	69.5	30.0	21.7	25.8	3.1	6.65
Wall Insulation.....	100.0	31.9	30.8	37.8	29.5	15.5	72.5	29.2	21.4	22.8	3.3	8.11
Storm or Multiple Glazing.....	100.0	42.6	29.7	39.2	25.8	15.4	69.8	32.4	23.3	30.9	3.7	7.36
Tinted, Reflective, or Shading Glass.....	100.0	34.2	22.0	38.2	35.8	17.6	81.4	44.1	28.9	25.7	4.6	8.50
Exterior of Interior Shadings or Awnings.....	100.0	38.9	22.5	35.9	28.4	17.4	72.9	35.5	26.3	33.7	3.5	8.44
Weather Stripping or Caulking.....	100.0	36.2	26.8	37.8	27.8	16.1	70.1	31.4	24.7	29.8	2.7	6.90
Occupant Control of:												
Heating Only.....	100.0	34.1	31.5	47.7	10.3	9.0	40.4	12.3	13.2	28.2	Q	14.33
Cooling Only.....	100.0	59.7	16.8	33.7	20.7	12.0	54.0	27.8	27.6	55.7	Q	17.46
Heating and Cooling.....	100.0	24.0	31.3	42.3	32.0	18.5	64.3	21.7	17.0	21.0	2.4	10.14
Reduced Use-Off-Hours												
Heating Only.....	100.0	38.2	30.0	45.8	7.4	5.6	39.7	10.9	12.5	31.0	2.0	12.28
Cooling Only.....	100.0	37.1	25.5	47.0	17.2	21.9	59.4	24.2	25.8	43.6	Q	22.28
Heating and Cooling.....	100.0	33.7	27.2	38.2	31.0	15.2	68.2	29.7	21.1	26.4	2.5	7.47
Climate Zone: 45 Year Average												
Under 2,000 CDD and -- Over 7,000 HDD.....	100.0	49.2	34.5	36.6	16.7	8.5	62.2	23.0	17.5	45.1	Q	13.36
5,500-7,000 HDD.....	100.0	44.6	33.6	40.2	19.7	8.1	58.8	28.8	23.4	42.1	3.1	10.84
4,000-5,499 HDD.....	100.0	36.7	23.0	45.5	19.4	17.2	60.9	31.4	27.0	37.2	Q	13.63
Under 4,000 HDD.....	100.0	22.5	22.9	35.2	37.6	18.8	72.7	29.7	16.9	6.4	1.9	12.94
2,000 CDD or More and -- Under 4,000 HDD.....	100.0	17.5	22.3	32.9	42.9	19.0	70.7	16.8	11.7	3.7	Q	15.17

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.
Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

**Table 86. Cooling Equipment, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Cooled Buildings	Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
			Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	0.512	0.571	1.179	0.894	0.690	1.349	0.758	1.383	3.329
All Buildings.....	4,528	3,184	201	1,074	1,980	437	1,712	110	100	6.97
Building Floorspace (Square Feet)										
1,001 to 5,000.....	2,529	1,652	54	547	970	196	792	0	60	11.12
5,001 to 10,000.....	890	647	24	223	429	84	373	0	21	12.34
10,001 to 25,000.....	644	494	31	158	322	90	297	20	0	12.76
25,001 to 50,000.....	247	205	33	78	127	40	117	22	0	13.02
50,001 to 100,000.....	127	108	25	37	77	15	73	14	0	13.60
100,001 to 200,000.....	61	50	16	19	38	8	39	17	0	15.48
200,001 to 500,000.....	23	22	13	10	14	3	16	9	0	21.18
Over 500,000.....	7	7	5	3	4	1	5	4	0	20.20
Principal Building Activity										
Assembly.....	615	432	22	150	275	74	258	16	0	15.01
Education.....	284	211	26	87	114	23	123	24	0	16.24
Food Sales.....	102	85	0	0	57	0	52	0	0	34.29
Food Service.....	241	215	0	54	154	0	122	0	0	21.13
Health Care.....	80	77	8	23	46	18	44	7	0	21.71
Lodging.....	140	113	14	69	46	13	53	11	0	18.50
Mercantile and Service.....	1,278	929	34	355	562	93	431	13	29	11.43
Office.....	679	655	54	129	460	116	417	29	0	12.05
Parking Garage.....	45	17	0	0	0	0	0	0	0	50.97
Public Order and Safety.....	50	31	0	0	18	0	18	0	0	38.53
Warehouse.....	618	264	5	98	159	51	109	0	0	22.24
Other.....	62	44	6	17	23	0	21	4	0	32.79
Vacant.....	333	110	12	42	63	0	59	0	0	25.90
Year Constructed										
1899 or Before.....	172	115	0	50	57	0	59	0	0	31.40
1900 to 1919.....	242	137	7	61	86	12	64	0	0	25.62
1920 to 1945.....	680	441	23	236	225	34	179	13	0	14.03
1946 to 1959.....	868	572	34	246	345	53	272	17	23	13.82
1960 to 1969.....	821	585	52	182	382	63	319	29	0	11.55
1970 to 1979.....	884	666	38	171	447	92	399	22	30	11.67
1980 to 1983.....	317	243	14	60	162	48	145	9	0	18.45
1984 to 1986.....	329	264	14	45	169	69	169	12	0	17.55
1987 to 1989.....	215	159	6	22	108	46	106	4	0	21.53
Census Region										
Northeast.....	783	476	32	247	243	51	189	16	0	16.36
Midwest.....	1,046	706	56	239	489	24	372	23	0	13.54
South.....	1,847	1,427	70	451	897	239	802	44	0	11.26
West.....	851	576	43	138	351	123	349	27	65	15.02
Metropolitan Status										
Metropolitan.....	3,073	2,261	165	691	1,471	321	1,259	92	77	7.89
Nonmetropolitan.....	1,454	923	36	383	510	116	453	17	0	17.49
Workers										
Fewer than 5.....	2,280	1,400	39	563	761	160	611	23	59	10.90
5 to 9.....	906	764	40	222	504	107	447	0	23	11.59
10 to 19.....	507	446	17	125	310	74	272	9	0	15.10
20 to 49.....	381	340	37	102	241	56	220	26	0	12.50
50 to 99.....	132	117	22	31	81	22	75	16	0	12.95
100 to 249.....	79	73	25	23	52	12	53	15	0	14.05
250 or More.....	32	31	20	8	20	6	26	17	0	16.66
Weekly Operating Hours										
39 or Fewer.....	876	394	17	126	235	57	214	0	0	18.92
40 to 48.....	1,117	846	49	271	543	130	451	26	15	11.76
49 to 60.....	987	753	47	261	443	107	384	16	0	11.88
61 to 84.....	625	484	25	157	317	56	264	20	0	11.58
85 to 167.....	515	403	26	135	279	45	228	13	0	12.82
168 (Open Continuously).....	408	304	38	125	164	41	171	28	0	11.55
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	3,184	201	1,074	1,980	437	1,712	110	100	6.97
Natural Gas.....	2,439	1,983	140	671	1,375	147	1,097	75	66	8.26
Fuel Oil.....	586	374	40	220	173	29	150	28	0	17.64
District Heat.....	105	77	19	34	37	6	55	23	0	23.55
District Chilled Water.....	25	25	7	5	5	0	18	15	0	26.26
Propane.....	348	248	7	112	125	40	130	5	0	21.64
Any Other.....	130	50	7	29	19	Q	19	Q	NC	38.02
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	3,062	189	1,035	1,911	427	1,675	105	96	7.21
Air-Conditioned Buildings.....	3,184	3,184	201	1,074	1,980	437	1,712	110	100	7.11
Buildings with Water Heating.....	3,184	2,639	177	859	1,712	363	1,490	103	71	7.26
Buildings with Cooking.....	864	710	69	247	495	89	423	44	13	9.51
Buildings with Manufacturing.....	205	153	8	74	89	21	71	5	Q	22.62

See footnotes at end of table.

Table 86. Cooling Equipment, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Cooled Buildings	Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
			Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	0.512	0.571	1.179	0.894	0.690	1.349	0.758	1.383	3.329
Cooling Energy Sources (Solely or in Combination)										
Electricity.....	3,074	3,074	183	1,052	1,906	423	1,642	96	98	7.45
Natural Gas.....	98	98	12	26	79	11	59	3	0	14.26
District Chilled Water.....	25	25	7	5	5	Q	18	15	Q	20.26
Percent Cooled										
Not Cooled.....	1,344	--	--	--	--	--	--	--	--	9.59
1 to 50.....	1,037	1,037	33	545	518	103	388	11	0	11.91
51 to 99.....	597	597	55	208	385	99	344	34	17	10.40
100.....	1,550	1,550	112	322	1,077	235	979	65	69	9.69
Cooling Equipment (Solely or in Combination)										
Central Chillers.....	201	201	201	42	66	25	146	67	0	11.51
Individual Air Conditioners.....	1,074	1,074	42	1,074	332	60	280	29	0	10.92
Packaged Cooling Units.....	1,980	1,980	66	332	1,980	154	1,372	50	26	8.75
Heat Pumps.....	437	437	25	60	154	437	302	13	0	17.35
Air Ducts.....	1,712	1,712	146	280	1,372	302	1,712	93	52	9.12
Fan-Coil Units.....	110	110	67	29	50	13	93	110	0	12.57
Other.....	100	100	Q	Q	26	Q	52	Q	100	40.89
Wall Materials										
Masonry.....	2,849	2,149	142	710	1,367	280	1,181	85	71	7.86
Siding or Shingles.....	802	483	12	197	256	74	243	0	0	15.29
Metal Panels.....	557	298	8	101	189	43	164	3	0	19.91
Concrete Panels.....	240	195	25	51	134	31	88	10	0	21.54
Window Glass.....	33	23	7	5	14	1	13	5	0	30.07
Other.....	46	36	7	Q	20	Q	24	2	Q	34.63
Roof Materials										
Built-Up.....	1,614	1,226	108	372	787	168	661	64	32	9.08
Shingles (Not Wood).....	1,392	995	38	362	594	129	527	14	33	12.12
Metal Surfacing.....	901	494	14	179	285	74	263	7	0	16.62
Synthetic or Rubber.....	211	180	22	66	128	23	113	12	0	15.90
Slate or Tile.....	193	141	6	47	94	23	84	7	0	22.35
Concrete.....	72	52	3	0	32	7	15	1	0	43.72
Wooden Materials.....	106	67	0	26	41	Q	28	0	Q	29.66
Other.....	38	28	Q	Q	19	Q	19	Q	Q	42.67
Building Shell Conservation Features (Solely or in Combination)										
Roof or Ceiling Insulation....	3,057	2,423	156	744	1,566	366	1,407	95	68	7.66
Wall Insulation.....	2,026	1,547	101	455	1,071	279	980	50	44	8.91
Storm or Multiple Glazing.....	1,440	1,196	83	370	790	177	670	47	21	8.10
Tinted, Reflective, or Shading Glass.....	944	855	81	160	615	160	580	54	0	9.45
Exterior or Interior Shadings or Awnings.....	1,473	1,278	100	405	838	178	751	54	29	8.53
Weather Stripping or Caulking.....	2,774	2,192	152	679	1,407	338	1,256	86	59	7.61
Occupant Control of:										
Heating Only.....	626	134	7	58	78	0	59	4	0	22.85
Cooling Only.....	204	204	10	124	94	17	76	4	0	23.17
Heating and Cooling.....	1,773	1,773	81	607	1,082	270	943	48	58	9.43
Reduced Use--Off-Hours										
Heating Only.....	790	128	4	48	75	14	59	0	0	20.45
Cooling Only.....	283	283	15	127	138	34	101	10	0	20.61
Heating and Cooling.....	2,397	2,397	148	809	1,509	332	1,306	77	79	8.10
Climate Zone: 45 Year Average										
Under 2,000 CDD and --										
Over 7,000 HDD.....	357	200	13	89	124	5	109	6	0	22.85
5,500-7,000 HDD.....	1,120	711	59	270	450	41	322	23	0	14.71
4,000-5,499 HDD.....	965	656	43	260	361	117	337	23	0	22.04
Under 4,000 HDD.....	1,024	757	38	211	478	151	461	22	0	18.90
2,000 CDD or More and --										
Under 4,000 HDD.....	1,063	860	48	245	567	122	483	35	57	17.06

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

Table 87. Cooling Equipment, Percent of Buildings

Building Characteristics	All Cooled Buildings	Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
		Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	--	1.226	0.638	0.392	1.263	0.499	1.485	3.486
All Buildings.....	100.0	6.3	33.7	62.2	13.7	53.8	3.5	3.1	6.85
Building Floorspace (Square Feet)									
1,001 to 5,000.....	100.0	3.3	33.1	58.7	11.9	47.9	0	3.6	11.22
5,001 to 10,000.....	100.0	3.8	34.5	66.4	13.0	57.6	Q	3.3	12.78
10,001 to 25,000.....	100.0	6.3	31.9	65.1	18.3	60.1	4.0	0	13.26
25,001 to 50,000.....	100.0	16.1	38.1	62.2	19.4	57.4	10.5	0	12.70
50,001 to 100,000.....	100.0	23.2	34.0	70.8	13.6	67.7	12.8	0	12.47
100,001 to 200,000.....	100.0	31.5	37.8	75.5	16.7	77.9	33.1	0	12.71
200,001 to 500,000.....	100.0	60.0	45.3	64.7	12.0	73.9	41.8	0	12.25
Over 500,000.....	100.0	67.0	45.1	62.8	13.0	73.7	52.7	0	16.31
Principal Building Activity									
Assembly.....	100.0	5.1	34.8	63.7	17.1	59.7	3.7	0	13.68
Education.....	100.0	12.5	41.1	53.9	10.8	58.3	11.2	0	16.36
Food Sales.....	100.0	0	0	67.2	0	61.1	0	0	35.04
Food Service.....	100.0	0	25.2	71.4	0	56.6	0	0	21.99
Health Care.....	100.0	11.0	30.3	59.7	23.4	57.6	9.3	0	20.51
Lodging.....	100.0	12.5	61.1	40.5	11.1	47.0	9.3	0	19.50
Mercantile and Service.....	100.0	3.6	38.3	60.4	10.1	46.4	1.4	3.1	12.70
Office.....	100.0	8.3	19.7	70.2	17.7	63.5	4.5	0	11.58
Parking Garage.....	100.0	0	0	0	0	0	0	NC	60.59
Public Order and Safety.....	100.0	0	0	56.1	0	56.0	0	0	36.16
Warehouse.....	100.0	1.9	37.2	60.3	19.2	41.3	0	0	22.28
Other.....	100.0	13.6	40.1	53.1	0	48.6	8.8	0	30.05
Vacant.....	100.0	10.6	38.3	57.3	0	53.3	0	0	27.98
Year Constructed									
1899 or Before.....	100.0	0	43.3	49.2	0	51.4	0	0	27.19
1900 to 1919.....	100.0	4.8	44.6	62.2	8.8	46.2	Q	0	26.66
1920 to 1945.....	100.0	5.3	53.5	51.1	7.6	40.5	2.9	0	14.41
1946 to 1959.....	100.0	6.0	43.0	60.4	9.4	47.5	3.0	4.1	14.63
1960 to 1969.....	100.0	8.8	31.1	65.3	10.7	54.5	5.0	0	11.83
1970 to 1979.....	100.0	5.6	25.7	67.1	13.8	60.0	3.2	4.5	11.64
1980 to 1983.....	100.0	5.6	24.5	66.4	19.9	59.5	3.6	0	18.92
1984 to 1986.....	100.0	5.3	17.1	64.1	26.0	64.1	4.4	0	18.63
1987 to 1989.....	100.0	3.5	14.1	67.5	29.2	66.7	2.6	0	20.40
Census Region									
Northeast.....	100.0	6.6	51.8	50.9	10.6	39.7	3.3	0	13.90
Midwest.....	100.0	8.0	33.8	69.3	3.4	52.7	3.2	0	12.12
South.....	100.0	4.9	31.6	62.9	16.8	56.2	3.1	0	10.94
West.....	100.0	7.5	23.9	61.0	21.4	60.6	4.7	11.3	13.37
Metropolitan Status									
Metropolitan.....	100.0	7.3	30.6	65.0	14.2	55.7	4.1	3.4	7.36
Nonmetropolitan.....	100.0	3.9	41.5	55.2	12.5	49.1	1.9	Q	16.55
Workers									
Fewer than 5.....	100.0	2.8	40.2	54.4	11.4	43.7	1.6	4.2	11.53
5 to 9.....	100.0	5.2	29.1	66.0	14.0	58.5	0	3.0	11.95
10 to 19.....	100.0	3.9	27.9	69.5	16.5	60.8	2.1	0	14.08
20 to 49.....	100.0	11.0	30.1	71.0	16.6	64.6	7.8	0	12.58
50 to 99.....	100.0	19.1	26.8	68.9	18.6	64.4	13.6	0	12.73
100 to 249.....	100.0	34.5	31.6	72.0	17.0	72.3	20.3	0	13.21
250 or More.....	100.0	64.7	27.1	65.1	18.7	83.5	53.6	0	13.19
Weekly Operating Hours									
39 or Fewer.....	100.0	4.3	32.0	59.6	14.5	54.3	0	0	17.71
40 to 48.....	100.0	5.8	32.0	64.2	15.4	53.4	3.1	1.8	12.03
49 to 60.....	100.0	6.2	34.7	58.8	14.3	51.0	2.1	0	12.84
61 to 84.....	100.0	5.1	32.4	65.4	11.5	54.5	4.1	0	12.27
85 to 167.....	100.0	6.3	33.4	69.1	11.1	56.5	3.3	0	12.53
168 (Open Continuously).....	100.0	12.7	41.0	54.1	13.7	56.3	9.1	0	12.58
Energy Sources (Solely or in Combination)									
Electricity.....	100.0	6.3	33.7	62.2	13.7	53.8	3.5	3.1	6.85
Natural Gas.....	100.0	7.1	33.8	69.3	7.4	55.3	3.8	3.3	7.71
Fuel Oil.....	100.0	10.7	58.9	46.2	7.8	40.0	7.4	0	13.76
District Heat.....	100.0	24.7	44.4	47.4	8.1	71.5	30.2	0	20.14
District Chilled Water.....	100.0	29.6	21.6	18.2	0	70.9	61.4	0	25.76
Propane.....	100.0	2.8	44.9	50.5	16.0	52.5	2.1	0	18.18
Any Other.....	100.0	14.7	58.1	37.7	Q	38.4	0	NC	39.53
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	6.2	33.8	62.4	13.9	54.7	3.4	3.1	6.86
Air-Conditioned Buildings.....	100.0	6.3	33.7	62.2	13.7	53.8	3.5	3.1	6.85
Buildings with Water Heating.....	100.0	6.7	32.5	64.9	13.8	56.4	3.9	2.7	6.83
Buildings with Cooking.....	100.0	9.7	34.8	69.6	12.6	59.5	6.3	1.8	9.13
Buildings with Manufacturing.....	100.0	4.9	48.6	57.9	13.6	46.2	3.0	Q	21.17

See footnotes at end of table.

Table 87. Cooling Equipment, Percent of Buildings (Continued)

Building Characteristics	All Cooled Buildings	Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
		Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	--	1.226	0.638	0.392	1.263	0.499	1.485	3.486
Cooling Energy Sources (Solely or in Combination)									
Electricity.....	100.0	5.9	34.2	62.0	13.8	53.4	3.1	3.2	7.11
Natural Gas.....	100.0	12.0	25.9	80.7	10.8	59.8	3.5	0	15.11
District Chilled Water.....	100.0	29.6	21.6	18.2	Q	70.9	61.4	Q	25.76
Percent Cooled									
Not Cooled.....	--	--	--	--	--	--	--	--	--
1 to 50.....	100.0	3.2	52.5	49.9	9.9	37.4	1.0	0	11.57
51 to 99.....	100.0	9.2	34.8	64.5	16.6	57.7	5.6	2.8	9.88
100.....	100.0	7.2	20.8	69.5	15.1	63.2	4.2	4.4	9.09
Cooling Equipment (Solely or in Combination)									
Central Chillers.....	100.0	100.0	20.9	33.0	12.2	72.7	33.4	0	13.59
Individual Air Conditioners.....	100.0	3.9	100.0	30.9	5.6	26.1	2.7	0	12.85
Packaged Cooling Units.....	100.0	3.3	16.8	100.0	7.8	69.3	2.5	1.3	9.52
Heat Pumps.....	100.0	5.6	13.8	35.4	100.0	69.2	2.9	0	20.39
Air Ducts.....	100.0	8.5	16.4	80.2	17.6	100.0	5.4	3.1	8.14
Fan-Coil Units.....	100.0	61.0	26.2	45.5	11.4	84.3	100.0	0	13.84
Other.....	100.0	Q	Q	26.2	Q	52.2	Q	100.0	37.84
Wall Materials									
Masonry.....	100.0	6.6	33.0	63.6	13.0	54.9	3.9	3.3	7.74
Siding or Shingles.....	100.0	2.5	40.8	53.1	15.2	50.3	0	0	14.02
Metal Panels.....	100.0	2.8	33.8	63.6	14.5	55.0	.8	0	19.08
Concrete Panels.....	100.0	12.7	26.2	68.8	16.0	44.8	5.3	0	17.58
Window Glass.....	100.0	31.3	22.1	58.6	5.6	55.1	20.8	0	29.46
Other.....	100.0	18.2	Q	54.1	Q	66.2	4.3	Q	37.91
Roof Materials									
Built-Up.....	100.0	8.8	30.3	64.2	13.7	53.9	5.2	2.6	9.47
Shingles (Not Wood).....	100.0	3.8	36.4	59.7	12.9	53.0	1.4	3.3	11.23
Metal Surfacing.....	100.0	2.9	36.2	57.7	15.1	53.3	1.5	0	16.35
Synthetic or Rubber.....	100.0	12.3	36.7	70.9	12.7	62.8	6.9	0	14.72
Slate or Tile.....	100.0	4.0	33.3	66.8	16.6	59.7	4.6	0	21.79
Concrete.....	100.0	5.0	36.0	61.8	13.8	29.4	0	0	33.16
Wooden Materials.....	100.0	Q	38.8	61.4	Q	41.8	0	0	32.10
Other.....	100.0	Q	Q	65.5	Q	67.4	Q	Q	36.85
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	100.0	6.4	30.7	64.7	15.1	58.1	3.9	2.8	7.39
Wall Insulation.....	100.0	6.1	27.6	65.0	16.9	59.5	3.1	2.7	8.14
Storm or Multiple Glazing....	100.0	7.0	30.9	66.0	14.8	56.0	3.9	1.7	7.94
Tinted, Reflective, or Shading Glass.....	100.0	9.5	18.7	72.0	18.7	67.9	6.3	3.3	9.76
Exterior or Interior Shadings or Awnings.....	100.0	7.8	31.7	65.6	13.9	58.8	4.3	2.3	8.33
Weather Stripping or Caulking.....	100.0	6.9	31.0	64.2	15.4	57.3	3.9	2.7	7.26
Occupant Control of:									
Heating Only.....	100.0	5.2	43.6	58.7	0	44.4	2.7	0	26.91
Cooling Only.....	100.0	4.8	60.6	45.9	8.4	37.1	2.2	0	22.48
Heating and Cooling.....	100.0	4.6	34.2	61.1	15.2	53.2	2.7	3.3	9.00
Reduced Use--Off-Hours									
Heating Only.....	100.0	3.4	37.4	58.9	10.8	46.2	0	0	23.54
Cooling Only.....	100.0	5.1	44.9	48.6	12.2	35.7	3.4	0	17.27
Heating and Cooling.....	100.0	6.2	33.8	63.0	13.8	54.5	3.2	3.3	7.88
Climate Zone: 45 Year Average									
Under 2,000 CDD and --									
Over 7,000 HDD.....	100.0	6.4	44.3	61.8	2.6	54.4	3.2	0	21.55
5,500-7,000 HDD.....	100.0	8.3	38.0	63.3	5.8	45.3	3.2	0	11.63
4,000-5,499 HDD.....	100.0	6.5	39.6	55.1	17.8	51.3	3.6	0	15.70
Under 4,000 HDD.....	100.0	5.1	27.9	63.2	19.9	61.0	3.0	4.1	13.30
2,000 CDD or More and --									
Under 4,000 HDD.....	100.0	5.5	28.4	65.9	14.2	56.1	4.0	6.6	14.57

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
**Table 88. Cooling Equipment, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Cooled Buildings	Total Floorspace by Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
			Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	0.530	0.587	1.195	0.918	0.722	1.280	0.707	1.354	3.315	
All Buildings.....	63,184	51,771	14,048	19,239	34,753	7,827	34,225	10,787	1,468	7.03
Building Floorspace (Square Feet)										
1,001 to 5,000.....	6,790	4,566	150	1,498	2,721	586	2,214	0	150	11.32
5,001 to 10,000.....	6,532	4,809	184	1,659	3,210	2,616	2,781	0	155	12.56
10,001 to 25,000.....	10,393	8,010	556	2,612	5,250	1,414	4,883	342	0	12.93
25,001 to 50,000.....	8,801	7,271	1,177	2,843	4,512	1,428	4,229	806	0	13.35
50,001 to 100,000.....	9,130	7,764	1,881	2,608	5,573	1,020	5,320	1,079	0	13.66
100,001 to 200,000.....	8,277	6,916	2,230	2,654	5,283	1,164	5,465	2,384	0	15.31
200,001 to 500,000.....	7,022	6,460	3,785	2,847	4,185	692	4,720	2,680	0	21.42
Over 500,000.....	6,239	5,976	4,086	2,518	4,019	888	4,613	3,360	0	23.47
Principal Building Activity										
Assembly.....	6,838	5,354	816	2,164	3,431	757	3,882	962	0	17.45
Education.....	8,148	6,499	2,191	3,225	3,816	747	4,233	1,965	0	17.25
Food Sales.....	792	725	0	0	524	0	379	0	0	46.00
Food Service.....	1,167	1,082	0	322	804	0	748	0	0	28.18
Health Care.....	2,054	2,018	1,480	919	1,162	350	1,719	1,447	0	20.32
Lodging.....	3,476	2,964	1,259	1,708	1,543	430	1,903	923	0	17.48
Mercantile and Service.....	12,365	10,803	1,298	3,335	8,266	1,344	6,598	688	213	12.76
Office.....	11,802	11,635	5,350	2,633	7,669	2,067	9,002	3,856	0	10.82
Parking Garage.....	983	448	0	0	0	0	0	0	0	47.62
Public Order and Safety.....	616	540	0	0	377	0	446	0	0	39.21
Warehouse.....	9,253	6,111	374	2,500	4,351	1,174	3,155	0	0	26.02
Other.....	1,529	1,455	547	480	888	0	1,049	333	0	32.76
Vacant.....	4,161	2,137	257	0	1,738	0	907	0	0	37.97
Year Constructed										
1899 or Before.....	1,654	1,223	0	618	604	0	618	0	0	31.59
1900 to 1919.....	4,245	3,075	381	2,175	2,149	582	1,056	0	0	35.75
1920 to 1945.....	8,098	5,844	1,875	3,058	3,506	688	3,546	1,205	0	16.04
1946 to 1959.....	10,511	8,285	2,383	3,961	4,989	989	5,264	1,417	0	17.75
1960 to 1969.....	12,167	10,056	3,207	3,888	6,490	1,033	6,669	2,655	0	10.94
1970 to 1979.....	13,329	11,616	3,042	3,143	8,646	1,904	8,330	2,636	416	11.98
1980 to 1983.....	4,274	3,752	951	813	2,583	791	2,753	852	0	15.60
1984 to 1986.....	5,670	5,215	1,456	1,100	3,735	906	3,810	1,184	0	17.52
1987 to 1989.....	3,235	2,704	559	483	2,052	669	2,180	543	0	22.22
Census Region										
Northeast.....	13,569	10,334	2,945	5,676	6,571	1,947	5,983	2,459	0	16.20
Midwest.....	15,955	13,159	3,913	5,442	9,342	841	8,427	2,556	0	12.74
South.....	22,040	18,958	4,452	6,052	12,661	3,228	12,942	3,094	195	11.82
West.....	11,620	9,320	2,739	2,069	6,179	1,811	6,874	2,678	Q	13.27
Metropolitan Status										
Metropolitan.....	50,809	43,191	13,060	15,442	29,307	6,624	29,397	10,034	1,388	7.91
Nonmetropolitan.....	12,375	8,580	989	3,797	5,446	1,203	4,829	753	0	15.04
Workers										
Fewer than 5.....	13,292	8,141	278	3,736	4,892	946	3,749	267	261	15.61
5 to 9.....	7,939	6,330	508	2,476	4,153	1,030	3,576	0	183	17.49
10 to 19.....	6,445	5,577	369	1,911	3,602	907	3,255	204	0	15.87
20 to 49.....	9,665	8,706	1,082	3,445	6,180	1,450	5,915	1,058	0	13.66
50 to 99.....	7,389	6,713	2,054	2,122	4,399	1,079	4,337	1,438	0	14.95
100 to 249.....	6,771	6,440	2,604	2,485	4,713	833	4,826	1,833	0	13.82
250 or More.....	9,829	9,733	7,093	3,051	6,708	1,561	8,351	5,873	0	18.17
Weekly Operating Hours										
39 or Fewer.....	6,073	2,882	272	1,050	1,845	448	1,632	0	0	18.72
40 to 48.....	13,905	11,404	2,060	4,107	7,551	2,031	7,044	1,614	147	12.43
49 to 60.....	13,473	11,544	2,753	4,073	7,829	1,930	7,506	1,647	0	13.26
61 to 84.....	10,777	9,668	3,050	3,253	6,598	1,187	6,826	2,130	0	12.39
85 to 167.....	9,387	8,162	2,088	3,135	6,204	875	5,192	1,809	0	19.54
168 (Open Continuously).....	9,569	8,080	3,824	3,622	4,727	1,355	6,026	3,473	0	11.83
Energy Sources (Solely or in Combination)										
Electricity.....	61,587	51,765	14,043	19,239	34,748	7,827	34,220	10,787	1,468	7.04
Natural Gas.....	41,593	37,067	11,185	14,547	26,710	4,592	25,377	8,278	1,029	8.30
Fuel Oil.....	12,684	10,468	5,261	5,086	6,326	1,514	7,326	4,302	181	10.44
District Heat.....	6,856	6,175	3,604	1,945	3,375	642	5,224	3,926	0	23.88
District Chilled Water.....	2,101	2,101	668	586	838	0	1,581	1,604	0	29.11
Propane.....	4,695	4,021	998	1,888	2,888	461	2,789	961	0	26.19
Any Other.....	1,542	1,069	Q	504	489	Q	654	Q	NC	43.22
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	57,868	50,512	13,715	18,661	34,081	7,673	33,766	10,651	1,456	7.24
Air-Conditioned Buildings.....	51,771	51,771	14,048	19,239	34,753	7,827	34,225	10,787	1,468	7.14
Buildings with Water Heating.....	53,585	47,607	13,611	17,753	32,268	7,275	32,198	10,519	1,331	7.38
Buildings with Cooking.....	23,668	21,535	8,679	8,972	15,213	2,952	15,917	7,112	0	10.27
Buildings with Manufacturing.....	5,601	5,145	1,438	2,250	3,499	801	3,072	Q	Q	28.57

See footnotes at end of table

Table 88. Cooling Equipment, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Cooled Buildings	Total Floorspace by Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
			Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	0.530	0.587	1.195	0.918	0.722	1.280	0.707	1.354	3.315
Cooling Energy Sources (Solely or in Combination)										
Electricity.....	47,913	47,913	12,279	18,173	32,512	7,470	31,256	8,767	998	7.38
Natural Gas.....	1,991	1,991	677	715	1,483	255	1,529	Q	Q	15.36
District Chilled Water.....	2,101	2,101	668	586	838	Q	1,681	1,604	Q	29.11
Percent Cooled										
Not Cooled.....	11,413	--	--	--	--	--	--	--	--	9.62
1 to 50.....	17,821	17,821	1,773	9,863	11,045	2,209	7,937	1,077	Q	14.82
51 to 99.....	13,139	13,139	5,185	4,535	8,820	2,488	10,299	3,905	246	10.08
100.....	20,811	20,811	7,090	4,740	14,888	3,130	15,990	5,805	Q	9.95
Cooling Equipment (Solely or in Combination)										
Central Chillers.....	14,048	14,048	14,048	4,355	8,036	2,106	12,082	8,712	Q	12.13
Individual Air Conditioners.....	19,239	19,239	4,355	19,239	10,900	2,552	9,521	3,481	Q	10.72
Packaged Cooling Units.....	34,753	34,753	8,036	10,900	34,753	4,330	26,050	6,580	979	9.28
Heat Pumps.....	7,827	7,827	2,106	2,552	4,330	7,827	5,720	1,641	Q	15.29
Air Ducts.....	34,225	34,225	12,082	9,521	26,050	5,720	34,225	9,862	1,197	7.83
Fan-Coil Units.....	10,787	10,787	8,712	3,481	6,580	1,641	9,862	10,787	Q	13.31
Other.....	1,468	1,468	Q	Q	979	Q	1,197	Q	1,468	52.37
Wall Materials										
Masonry.....	42,074	35,101	8,835	14,109	23,468	5,009	23,039	6,785	764	7.65
Siding or Shingles.....	4,788	3,165	189	1,489	1,975	714	1,826	Q	Q	22.86
Metal Panels.....	5,689	3,891	510	1,267	2,841	677	2,380	422	Q	17.97
Concrete Panels.....	7,221	6,374	2,365	1,784	4,660	1,041	4,430	2,150	Q	20.12
Window Glass.....	1,924	1,851	1,218	396	1,290	180	1,437	1,076	Q	29.72
Other.....	1,487	1,390	933	Q	520	Q	1,114	249	Q	34.90
Roof Materials										
Built-Up.....	31,057	26,695	8,429	10,114	18,996	3,834	17,922	6,607	Q	8.85
Shingles (Not Wood).....	10,917	8,717	1,074	3,854	5,298	1,200	5,034	531	139	14.07
Metal Surfacing.....	8,197	5,447	338	1,691	3,839	1,177	3,461	353	Q	17.95
Synthetic or Rubber.....	6,911	6,255	2,415	1,964	4,372	900	4,672	1,706	Q	15.89
Slate or Tile.....	2,582	1,993	444	941	970	243	1,289	472	Q	26.61
Concrete.....	1,932	1,426	807	329	787	169	1,001	Q	Q	36.92
Wooden Materials.....	727	483	Q	216	317	Q	284	Q	Q	30.16
Other.....	860	754	Q	Q	174	Q	562	Q	Q	42.22
Building Shell Conservation Features (Solely or in Combination)										
Roof or Ceiling Insulation.....	45,092	39,354	11,394	13,048	27,131	6,256	27,681	8,809	1,302	7.90
Wall Insulation.....	29,692	26,432	7,398	7,829	18,729	4,438	19,255	5,857	990	8.99
Storm or Multiple Glazing.....	24,068	21,699	7,079	7,440	14,725	3,386	15,175	5,571	389	8.30
Tinted, Reflective, or Shading Glass.....	22,040	20,934	7,824	4,890	15,458	3,703	16,491	7,143	Q	10.08
Exterior or Interior Shadings or Awnings.....	26,173	24,119	8,342	8,375	16,245	3,895	17,408	6,500	Q	9.49
Weather Stripping or Caulking.....	44,694	39,360	12,030	13,680	27,024	6,606	28,297	9,581	1,238	7.65
Occupant Control of:										
Heating Only.....	4,872	1,503	325	770	938	0	973	306	Q	17.26
Cooling Only.....	4,143	4,143	852	2,948	2,155	500	1,992	625	Q	19.45
Heating and Cooling.....	22,172	22,172	3,993	8,558	15,081	3,894	13,787	3,197	578	10.50
Reduced Use--Off-Hours										
Heating Only.....	7,147	1,495	224	525	1,031	154	758	Q	Q	21.04
Cooling Only.....	4,112	4,112	814	2,334	1,878	448	2,009	648	Q	18.49
Heating and Cooling.....	38,689	38,689	10,871	14,025	26,568	5,927	25,711	8,194	1,251	8.20
Climate Zone: 45 Year Average										
Under 2,000 CDD and -- Over 7,000 HDD.....	5,062	3,497	789	1,397	2,507	269	2,513	588	Q	21.60
5,500-7,000 HDD.....	17,957	13,989	4,473	6,133	9,805	1,091	8,526	3,260	Q	15.88
4,000-5,499 HDD.....	15,385	12,791	3,714	5,877	7,806	2,751	7,985	2,940	Q	15.19
Under 4,000 HDD.....	12,903	10,900	3,168	2,831	7,306	2,051	8,190	2,236	245	16.48
2,000 CDD or More and -- Under 4,000 HDD.....	11,877	10,594	1,904	3,002	7,328	1,664	7,010	1,762	Q	15.88

-- Data not applicable.
 NC No cases in sample.
 Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.
 Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.
 Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

Table 89. Cooling Equipment, Percent of Floorspace

Building Characteristics	Total Floorspace of All Cooled Buildings	Total Floorspace by Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
		Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
		RSE Column Factor:	--	1.087	0.779	0.443	1.283	0.435	1.284
All Buildings.....	100.0	27.1	37.2	67.1	15.1	66.1	20.8	2.8	7.07
Building Floorspace (Square Feet)									
1,001 to 5,000.....	100.0	3.3	32.8	59.6	12.8	48.5	0	3.3	11.69
5,001 to 10,000.....	100.0	3.8	34.5	66.7	13.2	57.8	0	3.2	12.86
10,001 to 25,000.....	100.0	6.9	32.6	65.5	17.6	61.0	4.3	0	13.18
25,001 to 50,000.....	100.0	16.2	39.1	62.1	19.6	58.2	11.1	0	12.73
50,001 to 100,000.....	100.0	24.2	33.6	71.8	13.1	68.5	13.9	0	12.56
100,001 to 200,000.....	100.0	32.2	38.4	76.4	16.8	79.0	34.5	0	12.75
200,001 to 500,000.....	100.0	58.6	44.1	64.8	10.7	73.1	41.5	0	17.35
Over 500,000.....	100.0	68.4	42.1	67.3	14.9	77.2	56.2	0	16.58
Principal Building Activity									
Assembly.....	100.0	15.2	40.4	64.1	14.1	72.5	18.0	0	15.88
Education.....	100.0	33.7	49.6	58.7	11.5	65.1	30.2	0	16.11
Food Sales.....	100.0	0	0	72.3	0	52.2	0	0	46.63
Food Service.....	100.0	0	29.7	74.3	0	69.1	0	0	26.59
Health Care.....	100.0	73.3	45.5	57.6	17.3	85.2	71.7	0	13.10
Lodging.....	100.0	42.5	57.6	52.1	14.5	64.2	31.1	0	17.25
Mercantile and Service.....	100.0	12.0	30.9	76.5	12.4	61.1	6.4	2.0	13.31
Office.....	100.0	46.0	22.6	65.9	17.8	77.4	33.1	0	10.59
Parking Garage.....	100.0	0	0	0	0	0	0	NC	45.31
Public Order and Safety.....	100.0	0	0	69.8	0	82.6	0	0	34.58
Warehouse.....	100.0	6.1	40.9	71.2	19.2	51.6	0	0	22.80
Other.....	100.0	37.6	33.0	61.1	0	72.1	22.9	0	27.53
Vacant.....	100.0	12.0	58.1	81.3	0	42.4	0	0	28.81
Year Constructed									
1899 or Before.....	100.0	0	50.6	49.4	0	50.5	0	0	32.02
1900 to 1919.....	100.0	12.4	70.7	69.9	18.9	34.3	0	0	27.88
1920 to 1945.....	100.0	32.1	52.3	60.0	11.8	60.7	20.6	0	15.43
1946 to 1959.....	100.0	28.8	47.8	60.2	11.9	63.5	17.1	0	17.30
1960 to 1969.....	100.0	31.9	38.7	64.5	10.3	66.3	26.4	0	10.60
1970 to 1979.....	100.0	26.2	27.1	74.4	16.4	71.7	22.7	3.6	10.53
1980 to 1983.....	100.0	25.3	21.7	68.8	21.1	73.4	22.7	0	14.32
1984 to 1986.....	100.0	27.9	21.1	71.6	17.4	73.1	22.7	0	17.51
1987 to 1989.....	100.0	20.7	17.8	75.9	24.8	80.6	20.1	0	19.09
Census Region									
Northeast.....	100.0	28.5	54.9	63.6	18.8	57.9	23.8	0	14.73
Midwest.....	100.0	29.7	41.4	71.0	6.4	64.0	19.4	0	11.71
South.....	100.0	23.5	31.9	66.8	17.0	68.3	16.3	1.0	10.48
West.....	100.0	29.4	22.2	66.3	19.4	73.8	28.7	11.8	12.48
Metropolitan Status									
Metropolitan.....	100.0	30.2	35.8	67.9	15.3	68.1	23.2	3.2	7.55
Nonmetropolitan.....	100.0	11.5	44.3	63.5	14.0	56.3	8.8	Q	15.68
Workers									
Fewer than 5.....	100.0	3.4	45.9	60.1	11.6	46.0	3.3	3.2	16.39
5 to 9.....	100.0	8.0	39.1	65.6	16.3	58.1	0	2.9	16.81
10 to 19.....	100.0	6.6	34.3	64.6	16.3	58.4	3.7	0	15.30
20 to 49.....	100.0	12.4	39.6	71.0	16.7	67.9	12.1	0	12.89
50 to 99.....	100.0	30.6	31.6	65.5	16.1	64.6	21.4	0	14.27
100 to 249.....	100.0	40.4	38.6	73.2	12.9	74.9	28.5	0	11.87
250 or More.....	100.0	72.9	31.3	68.9	16.0	85.8	60.3	0	11.71
Weekly Operating Hours									
39 or Fewer.....	100.0	9.5	36.4	64.0	15.6	56.6	0	0	19.12
40 to 48.....	100.0	18.1	36.0	66.2	17.8	61.8	14.1	1.3	11.83
49 to 60.....	100.0	23.8	35.3	67.8	16.7	65.0	14.3	0	12.00
61 to 84.....	100.0	31.5	33.6	68.2	12.3	70.5	22.0	0	12.54
85 to 167.....	100.0	25.5	38.3	75.8	10.7	63.4	22.1	0	16.69
168 (Open Continuously).....	100.0	47.3	44.8	58.5	16.8	74.6	43.0	0	10.49
Energy Sources (Solely or in Combination)									
Electricity.....	100.0	27.1	37.2	67.1	15.1	66.1	20.8	2.8	7.07
Natural Gas.....	100.0	30.2	39.2	72.1	12.4	68.5	22.3	2.8	8.19
Fuel Oil.....	100.0	50.3	48.6	60.4	14.5	70.0	41.1	1.7	9.79
District Heat.....	100.0	58.4	31.5	54.7	10.4	84.6	63.6	0	15.41
District Chilled Water.....	100.0	31.8	27.9	39.9	0	80.0	76.4	0	24.17
Propane.....	100.0	24.8	47.0	71.8	11.5	69.4	23.9	0	20.58
Any Other.....	100.0	Q	47.2	45.8	Q	61.2	Q	NC	45.64
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	27.2	36.9	67.5	15.2	66.8	21.1	2.9	7.15
Air-Conditioned Buildings.....	100.0	27.1	37.2	67.1	15.1	66.1	20.8	2.8	7.07
Buildings with Water Heating.....	100.0	28.6	37.3	67.8	15.3	67.6	22.1	2.8	7.36
Buildings with Cooking.....	100.0	40.3	41.7	70.6	13.7	73.9	33.0	0	9.47
Buildings with Manufacturing.....	100.0	28.0	43.7	68.0	15.6	59.7	16.9	0	23.54

See footnotes at end of table.

Table 89. Cooling Equipment, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Cooled Buildings	Total Floorspace by Cooling Equipment Used (Solely or in Combination)							RSE Row Factor
		Central Chillers	Individual Room Air Conditioners	Packaged Cooling Units	Heat Pumps	Air Ducts	Fan-Coil Units	Other	
	RSE Column Factor:	--	1.087	0.779	0.443	1.283	0.435	1.284	3.725
Cooling Energy Sources (Solely or in Combination)									
Electricity.....	100.0	25.6	37.9	67.9	15.6	65.2	18.3	2.1	7.07
Natural Gas.....	100.0	34.0	35.9	74.5	12.8	76.8	22.4	0	13.97
District Chilled Water.....	100.0	31.8	27.9	39.9	Q	80.0	76.4	Q	24.17
Percent Cooled									
Not Cooled.....	--	--	--	--	--	--	--	--	--
1 to 50.....	100.0	9.9	55.3	62.0	12.4	44.5	6.0	0	13.44
51 to 99.....	100.0	39.5	35.3	67.1	18.9	78.4	29.7	1.9	9.18
100.....	100.0	34.1	22.8	71.5	15.0	76.8	27.9	5.2	9.18
Cooling Equipment (Solely or in Combination)									
Central Chillers.....	100.0	100.0	31.0	57.2	15.0	86.0	62.0	0	10.78
Individual Air Conditioners.....	100.0	22.6	100.0	56.7	13.3	49.5	18.1	0	12.62
Packaged Cooling Units.....	100.0	23.1	31.4	100.0	12.5	75.0	18.9	2.8	9.64
Heat Pumps.....	100.0	26.9	32.6	55.3	100.0	73.1	21.0	0	15.47
Air Ducts.....	100.0	35.3	27.8	76.1	16.7	100.0	28.8	3.5	7.81
Fan-Coil Units.....	100.0	80.8	32.3	61.0	15.2	91.4	100.0	0	10.10
Other.....	100.0	Q	Q	66.7	Q	81.6	Q	100.0	32.52
Wall Materials									
Masonry.....	100.0	25.2	40.2	66.9	14.3	65.6	19.3	2.2	7.86
Siding or Shingles.....	100.0	6.0	47.0	62.4	22.6	57.7	0	0	21.55
Metal Panels.....	100.0	13.1	32.6	73.0	17.4	61.2	10.8	0	15.94
Concrete Panels.....	100.0	37.1	28.0	73.1	16.3	69.5	33.7	0	15.88
Window Glass.....	100.0	65.8	21.4	69.7	9.7	77.6	58.1	0	23.92
Other.....	100.0	67.1	Q	37.4	Q	80.1	17.9	Q	26.52
Roof Materials									
Built-Up.....	100.0	31.6	37.9	71.2	14.4	67.1	24.8	0	9.14
Shingles (Not Wood).....	100.0	12.3	44.2	60.8	13.8	57.8	6.1	1.6	14.06
Metal Surfacing.....	100.0	6.2	31.0	70.5	21.6	63.5	6.5	0	16.72
Synthetic or Rubber.....	100.0	38.6	31.4	69.9	14.4	74.7	27.3	0	12.45
Slate or Tile.....	100.0	22.3	47.2	48.7	12.2	64.7	23.7	0	27.40
Concrete.....	100.0	56.6	23.1	55.2	11.8	70.2	48.2	0	36.55
Wooden Materials.....	100.0	0	44.7	65.6	0	58.8	0	0	28.78
Other.....	100.0	Q	Q	23.0	Q	74.5	Q	Q	34.05
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation.....	100.0	29.0	33.2	68.9	15.9	70.3	22.4	3.3	7.37
Wall Insulation.....	100.0	28.0	29.6	70.9	16.8	72.8	22.2	3.7	8.69
Storm or Multiple Glazing.....	100.0	32.6	34.3	67.9	15.6	69.9	25.7	1.8	7.36
Tinted, Reflective, or Shading Glass.....	100.0	37.4	23.4	73.8	17.7	78.8	34.1	0	8.87
Exterior or Interior Shadings or Awnings.....	100.0	34.6	34.7	67.4	16.1	72.2	26.9	0	8.76
Weather Stripping or Caulking.....	100.0	30.6	34.8	68.7	16.8	71.9	24.3	3.1	7.54
Occupant Control of:									
Heating Only.....	100.0	21.6	51.3	62.4	0	64.7	20.4	0	16.30
Cooling Only.....	100.0	20.6	71.1	52.0	12.1	48.1	15.1	0	19.42
Heating and Cooling.....	100.0	18.0	38.6	68.0	17.6	62.2	14.4	2.6	9.86
Reduced Use--Off-Hours									
Heating Only.....	100.0	15.0	35.1	69.0	10.3	50.7	0	0	21.51
Cooling Only.....	100.0	19.8	56.8	45.7	10.9	48.9	15.8	0	17.02
Heating and Cooling.....	100.0	28.1	36.2	68.7	15.3	66.5	21.2	3.2	8.14
Climate Zone: 45 Year Average									
Under 2,000 CDD and --									
Over 7,000 HDD.....	100.0	22.6	39.9	71.7	7.7	71.9	16.8	0	15.58
5,500-7,000 HDD.....	100.0	32.0	43.8	70.1	7.8	60.9	23.3	0	13.30
4,000-5,499 HDD.....	100.0	29.0	43.9	61.0	21.5	62.4	23.0	0	12.83
Under 4,000 HDD.....	100.0	29.1	26.0	67.0	18.8	75.1	20.5	2.2	11.30
2,000 CDD or More and --									
Under 4,000 HDD.....	100.0	18.0	28.3	69.2	15.7	66.2	16.6	0	13.56

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors.

• See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
Table 90. Year Main Central Chiller Installed, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings with Central Chillers	Year Main Chiller Installed					All Buildings with Central Chillers	Year Main Chiller Installed						
		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		
RSE Column Factor:	0.577	1.410	0.964	1.070	1.065	1.229	0.614	1.151	1.019	1.049	1.114	1.081		
All Buildings.....	201	26	52	50	47	26	14,048	1,477	3,718	3,541	3,515	1,798	13.89	
Building Floorspace (Square Feet)														
1,001 to 10,000.....	78	0	19	20	0	0	334	0	114	92	0	0	26.15	
10,001 to 100,000.....	89	13	22	21	23	10	3,614	512	890	888	883	442	17.08	
Over 100,000.....	33	3	10	8	8	4	10,100	919	2,714	2,561	2,587	1,319	16.18	
Year Constructed														
1959 or Before.....	78	25	13	16	17	7	4,834	1,322	1,272	808	807	626	25.86	
1960 to 1969.....	52	Q	37	7	2	0	3,207	Q	2,258	534	207	Q	23.54	
1970 to 1979.....	38	0	0	27	2	0	3,042	0	0	2,067	351	0	25.22	
1980 to 1986.....	28	0	0	0	26	6	2,107	0	0	0	2,150	0	23.65	
1987 to 1989.....	6	NC	NC	NC	NC	0	559	NC	NC	NC	NC	559	38.54	
Census Region														
Northeast.....	32	0	8	5	10	0	2,945	521	621	726	0	0	30.05	
Midwest.....	56	5	9	17	16	9	3,913	271	815	978	1,251	598	26.15	
South.....	70	13	25	15	10	8	4,152	475	1,442	1,192	768	575	23.33	
West.....	43	Q	9	13	11	5	2,739	Q	645	645	639	405	29.60	
Percent Cooled														
Not Cooled.....	--	--	--	--	--	--	--	--	--	--	--	--	--	
1 to 50.....	33	0	8	9	6	6	1,773	0	520	367	379	327	30.29	
51 to 99.....	55	1	16	9	16	7	5,185	548	1,797	908	1,282	651	22.38	
100.....	112	15	28	32	25	13	7,090	749	1,401	2,266	1,854	820	19.99	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 91. Year Main Packaged Cooling System Installed, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor		
	All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					
		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986		
		0.522	1.995	1.142	0.850	0.799	0.923	0.579	1.938	1.317	0.906	1.012	0.991
RSE Column Factor:													
All Buildings.....	1,980	76	262	604	659	380	34,753	1,736	4,849	10,469	11,340	6,358	7.68
Building Floorspace (Square Feet)													
1,001 to 5,000.....	970	30	131	278	332	198	2,721	89	362	769	944	558	10.51
5,001 to 10,000.....	429	0	56	138	132	82	3,210	0	416	1,032	995	610	13.80
10,001 to 25,000.....	322	0	36	108	112	55	5,250	0	588	1,685	1,895	889	13.12
25,001 to 50,000.....	127	0	20	40	43	20	4,512	0	709	1,356	1,549	730	16.37
50,001 to 100,000.....	77	0	10	23	22	16	5,575	0	749	1,682	1,578	1,150	17.58
100,001 to 200,000.....	38	0	7	12	11	6	5,283	0	987	1,637	1,588	795	21.44
200,001 to 500,000.....	14	0	1	4	6	2	4,185	0	426	1,125	1,772	558	30.11
Over 500,000.....	4	0	0	1	1	1	4,019	0	Q	1,185	1,019	1,069	31.56
Principal Building Activity													
Assembly.....	275	21	48	82	82	42	3,431	211	433	1,059	1,125	604	18.40
Education.....	114	0	16	38	32	20	3,816	0	1,027	1,244	750	644	23.05
Food Sales.....	57	NC	0	0	0	0	524	NC	0	0	0	0	39.10
Food Service.....	154	0	0	49	56	32	804	0	0	284	307	113	25.01
Health Care.....	46	0	0	15	12	8	1,162	0	0	446	248	203	30.35
Lodging.....	46	0	0	17	14	0	1,543	0	0	473	535	0	37.24
Mercantile and Service.....	562	17	55	180	189	120	8,266	312	996	3,107	2,433	1,419	13.96
Office.....	460	19	68	138	150	85	7,669	507	989	1,899	2,996	1,278	14.50
Parking Garage.....	0	NC	0	0	0	0	0	NC	0	0	0	0	80.28
Public Order and Safety.....	18	NC	0	0	0	0	377	NC	0	0	0	0	61.18
Warehouse.....	159	0	21	44	57	33	4,351	0	585	1,449	1,419	747	22.92
Other.....	23	0	0	0	0	0	888	0	0	0	0	0	46.02
Vacant.....	63	Q	Q	Q	25	Q	1,738	Q	Q	Q	Q	Q	42.26
Year Constructed													
1899 or Before.....	57	0	0	0	24	0	604	0	0	0	240	0	38.07
1900 to 1919.....	86	0	0	23	26	24	2,149	0	0	275	913	618	33.63
1920 to 1945.....	225	22	21	47	82	54	3,506	596	315	1,001	913	681	18.45
1946 to 1959.....	345	42	39	98	92	74	4,989	893	954	1,311	1,057	773	17.05
1960 to 1969.....	382	0	175	71	83	49	6,490	0	3,228	1,197	1,236	792	16.23
1970 to 1979.....	447	0	0	339	56	40	8,646	0	6,252	1,208	1,075	1,075	19.67
1980 to 1983.....	162	0	NC	0	144	0	2,583	0	NC	2,313	0	0	27.68
1984 to 1986.....	169	NC	0	0	148	16	3,735	NC	0	0	3,194	301	29.23
1987 to 1989.....	108	NC	Q	Q	Q	100	2,052	NC	Q	Q	Q	1,836	47.98
Census Region													
Northeast.....	243	9	24	68	78	64	6,571	248	718	2,052	2,122	1,430	19.36
Midwest.....	489	16	71	150	144	107	9,342	518	1,264	2,868	3,081	1,611	14.54
South.....	897	38	109	263	326	161	12,661	809	1,632	3,660	4,385	2,176	12.23
West.....	351	13	58	122	111	48	6,179	161	1,236	1,889	1,752	1,141	16.49
Metropolitan Status													
Metropolitan.....	1,471	54	190	449	500	277	29,307	1,474	4,090	8,505	9,919	5,318	8.44
Nonmetropolitan.....	510	22	72	155	159	103	5,446	262	759	1,965	1,421	1,040	17.54
Workers													
Fewer than 5.....	761	33	103	223	265	137	4,892	227	609	1,127	2,122	806	13.33
5 to 9.....	504	0	59	171	147	113	4,153	0	410	1,612	1,051	901	15.38
10 to 19.....	310	0	39	88	110	62	3,602	0	544	1,069	1,134	716	16.36
20 to 49.....	241	0	34	70	84	46	6,180	0	843	1,813	2,318	1,022	16.49
50 to 99.....	81	0	14	30	25	10	4,399	0	764	1,381	1,359	701	19.30
100 to 249.....	52	0	7	14	18	8	4,713	0	506	1,565	1,439	801	20.79
250 or More.....	20	1	4	6	6	3	6,708	413	1,146	1,887	1,878	1,384	23.53
Weekly Operating Hours													
39 or Fewer.....	235	0	37	76	83	29	1,845	0	240	561	681	269	21.67
40 to 48.....	543	18	68	162	178	117	7,551	459	1,048	2,000	2,129	1,915	14.39
49 to 60.....	443	17	67	127	147	85	7,829	364	979	2,654	2,575	1,257	13.74
61 to 84.....	317	21	41	84	106	64	6,598	363	892	2,174	2,097	1,072	16.70
85 to 167.....	279	0	29	97	89	58	6,204	0	1,216	1,554	2,297	990	20.04
168 (Open Continuously).....	164	Q	19	58	56	27	4,727	Q	474	1,526	1,562	854	19.46
Energy Sources (Solely or in Combination)													
Electricity.....	1,980	76	262	604	659	380	34,748	1,736	4,844	10,469	11,340	6,358	7.69
Natural Gas.....	1,375	58	198	413	436	271	26,710	1,504	3,783	8,291	7,945	5,188	8.83
Fuel Oil.....	173	11	28	42	57	35	5,326	324	905	1,661	1,578	1,457	16.65
District Heat.....	37	2	4	12	0	7	3,375	304	0	652	1,167	509	36.93
Propane.....	5	0	0	0	0	0	0	0	0	0	0	0	55.56
Any Other.....	125	0	19	36	36	32	2,888	0	597	962	386	29.67	50.66

See footnotes at end of table.

END USE EQUIPMENT
Table 91. Year Main Packaged Cooling System Installed, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousand)					Total Floorspace (million square feet)					RSE Row Factor		
	All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					
		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989	
RSE Column Factor:	0.522	1.995	1.142	0.850	0.799	0.923	0.579	1.938	1.317	0.906	1.012	0.991	
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	1,911	76	256	597	627	355	34,081	1,736	4,796	10,340	11,089	6,118	7.87
Air-Conditioned Buildings....	1,980	76	252	604	659	380	34,753	1,736	4,849	10,469	11,340	6,358	7.68
Buildings with Water Heating..	1,712	66	225	529	546	347	32,268	1,589	4,498	9,749	10,494	5,937	7.91
Buildings with Cooking.....	495	15	61	171	143	104	15,213	829	2,210	4,887	4,743	2,543	12.86
Buildings with Manufacturing..	89	Q	13	28	32	14	3,499	Q	912	895	679		27.00
Percent Cooled													
Not Cooled.....	--	--	--	--	--	--	--	--	--	--	--		
1 to 50.....	518	20	61	149	186	101	11,045	432	1,494	3,029	3,648	2,443	15.01
51 to 99.....	385	12	49	115	121	89	8,820	480	1,194	2,538	3,137	1,471	13.51
100.....	1,077	44	151	340	352	190	14,888	824	2,161	4,903	4,556	2,444	11.05

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 92. Year Main Packaged Cooling System Installed, Percent of Buildings and Floorspace

Building Characteristics	Percent of Buildings					Percent of Total Floorspace					RSE Row Factor		
	All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					
		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986		
		--	1.987	1.040	0.675	0.569		--	1.990	1.237	0.806	0.759	0.991
RSE Column Factor:													
All Buildings.....	100.0	3.8	13.2	30.5	33.3	19.2	100.0	5.0	14.0	30.1	32.6	18.3	7.03
Building Floorspace (Square Feet)													
1,001 to 5,000.....	100.0	3.1	13.5	28.7	34.3	20.4	100.0	3.3	13.3	28.3	34.7	20.5	9.39
5,001 to 10,000.....	100.0	0	13.0	32.2	30.7	19.2	100.0	0	13.0	32.1	31.0	19.0	13.51
10,001 to 25,000.....	100.0	0	11.2	33.5	34.8	16.9	100.0	0	11.2	32.1	36.1	16.9	13.01
25,001 to 50,000.....	100.0	0	15.5	31.2	34.1	15.9	100.0	0	15.7	30.0	34.3	16.2	16.31
50,001 to 100,000.....	100.0	0	13.1	29.6	29.1	21.3	100.0	0	13.4	30.2	28.3	20.6	17.40
100,001 to 200,000.....	100.0	0	19.4	30.5	29.1	15.7	100.0	0	18.7	31.0	30.1	15.0	21.53
200,001 to 500,000.....	100.0	0	8.1	28.4	39.6	15.1	100.0	0	10.2	26.9	42.3	13.3	28.27
Over 500,000.....	100.0	0	Q	31.5	22.3	30.9	100.0	0	Q	29.5	25.4	26.6	32.92
Principal Building Activity													
Assembly.....	100.0	7.6	17.5	29.8	29.8	15.3	100.0	6.1	12.6	30.9	32.8	17.6	17.87
Education.....	100.0	0	13.8	33.1	28.4	17.7	100.0	0	26.9	32.6	19.7	16.9	23.07
Food Sales.....	100.0	NC	0	0	0	0	100.0	NC	0	0	0	0	39.51
Food Service.....	100.0	0	0	31.7	36.8	20.6	100.0	0	0	35.3	38.2	14.0	24.74
Health Care.....	100.0	0	0	33.0	26.5	18.4	100.0	0	0	38.4	21.3	17.5	29.87
Lodging.....	100.0	0	0	36.9	30.9	Q	100.0	0	0	30.7	34.6	Q	38.74
Mercantile and Service.....	100.0	3.1	9.8	32.0	33.5	21.5	100.0	3.8	12.0	37.6	29.4	17.2	14.18
Office.....	100.0	4.1	14.7	30.0	32.7	18.5	100.0	6.6	12.9	24.8	39.1	16.7	15.12
Parking Garage.....	100.0	NC	0	0	0	0	100.0	NC	0	0	0	0	69.34
Public Order and Safety.....	100.0	0	NC	0	0	0	100.0	0	0	0	0	0	63.56
Warehouse.....	100.0	0	13.4	27.6	35.9	20.9	100.0	0	13.5	33.3	32.6	17.2	21.57
Other.....	100.0	0	Q	Q	Q	Q	100.0	0	Q	Q	Q	Q	42.82
Vacant.....	100.0	Q	Q	Q	39.8	Q	100.0	0	Q	51.2	Q	Q	37.26
Year Constructed													
1899 or Before.....	100.0	0	0	0	41.8	0	100.0	0	0	39.7	0	0	36.93
1900 to 1919.....	100.0	0	0	27.3	29.9	28.6	100.0	0	0	12.8	45.3	28.8	29.13
1920 to 1945.....	100.0	9.8	9.2	20.7	36.2	24.0	100.0	17.0	9.0	28.6	26.0	19.4	17.78
1946 to 1959.....	100.0	12.3	11.4	28.4	26.5	21.4	100.0	17.9	19.1	26.3	21.2	15.5	17.68
1960 to 1969.....	100.0	0	45.7	18.6	21.7	12.8	100.0	49.7	18.4	19.0	12.2	16.69	
1970 to 1979.....	100.0	0	Q	75.9	12.5	8.9	100.0	0	72.3	14.0	12.4	19.49	
1980 to 1983.....	100.0	0	NC	0	89.2	0	100.0	0	NC	0	89.6	0	23.50
1984 to 1986.....	100.0	NC	0	0	87.6	9.6	100.0	NC	0	0	85.5	8.1	26.84
1987 to 1989.....	100.0	NC	Q	Q	Q	93.3	100.0	NC	Q	Q	89.4	47.08	
Census Region													
Northeast.....	100.0	3.5	10.0	28.0	32.0	26.5	100.0	3.8	10.9	31.2	32.3	21.8	17.52
Midwest.....	100.0	3.3	14.5	30.7	29.5	22.0	100.0	5.5	13.5	30.7	33.0	17.2	14.37
South.....	100.0	4.3	12.1	29.3	36.3	18.0	100.0	6.4	12.9	28.9	34.6	17.2	10.26
West.....	100.0	3.6	16.4	34.8	31.6	13.5	100.0	2.6	20.0	30.6	28.4	18.5	15.62
Metropolitan Status													
Metropolitan.....	100.0	3.7	12.9	30.5	34.0	18.9	100.0	5.0	14.0	29.0	33.8	18.1	7.76
Nonmetropolitan.....	100.0	4.2	14.1	30.3	31.1	20.2	100.0	4.8	13.9	36.1	26.1	19.1	13.60
Workers													
Fewer than 5.....	100.0	4.4	13.5	29.3	34.8	18.0	100.0	4.6	12.5	23.0	43.4	16.5	12.99
5 to 9.....	100.0	0	11.7	33.9	29.2	22.4	100.0	0	9.9	38.8	25.3	21.7	14.98
10 to 19.....	100.0	0	12.4	28.3	35.5	20.0	100.0	0	15.1	29.7	31.5	19.9	17.07
20 to 49.....	100.0	0	14.1	28.9	34.9	19.0	100.0	0	13.6	29.3	37.5	16.5	16.54
50 to 99.....	100.0	0	16.8	37.1	30.6	12.1	100.0	0	17.4	31.4	30.9	15.9	19.96
100 to 249.....	100.0	0	13.6	26.2	35.0	16.1	100.0	0	10.7	33.2	30.5	17.0	21.13
250 or More.....	100.0	7.3	17.6	28.1	31.0	16.1	100.0	6.2	17.1	28.1	28.0	20.6	23.49
Weekly Operating Hours													
39 or Fewer.....	100.0	0	15.8	32.3	35.2	12.4	100.0	0	13.0	30.4	36.9	14.6	20.70
40 to 48.....	100.0	3.3	12.5	29.9	32.7	21.6	100.0	6.1	13.9	26.5	28.2	25.4	14.39
49 to 60.....	100.0	3.9	15.1	28.6	33.3	19.1	100.0	4.6	12.5	33.9	32.9	16.1	13.92
61 to 84.....	100.0	6.6	12.9	26.6	33.6	20.3	100.0	5.5	13.5	32.9	31.8	16.3	17.86
85 to 167.....	100.0	0	10.6	34.8	31.9	20.9	100.0	0	19.6	25.0	37.0	16.0	19.84
168 (Open Continuously).....	100.0	Q	11.8	35.0	34.0	16.5	100.0	0	10.0	32.3	33.0	18.1	19.40
Energy Sources (Solely or in Combination)													
Electricity.....	100.0	3.8	13.2	30.5	33.3	19.2	100.0	5.0	13.9	30.1	32.6	18.3	7.03
Natural Gas.....	100.0	4.2	14.4	30.0	31.7	19.7	100.0	5.6	14.2	31.0	29.7	19.4	8.18
Fuel Oil.....	100.0	6.4	16.3	24.3	32.8	20.2	100.0	5.1	14.3	26.3	31.3	23.0	15.60
District Heat.....	100.0	4.3	11.8	32.3	33.6	18.0	100.0	9.0	22.0	19.3	34.5	15.1	36.27
District Chilled Water.....	100.0	0	Q	Q	Q	Q	100.0	0	Q	Q	Q	Q	68.58
Propane.....	100.0	0	15.1	28.5	28.8	25.9	100.0	0	28.5	20.7	33.3	13.4	29.17
Any Other.....	100.0	Q	Q	Q	Q	Q	100.0	0	Q	Q	Q	Q	48.71

See footnotes at end of table.

END USE EQUIPMENT
Table 92. Year Main Packaged Cooling System Installed, Percent of Buildings and Floorspace (Continued)

Building Characteristics	Percent of Buildings						Percent of Total Floorspace						RSE Row Factor	
	All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed					All Buildings with Packaged Cooling Systems	Year Main Packaged Cooling System Installed						
		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		1959 or Before	1960 to 1969	1970 to 1979	1980 to 1986	1987 to 1989		
RSE Column Factor:	--	1.987	1.040	0.675	0.569	0.844	--	1.990	1.237	0.806	0.759	0.991		
Energy End Uses (Solely or in Combination)														
Heated Buildings.....	100.0	4.0	13.4	31.2	32.8	18.6	100.0	5.1	14.1	30.3	32.5	18.0	7.04	
Air-Conditioned Buildings.....	100.0	3.8	13.2	30.5	33.3	19.2	100.0	5.0	14.0	30.1	32.6	18.3	7.03	
Buildings with Water Heating..	100.0	3.9	13.1	30.9	31.9	20.2	100.0	4.9	13.9	30.2	32.5	18.4	7.33	
Buildings with Cooking.....	100.0	3.1	12.4	34.5	28.9	21.1	100.0	5.4	14.5	32.1	31.2	16.7	12.89	
Buildings with Manufacturing....	100.0	Q	14.5	32.1	36.1	15.5	100.0	Q	25.3	26.1	25.6	19.4	26.78	
Percent Cooled														
Not Cooled.....	100.0	--	--	--	--	--	100.0	--	--	--	--	--	--	
1 to 50.....	100.0	3.9	11.8	28.8	36.0	19.5	100.0	3.9	13.5	27.4	33.0	21.1	13.44	
51 to 99.....	100.0	3.0	12.8	29.8	31.3	23.1	100.0	5.4	13.5	28.8	35.6	16.7	13.56	
100.....	100.0	4.1	14.0	31.6	32.7	17.7	100.0	5.5	14.5	32.9	30.6	16.4	10.26	

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 93. Special Cooling and Refrigeration Equipment, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Computer Area With Separate Air Conditioning System	Other Refrigeration Equipment Present								RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other		
			Refrigeration Units	Freezers	Refrigerators	Freezers						
RSE Column Factor:	0.589	1.347	0.953	0.998	0.673	1.174	0.940	0.760	0.749	3.132		
All Buildings.....	4,528	265	918	713	2,486	619	775	1,517	1,750	56	5.18	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	33	454	350	1,205	289	339	585	624	0	8.48	
5,001 to 10,000.....	890	46	149	109	520	142	140	300	392	0	10.60	
10,001 to 25,000.....	644	66	137	98	420	106	130	318	383	0	9.62	
25,001 to 50,000.....	247	44	73	59	175	38	65	151	174	0	10.39	
50,001 to 100,000.....	127	33	52	48	94	21	52	88	98	0	10.57	
100,001 to 200,000.....	61	26	31	30	46	17	28	50	52	0	11.98	
200,001 to 500,000.....	23	12	17	15	20	4	17	19	20	0	18.06	
Over 500,000.....	7	5	5	5	6	3	4	6	6	0	18.23	
Principal Building Activity												
Assembly.....	615	12	106	63	366	121	118	152	290	0	13.47	
Education.....	284	26	77	61	163	56	38	105	166	0	12.74	
Food Sales.....	102	0	93	91	24	0	51	63	16	0	24.10	
Food Service.....	241	0	223	193	105	94	204	128	41	0	16.23	
Health Care.....	80	10	14	14	67	31	14	21	44	0	23.49	
Lodging.....	140	7	34	29	111	46	61	79	49	0	17.92	
Mercantile and Service.....	1,278	54	246	171	704	116	158	506	460	0	9.14	
Office.....	679	106	35	26	545	59	62	236	397	11	11.30	
Parking Garage.....	45	0	0	0	18	0	0	0	13	0	54.03	
Public Order and Safety.....	50	0	0	0	45	0	0	28	28	0	36.16	
Warehouse.....	618	24	38	28	231	43	27	135	181	0	17.99	
Other.....	62	10	9	6	38	8	11	21	30	0	28.03	
Vacant.....	333	6	39	29	69	Q	23	35	35	NC	23.11	
Year Constructed												
1899 or Before.....	172	0	35	21	102	29	33	41	45	0	26.32	
1900 to 1919.....	242	4	36	35	150	29	31	58	70	0	20.84	
1920 to 1949.....	680	34	119	60	371	95	67	175	199	0	13.52	
1946 to 1959.....	868	41	184	140	468	115	136	275	325	13	10.77	
1960 to 1969.....	821	55	155	127	462	110	122	307	380	10	9.28	
1970 to 1979.....	884	48	220	179	452	113	207	314	358	19	9.72	
1980 to 1983.....	317	27	59	60	165	52	71	134	136	0	14.76	
1984 to 1986.....	329	28	56	42	200	46	60	123	151	0	16.14	
1987 to 1989.....	215	17	54	48	115	32	47	90	84	0	17.84	
Census Region												
Northeast.....	783	53	182	148	480	117	133	236	264	7	14.25	
Midwest.....	1,046	55	225	172	556	130	153	364	338	15	9.85	
South.....	1,847	100	350	261	959	248	353	646	834	25	8.60	
West.....	851	57	161	132	491	126	136	272	314	9	10.99	
Metropolitan Status												
Metropolitan.....	3,073	213	687	531	1,788	435	570	1,072	1,276	40	6.03	
Nonmetropolitan.....	1,454	52	230	181	698	185	205	1,445	1,474	0	12.36	
Workers												
Fewer than 5.....	2,280	18	365	269	1,056	286	281	491	559	0	8.89	
5 to 9.....	906	38	180	134	563	131	167	344	400	0	10.07	
10 to 19.....	507	41	126	92	355	72	103	247	297	0	12.43	
20 to 49.....	381	62	127	110	293	82	113	239	279	0	9.62	
50 to 99.....	132	42	57	53	102	24	53	99	108	0	10.46	
100 to 249.....	79	38	32	30	65	14	33	63	66	0	12.80	
250 or More.....	32	24	20	19	28	9	21	30	31	2	14.48	
Weekly Operating Hours												
39 or Fewer.....	876	8	79	51	303	65	50	97	203	0	15.92	
40 to 48.....	1,117	65	105	75	695	100	100	301	520	0	11.09	
49 to 60.....	987	82	113	84	656	120	93	365	469	9	9.48	
61 to 84.....	625	37	202	157	349	111	159	261	246	8	10.31	
85 to 167.....	515	27	278	228	242	127	224	265	159	15	10.07	
168 (Open Continuously).....	408	45	140	117	241	97	150	228	153	10	9.79	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	265	910	708	2,471	617	771	1,513	1,746	56	5.18	
Natural Gas.....	2,439	166	610	482	1,526	392	506	1,053	1,061	29	6.33	
Fuel Oil.....	586	57	133	96	376	91	94	245	260	6	15.03	
District Heat.....	105	24	24	19	68	18	29	59	87	0	20.35	
District Chilled Water.....	25	9	7	7	19	8	11	17	24	0	21.60	
Propane.....	348	16	99	84	218	75	91	128	127	0	19.74	
Any Other.....	130	7	26	16	77	22	15	52	42	0	30.42	

See footnotes at end of table.

END USE EQUIPMENT

Table 93. Special Cooling and Refrigeration Equipment, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Computer Area With Separate Air Conditioning System	Other Refrigeration Equipment Present								RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other		
			Refrigeration Units	Freezers	Refrigerators	Freezers						
RSE Column Factor:	0.589	1.347	0.953	0.998	0.673	1.174	0.940	0.760	0.749	3.132		
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	259	862	670	2,369	578	731	1,462	1,686	51	5.41	
Air-Conditioned Buildings.....	3,184	255	785	630	2,040	503	707	1,285	1,514	48	5.61	
Buildings with Water Heating..	3,184	247	841	676	2,108	562	730	1,353	1,487	55	5.53	
Buildings with Cooking.....	864	63	564	484	577	327	476	460	363	22	7.72	
Buildings with Manufacturing..	205	28	23	18	151	19	21	93	128	Q	18.70	

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

Table 94. Special Cooling and Refrigeration Equipment, Percent of Buildings

Building Characteristics	All Buildings	Computer Area with Separate Air-Conditioning System	Other Refrigeration Equipment Present								RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other		
			Refrigeration Units	Freezers	Refrigerators	Freezers						
RSE Column Factor	--	1.495	0.897	0.990	0.450	1.234	0.965	0.649	0.571	3.786		
All Buildings.....	100.0	5.9	20.3	15.7	54.9	13.7	17.1	33.5	38.7	1.2	4.30	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	100.0	1.3	18.0	13.8	47.7	11.4	13.4	23.1	24.7	0	7.92	
5,001 to 10,000.....	100.0	5.2	16.7	12.2	58.5	15.9	15.7	33.8	44.1	0	9.95	
10,001 to 25,000.....	100.0	10.3	21.2	15.2	65.2	16.4	20.3	49.4	59.6	0	7.67	
25,001 to 50,000.....	100.0	18.0	29.5	23.9	70.8	15.4	26.3	61.2	70.5	0	8.41	
50,001 to 100,000.....	100.0	25.5	41.1	37.6	73.8	16.7	40.5	68.9	76.9	0	7.67	
100,001 to 200,000.....	100.0	43.0	51.8	49.9	75.4	28.0	46.0	82.1	85.8	0	8.98	
200,001 to 500,000.....	100.0	51.9	71.1	62.7	85.7	18.8	71.9	83.2	86.9	0	8.92	
Over 500,000.....	100.0	65.5	69.0	67.0	79.9	34.8	62.1	88.3	87.5	0	11.99	
Principal Building Activity												
Assembly.....	100.0	1.9	17.3	10.3	59.5	19.6	19.2	24.7	47.2	0	12.44	
Education.....	100.0	9.0	27.0	21.4	57.2	19.7	13.5	36.9	58.5	0	11.01	
Food Sales.....	100.0	0	90.9	88.6	23.2	0	50.2	61.2	15.7	0	17.61	
Food Service.....	100.0	0	92.8	80.0	43.6	38.9	84.7	53.3	16.8	0	10.43	
Health Care.....	100.0	12.4	17.5	18.1	84.5	38.8	17.3	26.5	55.2	0	20.54	
Lodging.....	100.0	4.9	24.3	20.6	79.3	32.8	43.6	56.5	34.9	0	15.71	
Mercantile and Service.....	100.0	4.2	19.3	13.4	55.1	9.0	12.4	39.6	36.0	0	8.52	
Office.....	100.0	15.7	5.2	3.8	80.3	8.7	9.1	34.7	58.4	1	10.10	
Parking Garage.....	100.0	0	0	0	39.6	0	0	0	28.2	0	56.02	
Public Order and Safety.....	100.0	0	0	0	90.0	0	0	55.2	56.0	0	30.85	
Warehouse.....	100.0	3.8	6.3	4.6	37.4	7.0	4.4	21.9	29.3	0	16.57	
Other.....	100.0	15.7	13.9	9.9	61.4	13.6	17.3	33.4	49.1	0	25.64	
Vacant.....	100.0	1.9	11.8	8.8	20.7	Q	6.8	10.5	10.6	NC	25.64	
Year Constructed												
1899 or Before.....	100.0	0	20.1	12.0	59.2	16.7	19.3	24.1	26.5	0	25.12	
1900 to 1919.....	100.0	1.8	15.0	14.3	61.8	11.8	12.8	24.1	29.0	0	18.87	
1920 to 1945.....	100.0	5.0	17.5	8.8	54.6	13.9	9.9	25.8	29.3	0	12.67	
1946 to 1959.....	100.0	4.7	21.2	16.1	54.0	13.3	15.6	31.7	37.4	1	9.51	
1960 to 1969.....	100.0	6.7	18.9	15.5	56.3	13.4	14.8	37.4	46.3	0	9.24	
1970 to 1979.....	100.0	5.4	24.9	20.3	51.2	12.8	23.4	35.5	40.6	2	8.10	
1980 to 1983.....	100.0	8.4	18.6	19.0	52.0	16.3	22.5	42.2	43.0	0	13.89	
1984 to 1986.....	100.0	8.4	17.1	12.9	60.7	13.9	18.2	37.4	45.9	0	14.27	
1987 to 1989.....	100.0	7.8	25.0	22.5	53.5	14.7	22.1	41.8	39.1	0	15.73	
Census Region												
Northeast.....	100.0	6.8	23.2	18.9	61.3	14.9	16.9	30.2	33.7	.8	10.28	
Midwest.....	100.0	5.2	21.5	16.4	53.2	12.4	14.7	34.8	32.4	1.5	8.91	
South.....	100.0	5.4	18.9	14.1	51.9	13.4	19.1	34.9	45.1	1.4	6.15	
West.....	100.0	6.6	18.9	15.5	57.6	14.8	16.0	31.9	36.9	1.0	10.90	
Metropolitan Status												
Metropolitan.....	100.0	6.9	22.4	17.3	58.2	14.1	18.5	34.9	41.5	1.3	4.50	
Nonmetropolitan.....	100.0	3.6	15.8	12.5	48.0	12.7	14.1	30.6	32.6	Q	9.68	
Workers												
Fewer than 5.....	100.0	.8	16.0	11.8	46.3	12.6	12.3	21.5	24.5	0	8.46	
5 to 9.....	100.0	4.2	19.8	14.8	62.2	14.5	18.5	38.0	44.1	0	9.44	
10 to 19.....	100.0	8.2	24.9	18.1	70.1	14.2	20.2	48.7	58.5	0	10.07	
20 to 49.....	100.0	16.3	33.2	28.9	77.0	21.4	29.6	62.6	73.1	0	7.73	
50 to 99.....	100.0	31.8	43.4	40.0	77.7	18.2	40.1	75.4	82.3	0	7.38	
100 to 249.....	100.0	48.6	41.1	37.8	82.6	17.5	42.4	79.9	89.8	0	9.47	
250 or More.....	100.0	74.4	61.7	58.8	88.0	26.9	67.0	93.5	95.7	5.2	6.50	
Weekly Operating Hours												
39 or Fewer.....	100.0	1.0	9.1	5.8	34.6	7.4	5.7	11.1	23.2	0	15.68	
40 to 48.....	100.0	5.8	9.4	6.7	62.2	9.0	8.9	27.0	46.5	0	10.06	
49 to 60.....	100.0	8.3	11.4	8.5	66.4	12.1	9.4	37.0	47.6	.9	8.15	
61 to 84.....	100.0	5.9	32.4	25.1	55.8	17.7	25.4	41.7	39.4	1.3	9.30	
85 to 167.....	100.0	5.3	54.1	44.3	47.0	24.7	43.5	51.5	30.8	2.8	9.77	
168 (Open Continuously).....	100.0	11.1	34.2	28.7	59.0	23.7	36.7	55.9	37.4	2.5	9.57	
Energy Sources (Solely or in Combination)												
Electricity.....	100.0	6.2	21.2	16.5	57.5	14.4	17.9	35.2	40.6	1.3	4.29	
Natural Gas.....	100.0	6.8	25.0	19.8	62.6	16.1	20.7	39.1	43.5	1.2	5.30	
Fuel Oil.....	100.0	9.7	22.7	16.4	64.1	15.6	16.1	41.8	44.4	1.1	10.71	
District Heat.....	100.0	22.4	22.8	17.9	64.7	17.4	28.0	56.4	83.3	0	14.39	
District Chilled Water.....	100.0	34.8	28.6	27.4	74.6	33.4	42.9	67.9	95.7	0	15.82	
Propane.....	100.0	4.5	28.4	24.1	62.6	21.5	26.1	36.7	36.4	0	14.01	
Any Other.....	100.0	Q	19.9	12.3	58.9	17.0	11.6	39.6	32.4	Q	25.68	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	100.0	6.7	22.2	17.3	61.1	14.9	18.9	37.7	43.5	1.3	4.35	
Air-Conditioned Buildings.....	100.0	8.0	24.7	19.8	64.1	15.8	22.2	40.3	47.6	1.5	4.36	
Buildings with Water Heating.....	100.0	7.7	26.4	21.2	66.2	17.6	22.9	42.5	46.7	1.7	4.36	
Buildings with Cooking.....	100.0	7.3	65.3	56.1	66.8	37.9	55.1	53.3	42.1	2.6	6.42	
Buildings with Manufacturing.....	100.0	13.6	11.1	8.8	74.0	9.1	10.3	45.6	62.7	Q	16.30	

-- Data not applicable.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT

**Table 95. Special Cooling and Refrigeration Equipment, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Computer Area with Separate Air-Conditioning System	Other Refrigeration Equipment Present								RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other		
			Refrigeration Units	Freezers	Refrigerators	Freezers						
RSE Column Factor:	0.591	1.203	0.988	0.990	0.723	1.241	1.017	0.734	0.709	3.035		
All Buildings.....	63,184	16,685	24,663	21,675	44,264	12,421	23,443	38,865	42,864	1,408	5.81	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	6,790	95	1,201	940	3,463	819	909	1,661	1,877	0	8.91	
5,001 to 10,000.....	6,532	371	1,099	783	3,928	1,060	1,005	2,275	2,938	0	10.65	
10,001 to 25,000.....	10,393	1,099	2,256	1,624	6,736	1,803	2,158	5,238	6,294	0	9.70	
25,001 to 50,000.....	8,801	1,579	2,674	2,163	6,173	1,298	2,362	5,385	6,255	0	10.61	
50,001 to 100,000.....	9,130	2,380	3,716	3,404	6,777	1,491	3,737	6,336	7,155	0	10.70	
100,001 to 200,000.....	8,277	3,606	4,332	4,176	6,227	2,351	3,960	6,866	7,042	0	11.83	
200,001 to 500,000.....	7,022	3,648	4,959	4,252	5,979	1,331	5,133	5,656	5,924	0	18.25	
Over 500,000.....	6,239	3,908	4,426	4,333	4,981	2,268	4,178	5,447	5,379	0	20.89	
Principal Building Activity												
Assembly.....	6,838	765	1,664	1,174	4,712	1,999	2,212	2,988	4,757	0	16.09	
Education.....	8,148	2,205	5,340	4,934	6,458	2,385	3,139	5,674	6,355	0	13.46	
Food Sales.....	792	0	760	748	222	0	477	584	354	0	31.90	
Food Service.....	1,167	0	1,123	1,021	597	533	1,073	635	312	0	21.70	
Health Care.....	2,054	1,387	1,603	1,578	2,018	1,296	1,651	1,747	1,911	0	20.87	
Lodging.....	3,476	480	1,908	1,904	2,796	1,155	2,586	2,900	2,247	0	17.14	
Mercantile and Service.....	12,365	1,823	5,221	4,634	7,776	1,650	4,498	8,104	7,803	0	9.97	
Office.....	11,802	6,572	4,086	3,756	10,148	1,634	4,964	8,984	9,888	312	11.19	
Parking Garage.....	983	0	0	0	381	0	0	0	331	0	49.64	
Public Order and Safety.....	616	0	0	0	562	0	0	520	523	0	38.24	
Warehouse.....	9,253	1,518	1,107	914	5,596	946	859	4,726	5,891	0	20.65	
Other.....	1,529	644	535	460	1,361	435	737	953	1,352	0	30.72	
Vacant.....	4,161	Q	Q	378	Q	Q	Q	822	1,140	NC	42.77	
Year Constructed												
1899 or Before.....	1,654	0	407	244	1,130	265	406	561	733	0	31.56	
1900 to 1919.....	4,245	563	1,581	780	3,027	609	1,344	1,684	1,737	0	33.06	
1920 to 1945.....	8,098	1,884	2,548	2,000	5,372	1,448	1,887	4,549	5,232	0	17.87	
1946 to 1959.....	10,511	2,667	4,541	3,980	7,659	2,596	3,865	6,035	7,274	320	15.96	
1960 to 1969.....	12,167	3,209	5,139	5,032	8,693	2,394	4,811	8,308	9,049	224	8.72	
1970 to 1979.....	13,329	3,833	5,493	5,054	8,964	2,824	5,815	8,904	9,516	355	9.81	
1980 to 1983.....	4,274	1,423	1,437	1,417	2,962	952	1,749	2,844	3,086	0	13.62	
1984 to 1986.....	5,670	1,765	2,107	1,868	4,158	872	2,312	3,859	3,823	0	15.71	
1987 to 1989.....	3,235	1,111	1,411	1,300	2,299	461	1,254	2,122	2,416	0	19.66	
Census Region												
Northeast.....	13,569	3,979	5,734	5,322	10,386	3,041	4,473	7,788	9,194	126	12.04	
Midwest.....	15,955	4,136	7,218	5,809	11,419	3,149	5,950	9,927	10,303	0	12.21	
South.....	22,040	5,156	7,555	6,717	13,881	3,646	8,844	13,777	15,955	523	10.74	
West.....	11,620	3,413	4,156	3,828	8,578	2,584	4,177	7,373	7,413	240	12.36	
Metropolitan Status												
Metropolitan.....	50,809	15,024	21,076	18,549	36,927	10,141	20,033	32,396	35,832	1,275	6.69	
Nonmetropolitan.....	12,375	1,661	3,586	3,126	7,338	2,279	3,410	6,469	7,032	0	10.68	
Workers												
Fewer than 5.....	13,292	147	2,389	1,204	6,949	1,786	2,224	2,990	4,161	0	13.98	
5 to 9.....	7,939	434	1,438	1,137	4,852	1,319	1,488	3,727	4,688	0	13.98	
10 to 19.....	6,445	651	1,548	1,067	4,586	962	1,294	3,475	4,339	0	12.72	
20 to 49.....	9,666	2,250	3,622	3,241	7,998	2,512	3,384	6,919	8,075	0	11.99	
50 to 99.....	7,389	2,110	4,223	3,931	5,512	1,479	3,542	6,079	6,063	0	11.73	
100 to 249.....	6,771	3,606	3,961	3,757	5,572	1,240	3,720	6,146	5,972	0	12.36	
250 or More.....	9,829	7,417	7,402	7,292	8,661	3,117	7,754	9,458	9,305	586	15.83	
Weekly Operating Hours												
39 or Fewer.....	6,073	286	1,055	871	2,412	622	692	1,165	2,256	0	17.54	
40 to 48.....	13,905	3,256	3,503	2,895	10,096	2,081	3,452	7,694	10,132	0	12.12	
49 to 60.....	13,473	4,152	3,642	3,246	10,331	2,158	3,494	8,524	10,019	177	12.89	
61 to 84.....	10,777	2,759	5,457	5,037	7,678	2,266	4,714	7,493	7,946	202	11.48	
85 to 167.....	9,387	2,592	5,661	4,526	6,539	2,219	4,989	6,435	5,832	167	15.39	
168 (Open Continuously).....	9,569	3,641	5,344	5,100	7,209	3,075	6,103	7,553	6,679	0	11.06	
Energy Sources (Solely or in Combination)												
Electricity.....	61,587	16,679	24,606	21,634	44,185	12,412	23,406	38,816	42,798	1,408	5.82	
Natural Gas.....	41,593	12,253	19,798	17,406	31,700	9,282	17,917	28,097	30,506	1,029	6.83	
Fuel Oil.....	12,684	5,469	6,866	6,443	10,389	3,285	5,883	9,675	10,349	605	9.61	
District Heat.....	6,856	3,667	4,121	3,897	5,710	2,282	4,571	5,768	6,081	0	22.24	
District Chilled Water.....	2,101	1,393	1,050	1,030	1,505	690	1,276	1,849	2,064	0	24.67	
Propane.....	4,695	1,609	2,652	2,499	3,724	1,460	2,534	3,364	3,346	0	21.94	
Any Other.....	1,542	369	728	610	1,205	349	521	964	1,021	0	31.79	

See footnotes at end of table.

Table 95. Special Cooling and Refrigeration Equipment, Floorspace (Continued)
(Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Computer Area With Separate Air-Conditioning System	Other Refrigeration Equipment Present									RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other			
			Refrigeration Units	Freezers	Refrigerators	Freezers							
RSE Column Factor:	0.591	1.203	0.988	0.990	0.723	1.241	1.017	0.734	0.709	3.035			
Energy End Uses (Solely or in Combination)													
Heated Buildings.....	57,868	16,423	24,110	21,214	43,109	12,081	22,941	38,155	41,760	1,358	5.99		
Air-Conditioned Buildings.....	51,771	16,259	22,840	20,324	39,496	10,894	22,566	35,529	39,107	1,350	6.15		
Buildings with Water Heating..	53,585	16,141	24,103	21,351	41,509	12,087	22,890	36,952	39,876	1,381	6.03		
Buildings with Cooking.....	23,668	8,562	19,456	17,854	18,974	7,743	17,250	18,563	17,927	963	8.16		
Buildings with Manufacturing..	5,601	2,422	1,898	1,815	4,657	951	1,904	4,442	4,950	181	26.30		

O Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

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Table 96. Special Cooling and Refrigeration Equipment, Percent of Floorspace

Building Characteristics	Total Floorspace of All Buildings	Computer Area with Separate Air-Conditioning System	Other Refrigeration Equipment Present								RSE Row Factor	
			Commercial		Residential-Type		Ice-Making Machines	Refrigerated Vending Machines	Water Coolers	Other		
			Refrigeration Units	Freezers	Refrigerators	Freezers						
RSE Column Factor	--	1.330	0.942	1.061	0.463	1.637	0.979	0.505	0.449	4.476		
All Buildings.....	100.0	26.4	39.0	34.3	70.1	19.7	37.1	61.5	67.8	2.2	4.35	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	100.0	1.4	17.7	13.8	51.0	12.1	13.4	24.5	27.6	0	8.14	
5,001 to 10,000.....	100.0	5.7	16.8	12.0	60.1	16.2	15.4	34.8	45.0	0	9.78	
10,001 to 25,000.....	100.0	10.6	21.7	15.6	64.8	17.3	20.8	50.4	60.6	0	7.89	
25,001 to 50,000.....	100.0	17.9	30.4	24.6	70.1	14.7	26.8	61.2	71.1	0	8.53	
50,001 to 100,000.....	100.0	26.1	40.7	37.3	74.2	16.3	40.9	69.4	78.4	0	7.56	
100,001 to 200,000.....	100.0	43.6	52.3	50.5	75.2	28.4	47.8	83.0	85.1	0	8.88	
200,001 to 500,000.....	100.0	52.0	70.6	60.6	85.2	19.0	73.1	80.6	84.4	0	9.95	
Over 500,000.....	100.0	62.6	70.9	69.4	79.8	36.4	67.0	87.3	86.2	0	12.49	
Principal Building Activity												
Assembly.....	100.0	11.2	24.3	17.2	68.9	29.2	32.3	43.7	69.6	0	12.47	
Education.....	100.0	27.1	65.5	60.6	79.3	29.3	38.5	69.6	78.0	0	8.38	
Food Sales.....	100.0	0	95.9	94.4	28.0	0	60.2	73.8	44.7	0	15.09	
Food Service.....	100.0	0	96.3	87.5	51.2	45.7	92.0	54.4	26.7	0	10.26	
Health Care.....	100.0	67.5	78.1	76.8	98.2	63.1	80.4	85.1	93.0	0	5.05	
Lodging.....	100.0	13.8	54.9	54.8	80.4	33.2	74.4	83.4	64.7	0	11.20	
Mercantile and Service.....	100.0	14.7	42.2	37.5	62.9	13.3	36.4	65.5	63.1	0	7.88	
Office.....	100.0	55.7	34.6	31.8	86.0	13.8	42.1	76.1	83.8	2.6	7.59	
Parking Garage.....	100.0	0	0	0	38.8	0	0	0	33.7	0	47.35	
Public Order and Safety.....	100.0	0	0	0	91.1	0	0	84.3	84.9	0	26.10	
Warehouse.....	100.0	16.4	12.0	9.0	60.5	10.9	9.9	51.1	63.7	0	15.19	
Other.....	100.0	42.1	35.0	30.1	89.0	28.4	48.2	62.3	88.4	0	17.62	
Vacant.....	100.0	12.1	27.3	9.1	39.3	0	24.3	19.8	27.4	NC	29.89	
Year Constructed												
1899 or Before.....	100.0	0	24.6	14.8	68.3	16.0	24.5	33.9	44.3	0	26.43	
1900 to 1919.....	100.0	13.3	37.2	18.4	71.3	14.4	31.7	39.7	40.9	0	21.74	
1920 to 1945.....	100.0	23.3	31.5	24.7	66.3	17.9	23.3	56.2	64.6	0	13.22	
1946 to 1959.....	100.0	25.4	43.2	37.9	72.9	24.7	36.8	57.4	69.2	3.0	11.31	
1960 to 1969.....	100.0	26.4	42.2	41.4	71.4	19.7	39.5	68.3	74.4	1.8	6.41	
1970 to 1979.....	100.0	28.8	41.2	37.9	67.3	21.2	43.6	66.8	71.4	2.7	7.31	
1980 to 1983.....	100.0	33.3	33.6	33.1	69.3	22.3	40.9	66.5	72.2	0	10.31	
1984 to 1986.....	100.0	31.1	37.1	33.0	73.3	15.4	40.8	68.1	67.4	0	13.66	
1987 to 1989.....	100.0	34.3	43.6	40.2	71.1	14.2	38.8	65.6	74.7	0	12.11	
Census Region												
Northeast.....	100.0	29.3	42.3	39.2	76.5	22.4	33.0	57.4	67.8	.9	9.42	
Midwest.....	100.0	25.9	45.2	36.4	71.6	19.7	37.3	62.2	64.6	0	8.37	
South.....	100.0	23.4	34.3	30.5	63.0	16.5	40.1	62.5	72.4	2.4	6.52	
West.....	100.0	29.4	35.8	32.9	73.8	22.2	35.9	63.4	63.8	2.1	9.76	
Metropolitan Status												
Metropolitan.....	100.0	29.6	41.5	36.5	72.7	20.0	39.4	63.8	70.5	2.5	4.74	
Nonmetropolitan.....	100.0	13.4	29.0	25.3	59.3	18.4	27.6	52.3	56.8	Q	7.43	
Workers												
Fewer than 5.....	100.0	1.1	18.0	9.1	52.3	13.4	16.7	22.5	31.3	0	13.99	
5 to 9.....	100.0	5.5	18.1	14.3	61.1	16.6	18.7	46.9	59.1	0	12.94	
10 to 19.....	100.0	10.1	24.0	16.5	71.2	14.9	20.1	53.9	67.3	0	9.72	
20 to 49.....	100.0	23.3	37.5	33.5	82.8	26.0	35.0	71.6	83.5	0	8.13	
50 to 99.....	100.0	28.6	57.2	53.2	74.6	20.0	47.9	82.3	82.1	0	7.87	
100 to 249.....	100.0	53.3	58.5	55.5	82.3	18.3	54.9	90.8	88.2	0	7.06	
250 or More.....	100.0	75.5	75.3	74.2	88.1	31.7	78.9	96.2	94.7	6.0	5.81	
Weekly Operating Hours												
39 or Fewer.....	100.0	4.7	17.4	14.3	39.7	10.2	11.4	19.2	37.1	0	15.96	
40 to 48.....	100.0	23.4	25.2	20.8	72.6	15.0	24.8	55.3	72.9	0	9.67	
49 to 60.....	100.0	30.8	27.0	24.1	76.7	16.0	25.9	63.3	74.4	1.3	8.74	
61 to 84.....	100.0	25.6	50.6	46.7	71.2	21.0	43.7	69.5	73.7	1.9	9.06	
85 to 167.....	100.0	27.6	60.3	48.2	69.7	23.6	53.1	68.6	62.1	1.8	9.99	
168 (Open Continuously).....	100.0	38.0	55.8	53.3	75.3	32.1	63.8	78.9	69.8	5.6	6.93	
Energy Sources (Solely or in Combination)												
Electricity.....	100.0	27.1	40.0	35.1	71.7	20.2	38.0	63.0	69.5	2.3	4.36	
Natural Gas.....	100.0	29.5	47.6	41.8	76.2	22.3	43.1	67.6	73.3	2.5	5.15	
Fuel Oil.....	100.0	43.1	54.1	50.8	81.9	25.9	46.4	76.3	81.6	4.8	6.28	
District Heat.....	100.0	53.5	60.1	56.8	83.3	33.3	66.7	84.1	88.7	0	8.73	
District Chilled Water.....	100.0	66.3	50.0	49.0	71.6	32.9	60.7	88.0	98.3	0	11.02	
Propane.....	100.0	34.3	56.5	53.2	79.3	31.1	54.0	71.7	71.3	0	11.20	
Any Other.....	100.0	23.9	47.2	39.5	78.1	22.6	33.8	62.5	66.2	0	22.48	
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	100.0	28.4	41.7	36.7	74.5	20.9	39.6	65.9	72.2	2.3	4.35	
Air-Conditioned Buildings.....	100.0	31.4	44.1	39.3	76.3	21.0	43.6	68.6	75.5	2.6	4.60	
Buildings with Water Heating.....	100.0	30.1	45.0	39.8	77.5	22.6	42.7	69.0	74.4	2.6	4.38	
Buildings with Cooking.....	100.0	36.2	82.2	75.4	80.2	32.7	72.9	78.4	75.7	4.1	5.42	
Buildings with Manufacturing.....	100.0	43.2	33.9	32.4	83.1	17.0	34.0	79.3	88.4	3.2	13.12	

-- Data not applicable.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

END USE EQUIPMENT
**Table 97. Lighting Equipment, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Lit Buildings	Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
			Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	0.600	0.614	0.747	0.627	1.256	4.485	1.030
All Buildings.....	4,528	4,269	2,404	3,920	456	24	1,074	5.52
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	2,346	1,298	2,126	139	0	456	8.11
5,001 to 10,000.....	890	847	469	763	100	0	195	9.08
10,001 to 25,000.....	644	619	347	593	85	0	230	10.14
25,001 to 50,000.....	247	242	149	228	57	0	91	10.78
50,001 to 100,000.....	127	125	82	122	35	0	60	11.16
100,001 to 200,000.....	61	60	36	59	24	0	27	14.30
200,001 to 500,000.....	23	23	17	23	11	0	12	19.06
Over 500,000.....	7	7	6	7	5	0	4	16.32
Principal Building Activity								
Assembly.....	615	612	472	512	78	0	115	11.88
Education.....	284	284	136	274	41	0	101	14.61
Food Sales.....	102	102	47	102	0	0	28	26.97
Food Service.....	241	241	182	228	23	0	61	16.41
Health Care.....	80	80	50	78	13	0	28	23.52
Lodging.....	140	140	130	121	7	0	31	17.69
Mercantile and Service.....	1,278	1,275	598	1,237	124	0	337	7.80
Office.....	679	679	375	663	46	0	217	10.68
Parking Garage.....	45	45	19	37	12	NC	10	30.17
Public Order and Safety.....	50	50	27	48	0	NC	0	37.70
Warehouse.....	618	538	256	430	79	NC	78	13.11
Other.....	62	62	28	52	16	Q	20	32.35
Vacant.....	333	162	83	137	Q	NC	35	20.14
Year Constructed								
1899 or Before.....	172	161	137	140	0	NC	20	24.34
1900 to 1919.....	242	218	160	198	23	0	31	16.19
1920 to 1945.....	680	625	414	572	56	0	107	11.65
1946 to 1959.....	868	821	456	729	74	0	185	11.24
1960 to 1969.....	821	773	435	729	68	0	213	9.39
1970 to 1979.....	884	851	435	790	88	0	218	10.23
1980 to 1983.....	317	305	127	283	54	0	98	13.15
1984 to 1986.....	329	315	149	288	45	0	109	14.62
1987 to 1989.....	215	200	91	190	38	Q	94	17.92
Census Region								
Northeast.....	783	748	460	686	98	0	234	14.20
Midwest.....	1,046	987	602	907	123	0	255	9.32
South.....	1,847	1,718	876	1,572	146	0	363	10.68
West.....	851	816	466	755	90	Q	222	11.56
Metropolitan Status								
Metropolitan.....	3,073	2,930	1,659	2,742	330	15	808	6.34
Nonmetropolitan.....	1,454	1,339	745	1,178	126	Q	266	13.31
Workers								
Fewer than 5.....	2,280	2,204	1,233	1,924	168	0	386	7.64
5 to 9.....	906	903	503	870	92	0	252	8.74
10 to 19.....	507	507	288	489	58	0	151	12.37
20 to 49.....	381	381	214	378	70	0	151	9.31
50 to 99.....	132	132	81	131	32	0	67	11.01
100 to 249.....	79	79	52	79	21	0	41	13.44
250 or More.....	32	32	24	32	14	1	17	15.18
Weekly Operating Hours								
39 or Fewer.....	876	663	388	528	46	0	102	14.50
40 to 48.....	1,117	1,098	553	1,046	105	0	268	9.32
49 to 60.....	987	978	525	939	95	0	245	8.96
61 to 84.....	625	620	374	583	89	0	173	9.60
85 to 167.....	515	513	307	472	69	0	159	11.95
168 (Open Continuously).....	408	397	257	352	52	0	128	10.66
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	4,265	2,404	3,920	456	24	1,070	5.52
Natural Gas.....	2,439	2,430	1,458	2,308	276	20	650	6.46
Fuel Oil.....	586	585	360	550	68	0	164	17.39
District Heat.....	105	101	61	100	23	0	43	21.27
District Chilled Water.....	25	25	14	25	6	0	12	20.44
Propane.....	348	348	205	322	37	0	83	19.62
Any Other.....	130	129	65	115	9	Q	22	28.24
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	3,860	2,194	3,641	410	22	1,032	5.66
Air-Conditioned Buildings.....	3,184	3,179	1,785	3,059	341	19	890	6.09
Buildings with Water Heating.....	3,184	3,170	1,872	3,046	361	21	913	5.92
Buildings with Cooking.....	864	863	626	828	122	8	268	8.45
Buildings with Manufacturing.....	205	204	97	196	38	Q	58	16.85

See footnotes at end of table.

END USE EQUIPMENT

Table 97. Lighting Equipment, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	All Lit Buildings	Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
			Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	0.600	0.614	0.747	0.627	1.256	4.485	1.030
Percent Lit When Open								
Not Lit.....	306	48	23	23	0	NC	9	33.06
1 to 50.....	1,002	1,002	602	903	85	0	179	10.20
51 to 99.....	951	951	611	905	104	0	269	9.54
100.....	2,269	2,269	1,168	2,088	267	12	617	7.15
Percent Lit When Closed								
Not Lit.....	2,693	2,434	1,290	2,167	218	0	549	7.47
1 to 50.....	1,706	1,706	1,041	1,646	209	0	488	7.82
51 to 99.....	68	68	39	68	8	0	24	19.83
100.....	62	62	35	40	0	0	13	35.28
Lighting Equipment (Solely or in Combination)								
Incandescent.....	2,404	2,404	2,404	2,101	270	22	558	6.41
Fluorescent.....	3,920	3,920	2,101	3,920	402	23	1,058	5.47
High-Intensity Discharge.....	456	456	270	402	456	9	177	8.99
Other.....	24	24	22	23	9	24	6	29.27

NC No cases in sample.

0 Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 98. Lighting Equipment, Percent of Buildings

Building Characteristics	All Lit Buildings	Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
		Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	--	0.602	0.152	1.581	6.344	1.090
All Buildings.....	100.0	56.3	91.8	10.7	0.6	25.2	4.26
Building Floorspace (Square Feet)							
1,001 to 5,000.....	100.0	55.3	90.6	5.9	0	19.4	6.39
5,001 to 10,000.....	100.0	55.4	90.0	11.8	0	23.1	8.04
10,001 to 25,000.....	100.0	56.1	95.7	13.7	0	37.1	7.21
25,001 to 50,000.....	100.0	61.4	94.1	23.7	0	37.6	8.77
50,001 to 100,000.....	100.0	65.5	97.7	27.7	0	48.2	6.81
100,001 to 200,000.....	100.0	60.2	98.8	40.3	0	44.3	8.17
200,001 to 500,000.....	100.0	73.0	98.8	48.5	0	50.3	8.06
Over 500,000.....	100.0	83.0	99.5	69.8	0	55.9	5.87
Principal Building Activity							
Assembly.....	100.0	77.2	83.8	12.8	0	18.8	9.26
Education.....	100.0	48.0	96.4	14.3	0	35.4	10.75
Food Sales.....	100.0	45.5	100.0	0	0	27.8	22.25
Food Service.....	100.0	75.5	94.9	9.6	0	25.2	11.91
Health Care.....	100.0	62.0	98.1	16.8	0	34.7	15.42
Lodging.....	100.0	93.1	86.7	4.8	0	22.3	11.35
Mercantile and Service.....	100.0	46.9	97.0	9.7	0	26.4	6.42
Office.....	100.0	55.2	97.6	6.8	0	32.0	7.30
Parking Garage.....	100.0	43.1	83.8	26.9	NC	23.1	29.79
Public Order and Safety.....	100.0	53.8	96.1	0	NC	0	30.22
Warehouse.....	100.0	47.6	79.9	14.6	NC	14.5	12.74
Other.....	100.0	46.0	84.5	26.4	0	33.1	21.66
Vacant.....	100.0	51.3	84.4	Q	NC	21.8	22.20
Year Constructed							
1899 or Before.....	100.0	84.8	87.1	0	NC	12.2	16.75
1900 to 1919.....	100.0	73.2	90.7	10.5	0	14.1	13.10
1920 to 1945.....	100.0	66.2	91.5	8.9	0	17.1	9.70
1946 to 1960.....	100.0	55.6	88.8	9.0	0	22.6	9.61
1960 to 1969.....	100.0	56.2	94.3	8.7	0	27.5	7.80
1970 to 1979.....	100.0	51.1	92.9	10.3	0	25.6	8.31
1980 to 1983.....	100.0	41.7	93.0	17.8	0	32.2	10.80
1984 to 1986.....	100.0	47.4	91.6	14.3	0	34.5	12.39
1987 to 1989.....	100.0	45.5	95.0	19.2	0	47.1	12.53
Census Region							
Northeast.....	100.0	61.5	91.7	13.1	0	31.3	7.67
Midwest.....	100.0	61.0	91.8	12.5	0	25.8	6.42
South.....	100.0	51.0	91.5	8.5	0	21.1	9.05
West.....	100.0	57.1	92.5	11.0	0	27.2	8.87
Metropolitan Status							
Metropolitan.....	100.0	56.6	93.6	11.3	.5	27.6	4.14
Nonmetropolitan.....	100.0	55.7	88.0	9.4	0	19.9	9.81
Workers							
Fewer than 5.....	100.0	55.9	87.3	7.6	0	17.5	7.02
5 to 9.....	100.0	55.6	96.2	10.2	0	27.9	7.09
10 to 19.....	100.0	56.9	96.6	11.5	0	29.8	8.29
20 to 49.....	100.0	56.1	99.2	18.4	0	39.7	6.05
50 to 99.....	100.0	61.6	99.7	24.3	0	50.8	5.73
100 to 249.....	100.0	65.8	100.0	26.5	0	52.2	9.78
250 or More.....	100.0	74.6	100.0	45.2	2.0	52.0	6.90
Weekly Operating Hours							
39 or Fewer.....	100.0	58.5	79.7	6.9	0	15.4	12.89
40 to 48.....	100.0	50.3	95.2	9.6	0	24.4	6.82
49 to 60.....	100.0	53.7	96.0	9.7	0	25.1	6.93
61 to 84.....	100.0	60.3	94.0	14.3	0	27.9	8.02
85 to 167.....	100.0	59.9	92.0	13.5	0	31.0	8.83
168 (Open Continuously).....	100.0	64.8	88.8	13.2	0	32.2	11.38
Energy Sources (Solely or in Combination)							
Electricity.....	100.0	56.4	91.9	10.7	.6	25.1	4.26
Natural Gas.....	100.0	60.0	95.0	11.4	.8	26.8	4.47
Fuel Oil.....	100.0	61.6	94.1	11.6	0	28.0	9.51
District Heat.....	100.0	60.3	99.1	22.5	0	42.6	10.46
District Chilled Water.....	100.0	54.6	99.9	24.9	0	49.1	15.92
Propane.....	100.0	59.0	92.5	10.6	0	24.0	12.47
Any Other.....	100.0	50.9	89.7	7.2	0	17.2	21.07
Energy End Uses (Solely or in Combination)							
Heated Buildings.....	100.0	56.8	94.3	10.6	.6	26.7	3.98
Air-Conditioned Buildings.....	100.0	56.2	96.2	10.7	.6	28.0	4.08
Buildings with Water Heating.....	100.0	59.1	96.1	11.4	.7	28.8	3.81
Buildings with Cooking.....	100.0	72.5	95.9	14.1	.9	31.0	5.80
Buildings with Manufacturing.....	100.0	47.5	96.0	18.8	0	28.4	12.71

See footnotes at end of table.

END USE EQUIPMENT

Table 98. Lighting Equipment, Percent of Buildings (Continued)

Building Characteristics	All Lit Buildings	Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
		Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	--	0.602	0.152	1.581	6.344	1.090
Percent Lit When Open							
Not Lit.....	100.0	48.5	48.5	0	NC	19.7	45.52
1 to 50.....	100.0	60.1	90.2	8.6	Q	17.9	7.76
51 to 99.....	100.0	64.2	95.2	10.9	Q	28.2	6.91
100.....	100.0	51.5	92.0	11.8	.5	27.2	5.52
Percent Lit When Closed							
Not Lit.....	100.0	53.0	89.0	9.0	Q	22.6	5.91
1 to 50.....	100.0	61.0	96.5	12.3	Q	28.6	4.61
51 to 99.....	100.0	57.1	100.0	11.2	Q	35.8	14.88
100.....	100.0	55.8	65.0	34.1	Q	21.7	34.92
Lighting Equipment (Solely or in Combination)							
Incandescent.....	100.0	100.0	87.4	11.2	.9	23.2	5.03
Fluorescent.....	100.0	53.6	100.0	10.3	.6	27.0	4.28
High-Intensity Discharge.....	100.0	59.2	88.2	100.0	2.0	38.9	9.08
Other.....	100.0	93.2	95.5	38.1	100.0	24.3	20.76

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 99. Lighting Equipment, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Lit Buildings	Total Floorspace by Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
			Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	0.653	0.664	0.768	0.683	1.285	3.590	0.953
All Buildings.....	63,184	61,396	38,790	58,893	18,188	513	24,226	4.97
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	6,376	3,598	5,817	390	0	1,268	7.93
5,001 to 10,000.....	6,532	6,241	3,418	5,668	717	0	1,454	9.32
10,001 to 25,000.....	10,393	9,954	5,567	9,535	1,350	0	3,657	10.08
25,001 to 50,000.....	8,801	8,628	5,333	8,105	2,037	0	3,178	11.07
50,001 to 100,000.....	9,130	8,932	5,859	8,733	2,462	0	4,227	11.30
100,001 to 200,000.....	8,277	8,170	4,975	8,089	3,354	0	3,630	13.95
200,001 to 500,000.....	7,022	7,002	4,957	6,903	3,415	0	3,419	18.92
Over 500,000.....	6,239	6,092	5,084	6,053	4,462	0	3,394	18.94
Principal Building Activity								
Assembly.....	6,838	6,779	5,506	6,209	2,168	0	2,345	14.83
Education.....	8,148	8,148	5,528	8,018	3,252	0	3,508	13.13
Food Sales.....	792	792	316	792	0	0	439	33.25
Food Service.....	1,167	1,167	928	1,102	120	0	327	20.80
Health Care.....	2,054	2,054	1,754	2,053	857	0	1,168	21.43
Lodging.....	3,476	3,476	3,148	3,288	541	0	1,146	17.47
Mercantile and Service.....	12,365	12,352	6,816	12,212	2,893	0	5,287	8.68
Office.....	11,802	11,802	7,986	11,739	3,493	0	5,631	10.22
Parking Garage.....	983	983	382	842	659	0	251	30.59
Public Order and Safety.....	616	616	373	604	0	0	0	37.62
Warehouse.....	9,253	8,817	4,110	7,876	2,641	0	2,513	16.36
Other.....	1,529	1,528	887	1,469	776	0	692	30.03
Vacant.....	4,161	2,881	1,056	2,689	0	0	684	27.90
Year Constructed								
1899 or Before.....	1,654	1,539	1,288	1,453	0	0	340	27.82
1900 to 1919.....	4,245	3,823	2,301	3,894	545	0	770	24.47
1920 to 1945.....	8,098	7,841	5,422	7,547	1,970	0	2,963	13.84
1946 to 1959.....	10,511	10,148	7,054	9,597	2,869	0	3,456	12.79
1960 to 1969.....	12,167	11,949	7,833	11,537	3,306	0	4,541	8.89
1970 to 1979.....	13,329	13,144	7,926	12,716	4,258	0	5,901	9.57
1980 to 1983.....	4,274	4,189	2,175	4,065	1,698	0	1,974	12.32
1984 to 1986.....	5,670	5,626	3,262	5,259	1,756	0	2,228	13.70
1987 to 1989.....	3,235	3,136	1,528	3,024	1,562	0	2,052	17.71
Census Region								
Northeast.....	13,569	13,292	9,085	12,857	4,570	0	5,671	11.08
Midwest.....	15,955	15,631	10,434	15,084	5,375	0	6,256	10.81
South.....	22,040	21,191	12,159	20,063	5,154	0	7,788	10.61
West.....	11,620	11,281	7,112	10,888	3,090	0	4,512	9.74
Metropolitan Status								
Metropolitan.....	50,809	49,694	31,739	48,266	15,953	432	20,423	5.71
Nonmetropolitan.....	12,375	11,701	7,051	10,627	2,235	0	3,803	11.74
Workers								
Fewer than 5.....	13,292	12,881	7,253	11,200	1,682	0	2,509	10.04
5 to 9.....	7,939	7,927	4,258	7,572	1,063	0	2,402	12.04
10 to 19.....	6,445	6,443	3,344	6,230	1,182	0	2,271	13.04
20 to 49.....	9,665	9,665	5,945	9,628	3,263	0	4,446	11.78
50 to 99.....	7,389	7,389	5,017	7,354	2,367	0	3,285	12.02
100 to 249.....	6,771	6,771	4,721	6,763	2,451	0	3,742	12.72
250 or More.....	9,829	9,829	8,030	9,829	6,107	256	5,379	14.96
Weekly Operating Hours								
39 or Fewer.....	6,073	4,591	2,867	3,802	603	0	993	13.53
40 to 48.....	13,905	13,794	7,254	13,444	3,506	0	5,268	10.14
49 to 60.....	13,473	13,350	8,336	13,147	3,384	0	4,485	10.87
61 to 84.....	10,777	10,748	7,593	10,556	4,351	0	5,249	10.32
85 to 167.....	9,387	9,377	5,914	8,909	3,402	0	3,897	14.49
168 (Open Continuously).....	9,569	9,536	6,826	9,034	2,943	0	4,334	10.68
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	61,331	38,785	58,887	18,183	513	24,161	4.97
Natural Gas.....	41,593	41,539	27,615	40,256	12,745	418	16,948	6.05
Fuel Oil.....	12,684	12,595	9,072	12,384	4,578	0	6,313	9.63
District Heat.....	6,856	6,833	5,171	6,827	3,737	0	3,297	19.55
District Chilled Water.....	2,101	2,101	1,273	2,100	958	0	1,235	23.64
Propane.....	4,695	4,695	3,361	4,582	1,879	0	1,902	19.57
Any Other.....	1,542	1,537	1,025	1,510	279	0	574	29.25
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	57,740	36,987	56,445	17,426	507	23,623	5.24
Air-Conditioned Buildings.....	51,771	51,735	33,151	50,974	16,006	486	21,556	5.49
Buildings with Water Heating.....	53,585	53,528	34,974	52,665	16,900	457	22,481	5.27
Buildings with Cooking.....	23,668	23,663	18,048	23,454	9,681	379	11,129	7.86
Buildings with Manufacturing.....	5,601	5,582	3,293	5,537	2,484	0	1,780	22.31

See footnotes at end of table.

END USE EQUIPMENT
Table 99. Lighting Equipment, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of All Lit Buildings	Total Floorspace by Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
			Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	0.653	0.664	0.768	0.683	1.285	3.590	0.953
Percent Lit When Open								
Not Lit.....	2,359	571	267	359	0	NC	199	29.17
1 to 50.....	10,870	10,870	6,019	10,139	1,440	0	2,540	10.92
51 to 99.....	16,950	16,950	12,357	16,615	5,613	0	7,468	10.05
100.....	33,004	33,004	20,147	31,780	11,058	286	14,019	7.02
Percent Lit When Closed								
Not Lit.....	28,054	26,266	14,377	24,533	5,374	0	8,143	7.66
1 to 50.....	31,825	31,825	22,121	31,188	11,387	275	14,218	7.02
51 to 99.....	2,309	2,309	1,680	2,309	869	0	1,455	18.03
100.....	997	997	613	862	558	0	410	25.14
Lighting Equipment (Solely or in Combination)								
Incandescent.....	38,790	38,790	38,790	36,844	13,015	498	15,194	5.44
Fluorescent.....	58,893	58,893	36,844	58,893	17,593	506	23,982	5.07
High-Intensity Discharge.....	18,188	18,188	13,015	17,593	18,188	324	9,537	9.20
Other.....	513	513	498	506	324	513	346	20.30

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 100. Lighting Equipment, Percent of Floorspace

Building Characteristics	Total Floorspace of All Lit Buildings	Total Floorspace by Lighting Equipment Used (Solely or in Combination)					RSE Row Factor	
		Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts		
		RSE Column Factor:	--	0.754	0.104	1.647	6.203	1.254
All Buildings.....	100.0	63.2	95.9	29.6	0.8	39.5	3.45	
Building Floorspace (Square Feet)								
1,001 to 5,000.....	100.0	56.4	91.2	6.1	0	19.9	6.27	
5,001 to 10,000.....	100.0	54.8	90.7	11.5	0	23.3	7.89	
10,001 to 25,000.....	100.0	55.9	95.8	13.6	0	36.7	7.25	
25,001 to 50,000.....	100.0	61.8	93.9	23.6	0	36.8	9.21	
50,001 to 100,000.....	100.0	65.6	97.8	27.6	0	47.3	6.97	
100,001 to 200,000.....	100.0	60.9	99.0	41.0	0	44.4	7.82	
200,001 to 500,000.....	100.0	70.8	98.6	48.8	0	48.8	9.06	
Over 500,000.....	100.0	83.4	99.4	73.2	0	55.7	6.30	
Principal Building Activity								
Assembly.....	100.0	81.2	91.6	32.0	0	34.6	9.81	
Education.....	100.0	67.9	98.4	39.9	0	43.1	8.95	
Food Sales.....	100.0	39.9	100.0	0	0	55.4	19.14	
Food Service.....	100.0	79.5	94.4	10.3	0	28.0	13.78	
Health Care.....	100.0	85.4	99.9	41.7	0	56.9	4.82	
Lodging.....	100.0	90.6	94.6	15.6	0	33.0	10.87	
Mercantile and Service.....	100.0	55.2	98.9	23.4	0	42.8	5.15	
Office.....	100.0	67.7	99.5	29.6	0	47.7	5.01	
Parking Garage.....	100.0	38.8	85.6	67.0	NC	25.5	23.82	
Public Order and Safety.....	100.0	60.5	98.0	0	NC	0	24.27	
Warehouse.....	100.0	46.6	89.3	30.0	NC	28.5	11.11	
Other.....	100.0	58.0	96.1	50.8	0	45.3	15.53	
Vacant.....	100.0	36.6	93.3	0	NC	23.7	27.05	
Year Constructed								
1899 or Before.....	100.0	83.7	94.4	0	NC	22.1	16.91	
1900 to 1919.....	100.0	60.2	96.6	14.3	0	20.1	18.33	
1920 to 1945.....	100.0	69.2	96.3	25.1	0	37.8	8.41	
1946 to 1959.....	100.0	69.5	94.6	28.3	0	34.1	8.07	
1960 to 1969.....	100.0	65.6	96.6	27.7	0	38.0	6.72	
1970 to 1979.....	100.0	60.3	96.7	32.4	0	44.9	5.98	
1980 to 1983.....	100.0	51.9	97.0	40.5	0	47.1	7.62	
1984 to 1986.....	100.0	58.0	93.5	31.2	0	39.6	11.41	
1987 to 1989.....	100.0	48.7	96.5	49.8	0	65.4	9.30	
Census Region								
Northeast.....	100.0	68.3	96.7	34.4	0	42.7	5.67	
Midwest.....	100.0	66.8	96.5	34.4	0	40.0	6.39	
South.....	100.0	57.4	94.7	24.3	0	36.7	6.42	
West.....	100.0	63.0	96.5	27.4	0	40.0	6.65	
Metropolitan Status								
Metropolitan.....	100.0	63.9	97.1	32.1	0	41.1	3.55	
Nonmetropolitan.....	100.0	60.3	90.8	19.1	0	32.5	9.07	
Workers								
Fewer than 5.....	100.0	56.3	86.9	13.1	0	19.5	9.57	
5 to 9.....	100.0	53.7	95.5	13.4	0	30.3	10.90	
10 to 19.....	100.0	51.9	96.7	18.3	0	35.2	8.66	
20 to 49.....	100.0	61.5	99.6	33.8	0	46.0	5.54	
50 to 99.....	100.0	67.9	99.5	32.0	0	44.5	6.65	
100 to 249.....	100.0	69.7	99.9	36.2	0	55.3	5.04	
250 or More.....	100.0	81.7	100.0	62.1	2.6	54.7	5.18	
Weekly Operating Hours								
39 or Fewer.....	100.0	62.4	82.8	13.1	0	21.6	12.62	
40 to 48.....	100.0	52.6	97.5	25.4	0	38.2	6.39	
49 to 60.....	100.0	62.4	98.5	25.4	0	33.6	5.69	
61 to 84.....	100.0	70.6	98.2	40.5	0	46.8	5.44	
85 to 167.....	100.0	63.1	95.0	36.3	0	41.6	10.04	
168 (Open Continuously).....	100.0	71.6	94.7	30.9	0	45.5	6.60	
Energy Sources (Solely or in Combination)								
Electricity.....	100.0	63.2	96.0	29.6	.8	39.4	3.45	
Natural Gas.....	100.0	66.5	98.1	30.7	1.0	40.8	3.66	
Fuel Oil.....	100.0	72.0	98.3	36.3	0	50.1	5.78	
District Heat.....	100.0	75.7	99.9	54.7	0	48.2	4.71	
District Chilled Water.....	100.0	60.6	100.0	45.6	0	58.8	13.04	
Propane.....	100.0	71.6	97.6	40.0	0	40.5	9.48	
Any Other.....	100.0	66.7	98.2	18.2	0	37.4	15.65	
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	100.0	64.1	97.8	30.2	.9	40.9	3.35	
Air-Conditioned Buildings.....	100.0	64.1	98.5	30.9	.9	41.7	3.37	
Buildings with Water Heating.....	100.0	65.3	98.4	31.6	.9	42.0	3.27	
Buildings with Cooking.....	100.0	76.3	99.1	40.9	1.6	47.0	4.02	
Buildings with Manufacturing.....	100.0	59.0	99.2	44.5	0	31.9	9.75	

See footnotes at end of table.

END USE EQUIPMENT

Table 100. Lighting Equipment, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Lit Buildings	Total Floorspace by Lighting Equipment Used (Solely or in Combination)					RSE Row Factor
		Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other Lighting	High-Efficiency Ballasts	
	RSE Column Factor:	--	0.754	0.104	1.647	6.203	1.254
Percent Lit When Open							
Not Lit.....	100.0	46.8	62.8	0	NC	34.9	37.63
1 to 50.....	100.0	55.4	93.3	13.2	0	23.4	10.63
51 to 99.....	100.0	72.9	98.0	33.1	0	44.1	4.90
100.....	100.0	61.0	96.3	33.5	.9	42.5	4.21
Percent Lit When Closed							
Not Lit.....	100.0	54.7	93.4	20.5	0	31.0	5.66
1 to 50.....	100.0	69.5	98.0	35.8	0	44.7	4.64
51 to 99.....	100.0	72.8	100.0	37.6	0	63.0	7.68
100.....	100.0	61.5	86.5	56.0	0	41.1	17.39
Lighting Equipment (Solely or in Combination)							
Incandescent.....	100.0	100.0	95.0	33.6	1.3	39.2	4.07
Fluorescent.....	100.0	62.6	100.0	29.9	.9	40.7	3.48
High-Intensity Discharge.....	100.0	71.6	96.7	100.0	1.8	52.4	4.96
Other.....	100.0	97.1	98.6	63.1	100.0	67.5	7.48

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 101. Lighting Equipment, Lit Floorspace
(Million Square Feet)**

Building Characteristics	Total Lit Floorspace of All Buildings	Total Floorspace Lit by Type of Lighting Equipment				RSE Row Factor
		Incandescent Bulbs	Fluorescent Lamps	High-Intensity Discharge Lamps	Other	
	RSE Column Factor:	0.512	0.814	0.527	1.216	3.741
All Buildings.....	50,614	7,630	40,109	4,494	26	7.05
High-Efficiency Ballasts						
Not Present.....	29,397	5,420	22,596	2,310	0	9.80
Present.....	21,217	2,210	17,513	2,184	18	10.04
Year Constructed						
Before 1920.....	3,345	856	2,472	0	0	28.69
1920 to 1945.....	6,263	1,324	4,735	413	0	19.85
1946 to 1959.....	8,456	1,378	6,943	544	0	16.97
1960 to 1969.....	10,226	1,358	8,369	864	0	10.49
1970 to 1979.....	11,661	1,467	9,357	1,189	0	13.23
1980 to 1986.....	8,093	1,070	6,310	876	0	15.85
1987 to 1989.....	2,570	178	1,923	526	0	21.95

0 Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

CONSERVATION FEATURES

**Table 102. Building Shell Conservation Features as of July 1, 1989, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor	
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking		
		RSE column Factor:	0.808	0.843	0.905	1.049	1.118	1.260	1.147	0.956
All Buildings.....	4,528	3,819	3,057	2,026	1,440	944	1,473	2,774	3.95	
Building Floorspace (Square Feet)										
1,001 to 5,000.....	2,529	2,068	1,628	1,092	754	413	728	1,439	5.35	
5,001 to 10,000.....	890	757	613	399	272	198	318	565	6.35	
10,001 to 25,000.....	644	572	475	322	233	172	245	429	7.22	
25,001 to 50,000.....	247	221	178	107	90	79	89	176	7.72	
50,001 to 100,000.....	127	118	95	62	52	42	53	97	8.40	
100,001 to 200,000.....	61	57	47	30	25	24	24	45	10.57	
200,001 to 500,000.....	23	20	16	11	10	11	12	17	15.95	
Over 500,000.....	7	6	5	3	3	4	5	6	16.58	
Principal Building Activity										
Assembly.....	615	555	426	274	243	155	160	421	9.02	
Education.....	284	268	221	136	76	64	136	205	10.37	
Food Sales.....	102	87	73	54	38	0	27	62	19.85	
Food Service.....	241	224	186	127	108	60	125	176	11.63	
Health Care.....	80	78	63	48	45	21	39	59	18.36	
Lodging.....	140	132	100	73	56	25	72	119	11.04	
Mercantile and Service.....	1,278	1,084	873	559	363	220	407	730	5.83	
Office.....	679	657	559	422	327	240	309	508	7.06	
Parking Garage.....	45	34	24	0	0	0	0	23	35.59	
Public Order and Safety.....	50	42	32	16	14	0	13	34	28.80	
Warehouse.....	618	382	288	175	78	79	101	240	11.86	
Other.....	62	52	41	29	16	16	14	42	25.13	
Vacant.....	333	225	171	101	68	31	63	154	11.48	
Year Constructed										
1899 or Before.....	172	145	88	38	79	21	64	104	18.14	
1900 to 1919.....	242	178	115	68	93	28	61	106	14.30	
1920 to 1945.....	680	532	367	199	195	76	183	371	8.64	
1946 to 1959.....	868	707	559	288	213	138	268	494	7.61	
1960 to 1969.....	821	697	549	337	221	154	274	493	7.18	
1970 to 1979.....	884	778	672	480	277	252	306	578	6.36	
1980 to 1983.....	317	286	253	220	118	92	106	231	9.12	
1984 to 1986.....	329	303	272	239	138	114	127	237	8.98	
1987 to 1989.....	215	193	181	157	105	70	84	162	13.59	
Census Region										
Northeast.....	783	664	521	363	360	86	241	501	9.63	
Midwest.....	1,046	890	715	521	492	178	298	694	6.47	
South.....	1,847	1,551	1,269	807	428	448	633	1,100	6.66	
West.....	851	714	551	334	160	232	301	479	8.80	
Metropolitan Status										
Metropolitan.....	3,073	2,656	2,109	1,385	940	703	1,038	1,937	4.88	
Nonmetropolitan.....	1,454	1,163	947	641	500	241	435	837	8.95	
Workers										
Fewer than 5.....	2,280	1,803	1,399	900	620	338	568	1,231	5.00	
5 to 9.....	906	829	672	459	324	210	360	600	6.49	
10 to 19.....	507	474	400	267	188	140	216	361	9.06	
20 to 49.....	381	363	302	212	175	130	181	302	6.33	
50 to 99.....	132	127	104	67	47	50	67	104	8.63	
100 to 249.....	79	77	68	49	40	38	33	66	9.97	
250 or More.....	32	31	26	17	17	22	19	28	13.70	
Weekly Operating Hours										
39 or Fewer.....	876	657	492	306	205	139	186	469	9.54	
40 to 48.....	1,117	963	790	515	359	250	408	688	6.39	
49 to 60.....	987	873	709	497	327	229	326	611	6.28	
61 to 84.....	625	545	426	279	210	127	220	395	6.86	
85 to 167.....	515	437	361	238	194	110	186	327	8.95	
168 (Open Continuously).....	408	344	279	190	145	89	148	284	6.56	
Energy Sources (Solely or in Combination)										
Electricity.....	4,297	3,733	2,993	1,986	1,423	932	1,452	2,718	3.93	
Natural Gas.....	2,439	2,202	1,743	1,122	861	553	912	1,601	4.71	
Fuel Oil.....	586	525	420	275	269	87	178	380	13.57	
District Heat.....	105	97	80	46	27	23	48	76	16.97	
District Chilled Water.....	25	24	21	13	7	11	11	17	20.16	
Propane.....	348	314	252	169	136	67	107	235	14.43	
Any Other.....	130	110	90	58	47	13	30	81	20.01	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	3,508	2,849	1,909	1,391	883	1,405	2,585	4.03	
Air-Conditioned Buildings....	3,184	2,937	2,423	1,647	1,196	855	1,278	2,192	4.36	
Buildings with Water Heating..	3,184	2,943	2,437	1,652	1,267	786	1,232	2,242	4.28	
Buildings with Cooking.....	864	794	642	430	376	236	391	643	6.43	
Buildings with Manufacturing..	205	181	138	92	64	36	53	128	13.48	

See footnotes at end of table.

Table 102. Building Shell Conservation Features as of July 1, 1989, Number of Buildings (Continued)
(Thousand)

Building Characteristics	All Buildings	Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking	
		RSE Column Factor:	0.808	0.843	0.905	1.049	1.118	1.260	1.147
Percent Heated									
Not Heated.....	662	319	212	120	51	61	70	194	11.91
1 to 50.....	630	524	409	279	158	113	186	352	9.35
51 to 99.....	496	449	369	231	192	131	206	352	8.80
100.....	2,739	2,527	2,066	1,396	1,038	639	1,011	1,876	4.31
Percent Cooled									
Not Cooled.....	1,344	883	634	379	243	90	195	582	8.55
1 to 50.....	1,037	917	715	470	350	205	379	661	6.95
51 to 99.....	597	567	471	317	263	160	276	454	7.12
100.....	1,550	1,452	1,236	860	583	489	622	1,078	6.07
Percent Lit When Open									
Not Lit.....	306	134	94	56	31	16	33	95	15.08
1 to 50.....	1,002	834	642	399	315	173	304	586	7.22
51 to 99.....	951	869	695	463	362	238	378	659	6.78
100.....	2,269	1,982	1,625	1,107	732	517	759	1,435	5.56
Floors									
One.....	2,886	2,342	1,901	1,230	702	586	832	1,651	5.50
Two.....	1,057	940	748	540	406	235	407	704	6.09
Three.....	408	374	288	187	235	73	153	291	9.45
More than Three.....	177	164	120	69	96	50	81	128	11.75
Wall Materials									
Masonry.....	2,849	2,465	1,960	1,100	940	634	968	1,793	4.73
Siding or Shingles.....	802	669	550	494	307	118	269	489	10.26
Metal Panels.....	557	408	341	308	110	96	116	286	11.76
Concrete Panels.....	240	209	153	85	51	66	87	144	14.18
Window Glass.....	33	29	20	11	11	15	15	25	22.41
Other.....	46	40	33	29	20	14	19	36	21.02
Roof Materials									
Built-Up.....	1,614	1,403	1,104	630	464	382	598	1,017	5.49
Shingles (Not Wood).....	1,392	1,201	964	653	535	241	440	903	7.73
Metal Surfacing.....	901	669	558	459	203	160	205	449	9.64
Synthetic or Rubber.....	211	200	173	118	105	60	95	167	10.97
Slate or Tile.....	193	175	134	90	75	53	68	132	14.83
Concrete.....	72	52	30	13	11	14	19	28	35.87
Wooden Materials.....	106	89	72	54	37	28	38	58	17.72
Other.....	38	32	21	11	10	Q	11	21	31.32
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	3,057	3,057	3,057	1,909	1,243	796	1,189	2,282	4.23
Wall Insulation....	2,026	2,026	1,909	2,026	954	570	797	1,573	4.99
Storm or Multiple Glazing....	1,440	1,440	1,243	954	1,440	435	619	1,181	4.73
Tinted, Reflective, or Shading Glass.....	944	944	796	570	435	944	451	745	4.95
Exterior or Interior Shadings or Awnings.....	1,473	1,473	1,189	797	619	451	1,473	1,137	5.11
Weather Stripping or Caulking.....	2,774	2,774	2,282	1,573	1,181	745	1,137	2,774	4.53

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.
 Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

CONSERVATION FEATURES

Table 103. Building Shell Conservation Features as of July 1, 1989, Percent of Buildings

Building Characteristics	All Buildings	Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor	
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking		
		RSE Column Factor:	--	0.373	0.708	1.139	1.505	1.895	1.469	0.794
All Buildings.....	100.0	84.4	67.5	44.7	31.8	20.9	32.5	61.3	2.16	
Building Floorspace (Square Feet)										
1,001 to 5,000.....	100.0	81.8	64.4	43.2	29.8	16.3	28.8	56.9	3.11	
5,001 to 10,000.....	100.0	85.1	68.8	44.8	30.5	22.3	35.8	63.5	4.13	
10,001 to 25,000.....	100.0	88.8	73.7	50.0	36.3	26.8	38.0	66.7	4.26	
25,001 to 50,000.....	100.0	89.7	72.1	43.3	36.3	31.9	36.0	71.3	5.00	
50,001 to 100,000.....	100.0	92.4	74.6	48.7	41.2	32.8	41.6	76.2	5.04	
100,001 to 200,000.....	100.0	93.7	77.5	50.1	40.6	40.0	39.4	74.6	6.65	
200,001 to 500,000.....	100.0	86.6	70.4	46.8	42.1	47.5	52.0	72.3	10.36	
Over 500,000.....	100.0	89.7	66.7	45.3	48.5	59.7	62.7	78.0	10.63	
Principal Building Activity										
Assembly.....	100.0	90.2	69.2	44.5	39.6	25.1	26.0	68.5	4.60	
Education.....	100.0	94.2	77.6	47.8	26.7	22.4	48.0	72.3	5.70	
Food Sales.....	100.0	85.1	71.3	52.9	36.8	0	26.8	60.7	12.87	
Food Service.....	100.0	92.9	77.2	52.6	44.9	25.1	52.0	73.2	6.24	
Health Care.....	100.0	97.1	79.5	60.4	55.9	26.3	48.8	74.4	9.19	
Lodging.....	100.0	94.6	71.4	52.1	40.3	18.0	51.6	84.8	6.68	
Mercantile and Service.....	100.0	84.8	68.3	43.7	28.4	17.2	31.8	57.1	3.98	
Office.....	100.0	96.7	82.3	62.1	48.1	35.3	45.4	74.8	3.23	
Parking Garage.....	100.0	75.2	53.3	0	0	0	0	51.6	28.68	
Public Order and Safety.....	100.0	83.9	64.7	32.4	27.2	0	25.4	68.8	19.84	
Warehouse.....	100.0	61.8	46.6	28.3	12.6	12.8	16.4	38.9	8.73	
Other.....	100.0	84.4	66.3	47.4	25.7	25.4	22.9	67.5	13.98	
Vacant.....	100.0	67.6	51.2	30.3	20.4	9.3	19.0	46.2	9.66	
Year Constructed										
1899 or Before.....	100.0	84.5	51.4	22.3	45.7	12.1	37.2	60.4	10.87	
1900 to 1919.....	100.0	73.3	47.4	27.9	38.4	11.6	25.2	43.6	11.56	
1920 to 1945.....	100.0	78.3	54.0	29.3	28.7	11.2	26.9	54.5	6.09	
1946 to 1959.....	100.0	81.5	64.4	33.1	24.5	15.9	30.9	56.9	5.60	
1960 to 1969.....	100.0	84.9	66.9	41.0	26.9	18.7	33.4	60.1	5.00	
1970 to 1979.....	100.0	88.0	76.1	54.3	31.4	28.5	34.6	65.4	3.88	
1980 to 1983.....	100.0	90.2	79.8	69.4	37.3	29.1	33.5	72.9	5.55	
1984 to 1986.....	100.0	91.8	82.5	72.5	42.0	34.5	38.7	71.9	5.83	
1987 to 1989.....	100.0	90.1	84.5	73.2	48.9	32.6	38.9	75.2	6.97	
Census Region										
Northeast.....	100.0	84.7	66.5	46.4	45.9	10.9	30.8	64.0	4.83	
Midwest.....	100.0	85.1	68.4	49.8	47.0	17.0	28.5	66.3	4.46	
South.....	100.0	84.0	68.7	43.7	23.1	24.3	34.3	59.5	3.29	
West.....	100.0	83.9	64.8	39.3	18.8	27.2	35.4	56.3	5.96	
Metropolitan Status										
Metropolitan.....	100.0	86.4	68.6	45.1	30.6	22.9	33.8	63.0	2.48	
Nonmetropolitan.....	100.0	80.0	65.1	44.1	34.4	16.6	29.9	57.6	4.66	
Workers										
Fewer than 5.....	100.0	79.1	61.3	39.5	27.2	14.8	24.9	54.0	3.32	
5 to 9.....	100.0	91.5	74.2	50.7	35.8	23.2	39.7	66.3	4.07	
10 to 19.....	100.0	93.5	78.8	52.7	37.1	27.6	42.6	71.2	4.16	
20 to 49.....	100.0	95.2	79.2	55.7	46.0	34.1	47.6	79.2	3.65	
50 to 99.....	100.0	96.6	79.0	50.6	35.9	38.2	51.2	78.6	4.60	
100 to 249.....	100.0	97.9	86.3	61.8	50.8	48.3	41.8	84.1	4.96	
250 or More.....	100.0	97.0	81.7	54.3	53.4	67.8	58.4	88.4	5.07	
Weekly Operating Hours										
39 or Fewer.....	100.0	75.0	56.2	34.9	23.4	15.9	21.2	53.6	5.66	
40 to 48.....	100.0	86.2	70.7	46.1	32.1	22.4	36.5	61.6	3.77	
49 to 60.....	100.0	88.5	71.8	50.4	33.1	23.2	33.1	61.9	3.78	
61 to 84.....	100.0	87.1	68.1	44.7	33.1	20.4	35.2	63.2	4.76	
85 to 167.....	100.0	85.0	70.1	46.3	37.7	21.3	36.1	63.5	5.18	
168 (Open Continuously).....	100.0	84.3	68.4	46.6	35.4	21.8	36.2	69.7	5.57	
Energy Sources (Solely or in Combination)										
Electricity.....	100.0	86.9	69.6	46.2	33.1	21.7	33.8	63.2	2.16	
Natural Gas.....	100.0	90.3	71.5	46.0	35.3	22.7	37.4	65.6	2.60	
Fuel Oil.....	100.0	89.5	71.7	47.0	45.8	14.8	30.4	64.9	4.64	
District Heat.....	100.0	92.7	75.9	44.2	25.7	21.8	45.9	72.1	8.85	
District Chilled Water.....	100.0	97.2	84.7	50.7	28.9	44.7	43.1	68.6	11.04	
Propane.....	100.0	90.3	72.5	48.7	38.9	19.4	30.7	67.6	6.99	
Any Other.....	100.0	84.6	69.1	44.9	35.9	10.2	22.9	62.0	13.27	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	100.0	90.5	73.5	49.2	35.9	22.8	36.2	66.7	2.05	
Air-Conditioned Buildings.....	100.0	92.2	76.1	51.7	37.6	26.8	40.1	68.8	2.10	
Buildings with Water Heating.....	100.0	92.4	76.5	51.9	39.8	24.7	38.7	70.4	2.04	
Buildings with Cooking.....	100.0	91.9	74.3	49.8	43.5	27.3	45.3	74.5	3.18	
Buildings with Manufacturing.....	100.0	88.6	67.2	44.7	31.1	17.4	25.7	62.4	8.22	

See footnotes at end of table.

Table 103. Building Shell Conservation Features as of July 1, 1989, Percent of Buildings (Continued)

Building Characteristics	All Buildings	Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking	
		RSE Column Factor:	--	0.373	0.708	1.139	1.505	1.895	1.469
Percent Heated									
Not Heated.....	100.0	48.2	32.0	18.0	7.7	9.2	10.6	29.4	9.73
1 to 50.....	100.0	83.2	65.0	44.2	25.1	17.9	29.6	55.8	6.14
51 to 99.....	100.0	90.4	74.2	46.6	38.8	26.5	41.5	71.0	4.35
100.....	100.0	92.3	75.4	51.0	37.9	23.3	36.9	68.5	2.21
Percent Cooled									
Not Cooled.....	100.0	65.7	47.2	28.2	18.1	6.7	14.5	43.3	6.54
1 to 50.....	100.0	88.4	69.0	45.3	33.8	19.7	36.5	63.7	3.86
51 to 99.....	100.0	95.1	79.0	53.2	44.1	26.9	46.3	76.1	3.73
100.....	100.0	93.7	79.7	55.5	37.6	31.6	40.2	69.5	2.61
Percent Lit When Open									
Not Lit.....	100.0	43.7	30.6	18.3	10.1	5.3	10.6	30.8	15.57
1 to 50.....	100.0	83.3	64.1	39.9	31.4	17.3	30.3	58.5	4.33
51 to 99.....	100.0	91.4	73.1	48.7	38.1	25.0	39.8	69.3	3.51
100.....	100.0	87.3	71.6	48.8	32.3	22.8	33.4	63.2	3.00
Floors									
One.....	100.0	81.1	65.9	42.6	24.3	20.3	28.8	57.2	3.07
Two.....	100.0	89.0	70.8	51.1	38.5	22.2	38.5	66.6	3.33
Three.....	100.0	91.6	70.5	45.7	57.7	17.9	37.5	71.2	5.14
More than Three.....	100.0	92.7	67.8	39.3	54.1	28.2	45.9	72.7	6.16
Wall Materials									
Masonry.....	100.0	86.5	68.8	38.6	33.0	22.3	34.0	62.9	2.64
Siding or Shingles.....	100.0	83.4	68.5	61.5	38.3	14.7	33.5	61.0	5.15
Metal Panels.....	100.0	73.3	61.2	55.4	19.7	17.3	20.9	51.5	7.14
Concrete Panels.....	100.0	86.9	63.6	35.3	21.3	27.6	36.1	60.1	7.18
Window Glass.....	100.0	85.7	58.4	31.9	33.3	45.4	44.1	75.6	16.45
Other.....	100.0	86.1	71.5	62.4	43.5	30.6	40.1	77.4	16.20
Roof Materials									
Built-Up.....	100.0	86.9	68.4	39.0	28.8	23.7	37.0	63.0	3.39
Shingles (Not Wood).....	100.0	86.3	69.2	46.9	38.5	17.3	31.6	64.9	3.42
Metal Surfacing.....	100.0	74.2	62.0	50.9	22.5	17.7	22.8	49.8	5.60
Synthetic or Rubber.....	100.0	94.6	81.9	55.7	49.8	28.2	44.8	79.2	5.36
Slate or Tile.....	100.0	90.4	69.4	46.5	38.8	27.2	35.3	68.1	7.89
Concrete.....	100.0	71.7	42.0	17.6	15.2	19.5	25.7	38.5	15.95
Wooden Materials.....	100.0	83.3	67.8	50.4	34.4	26.0	35.3	54.1	11.97
Other.....	100.0	83.5	55.5	28.7	25.9	Q	29.7	56.1	22.44
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	100.0	100.0	100.0	62.4	40.7	26.1	38.9	74.7	2.06
Wall Insulation.....	100.0	100.0	94.2	100.0	47.1	28.2	39.3	77.6	1.86
Storm or Multiple Glazing....	100.0	100.0	86.4	66.3	100.0	30.2	43.0	82.0	2.13
Tinted, Reflective, or Shading Glass.....	100.0	100.0	84.3	60.4	46.0	100.0	47.8	79.0	2.73
Exterior or Interior Shadings or Awnings.....	100.0	100.0	80.7	54.1	42.0	30.6	100.0	77.2	2.76
Weather Stripping or Caulking.....	100.0	100.0	82.2	56.7	42.6	26.9	41.0	100.0	2.08

-- Data not applicable.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

CONSERVATION FEATURES

**Table 104. Building Shell Conservation Features as of July 1, 1989, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor	
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking		
		RSE Column Factor	0.808	0.814	0.922	1.064	1.083	1.275	1.212	0.926
All Buildings.....	63,184	56,192	45,092	29,692	24,068	22,040	26,173	44,694	3.90	
Building Floorspace (Square Feet)										
1,001 to 5,000.....	6,790	5,619	4,434	3,014	2,112	1,158	1,968	3,966	5.37	
5,001 to 10,000.....	6,532	5,584	4,535	2,945	2,048	1,483	2,380	4,169	6.57	
10,001 to 25,000.....	10,393	9,233	7,646	5,180	3,762	2,784	3,930	7,009	7.15	
25,001 to 50,000.....	8,801	7,850	6,326	3,797	3,197	2,799	3,180	6,227	7.89	
50,001 to 100,000.....	9,130	8,439	6,729	4,448	3,761	3,050	3,798	6,929	8.36	
100,001 to 200,000.....	8,277	7,779	6,524	4,190	3,349	3,443	3,350	6,277	10.44	
200,001 to 500,000.....	7,022	5,892	4,699	3,156	2,917	3,233	3,556	4,350	15.85	
Over 500,000.....	6,239	5,796	4,200	2,961	2,922	4,091	4,011	5,166	19.01	
Principal Building Activity										
Assembly.....	6,838	6,303	4,945	2,996	2,765	2,259	2,383	5,179	11.15	
Education.....	8,148	7,884	6,284	3,749	3,008	2,762	4,569	6,252	10.42	
Food Sales.....	792	723	556	433	371	0	242	437	25.03	
Food Service.....	1,167	1,102	937	600	554	309	661	935	16.44	
Health Care.....	2,054	2,013	1,731	1,337	1,549	1,322	1,199	1,823	20.61	
Lodging.....	3,476	3,382	2,874	1,913	1,834	606	1,704	3,071	13.25	
Mercantile and Service.....	12,365	11,421	9,607	6,214	4,673	3,820	4,607	8,821	7.33	
Office.....	11,802	11,390	9,241	6,388	5,641	6,661	6,795	9,838	7.42	
Parking Garage.....	983	548	326	0	0	0	0	431	36.96	
Public Order and Safety.....	616	470	408	181	286	0	223	429	28.56	
Warehouse.....	9,253	6,849	5,071	3,695	1,872	2,031	1,969	4,592	13.19	
Other.....	1,529	1,476	1,350	969	461	752	663	1,108	24.94	
Vacant.....	4,161	2,631	1,761	1,057	756	899	986	1,778	17.41	
Year Constructed										
1899 or Before.....	1,654	1,454	887	409	826	265	714	1,138	21.01	
1900 to 1919.....	4,245	3,015	1,856	913	1,352	666	1,310	1,914	19.11	
1920 to 1945.....	8,098	6,540	4,515	1,993	2,689	1,339	2,773	4,501	11.76	
1946 to 1959.....	10,511	9,310	7,384	3,945	2,616	2,797	4,862	7,336	11.15	
1960 to 1969.....	12,167	10,976	8,495	5,463	4,480	3,742	4,710	8,707	7.40	
1970 to 1979.....	13,329	12,498	10,937	7,414	5,316	6,104	5,649	10,178	7.54	
1980 to 1983.....	4,274	3,937	3,585	3,013	2,027	2,109	1,832	3,370	8.78	
1984 to 1986.....	5,670	5,270	4,530	4,001	2,714	3,143	2,876	4,582	9.40	
1987 to 1989.....	3,235	3,092	2,902	2,540	2,048	1,874	1,447	2,867	14.04	
Census Region										
Northeast.....	13,569	12,271	8,842	6,028	6,133	3,728	5,801	9,878	9.82	
Midwest.....	15,955	13,923	11,620	8,188	8,829	4,994	6,340	12,044	7.99	
South.....	22,040	19,442	16,010	10,069	6,362	7,934	9,304	15,036	8.28	
West.....	11,620	10,555	8,620	5,407	2,744	5,384	4,728	7,736	8.01	
Metropolitan Status										
Metropolitan.....	50,809	45,669	36,396	23,972	19,223	19,233	21,929	36,788	4.65	
Nonmetropolitan.....	12,375	10,522	8,696	5,720	4,845	2,807	4,244	7,906	8.91	
Workers										
Fewer than 5.....	13,292	9,840	7,681	4,976	3,723	2,181	3,066	7,008	6.57	
5 to 9.....	7,939	7,092	5,335	3,817	2,272	1,776	2,443	5,088	8.89	
10 to 19.....	6,445	5,852	4,985	2,969	2,164	1,690	2,446	4,302	9.10	
20 to 49.....	9,665	9,217	7,284	4,758	4,255	3,292	5,044	7,743	8.77	
50 to 99.....	7,389	6,978	5,616	3,535	2,842	2,598	3,634	5,583	10.07	
100 to 249.....	6,771	6,582	5,671	3,739	3,471	2,963	3,050	5,599	9.55	
250 or More.....	9,829	9,503	7,673	5,412	5,102	7,215	6,192	8,734	14.84	
Weekly Operating Hours										
39 or Fewer.....	6,073	4,738	3,721	2,197	1,390	1,358	1,605	3,293	9.51	
40 to 48.....	13,905	12,424	9,635	5,823	4,622	4,512	5,676	9,281	7.43	
49 to 60.....	13,473	12,482	10,244	7,297	5,035	5,104	6,173	9,836	8.03	
61 to 84.....	10,777	10,000	7,574	4,716	4,236	4,421	4,760	8,422	8.47	
85 to 167.....	9,387	7,953	6,345	4,766	3,803	3,062	3,611	6,385	12.45	
168 (Open Continuously).....	9,569	8,594	7,373	4,893	4,982	3,583	4,349	7,477	9.70	
Energy Sources (Solely or in Combination)										
Electricity.....	61,587	55,487	44,559	29,432	23,991	21,906	26,033	44,383	3.93	
Natural Gas.....	41,593	38,253	30,114	19,979	17,281	15,549	18,563	30,520	4.70	
Fuel Oil.....	12,684	11,835	9,664	6,379	6,528	4,833	5,822	9,511	8.06	
District Heat.....	6,856	6,690	5,388	3,123	2,511	3,371	4,496	5,844	19.38	
District Chilled Water.....	2,101	1,968	1,738	780	881	1,314	1,271	1,689	21.80	
Propane.....	4,695	4,498	3,836	2,854	2,197	1,571	2,080	3,663	17.57	
Any Other.....	1,542	1,466	1,345	871	879	384	760	1,162	24.75	
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	57,868	53,545	43,220	28,840	23,717	21,461	25,586	43,250	4.05	
Air-Conditioned Buildings.....	51,771	48,111	39,354	26,432	21,699	20,934	24,119	39,360	4.11	
Buildings with Water Heating.....	53,585	49,951	40,494	27,088	22,662	20,396	24,396	41,048	4.13	
Buildings with Cooking.....	23,668	22,224	17,848	11,378	10,760	10,331	12,791	19,350	6.80	
Buildings with Manufacturing.....	5,601	5,139	4,050	2,662	1,751	1,996	2,590	4,088	19.83	

See footnotes at end of table.

Table 104. Building Shell Conservation Features as of July 1, 1989, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking	
		RSE Column Factor:	0.808	0.814	0.922	1.064	1.083	1.275	1.212
Percent Heated									
Not Heated.....	5,419	2,707	1,892	863	369	579	597	1,491	13.74
1 to 50.....	9,314	7,423	5,670	4,002	2,449	2,293	2,607	5,269	11.29
51 to 99.....	8,673	8,134	6,756	4,319	3,760	3,767	4,199	7,183	11.18
100.....	39,777	37,928	30,774	20,508	17,490	15,401	18,770	30,751	5.00
Percent Cooled									
Not Cooled.....	11,413	8,081	5,737	3,260	2,369	1,106	2,054	5,334	9.31
1 to 50.....	17,821	15,232	11,635	7,640	6,235	4,839	7,210	11,273	7.77
51 to 99.....	13,139	12,879	10,478	7,072	6,672	6,103	6,988	11,491	7.60
100.....	20,811	19,999	17,241	11,720	8,792	9,991	9,921	16,596	6.83
Percent Lit When Open									
Not Lit.....	2,359	1,249	906	508	264	333	321	719	17.22
1 to 50.....	10,870	8,732	6,526	4,439	3,586	2,263	3,292	6,326	9.08
51 to 99.....	16,950	16,102	12,993	7,954	7,309	6,717	8,271	13,562	8.39
100.....	33,004	30,108	24,667	16,791	12,909	12,727	14,289	24,086	5.96
Floors									
One.....	23,756	20,096	16,775	10,978	6,281	6,417	7,400	15,155	6.37
Two.....	16,112	14,966	12,161	8,572	6,460	5,783	6,660	11,450	6.40
Three.....	8,604	7,450	6,014	3,384	4,140	2,268	3,689	6,008	11.11
More than Three.....	14,711	13,680	10,142	6,758	7,188	7,572	8,424	12,081	10.13
Wall Materials									
Masonry.....	42,074	37,670	29,857	17,810	16,944	13,508	17,439	29,829	4.50
Siding or Shingles.....	4,788	3,995	3,445	3,167	1,850	849	1,439	3,081	11.92
Metal Panels.....	5,689	4,607	3,877	3,742	1,584	1,832	1,734	3,531	11.85
Concrete Panels.....	7,221	6,564	5,358	3,455	2,368	3,795	3,232	5,163	13.53
Window Glass.....	1,924	1,890	1,273	839	771	1,495	1,304	1,636	20.68
Other.....	1,487	1,464	1,282	679	552	560	1,026	1,354	28.28
Roof Materials									
Built-Up.....	31,057	28,108	22,742	14,335	11,010	12,368	13,276	22,455	5.15
Shingles (Not Wood).....	10,917	9,321	7,139	4,562	4,218	2,386	3,744	6,923	8.62
Metal Surfacing.....	8,197	6,651	5,716	4,810	2,374	1,971	2,273	5,151	9.34
Synthetic or Rubber.....	6,911	6,791	6,047	3,827	4,048	3,302	3,842	6,133	12.04
Slate or Tile.....	2,582	2,483	1,551	980	1,215	527	1,155	1,702	18.49
Concrete.....	1,932	1,401	747	340	412	802	980	1,153	27.54
Wooden Materials.....	727	631	489	325	238	184	332	445	19.35
Other.....	860	806	660	514	552	Q	570	732	36.85
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	45,092	45,092	45,092	28,009	21,008	18,360	21,105	37,100	4.60
Wall Insulation.....	29,692	29,692	28,009	29,692	16,178	13,816	13,946	25,320	4.94
Storm or Multiple Glazing....	24,068	24,068	21,008	16,178	24,068	11,606	12,038	21,458	5.43
Tinted, Reflective, or Shading Glass.....	22,040	22,040	18,360	13,816	11,606	22,040	12,514	19,244	5.79
Exterior or Interior Shadings or Awnings.....	26,173	26,173	21,105	13,946	12,038	12,514	26,173	22,333	5.84
Weather Stripping or Caulking.....	44,694	44,694	37,100	25,320	21,458	19,244	22,333	44,694	4.41

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

CONSERVATION FEATURES

Table 105. Building Shell Conservation Features as of July 1, 1989, Percent of Floorspace

Building Characteristics	RSE Column Factor	Total Floorspace of Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor
		Total Floorspace of All Buildings	Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	
		--	0.357	0.814	1.274	1.548	1.660	1.463	0.719
All Buildings.....	100.0	88.9	71.4	47.0	38.1	34.9	41.4	70.7	2.80
Building Floorspace (Square Feet)									
1,001 to 5,000.....	100.0	82.8	65.3	44.4	31.1	17.0	29.0	58.4	3.15
5,001 to 10,000.....	100.0	85.5	69.4	45.1	31.4	22.7	36.4	63.8	4.12
10,001 to 25,000.....	100.0	88.8	73.6	49.8	36.2	26.8	37.8	67.4	4.25
25,001 to 50,000.....	100.0	89.2	71.9	43.1	36.3	31.8	36.1	70.8	5.16
50,001 to 100,000.....	100.0	92.4	73.7	48.7	41.2	33.4	41.6	75.9	5.13
100,001 to 200,000.....	100.0	94.0	78.8	50.5	40.5	41.6	40.5	75.8	6.32
200,001 to 500,000.....	100.0	83.9	66.9	45.0	41.5	46.0	50.6	70.5	11.87
Over 500,000.....	100.0	92.9	67.3	47.5	46.8	65.6	64.3	82.8	9.76
Principal Building Activity									
Assembly.....	100.0	92.2	72.3	43.8	40.4	33.0	34.9	75.7	6.51
Education.....	100.0	96.8	77.1	46.0	36.9	33.9	56.1	76.7	5.81
Food Sales.....	100.0	91.3	70.2	54.7	46.8	30.0	30.6	55.1	13.75
Food Service.....	100.0	94.4	80.3	51.4	47.5	26.5	56.6	80.2	7.06
Health Care.....	100.0	98.0	84.3	66.1	75.4	64.4	58.4	88.7	6.45
Lodging.....	100.0	97.3	82.7	55.0	52.8	17.4	49.0	88.3	5.80
Mercantile and Service.....	100.0	92.4	77.7	50.3	37.8	30.9	37.3	71.3	4.54
Office.....	100.0	96.5	78.3	54.1	47.8	56.4	57.6	83.4	4.62
Parking Garage.....	100.0	55.8	33.1	0.0	0.0	0.0	0.0	43.9	29.00
Public Order and Safety.....	100.0	76.2	66.2	29.3	46.4	0.0	36.1	69.7	29.39
Warehouse.....	100.0	74.0	54.8	39.9	20.2	22.0	21.3	49.6	8.07
Other.....	100.0	96.5	88.3	63.4	30.1	49.2	43.4	72.4	10.31
Vacant.....	100.0	63.2	42.3	25.4	18.2	21.6	23.7	42.7	16.50
Year Constructed									
1899 or Before.....	100.0	87.9	53.6	24.7	49.9	16.0	43.1	68.8	12.12
1900 to 1919.....	100.0	71.0	43.7	21.5	31.9	13.7	30.9	45.1	18.07
1920 to 1945.....	100.0	82.0	55.8	24.6	33.2	16.5	34.2	56.8	9.64
1946 to 1959.....	100.0	88.6	70.3	37.5	24.9	26.6	46.3	69.8	6.65
1960 to 1969.....	100.0	90.2	69.8	44.9	36.8	30.8	38.7	71.6	4.43
1970 to 1979.....	100.0	93.8	82.0	55.6	39.9	45.8	42.4	76.4	3.82
1980 to 1983.....	100.0	92.1	83.9	70.5	47.4	49.4	42.9	78.9	4.66
1984 to 1986.....	100.0	92.9	79.9	70.6	47.9	55.4	50.7	80.8	6.98
1987 to 1989.....	100.0	95.6	89.7	78.5	63.3	57.9	44.7	88.6	4.45
Census Region									
Northeast.....	100.0	90.4	65.2	44.4	45.2	27.5	42.8	72.8	5.87
Midwest.....	100.0	87.3	72.8	51.3	55.3	31.3	39.7	75.5	6.19
South.....	100.0	88.2	72.6	45.7	28.9	36.0	42.2	68.2	4.52
West.....	100.0	90.8	74.2	46.5	23.6	46.3	40.7	66.6	5.28
Metropolitan Status									
Metropolitan.....	100.0	89.9	71.6	47.2	37.8	37.9	43.2	72.4	3.06
Nonmetropolitan.....	100.0	85.0	70.3	46.2	39.2	22.7	34.3	63.9	6.39
Workers									
Fewer than 5.....	100.0	74.0	57.8	37.4	28.0	16.4	23.1	52.7	6.97
5 to 9.....	100.0	89.3	67.2	48.1	28.6	22.4	30.8	64.1	7.13
10 to 19.....	100.0	90.8	77.4	46.1	33.6	26.2	38.0	66.8	5.11
20 to 49.....	100.0	95.4	75.4	49.2	44.0	34.1	52.2	80.1	4.33
50 to 99.....	100.0	94.4	76.0	47.8	38.5	35.2	49.2	75.6	6.24
100 to 249.....	100.0	97.2	83.8	55.2	51.3	43.8	45.0	82.7	5.60
250 or More.....	100.0	96.7	78.1	55.1	51.9	73.4	63.0	88.9	5.65
Weekly Operating Hours									
39 or Fewer.....	100.0	78.0	61.3	36.2	22.9	22.4	26.4	54.2	7.03
40 to 48.....	100.0	89.3	69.3	41.9	33.2	32.4	40.8	66.7	5.01
49 to 60.....	100.0	92.6	76.0	54.2	37.4	37.9	45.8	73.0	4.27
61 to 84.....	100.0	92.8	70.3	43.8	39.3	41.0	44.2	78.1	5.70
85 to 167.....	100.0	84.7	69.7	50.8	40.5	32.6	38.5	68.0	9.47
168 (Open Continuously).....	100.0	89.8	77.0	51.1	52.1	37.4	45.4	78.1	4.78
Energy Sources (Solely or in Combination)									
Electricity.....	100.0	90.1	72.4	47.8	39.0	35.6	42.3	72.1	2.83
Natural Gas.....	100.0	92.0	72.4	48.0	41.5	37.4	44.6	73.6	3.49
Fuel Oil.....	100.0	93.3	76.2	50.3	53.0	38.1	45.9	75.0	4.97
District Heat.....	100.0	97.6	78.6	45.5	36.6	49.2	65.6	85.2	6.29
District Chilled Water.....	100.0	93.7	82.7	37.1	42.0	62.5	60.5	80.4	12.45
Propane.....	100.0	95.8	81.7	60.8	46.8	33.5	44.3	78.0	6.62
Any Other.....	100.0	95.1	87.2	56.4	57.0	24.9	49.3	75.3	9.89
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	100.0	92.5	74.7	49.8	41.0	37.1	44.2	74.7	2.80
Air-Conditioned Buildings.....	100.0	92.9	76.0	51.1	41.9	40.4	46.6	76.0	2.92
Buildings with Water Heating.....	100.0	93.2	75.6	50.6	42.3	38.1	45.5	76.6	2.88
Buildings with Cooking.....	100.0	93.9	75.4	48.1	45.5	43.7	54.0	81.8	4.72
Buildings with Manufacturing.....	100.0	91.7	72.3	47.5	31.3	35.6	46.2	73.0	9.62

See footnotes at end of table.

Table 105. Building Shell Conservation Features as of July 1, 1989, Percent of Floorspace (Continued)

Building Characteristics	Total Floorspace of All Buildings	Total Floorspace of Buildings with Building Shell Conservation Features (Solely or in Combination)							RSE Row Factor
		Any Building Shell Conservation Feature	Roof or Ceiling Insulation	Wall Insulation	Storm or Multiple Glazing	Tinted, Reflective, or Shading Glass or Film	Exterior or Interior Shadings or Awnings	Weather Stripping or Caulking	
	RSE Column Factor	--	0.357	0.814	1.274	1.548	1.660	1.463	0.719
Percent Heated									
Not Heated.....	100.0	49.9	34.9	15.9	6.8	10.7	11.0	27.5	11.21
1 to 50.....	100.0	79.7	60.9	43.0	26.3	24.6	28.0	56.6	10.22
51 to 99.....	100.0	93.8	77.9	49.8	43.3	43.4	48.4	82.8	5.70
100.....	100.0	95.4	77.4	51.6	44.0	38.7	47.2	77.3	2.78
Percent Cooled									
Not Cooled.....	100.0	70.8	50.3	28.6	20.8	9.7	18.0	46.7	7.98
1 to 50.....	100.0	85.5	65.3	42.9	35.0	27.2	40.5	63.3	6.00
51 to 99.....	100.0	98.0	79.7	53.8	50.8	46.5	53.2	87.5	3.34
100.....	100.0	96.1	82.8	56.3	42.2	48.0	47.7	79.7	3.35
Percent Lit When Open									
Not Lit.....	100.0	53.0	38.4	21.5	11.2	14.1	13.6	30.5	15.96
1 to 50.....	100.0	80.3	60.0	40.8	33.0	20.8	30.3	58.2	9.71
51 to 99.....	100.0	95.0	76.7	46.9	43.1	39.6	48.8	80.0	3.99
100.....	100.0	91.2	74.7	50.9	39.1	38.6	43.3	73.0	3.21
Floors									
One.....	100.0	84.6	70.6	46.2	26.4	27.0	31.2	63.8	3.86
Two.....	100.0	92.9	75.5	53.2	40.1	35.9	41.3	71.1	4.19
Three.....	100.0	86.6	69.9	39.3	48.1	26.4	42.9	69.8	9.94
More than Three.....	100.0	93.0	68.9	45.9	48.9	51.5	57.3	82.1	5.11
Wall Materials									
Masonry.....	100.0	89.5	71.0	42.3	40.3	32.1	41.4	70.9	3.45
Siding or Shingles.....	100.0	83.5	72.0	66.1	38.6	17.7	30.0	64.3	6.72
Metal Panels.....	100.0	81.0	68.1	65.8	27.8	32.2	30.5	63.8	7.48
Concrete Panels.....	100.0	90.9	74.2	47.9	32.8	52.6	44.7	71.5	7.11
Window Glass.....	100.0	98.2	66.1	43.6	40.1	77.7	67.8	85.0	10.98
Other.....	100.0	98.5	86.2	45.7	37.1	37.7	69.0	91.0	8.53
Roof Materials									
Built-Up.....	100.0	90.5	73.2	46.2	35.5	39.8	42.7	72.3	4.10
Shingles (Not Wood).....	100.0	85.4	65.4	41.8	38.6	21.9	34.3	63.4	5.55
Metal Surfacing.....	100.0	81.1	69.7	58.7	29.0	24.0	27.7	62.8	6.06
Synthetic or Rubber.....	100.0	98.3	87.5	55.4	58.6	47.8	55.6	88.7	4.70
Slate or Tile.....	100.0	96.1	60.0	38.0	47.0	20.4	44.7	65.9	11.33
Concrete.....	100.0	72.5	38.7	17.6	21.3	41.5	50.7	59.7	24.42
Wooden Materials.....	100.0	86.8	67.2	44.7	32.7	25.3	45.6	61.2	13.20
Other.....	100.0	93.8	76.8	59.7	64.2	Q	66.3	85.1	10.12
Building Shell Conservation Features (Solely or in Combination)									
Roof or Ceiling Insulation....	100.0	100.0	100.0	62.1	46.6	40.7	46.8	82.3	2.24
Wall Insulation.....	100.0	100.0	94.3	100.0	54.5	46.5	47.0	85.3	2.04
Storm or Multiple Glazing....	100.0	100.0	87.3	67.2	100.0	48.2	50.0	89.2	2.20
Tinted, Reflective, or Shading Glass.....	100.0	100.0	83.3	62.7	52.7	100.0	56.8	87.3	3.09
Exterior or Interior Shadings or Awnings.....	100.0	100.0	80.6	53.3	46.0	47.8	100.0	85.3	3.07
Weather Stripping or Caulking.....	100.0	100.0	83.0	56.7	48.0	43.1	50.0	100.0	2.42

-- Data not applicable.

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: * To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. * See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

CONSERVATION FEATURES

Table 106. Conservation Additions, Number of Buildings and Floorspace

Conservation Feature	Number of Buildings (thousand)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings with Conservation Feature	Conservation Feature Added Since Construction	Year Feature Added			All Buildings with Conservation Feature	Conservation Feature Added Since Construction	Year Feature Added			Before 1984	1984 to 1988	1989	
			Before 1984	1984 to 1988	1989			Before 1984	1984 to 1988	1989				
RSE Column Factor:	0.577	0.769	1.093	1.113	1.718	0.551	0.760	1.105	1.220	1.913				
All Buildings.....	3,819	2,354	1,211	1,324	473	56,192	35,890	15,820	21,737	10,802	4.47			
Roof or Ceiling Insulation.....	3,057	1,072	590	402	80	45,092	14,709	6,336	6,996	1,378	6.63			
Wall Insulation.....	2,026	469	246	194	30	29,692	5,304	2,337	2,312	1,655	9.15			
Storm or Multiple Glazing.....	1,440	600	315	246	39	24,068	8,490	3,935	3,901	654	8.24			
Tinted or Reflective Glass or Shading Films.....	944	410	147	213	50	22,040	8,320	2,859	4,713	748	9.49			
Exterior or Interior Shading or Awnings.....	1,473	779	341	356	82	26,173	12,084	4,820	5,591	1,674	7.74			
Weather Stripping or Caulking....	2,774	1,203	383	589	232	44,694	17,876	4,431	8,900	4,545	6.80			
High-Efficiency Ballasts.....	1,074	555	122	313	121	24,226	14,539	2,496	7,551	4,492	6.68			

NC No cases in sample.

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 107. Occupant Control and Off-Hours Heating Reduction, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousands)					Total Floorspace (million square feet)					RSE Row Factor	
			Occupant Control of Heating		Reduced Heating Off-Hours	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Occupant Control of Heating				
	All Buildings	All Heated Buildings	Any Control	By Thermostat				Any Control	By Thermostat	Reduced Heating Off-Hours		
	RSE Column Factor:	0.782	0.840	1.044	1.108	0.925	0.860	0.925	1.254	1.331	1.071	
All Buildings.....	4,528	3,877	2,399	2,100	3,187	63,184	57,868	27,044	24,773	45,836	3.85	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	2,100	1,440	1,231	1,775	6,790	5,759	3,900	3,352	4,923	4.43	
5,001 to 10,000.....	890	760	450	403	617	6,532	5,620	3,349	2,986	4,556	6.78	
10,001 to 25,000.....	644	588	329	299	469	10,393	9,434	5,271	4,798	7,450	6.63	
25,001 to 50,000.....	247	224	101	94	167	8,801	7,994	3,646	3,406	5,981	7.87	
50,001 to 100,000.....	127	118	46	42	88	9,130	8,420	3,227	2,992	6,250	9.66	
100,001 to 200,000.....	61	58	22	21	47	8,277	7,902	2,894	2,737	6,300	12.46	
200,001 to 500,000.....	23	22	8	7	19	7,022	6,763	2,477	2,234	5,653	21.18	
Over 500,000.....	7	7	2	2	5	6,239	5,977	2,290	2,268	4,724	19.22	
Principal Building Activity												
Assembly.....	615	589	330	283	529	6,838	6,608	3,293	2,808	5,431	8.96	
Education.....	284	279	129	112	255	8,148	8,088	2,070	1,849	7,427	9.83	
Food Sales.....	102	89	48	45	58	792	750	242	191	451	21.69	
Food Service.....	241	228	102	87	184	1,167	1,061	377	309	896	12.34	
Health Care.....	80	75	56	51	58	2,054	2,028	1,193	1,146	799	18.40	
Lodging.....	140	134	86	83	72	3,476	3,293	1,690	1,610	1,839	12.15	
Mercantile and Service.....	1,278	1,219	812	697	1,017	12,365	12,040	6,864	6,379	9,757	5.43	
Office.....	679	663	459	409	554	11,802	11,683	4,819	4,468	9,860	7.18	
Parking Garage.....	45	27	20	19	24	963	589	384	375	490	24.46	
Public Order and Safety.....	50	50	36	34	31	616	608	323	290	303	23.25	
Warehouse.....	618	340	195	170	268	9,253	7,296	3,373	3,101	5,493	11.63	
Other.....	62	47	30	27	27	1,529	1,324	610	563	906	26.87	
Vacant.....	333	137	96	83	109	4,161	2,503	1,806	1,684	2,184	20.41	
Year Constructed												
1899 or Before.....	172	154	80	72	119	1,654	1,536	637	566	1,274	16.84	
1900 to 1919.....	242	204	126	113	169	4,245	3,674	2,277	2,179	3,134	18.11	
1920 to 1945.....	680	585	372	318	501	8,098	7,489	3,463	3,133	6,091	8.92	
1946 to 1959.....	868	758	474	411	656	10,511	9,793	4,774	4,287	7,988	7.87	
1960 to 1969.....	821	686	396	344	564	12,167	11,183	4,531	3,967	6,629	6.63	
1970 to 1979.....	884	771	477	418	603	13,329	12,374	5,611	5,213	9,395	7.30	
1980 to 1983.....	317	267	173	153	216	4,274	3,875	1,861	1,756	3,021	9.46	
1984 to 1986.....	329	277	191	173	228	5,670	5,078	2,710	2,545	4,056	9.59	
1987 to 1989.....	215	174	110	98	132	3,235	2,868	1,181	1,127	2,248	14.41	
Census Region												
Northeast.....	783	711	415	383	564	13,569	12,969	5,363	5,028	10,103	9.11	
Midwest.....	1,046	920	568	523	752	15,955	15,067	7,025	6,615	11,907	8.22	
South.....	1,847	1,512	986	824	1,263	22,040	19,170	9,919	8,971	15,221	6.78	
West.....	851	734	429	370	607	11,620	10,662	4,736	4,160	8,606	8.21	
Metropolitan Status												
Metropolitan.....	3,073	2,674	1,621	1,442	2,175	50,809	47,145	21,114	19,431	37,129	4.60	
Nonmetropolitan.....	1,454	1,203	777	658	1,012	12,375	10,723	5,930	5,343	8,708	8.86	
Workers												
Fewer than 5.....	2,280	1,892	1,266	1,075	1,576	13,292	10,858	6,848	6,028	9,054	5.76	
5 to 9.....	906	861	545	492	736	7,939	7,484	4,517	4,200	6,051	7.10	
10 to 19.....	507	492	300	272	412	6,445	6,151	3,235	2,972	5,021	8.53	
20 to 49.....	381	370	187	171	279	9,665	9,424	4,210	3,902	7,124	8.16	
50 to 99.....	132	126	46	39	93	7,389	7,232	1,947	1,776	5,782	9.10	
100 to 249.....	79	78	36	34	55	6,771	6,695	2,850	2,636	5,846	10.14	
250 or More.....	32	32	11	10	24	9,829	9,750	3,407	3,228	7,856	14.29	
Weekly Operating Hours												
39 or Fewer.....	876	586	308	258	517	6,073	4,042	1,666	1,472	3,486	8.86	
40 to 48.....	1,117	1,007	658	571	873	13,905	13,031	6,085	5,494	11,346	6.33	
49 to 60.....	987	917	638	555	810	13,473	12,884	6,772	6,266	11,160	6.63	
61 to 84.....	625	565	317	280	472	10,777	10,440	5,072	4,765	8,589	7.31	
85 to 167.....	515	443	275	249	366	9,387	8,714	3,566	3,193	7,017	10.92	
168 (Open Continuously).....	408	359	203	187	148	9,569	8,758	3,783	3,583	4,238	8.32	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	3,874	2,399	2,100	3,186	61,587	57,834	27,038	24,768	45,809	3.86	
Natural Gas.....	2,439	2,410	1,477	1,304	2,011	41,593	41,242	19,218	17,599	33,070	4.86	
Fuel Oil.....	586	583	329	288	484	12,684	12,577	4,796	4,333	9,875	9.75	
District Heat.....	105	105	40	36	55	6,856	6,840	1,959	1,915	4,874	17.28	
District Chilled Water.....	25	24	9	8	18	2,101	2,094	724	714	1,527	19.69	
Propane.....	348	335	195	165	279	4,695	4,549	1,838	1,663	3,601	14.51	
Any Other.....	130	129	81	55	105	1,542	1,541	580	466	1,190	19.70	

See footnotes at end of table.

CONSERVATION FEATURES

Table 107. Occupant Control and Off-Hours Heating Reduction, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousands)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	All Heated Buildings	Occupant Control of Heating		Reduced Heating Off-Hours	Total Floorspace of All Buildings	Total Floorspace of All Heated Buildings	Occupant Control of Heating		Reduced Heating Off-Hours		
			Any Control	By Thermostat				Any Control	By Thermostat			
RSE Column Factor:	0.782	0.840	1.044	1.108	0.925	0.860	0.925	1.254	1.331	1.071		
Energy End Uses (Solely or in Combination)												
Heated Buildings.....	3,877	3,877	2,399	2,100	3,187	57,868	57,868	27,044	24,773	45,836	3.92	
Air-Conditioned Buildings.....	3,184	3,062	1,907	1,699	2,525	51,771	50,512	23,675	21,830	40,184	4.47	
Buildings with Water Heating.....	3,184	3,079	1,914	1,728	2,497	53,585	52,469	24,577	22,779	41,330	4.30	
Buildings with Cooking.....	864	818	442	394	636	23,668	23,085	9,341	8,569	18,298	6.92	
Buildings with Manufacturing..	205	188	129	116	150	5,601	5,270	2,038	1,882	4,158	14.65	
Space Heating Energy Source (Solely or in Combination)												
Electricity.....	1,284	1,284	862	766	1,015	18,703	18,703	10,133	9,290	14,808	6.82	
Natural Gas.....	2,172	2,172	1,344	1,188	1,822	33,278	33,278	15,681	14,189	26,416	5.20	
Fuel Oil.....	560	560	319	279	468	10,603	10,603	4,327	3,887	8,417	10.24	
District Heat.....	101	101	38	34	53	6,330	6,330	1,609	1,565	4,498	16.68	
Propane.....	238	238	141	117	204	1,767	1,767	874	763	1,285	15.31	
Any Other.....	110	110	66	40	91	994	994	423	319	754	24.29	
Cooling Energy Sources (Solely or in Combination)												
Electricity.....	3,074	2,952	1,847	1,648	2,435	47,913	46,666	22,362	20,644	37,196	4.67	
Natural Gas.....	98	97	60	55	78	1,991	1,983	883	779	1,529	14.31	
District Chilled Water.....	25	24	9	8	18	2,101	2,094	724	714	1,527	19.69	
Percent Heated												
Not Heated.....	662	--	--	--	--	5,419	--	--	--	--	33.04	
1 to 50.....	630	630	392	318	540	9,314	9,314	5,147	4,646	7,537	9.33	
51 to 99.....	496	496	306	282	399	8,673	8,673	3,932	3,571	7,153	9.08	
100.....	2,739	2,739	1,701	1,521	2,246	39,777	39,777	17,964	16,557	31,138	4.01	
Percent Cooled												
Not Cooled.....	1,344	815	492	401	662	11,413	7,356	3,369	2,943	5,652	7.15	
1 to 50.....	1,037	983	580	495	820	17,821	17,232	8,116	7,442	14,048	8.07	
51 to 99.....	597	578	359	316	467	13,139	12,929	6,209	5,584	9,928	7.20	
100.....	1,550	1,501	967	889	1,238	20,811	20,351	9,350	8,804	16,208	5.93	
Percent Lit When Open												
Not Lit.....	306	36	0	0	17	2,359	355	0	0	148	25.45	
1 to 50.....	1,002	865	571	504	731	10,870	9,683	5,951	5,583	8,113	7.12	
51 to 99.....	951	908	557	496	784	16,950	16,497	7,829	7,078	13,419	6.96	
100.....	2,269	2,067	1,259	1,091	1,655	33,004	31,334	13,187	12,043	24,156	5.10	
Percent Lit When Closed												
Not Lit.....	2,693	2,151	1,365	1,165	1,765	28,054	24,141	12,404	11,265	18,822	5.97	
1 to 50.....	1,706	1,631	988	893	1,360	31,825	30,860	13,518	12,527	25,372	5.49	
51 to 99.....	68	63	31	28	42	2,309	2,196	871	766	1,349	18.13	
100.....	62	30	15	Q	20	997	672	251	215	294	31.08	
Ownership and Occupancy												
Nongovernment Owned.....	3,951	3,371	2,156	1,895	2,780	48,842	44,507	23,195	21,444	34,767	3.92	
Owner Occupied.....	2,814	2,488	1,527	1,339	2,034	35,955	33,199	16,511	15,222	25,812	4.75	
Nonowner Occupied.....	1,136	884	629	556	746	12,888	11,308	6,684	6,222	8,955	6.56	
Government Owned.....	577	505	243	205	407	14,342	13,361	3,849	3,329	11,069	8.68	

-- Data not applicable.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 108. Occupant Control and Off-Hours Cooling Reduction, Number of Buildings and Floorspace

Building Characteristics	Number of Buildings (thousands)					Total Floorspace (million square feet)					RSE Row Factor	
	All Buildings	All Cooled Buildings	Occupant Control of Cooling		Reduced Cooling Off-Hours	Total Floorspace of All Buildings	Total Floorspace of All Cooled Buildings	Occupant Control of Cooling				
			Any Control	By Thermostat				Any Control	By Thermostat			
	RSE Column Factor:	0.747	0.867	1.060	1.136	0.951	0.821	0.939	1.256	1.331	1.045	
All Buildings.....	4,528	3,184	1,977	1,756	2,680	63,184	51,771	26,315	24,043	42,801	4.13	
Building Floorspace (Square Feet)												
1,001 to 5,000.....	2,529	1,652	1,116	980	1,405	6,790	4,566	3,061	2,702	3,922	5.08	
5,001 to 10,000.....	890	647	380	343	555	6,532	4,809	2,851	2,567	4,126	7.14	
10,001 to 25,000.....	644	494	288	264	408	10,393	8,010	4,698	4,333	6,575	6.67	
25,001 to 50,000.....	247	205	110	92	163	8,801	7,271	3,928	3,320	5,785	8.06	
50,001 to 100,000.....	127	108	49	45	83	9,130	7,764	3,396	3,095	5,993	9.61	
100,001 to 200,000.....	61	50	24	22	41	8,277	6,916	3,138	2,947	5,616	11.59	
200,001 to 500,000.....	23	22	8	8	18	7,022	6,460	2,597	2,463	5,393	20.59	
Over 500,000.....	7	7	3	3	6	6,239	5,976	2,646	2,617	5,391	18.18	
Principal Building Activity												
Assembly.....	615	432	232	199	394	6,838	5,354	2,644	2,391	4,757	10.10	
Education.....	284	211	122	103	196	8,148	6,499	2,485	1,991	6,031	10.60	
Food Sales.....	102	85	45	41	51	792	725	205	168	438	22.09	
Food Service.....	241	215	100	89	173	1,167	1,082	416	355	910	13.48	
Health Care.....	80	77	61	54	58	2,054	2,018	1,316	1,256	982	18.36	
Lodging.....	140	113	81	76	72	3,476	2,964	1,938	1,971	1,889	10.70	
Mercantile and Service.....	1,278	929	597	526	805	12,365	10,803	6,212	5,744	9,087	6.08	
Office.....	679	655	453	413	547	11,802	11,635	5,096	4,699	9,939	7.56	
Parking Garage.....	45	17	16	11	17	983	448	338	266	385	26.48	
Public Order and Safety.....	50	31	23	19	21	616	540	387	357	226	28.10	
Warehouse.....	618	264	153	137	229	9,253	6,111	3,021	2,780	5,066	14.16	
Other.....	62	44	24	21	24	1,529	1,455	596	515	1,092	26.66	
Vacant.....	333	110	69	69	93	4,161	2,137	1,661	1,651	1,999	21.84	
Year Constructed												
1899 or Before.....	172	115	72	64	102	1,654	1,223	693	559	1,116	19.75	
1900 to 1919.....	242	137	100	81	119	4,245	3,075	2,443	2,326	2,737	19.12	
1920 to 1945.....	680	441	283	247	388	8,098	5,844	3,366	2,865	4,986	9.46	
1946 to 1959.....	868	572	362	315	514	10,511	8,285	4,190	3,625	7,185	8.47	
1960 to 1969.....	821	586	339	298	498	12,167	10,056	4,386	4,050	8,089	6.64	
1970 to 1979.....	884	666	394	355	518	13,329	11,616	5,595	5,276	9,122	7.46	
1980 to 1983.....	317	243	151	142	192	4,274	3,752	1,784	1,719	3,067	9.93	
1984 to 1986.....	329	264	171	160	222	5,670	5,215	2,688	2,523	4,358	10.39	
1987 to 1989.....	215	159	105	94	126	3,235	2,704	1,171	1,100	2,142	14.78	
Census Region												
Northeast.....	783	476	298	277	415	13,569	10,334	5,356	5,022	8,880	10.51	
Midwest.....	1,046	706	448	406	577	15,955	13,159	6,984	6,422	10,760	8.96	
South.....	1,847	1,427	902	793	1,194	22,040	18,958	9,890	8,869	15,335	6.83	
West.....	851	576	330	281	494	11,620	9,320	4,085	3,731	7,826	9.31	
Metropolitan Status												
Metropolitan.....	3,073	2,261	1,384	1,241	1,887	50,809	43,191	21,121	19,358	35,667	4.85	
Nonmetropolitan.....	1,454	923	1,593	1,515	793	12,375	8,580	5,194	4,685	7,133	9.84	
Workers												
Fewer than 5.....	2,280	1,400	922	801	1,193	13,292	8,141	5,278	4,676	7,117	6.96	
5 to 9.....	906	764	491	440	666	7,939	6,330	4,109	3,768	5,465	7.04	
10 to 19.....	507	446	264	245	385	6,445	5,577	2,958	2,800	4,851	8.93	
20 to 49.....	381	340	198	178	267	9,665	8,706	4,880	4,284	7,200	8.11	
50 to 99.....	132	117	52	45	81	7,389	6,713	2,330	1,973	5,012	9.64	
100 to 249.....	79	73	34	33	52	6,771	6,440	2,971	2,872	4,849	9.93	
250 or More.....	32	31	11	11	25	9,829	9,733	3,767	3,648	8,220	13.54	
Weekly Operating Hours												
39 or Fewer.....	876	394	206	177	365	6,073	2,882	1,325	1,179	2,687	10.89	
40 to 48.....	1,117	846	561	497	748	13,905	11,404	5,787	5,035	10,213	6.92	
49 to 60.....	987	753	500	450	675	13,473	11,544	6,252	5,667	10,342	7.25	
61 to 84.....	625	484	277	242	407	10,777	9,680	5,128	4,793	8,322	7.45	
85 to 167.....	515	403	249	228	341	9,387	8,182	3,512	3,270	6,893	10.78	
168 (Open Continuously).....	408	304	183	163	143	9,569	8,080	4,311	4,098	4,344	7.90	
Energy Sources (Solely or in Combination)												
Electricity.....	4,297	3,184	1,977	1,756	2,680	61,587	51,765	26,309	24,038	42,795	4.14	
Natural Gas.....	2,439	1,983	1,227	1,082	1,694	45,593	37,067	19,064	17,295	31,069	4.93	
Fuel Oil.....	586	374	218	190	321	12,684	10,468	4,338	3,967	8,535	10.90	
District Heat.....	105	77	43	39	46	6,856	6,175	2,288	2,204	4,678	17.34	
District Chilled Water.....	25	25	9	8	20	2,101	2,101	719	712	1,592	19.55	
Propane.....	348	248	137	124	216	4,695	4,021	1,742	1,524	3,368	15.85	
Any Other.....	130	50	33	30	41	1,542	1,069	478	457	920	22.73	

See footnotes at end of table.

CONSERVATION FEATURES

Table 108. Occupant Control and Off-Hours Cooling Reduction, Number of Buildings and Floorspace (Continued)

Building Characteristics	Number of Buildings (thousands)				Total Floorspace (million square feet)				RSE Row Factor	
	All Buildings	All Cooled Buildings	Occupant Control of Cooling		Reduced Cooling Off-Hours	Total Floorspace of All Buildings	Total Floorspace of All Cooled Buildings	Occupant Control of Cooling		
			Any Control	By Thermostat				Any Control	By Thermostat	
RSE Column Factor:	0.747	0.867	1.060	1.136	0.951	0.821	0.939	1.256	1.331	1.045
Energy End Uses (Solely or in Combination)										
Heated Buildings.....	3,877	3,062	1,913	1,701	2,571	57,868	50,512	25,801	23,588	41,736
Air-Conditioned Buildings.....	3,184	3,184	1,977	1,756	2,680	51,771	51,771	26,315	24,043	42,801
Buildings with Water Heating.....	3,184	2,639	1,649	1,495	2,194	53,585	47,607	24,369	22,442	39,144
Buildings with Cooking.....	864	710	392	354	562	23,668	21,535	10,091	9,172	17,727
Buildings with Manufacturing..	205	153	103	96	131	5,601	5,145	2,065	1,924	4,396
										15.50
Space Heating Energy Source (Solely or in Combination)										
Electricity.....	1,284	1,145	748	689	921	18,703	17,248	9,466	8,782	13,944
Natural Gas.....	2,172	1,756	1,095	963	1,512	33,278	29,676	15,406	13,828	24,618
Fuel Oil.....	560	351	208	180	306	10,603	8,467	3,789	3,449	6,962
District Heat.....	101	74	41	37	45	6,330	5,671	1,934	1,850	4,311
Propane.....	238	168	89	79	145	1,767	1,457	723	644	1,091
Any Other.....	110	38	23	21	33	994	568	329	325	531
										30.09
Cooling Energy Sources (Solely or in Combination)										
Electricity.....	3,074	3,074	1,918	1,702	2,593	47,913	47,913	24,959	22,737	39,775
Natural Gas.....	98	98	60	55	78	1,991	1,991	857	815	1,552
District Chilled Water.....	25	25	9	8	20	2,101	2,101	719	712	1,592
										19.55
Percent Heated										
Not Heated.....	662	125	67	58	112	5,419	1,268	519	460	1,074
1 to 50.....	630	469	288	248	425	9,314	7,708	4,598	4,251	6,635
51 to 99.....	496	415	263	228	344	8,673	8,102	3,837	3,418	7,056
100.....	2,739	2,175	1,360	1,223	1,800	39,777	34,693	17,361	15,915	28,035
										4.45
Percent Cooled										
Not Cooled.....	1,344	--	--	--	--	11,413	--	--	--	6.39
1 to 50.....	1,037	1,037	628	532	922	17,821	17,821	9,921	8,747	15,494
51 to 99.....	597	597	365	330	487	13,139	13,139	6,298	5,856	10,574
100.....	1,550	1,550	984	895	1,271	20,811	20,811	10,096	9,440	16,633
										5.84
Percent Lit When Open										
Not Lit.....	306	18	0	0	15	2,359	174	0	0	128
1 to 50.....	1,002	657	436	386	574	10,870	7,991	5,083	4,620	7,135
51 to 99.....	951	791	507	447	698	16,950	15,147	7,750	7,099	12,991
100.....	2,269	1,719	1,026	916	1,392	33,004	28,459	13,425	12,274	22,546
										5.25
Percent Lit When Closed										
Not Lit.....	2,693	1,688	1,068	942	1,439	28,054	20,620	11,453	10,534	16,617
1 to 50.....	1,706	1,412	867	777	1,182	31,825	28,431	13,508	12,239	24,431
51 to 99.....	68	59	33	28	43	2,309	2,183	1,180	1,097	1,474
100.....	62	24	10	10	17	997	537	174	174	278
										31.67
Ownership and Occupancy										
Nongovernment Owned.....	3,951	2,836	1,789	1,595	2,394	48,842	40,641	22,252	20,531	33,461
Owner Occupied.....	2,814	2,035	1,245	1,103	1,706	37,955	30,226	16,103	14,867	24,864
Nonowner Occupied.....	1,136	801	544	492	689	12,888	10,415	6,148	5,664	8,597
Government Owned.....	577	348	189	161	286	14,342	11,130	4,063	3,512	9,340
										9.25

-- Data not applicable.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 109. Energy Management, Number of Buildings
(Thousand)**

Building Characteristics	RSE Column Factor:	Computerized Energy Management and Control System					Regular HVAC Maintenance	Participated in Utility-Sponsored Conservation Program	RSE Row Factor
		All Buildings	All Buildings	Controls HVAC	Controls Lighting	Controls Other			
		0.423	0.970	0.976	1.874	2.499	0.503	1.059	
All Buildings.....	4,528	264	251	51	32	2,102	324	7.5	
Building Floorspace (Square Feet)									
1,001 to 5,000.....	2,529	63	58	0	0	920	101	15.5	
5,001 to 10,000.....	890	45	45	0	0	445	69	19.2	
10,001 to 25,000.....	644	60	56	14	15	395	65	14.9	
25,001 to 50,000.....	247	30	29	5	0	171	37	14.7	
50,001 to 100,000.....	127	31	31	6	3	98	28	14.5	
100,001 to 200,000.....	61	20	19	5	4	48	17	16.0	
200,001 to 500,000.....	23	10	10	3	2	19	5	23.1	
Over 500,000.....	7	4	4	2	1	6	2	20.7	
Principal Building Activity									
Assembly.....	615	36	35	0	0	328	54	18.9	
Education.....	284	53	53	0	0	230	60	17.7	
Food Sales.....	102	0	0	0	0	51	0	36.2	
Food Service.....	241	21	21	0	0	133	0	24.1	
Health Care.....	80	7	7	0	0	46	6	32.1	
Lodging.....	140	10	9	0	0	104	16	27.1	
Mercantile and Service.....	1,278	43	35	10	10	511	70	14.0	
Office.....	679	62	59	15	4	411	65	13.7	
Parking Garage.....	45	0	0	0	0	7	0	59.4	
Public Order and Safety.....	50	0	0	0	0	24	0	51.6	
Warehouse.....	618	99	99	0	0	170	19	26.0	
Other.....	62	7	7	0	0	34	0	39.8	
Vacant.....	333	Q	Q	0	0	53	Q	36.5	
Year Constructed									
1899 or Before.....	172	0	0	0	0	68	0	36.8	
1900 to 1919.....	242	7	7	0	0	91	19	30.2	
1920 to 1945.....	680	19	19	0	0	254	47	22.7	
1946 to 1959.....	868	33	33	0	0	393	70	18.5	
1960 to 1969.....	821	56	53	10	9	398	69	14.4	
1970 to 1979.....	884	55	50	15	13	460	66	14.6	
1980 to 1983.....	317	23	20	9	0	162	19	21.0	
1984 to 1986.....	329	33	33	5	0	167	18	19.4	
1987 to 1989.....	215	31	29	8	0	109	7	20.6	
Census Region									
Northeast.....	783	44	43	9	6	455	101	14.0	
Midwest.....	1,046	63	60	6	8	460	58	13.8	
South.....	1,847	85	81	15	9	756	66	14.9	
West.....	851	73	68	21	8	430	99	15.6	
Metropolitan Status									
Metropolitan.....	3,073	223	212	50	30	1,559	274	8.2	
Nonmetropolitan.....	1,454	41	40	Q	0	543	50	25.1	
Workers									
Fewer than 5.....	2,280	59	54	0	0	806	92	15.7	
5 to 9.....	906	44	44	0	0	454	73	17.1	
10 to 19.....	507	40	40	0	0	318	50	18.9	
20 to 49.....	381	53	49	14	9	295	48	12.9	
50 to 99.....	132	30	28	5	0	110	29	15.6	
100 to 249.....	79	20	19	5	3	68	21	14.0	
250 or More.....	32	17	16	4	3	31	9	15.8	
Weekly Operating Hours									
39 or Fewer.....	876	26	26	0	0	288	42	24.0	
40 to 48.....	1,117	65	64	8	0	549	71	14.1	
49 to 60.....	987	46	42	8	8	431	74	13.6	
61 to 84.....	625	46	43	8	5	317	43	14.8	
85 to 167.....	515	49	47	17	11	268	50	14.9	
168 (Open Continuously).....	408	33	30	5	3	248	44	16.3	
Energy Sources (Solely or in Combination)									
Electricity.....	4,297	263	251	51	32	2,099	324	7.6	
Natural Gas.....	2,439	185	179	40	23	1,275	204	9.0	
Fuel Oil.....	586	31	31	4	3	362	66	17.7	
District Heat.....	105	25	25	2	2	92	20	21.4	
District Chilled Water.....	25	13	13	0	0	24	7	23.4	
Propane.....	348	15	15	0	0	178	23	26.6	
Any Other.....	130	Q	Q	Q	Q	46	Q	38.6	
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	3,877	257	245	50	31	2,039	319	7.8	
Air-Conditioned Buildings.....	3,184	236	224	49	29	1,749	264	8.0	
Buildings with Water Heating.....	3,184	233	227	48	28	1,778	294	7.9	
Buildings with Cooking.....	864	91	87	24	17	533	100	11.3	
Buildings with Manufacturing.....	205	12	10	Q	Q	106	21	25.6	

See footnotes at end of table.

CONSERVATION FEATURES
Table 109. Energy Management, Number of Buildings (Continued)
 (Thousands)

Building Characteristics	All Buildings	Computerized Energy Management and Control System				Regular HVAC Maintenance	Participated in Utility-Sponsored Conservation Program	RSE Row Factor
		All Buildings	Controls HVAC	Controls Lighting	Controls Other			
	RSE Column Factors	0.423	0.970	0.976	1.874	2.499	0.503	1.059
Percent Heated								
Not Heated.....	662	7	7	Q	Q	64	6	33.4
1 to 50.....	630	11	8	4	Q	229	30	23.9
51 to 99.....	496	38	35	9	Q	263	50	17.8
100.....	2,739	207	201	37	26	1,546	238	8.4
Percent Cooled								
Not Cooled.....	1,344	28	28	Q	Q	353	60	18.2
1 to 50.....	1,037	42	38	9	5	486	67	15.4
51 to 99.....	597	66	63	12	9	369	69	14.0
100.....	1,550	128	123	28	15	894	129	11.6
Percent Lit When Open								
Not Lit.....	306	Q	Q	Q	NC	20	Q	48.8
1 to 50.....	1,002	36	35	Q	Q	394	54	19.9
51 to 99.....	951	67	62	13	5	527	103	12.3
100.....	2,269	160	154	34	26	1,161	166	9.6
Heating Equipment (Solely or in Combination)								
Furnaces.....	1,619	84	79	17	10	786	114	14.6
Boilers.....	704	71	70	9	7	494	108	11.2
Individual Space Heaters.....	1,389	71	67	12	10	585	110	11.9
Packaged Heating Units.....	859	84	80	22	9	519	66	14.5
Heat Pumps.....	453	47	44	10	9	289	43	19.9
Air Ducts.....	1,990	203	193	40	24	1,172	178	9.5
Heating or Reheating Coils....	243	63	59	14	10	199	39	11.4
Fan-Coil Units.....	185	40	40	6	5	148	35	13.2
Steam or Hot Water Radiators or Baseboards.....	498	46	45	6	5	355	70	13.4
Other.....	57	8	7	Q	Q	36	6	33.4
Cooling Equipment (Solely or in Combination)								
Central Chillers.....	201	42	41	7	7	153	40	11.9
Individual Air Conditioners...	1,074	35	35	4	6	512	82	13.6
Packaged Cooling Units.....	1,980	176	166	42	23	1,142	171	9.5
Heat Pumps.....	437	46	41	6	7	278	41	20.0
Air Ducts.....	1,712	188	179	35	24	1,032	158	10.3
Fan-Coil Units.....	110	36	35	5	6	97	24	14.4
Other.....	100	4	4	Q	Q	58	Q	48.8
Lighting Equipment (Solely or in Combination)								
Incandescent.....	2,404	167	161	27	18	1,177	191	9.4
Fluorescent.....	3,920	258	246	51	31	1,998	312	7.6
High-Intensity Discharge.....	456	60	56	14	10	287	59	11.2
Other.....	24	2	Q	Q	Q	13	Q	41.9
Ownership and Occupancy								
Nongovernment Owned.....	3,951	187	175	41	22	1,716	232	8.8
Owner Occupied.....	2,814	143	134	27	15	1,286	187	9.7
Nonowner Occupied.....	1,136	44	41	13	Q	430	45	15.6
Government Owned.....	577	77	76	10	10	386	92	14.7
Occupant Control of:								
Heating Only.....	626	16	16	Q	Q	247	40	25.6
Cooling Only.....	204	14	14	Q	Q	123	23	28.0
Heating and Cooling.....	1,773	69	62	11	9	908	123	12.8

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 110. Energy Management, Floorspace
(Million Square Feet)**

Building Characteristics	RSE Column Factor:	Computerized Energy Management and Control System					Regular HVAC Maintenance	Participated in Utility-Sponsored Conservation Program	RSE Row Factor
		All Buildings	All Buildings	Controls HVAC	Controls Lighting	Controls Other			
		0.466	1.017	1.039	1.868	2.145			
All Buildings.....	63,184	14,345	13,793	3,855	2,316	43,014	10,826	7.3	
Building Floorspace (Square Feet)									
1,001 to 5,000.....	6,790	181	161	0	0	2,596	311	16.2	
5,001 to 10,000.....	6,532	336	331	0	0	3,275	528	19.7	
10,001 to 25,000.....	10,393	997	936	231	247	6,432	1,055	14.7	
25,001 to 50,000.....	8,801	1,009	976	195	0	6,098	1,293	14.2	
50,001 to 100,000.....	9,130	2,312	2,264	456	195	6,999	1,971	14.4	
100,001 to 200,000.....	8,277	2,835	2,689	597	563	6,699	2,418	16.3	
200,001 to 500,000.....	7,022	2,920	2,882	803	487	5,588	1,568	22.5	
Over 500,000.....	6,239	3,755	3,553	1,507	666	5,327	1,682	22.7	
Principal Building Activity									
Assembly.....	6,838	1,346	1,327	0	0	4,398	1,502	22.2	
Education.....	8,148	3,072	3,072	501	7,254	2,233	15.6		
Food Sales.....	792	0	0	0	0	559	0	40.6	
Food Service.....	1,167	135	135	0	0	805	0	33.9	
Health Care.....	2,054	956	931	0	0	1,915	540	26.7	
Lodging.....	3,476	509	475	0	0	2,887	694	22.4	
Mercantile and Service.....	12,365	1,689	1,514	1,028	474	7,296	1,256	12.7	
Office.....	11,802	4,278	4,213	1,070	541	9,974	2,929	11.6	
Parking Garage.....	983	0	0	0	0	395	0	53.9	
Public Order and Safety.....	616	0	0	0	0	526	0	52.9	
Warehouse.....	9,253	803	645	0	0	4,588	760	26.8	
Other.....	1,529	622	607	0	0	1,200	0	39.5	
Vacant.....	4,161	Q	Q	0	0	1,216	Q	48.7	
Year Constructed									
1899 or Before.....	1,654	0	0	NC	NC	887	0	36.5	
1900 to 1919.....	4,245	0	0	0	0	2,128	689	41.3	
1920 to 1945.....	8,098	1,157	1,000	0	0	4,670	1,161	23.5	
1946 to 1959.....	10,511	2,096	2,096	0	0	6,850	1,666	23.7	
1960 to 1969.....	12,167	2,946	2,805	638	611	8,802	2,538	11.7	
1970 to 1979.....	13,329	3,512	3,388	975	692	10,000	2,923	11.7	
1980 to 1983.....	4,274	1,042	998	453	0	3,076	671	17.1	
1984 to 1986.....	5,670	1,684	1,569	421	188	4,185	781	19.0	
1987 to 1989.....	3,235	1,375	1,303	566	Q	2,417	282	20.1	
Census Region									
Northeast.....	13,569	3,210	3,094	755	558	10,264	3,705	13.9	
Midwest.....	15,955	3,547	3,322	945	865	10,599	1,989	14.8	
South.....	22,040	4,374	4,250	885	518	13,701	2,469	14.5	
West.....	11,620	3,214	3,128	1,270	375	8,450	2,664	14.8	
Metropolitan Status									
Metropolitan.....	50,809	13,091	12,587	3,701	2,244	36,398	9,645	8.1	
Nonmetropolitan.....	12,375	1,253	1,206	Q	Q	6,616	1,182	23.8	
Workers									
Fewer than 5.....	13,292	658	611	0	0	5,197	930	19.0	
5 to 9.....	7,939	435	434	0	0	4,014	685	18.4	
10 to 19.....	6,445	647	647	0	0	4,174	727	19.3	
20 to 49.....	9,665	1,745	1,681	479	268	7,455	1,707	15.2	
50 to 99.....	7,389	2,289	1,964	509	0	6,268	1,798	16.0	
100 to 249.....	6,771	2,361	2,290	694	433	6,167	1,927	14.4	
250 or More.....	9,829	6,158	6,123	1,925	1,095	9,438	3,007	17.2	
Weekly Operating Hours									
39 or Fewer.....	6,073	428	420	0	0	2,482	586	23.2	
40 to 48.....	13,905	3,114	2,949	472	0	8,983	2,541	14.8	
49 to 60.....	13,473	2,582	2,550	792	525	9,130	2,290	14.6	
61 to 84.....	10,777	2,779	2,712	1,002	354	7,887	1,581	12.7	
85 to 167.....	9,387	2,698	2,542	1,097	590	6,811	1,908	19.8	
168 (Open Continuously).....	9,569	2,743	2,620	404	582	7,721	1,920	15.1	
Energy Sources (Solely or in Combination)									
Electricity.....	61,587	14,316	13,772	3,835	2,316	42,961	10,826	7.3	
Natural Gas.....	41,593	10,833	10,361	3,167	1,938	30,205	7,308	8.4	
Fuel Oil.....	12,684	4,235	4,055	1,158	926	10,475	3,519	11.1	
District Heat.....	6,856	3,872	3,844	0	590	6,323	1,762	26.0	
District Chilled Water.....	2,101	1,352	1,325	0	0	2,052	808	24.1	
Propane.....	4,695	1,256	1,247	0	0	3,655	743	30.7	
Any Other.....	1,542	Q	Q	Q	Q	915	Q	39.6	
Energy End Uses (Solely or in Combination)									
Heated Buildings.....	57,868	14,113	13,590	3,728	2,281	42,134	10,620	7.4	
Air-Conditioned Buildings.....	51,771	13,346	12,823	3,733	2,176	38,674	9,519	7.8	
Buildings with Water Heating.....	53,585	13,814	13,342	3,711	2,185	40,118	10,371	7.6	
Buildings with Cooking.....	23,668	8,448	8,180	2,381	1,544	19,254	5,213	10.4	
Buildings with Manufacturing..	5,601	1,934	1,766	Q	Q	4,137	1,046	31.5	

See footnotes at end of table.

CONSERVATION FEATURES
Table 110. Energy Management, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	RSE Column Factor:	Computerized Energy Management and Control System				Regular HVAC Maintenance	Participated in Utility-Sponsored Conservation Program	RSE Row Factor
		All Buildings	All Buildings	Controls HVAC	Controls Lighting			
		0.466	1.017	1.039	1.868			
Percent Heated								
Not Heated.....	5,419	232	202	Q	Q	921	218	30.8
1 to 50.....	9,314	571	553	153	Q	4,670	751	20.5
51 to 99.....	8,673	2,759	2,528	931	358	6,468	1,745	17.2
100.....	39,777	10,783	10,510	2,644	1,826	30,955	8,113	8.8
Percent Cooled								
Not Cooled.....	11,413	999	969	Q	Q	4,340	1,307	17.4
1 to 50.....	17,821	2,443	2,266	624	342	11,112	2,500	15.1
51 to 99.....	13,139	4,561	4,356	1,287	916	10,660	2,878	11.4
100.....	20,811	6,342	6,202	1,821	917	16,902	4,141	12.3
Percent Lit When Open								
Not Lit.....	2,359	Q	Q	Q	NC	319	Q	50.8
1 to 50.....	10,870	681	671	Q	Q	5,137	1,012	19.9
51 to 99.....	16,950	4,722	4,668	980	720	12,847	3,421	12.9
100.....	33,004	8,890	8,411	2,720	1,501	24,711	6,347	10.9
Heating Equipment (Solely or in Combination)								
Furnaces.....	15,592	2,165	2,002	710	463	9,752	1,483	12.8
Boilers.....	19,907	6,132	5,939	1,475	940	17,053	5,708	9.0
Individual Space Heaters.....	22,542	5,295	5,112	1,677	1,086	14,640	4,160	13.4
Packaged Heating Units.....	15,598	3,797	3,683	1,078	620	11,985	2,864	11.8
Heat Pumps.....	8,357	2,284	2,182	728	477	6,630	2,005	14.4
Air Ducts.....	37,297	12,047	11,708	3,132	1,985	29,606	7,720	8.5
Heating or Reheating Coils....	15,693	8,419	8,215	2,141	1,459	14,606	4,813	12.8
Fan-Coil Units.....	11,839	5,923	5,832	1,388	920	10,811	4,023	14.8
Steam or Hot Water Radiators or Baseboards.....	15,822	5,093	4,907	1,473	863	13,198	4,089	15.2
Other.....	1,476	786	654	Q	Q	1,319	196	35.0
Cooling Equipment (Solely or in Combination)								
Central Chillers.....	14,048	6,990	6,748	2,021	1,177	12,984	4,205	13.1
Individual Air Conditioners...	19,239	3,297	3,230	723	673	13,599	3,609	11.8
Packaged Cooling Units.....	34,753	9,071	8,760	2,647	1,321	26,496	6,670	9.1
Heat Pumps.....	7,827	2,044	1,936	510	448	6,450	1,947	16.1
Air Ducts.....	34,225	11,180	10,857	3,030	1,864	27,652	6,994	8.7
Fan-Coil Units.....	10,787	6,333	6,229	1,573	1,124	10,275	3,759	14.0
Other.....	1,468	Q	Q	Q	Q	1,274	160	50.9
Lighting Equipment (Solely or in Combination)								
Incandescent.....	38,790	10,193	9,790	2,808	1,759	28,708	7,339	8.6
Fluorescent.....	58,893	14,255	13,719	3,818	2,309	42,119	10,703	7.4
High-Intensity Discharge....	18,188	7,570	7,423	2,306	1,352	15,085	4,695	12.7
Other.....	513	184	Q	Q	Q	414	Q	35.1
Ownership and Occupancy								
Nongovernment Owned.....	48,842	9,053	8,572	2,809	1,675	31,228	6,867	7.9
Owner Occupied.....	35,955	7,405	7,006	2,255	1,429	23,648	5,798	9.1
Nonowner Occupied.....	12,888	1,648	1,566	554	246	7,580	1,070	14.4
Government Owned.....	14,342	5,291	5,221	1,047	641	11,786	3,959	14.6
Occupant Control of:								
Heating Only.....	4,872	580	580	Q	Q	2,681	794	20.9
Cooling Only.....	4,143	623	623	Q	Q	3,308	783	23.7
Heating and Cooling.....	22,172	3,224	3,110	618	560	14,774	2,913	14.0

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 111. Asbestos Presence and Treatment, Number of Buildings
(Thousand)**

Building Characteristics	Number of Buildings						RSE Row Factor	
	All Buildings	Asbestos Ever Present	Asbestos Removed or Treated	Asbestos Currently Present	Inspected			
					By Certified Inspector	Not Sure if Certified		
RSE Column Factor:	0.477	0.916	1.095	1.081	0.833	2.318		
All Buildings.....	4,528	499	275	357	827	77	6.39	
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	129	52	92	302	35	11.41	
5,001 to 10,000.....	890	101	47	73	171	22	12.57	
10,001 to 25,000.....	644	113	63	78	165	0	11.16	
25,001 to 50,000.....	247	69	48	46	92	0	11.90	
50,001 to 100,000.....	127	50	35	36	54	0	12.68	
100,001 to 200,000.....	61	23	18	19	28	0	14.49	
200,001 to 500,000.....	23	11	9	9	10	0	23.81	
Over 500,000.....	7	4	3	3	4	0	20.13	
Principal Building Activity								
Assembly.....	615	64	33	46	95	18	14.31	
Education.....	284	149	91	113	236	0	12.58	
Food Sales.....	102	0	0	0	0	0	45.46	
Food Service.....	241	0	0	0	43	0	27.54	
Health Care.....	80	19	11	15	18	0	29.45	
Lodging.....	140	31	19	24	36	0	19.76	
Mercantile and Service.....	1,278	56	22	37	126	11	15.76	
Office.....	679	80	51	52	122	14	12.01	
Parking Garage.....	45	0	0	0	7	0	62.31	
Public Order and Safety.....	50	11	0	0	16	0	39.35	
Warehouse.....	618	24	12	15	48	0	21.07	
Other.....	62	11	8	9	17	0	36.25	
Vacant.....	333	38	16	27	41	0	21.10	
Year Constructed								
1899 or Before.....	172	18	12	9	18	0	29.02	
1900 to 1919.....	242	51	29	38	46	0	19.28	
1920 to 1945.....	680	111	65	73	134	0	13.62	
1946 to 1959.....	868	137	81	97	198	16	12.15	
1960 to 1969.....	821	104	58	78	152	0	13.53	
1970 to 1979.....	884	60	22	50	148	20	13.17	
1980 to 1983.....	317	10	0	8	61	0	26.15	
1984 to 1986.....	329	7	0	0	35	0	29.70	
1987 to 1989.....	215	0	0	0	34	0	34.00	
Metropolitan Status								
Metropolitan.....	3,073	401	215	290	621	55	6.52	
Nonmetropolitan.....	1,454	98	60	66	205	0	17.78	
Workers								
Fewer than 5.....	2,280	154	65	114	304	34	10.38	
5 to 9.....	906	70	31	49	140	18	14.09	
10 to 19.....	507	66	43	44	112	0	14.87	
20 to 49.....	381	96	62	63	141	0	12.55	
50 to 99.....	132	52	35	36	60	0	12.91	
100 to 249.....	79	27	22	21	33	0	15.60	
250 or More.....	32	16	13	13	15	1	17.12	
Weekly Operating Hours								
39 or Fewer.....	876	87	35	65	135	0	14.51	
40 to 48.....	1,117	143	82	103	244	23	11.52	
49 to 60.....	987	99	59	68	164	14	13.03	
61 to 84.....	625	60	39	40	109	14	11.62	
85 to 167.....	515	44	23	33	84	0	16.13	
168 (Open Continuously).....	408	66	38	47	91	9	13.46	
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	488	272	346	807	75	6.36	
Natural Gas.....	2,439	328	189	234	493	47	7.39	
Fuel Oil.....	586	94	62	61	128	10	14.99	
District Heat.....	105	60	42	46	63	0	18.41	
District Chilled Water.....	25	15	10	12	15	0	22.45	
Propane.....	348	30	14	24	65	0	24.83	
Any Other.....	130	7	Q	Q	31	0	35.20	
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	471	265	334	767	68	6.72	
Air-Conditioned Buildings.....	3,194	363	203	260	607	57	7.46	
Buildings with Water Heating.....	3,184	409	245	286	645	57	6.70	
Buildings with Cooking.....	864	150	97	103	232	18	9.47	
Buildings with Manufacturing.....	205	25	16	19	47	0	22.41	

See footnotes at end of table.

Table 111. Asbestos Presence and Treatment, Number of Buildings (Continued)
 (Thousand)

Building Characteristics	Number of Buildings						RSE Row Factor	
	All Buildings	Asbestos Ever Present	Asbestos Removed or Treated	Asbestos Currently Present	Inspected			
					By Certified Inspector	Not Sure if Certified		
RSE Column Factor:	0.477	0.916	1.095	1.081	0.833	2.318		
Wall Materials								
Masonry.....	2,849	375	216	268	550	55	7.26	
Siding or Shingles.....	802	60	26	41	141	0	19.52	
Metal Panels.....	557	22	9	16	49	0	25.66	
Concrete Panels.....	240	25	17	18	66	0	19.38	
Window Glass.....	33	8	0	6	13	0	37.43	
Other.....	46	8	0	8	8	0	41.42	
Roof Materials								
Built-Up.....	1,614	230	143	155	366	24	8.50	
Shingles (Not Wood).....	1,392	131	56	97	209	26	12.19	
Metal Surfacing.....	901	33	13	26	101	16	19.30	
Synthetic or Rubber.....	211	44	32	30	60	0	17.08	
Slate or Tile.....	193	36	17	30	55	0	21.04	
Concrete.....	72	6	4	4	17	0	40.05	
Wooden Materials.....	106	0	0	0	0	0	40.00	
Other.....	38	9	0	0	10	NC	45.39	
Ownership and Occupancy								
Nongovernment Owned.....	3,951	293	148	206	494	63	7.88	
Owner Occupied.....	2,814	218	116	151	364	45	9.12	
Nonowner Occupied.....	1,136	74	31	56	130	18	14.76	
Government Owned.....	577	207	127	150	333	14	10.85	

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 112. Asbestos Presence and Treatment, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace						RSE Row Factor	
	All Buildings	Asbestos Ever Present	Asbestos Removed or Treated	Asbestos Currently Present	Inspected			
					By Certified Inspector	Not Sure if Certified		
RSE Column Factor:	0.506	0.926	1.115	1.076	0.853	2.082		
All Buildings.....	63,184	18,775	13,760	14,161	22,968	1,414	6.50	
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	369	149	256	850	85	12.10	
5,001 to 10,000.....	6,532	747	359	531	1,244	167	12.80	
10,001 to 25,000.....	10,393	1,893	1,071	1,276	2,763	0	11.50	
25,001 to 50,000.....	8,801	2,464	1,760	1,619	3,323	0	11.80	
50,001 to 100,000.....	9,130	3,557	2,533	2,599	3,844	0	12.90	
100,001 to 200,000.....	8,277	3,229	2,537	2,716	3,874	0	14.71	
200,001 to 500,000.....	7,022	3,117	2,555	2,463	3,027	0	23.22	
Over 500,000.....	6,239	3,399	2,796	2,700	4,042	0	22.54	
Principal Building Activity								
Assembly.....	6,838	1,701	991	1,374	1,783	129	17.83	
Education.....	8,148	6,332	5,074	4,745	7,252	0	11.52	
Food Sales.....	792	0	0	0	0	0	55.58	
Food Service.....	1,167	0	0	0	332	0	38.39	
Health Care.....	2,054	1,495	1,254	1,305	1,155	0	23.62	
Lodging.....	3,476	1,086	703	878	1,252	0	19.89	
Mercantile and Service.....	12,365	939	523	599	2,492	467	15.72	
Office.....	11,802	4,264	3,444	3,301	4,830	287	13.30	
Parking Garage.....	983	0	0	0	176	0	59.66	
Public Order and Safety.....	616	337	0	0	354	0	42.08	
Warehouse.....	9,253	790	518	412	1,196	0	21.16	
Other.....	1,529	538	393	502	631	0	38.84	
Vacant.....	4,161	1,085	588	662	1,033	0	32.10	
Year Constructed								
1899 or Before.....	1,654	365	237	253	395	0	31.85	
1900 to 1919.....	4,245	1,765	1,384	991	1,510	0	24.41	
1920 to 1945.....	8,098	3,766	2,827	2,730	3,351	0	15.77	
1946 to 1959.....	10,511	5,138	3,861	4,179	4,711	250	14.87	
1960 to 1969.....	12,167	4,490	3,185	3,569	5,133	0	11.31	
1970 to 1979.....	13,329	2,638	1,852	2,092	4,778	397	11.75	
1980 to 1983.....	4,274	317	0	251	981	0	22.19	
1984 to 1986.....	5,670	204	0	0	1,254	0	26.11	
1987 to 1989.....	3,235	Q	Q	Q	1,753	0	35.45	
Metropolitan Status								
Metropolitan.....	50,809	16,491	11,956	12,704	19,456	1,186	6.90	
Nonmetropolitan.....	12,375	2,284	1,804	1,457	3,512	Q	16.62	
Workers								
Fewer than 5.....	13,292	1,235	643	858	2,232	209	11.89	
5 to 9.....	7,939	769	415	597	1,275	114	14.79	
10 to 19.....	6,445	1,370	905	884	1,973	0	16.73	
20 to 49.....	9,665	3,355	2,050	2,408	4,111	289	13.74	
50 to 99.....	7,389	3,387	2,617	2,304	4,036	0	13.34	
100 to 249.....	6,771	2,783	2,276	2,277	3,180	0	14.78	
250 or More.....	9,829	5,433	4,691	4,467	5,765	401	17.62	
Weekly Operating Hours								
39 or Fewer.....	6,073	1,369	793	915	1,822	0	15.34	
40 to 48.....	13,905	4,448	3,437	3,158	6,048	184	12.10	
49 to 60.....	13,473	3,361	2,466	2,625	3,741	298	15.63	
61 to 84.....	10,777	3,104	2,205	2,298	4,220	358	12.88	
85 to 167.....	9,387	2,794	2,103	2,094	3,313	0	20.66	
168 (Open Continuously).....	9,569	3,700	2,756	3,071	3,824	420	12.66	
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	18,537	13,699	13,947	22,666	1,408	6.49	
Natural Gas.....	41,593	14,220	10,540	10,657	16,373	1,038	7.79	
Fuel Oil.....	12,684	5,829	4,607	4,390	5,746	379	10.97	
District Heat.....	6,856	4,730	3,925	4,195	4,605	0	20.20	
District Chilled Water.....	2,101	1,261	1,039	1,091	1,354	0	26.73	
Propane.....	4,695	1,425	1,143	1,185	1,730	0	30.86	
Any Other.....	1,542	400	297	Q	811	0	30.36	
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	18,222	13,521	13,751	21,942	1,320	6.68	
Air-Conditioned Buildings.....	51,771	15,683	11,777	11,862	19,416	1,222	7.29	
Buildings with Water Heating.....	53,585	17,524	13,165	13,207	21,075	1,267	6.85	
Buildings with Cooking.....	23,668	10,746	8,402	8,347	12,054	519	9.00	
Buildings with Manufacturing.....	5,601	2,128	1,771	1,624	2,124	Q	30.05	

See footnotes at end of table.

Table 112. Asbestos Presence and Treatment, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace						RSE Row Factor	
	All Buildings	Asbestos Ever Present	Asbestos Removed or Treated	Asbestos Currently Present	Inspected			
					By Certified Inspector	Not Sure if Certified		
RSE Column Factor:	0.506	0.926	1.115	1.076	0.853	2.082		
Wall Materials								
Masonry.....	42,074	14,177	10,197	10,574	16,428	995	6.50	
Siding or Shingles.....	4,788	577	277	384	887	0	20.12	
Metal Panels.....	5,689	678	446	542	1,140	0	27.79	
Concrete Panels.....	7,221	2,085	1,789	1,560	2,866	0	24.38	
Window Glass.....	1,924	494	392	349	1,088	0	24.81	
Other.....	1,487	0	0	0	539	0	48.10	
Roof Materials								
Built-Up.....	31,057	10,916	8,313	8,056	12,731	804	8.27	
Shingles (Not Wood).....	10,917	2,622	1,369	2,029	2,838	192	14.72	
Metal Surfacing.....	8,197	666	498	532	1,493	208	22.44	
Synthetic or Rubber.....	6,911	2,500	1,923	1,919	2,954	0	19.23	
Slate or Tile.....	2,582	1,066	813	774	1,302	0	23.31	
Concrete.....	1,932	334	271	272	1,014	0	34.29	
Wooden Materials.....	727	0	0	0	0	0	39.73	
Other.....	860	0	0	0	0	NC	55.40	
Ownership and Occupancy								
Nongovernment Owned.....	48,842	9,346	6,232	6,888	12,848	1,141	7.61	
Owner Occupied.....	35,955	7,530	5,096	5,687	9,984	929	8.76	
Nonowner Occupied.....	12,888	1,816	1,136	1,201	2,864	213	17.10	
Government Owned.....	14,342	9,429	7,528	7,273	10,120	273	11.44	

NC No cases in sample.

0 Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 113. Type of Asbestos Currently Present, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Buildings with Asbestos Currently Present	Type of Asbestos Currently Present (Solely or in Combination)					RSE Row Factor
			HVAC Insulation Wrap	Sprayed or Trowelled on Surfacing Material	Ceiling Tiles	Flooring Tiles	Other	
	RSE Column Factor:	0.341	0.772	0.868	1.352	1.451	1.015	2.198
All Buildings.....	4,528	357	244	84	66	180	15	8.19
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	92	41	0	0	45	0	18.32
5,001 to 10,000.....	890	73	50	0	30	0	0	20.32
10,001 to 25,000.....	644	78	59	26	11	43	0	15.75
25,001 to 50,000.....	247	46	37	10	8	23	0	16.17
50,001 to 100,000.....	127	36	30	13	6	20	0	16.92
100,001 to 200,000.....	61	19	16	7	4	12	0	17.82
200,001 to 500,000.....	23	9	8	3	1	5	0	31.43
Over 500,000.....	7	3	3	2	1	2	0	26.41
Principal Building Activity								
Assembly.....	615	46	35	9	0	15	0	24.95
Education.....	284	113	61	23	19	82	0	15.02
Food Sales.....	102	0	0	0	0	0	0	65.97
Food Service.....	241	0	0	0	0	0	0	52.19
Health Care.....	80	15	10	7	0	0	0	38.27
Lodging.....	140	24	20	8	0	14	0	28.53
Mercantile and Service.....	1,278	37	21	0	0	0	0	27.15
Office.....	679	52	39	16	14	28	0	18.23
Parking Garage.....	45	0	0	NC	NC	NC	0	87.92
Public Order and Safety.....	50	0	0	0	0	0	0	49.98
Warehouse.....	618	15	12	0	0	0	0	38.60
Other.....	62	9	9	0	0	0	0	47.15
Vacant.....	333	27	24	6	0	12	0	27.94
Year Constructed								
1899 or Before.....	172	9	7	0	0	0	0	43.19
1900 to 1919.....	242	38	33	0	17	0	0	28.13
1920 to 1945.....	680	73	55	21	10	20	0	19.37
1946 to 1959.....	868	97	68	24	15	65	0	16.94
1960 to 1969.....	821	78	56	22	15	43	0	16.75
1970 to 1979.....	884	50	22	8	13	25	0	18.91
1980 to 1983.....	317	8	0	0	0	0	0	47.17
1984 to 1986.....	329	0	0	0	0	0	0	50.66
1987 to 1989.....	215	0	0	NC	NC	NC	0	47.52
Metropolitan Status								
Metropolitan.....	3,073	290	195	72	52	152	14	8.77
Nonmetropolitan.....	1,454	66	49	13	14	28	0	24.72
Workers								
Fewer than 5.....	2,280	114	65	17	23	47	0	15.20
5 to 9.....	906	49	25	0	20	0	0	22.68
10 to 19.....	507	44	32	9	0	27	0	19.72
20 to 49.....	381	63	47	13	0	35	0	16.28
50 to 99.....	132	36	29	13	9	25	0	18.36
100 to 249.....	79	21	18	12	22	9	0	19.51
250 or More.....	32	13	12	5	2	7	0	24.38
Weekly Operating Hours								
39 or Fewer.....	876	65	42	17	9	36	0	21.81
40 to 48.....	1,117	103	64	23	23	54	0	14.40
49 to 60.....	987	68	44	18	15	33	0	19.47
61 to 84.....	625	40	32	8	5	19	0	16.10
85 to 167.....	515	33	22	5	8	19	0	23.23
168 (Open Continuously).....	408	47	39	13	6	19	0	18.75
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	346	235	80	65	172	15	8.30
Natural Gas.....	2,439	234	164	56	50	114	9	9.43
Fuel Oil.....	586	61	49	19	8	30	0	21.76
District Heat.....	105	46	43	15	6	24	0	22.18
District Chilled Water.....	25	12	10	5	6	0	0	27.37
Propane.....	348	24	16	0	0	13	0	26.73
Any Other.....	130	0	0	0	0	0	NC	42.85
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	334	228	80	62	167	15	8.53
Air-Conditioned Buildings.....	3,184	260	167	58	56	131	10	10.19
Buildings with Water Heating.....	3,184	286	210	76	49	143	12	9.28
Buildings with Cooking.....	864	103	74	24	17	56	7	12.59
Buildings with Manufacturing.....	205	19	13	6	Q	11	Q	34.62

See footnotes at end of table.

Table 114. Type of Asbestos Currently Present, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace Of All Buildings	All Buildings with Asbestos Currently Present	Type of Asbestos Currently Present (Solely or in Combination)					RSE Row Factor
			HVAC Insulation Wrap	Sprayed or Trowelled on Surfacing Materials	Ceiling Tiles	Flooring Tiles	Other	
	RSE Column Factor:	0.358	0.761	0.881	1.214	1.629	1.000	2.103
Wall Materials								
Masonry.....	42,074	10,574	8,889	3,585	2,175	5,883	493	9.87
Siding or Shingles.....	4,788	384	252	0	0	174	0	29.88
Metal Panels.....	5,689	542	340	0	0	0	0	39.84
Concrete Panels.....	7,221	1,560	1,409	1,112	0	0	0	34.32
Window Glass.....	1,924	349	266	182	0	0	0	30.77
Other.....	1,487	0	0	0	0	0	0	56.99
Roof Materials								
Built-Up.....	31,057	8,056	6,789	3,663	1,881	4,624	372	12.52
Shingles (Not Wood).....	10,917	2,029	1,709	405	0	1,230	0	27.26
Metal Surfacing.....	8,197	532	344	0	0	222	0	33.64
Synthetic or Rubber.....	6,911	1,919	1,662	446	218	1,314	0	26.37
Slate or Tile.....	2,582	774	604	201	0	366	0	32.27
Concrete.....	1,932	272	242	0	0	0	0	39.70
Wooden Materials.....	727	0	0	0	0	0	0	55.40
Other.....	860	0	0	0	0	0	0	59.13
Ownership and Occupancy								
Nongovernment Owned.....	48,842	6,888	5,392	2,785	1,385	3,396	287	11.83
Owner Occupied.....	35,955	5,687	4,413	2,385	1,158	2,902	254	13.98
Nonowner Occupied.....	12,888	1,201	980	401	0	494	0	22.49
Government Owned.....	14,342	7,273	6,399	2,664	1,653	4,626	466	16.59

NC No cases in sample.

0 Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 115. Asbestos Removal or Treatment Method, Number of Buildings
(Thousand)**

Building Characteristics	All Buildings	All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Method of Asbestos Removal or Treatment (Solely or in Combination)				RSE Row Factor
				Removed	Encapsulated or Sealed	Enclosed Behind Permanent Barrier	Other Treatment	
	0.337	0.647	0.773	0.806	1.166	2.135	2.954	
All Buildings.....	4,528	499	275	245	104	19	9	8.87
Building Floorspace (Square Feet)								
1,001 to 5,000.....	2,529	129	52	48	0	0	0	22.98
5,001 to 10,000.....	890	101	47	43	0	0	0	24.01
10,001 to 25,000.....	644	113	63	53	30	0	0	17.56
25,001 to 50,000.....	247	69	48	43	17	0	0	15.02
50,001 to 100,000.....	127	50	35	31	15	0	0	15.74
100,001 to 200,000.....	61	23	18	16	11	0	0	20.70
200,001 to 500,000.....	23	11	9	9	2	*	0	27.22
Over 500,000.....	7	4	3	3	2	0	0	25.88
Principal Building Activity								
Assembly.....	615	64	33	29	11	0	0	22.98
Education.....	284	149	91	76	44	0	0	14.02
Food Sales.....	102	0	0	0	0	0	0	66.60
Food Service.....	241	0	0	0	0	0	0	47.75
Health Care.....	80	19	11	10	5	0	0	36.73
Lodging.....	140	31	19	17	10	0	0	28.45
Mercantile and Service.....	1,278	56	22	22	100	0	0	30.13
Office.....	679	80	51	45	100	0	0	17.97
Parking Garage.....	45	0	0	0	NC	0	0	101.12
Public Order and Safety.....	50	11	0	0	0	0	0	52.48
Warehouse.....	618	24	12	12	0	0	0	31.10
Other.....	62	11	8	7	0	0	0	46.56
Vacant.....	333	38	16	15	0	0	0	30.07
Year Constructed								
1899 or Before.....	172	18	12	12	0	0	0	40.79
1900 to 1919.....	242	51	29	28	0	0	0	23.69
1920 to 1945.....	680	111	65	60	20	0	0	19.28
1946 to 1959.....	868	137	81	70	34	4	0	15.52
1960 to 1969.....	821	104	58	49	32	4	0	17.93
1970 to 1979.....	884	60	22	19	7	0	0	20.74
1980 to 1983.....	317	10	0	0	0	0	0	43.35
1984 to 1986.....	329	7	0	0	0	0	0	50.03
1987 to 1989.....	215	0	0	0	0	NC	0	61.83
Metropolitan Status								
Metropolitan.....	3,073	401	215	192	82	13	8	9.00
Nonmetropolitan.....	1,454	98	60	53	22	0	0	23.23
Workers								
Fewer than 5.....	2,280	154	65	57	21	0	0	20.03
5 to 9.....	906	70	31	28	6	0	0	24.57
10 to 19.....	507	66	43	38	20	0	0	20.69
20 to 49.....	381	96	62	56	23	0	0	16.52
50 to 99.....	132	52	35	31	15	0	0	16.68
100 to 249.....	79	27	22	19	10	3	0	20.21
250 or More.....	32	16	13	13	6	1	0	21.45
Weekly Operating Hours								
39 or Fewer.....	876	87	35	28	14	0	0	22.78
40 to 48.....	1,117	143	82	71	34	8	0	15.73
49 to 60.....	987	99	59	53	22	4	0	19.61
61 to 84.....	625	60	39	36	9	0	0	17.03
85 to 167.....	515	44	23	21	9	2	0	20.58
168 (Open Continuously).....	408	66	38	35	16	2	0	19.37
Energy Sources (Solely or in Combination)								
Electricity.....	4,297	488	273	242	102	19	9	9.05
Natural Gas.....	2,439	328	189	168	72	13	0	10.21
Fuel Oil.....	586	94	62	58	20	7	0	19.08
District Heat.....	105	60	42	36	20	2	0	20.37
District Chilled Water.....	25	15	11	9	7	0	0	30.40
Propane.....	348	30	14	13	5	0	0	32.10
Any Other.....	130	7	Q	5	Q	0	0	45.49
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	3,877	471	265	235	100	19	9	9.37
Air-Conditioned Buildings.....	3,184	363	203	181	76	14	5	10.69
Buildings with Water Heating.....	3,184	409	245	217	96	16	9	8.67
Buildings with Cooking.....	864	150	97	86	40	8	0	12.40
Buildings with Manufacturing.....	205	25	16	15	Q	0	0	32.01

See footnotes at end of table.

Table 115. Asbestos Removal or Treatment Method, Number of Buildings (Continued)
 (Thousand)

Building Characteristics	RSE Column Factor:	All Buildings	All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Method of Asbestos Removal or Treatment (Solely or in Combination)				RSE Row Factor
					Removed	Encapsulated or Sealed	Enclosed Behind Permanent Barrier	Other Treatment	
		0.337	0.647	0.773	0.806	1.160	2.135	2.954	
Wall Materials									
Masonry.....	2,849	375	216	193	84	18	7	9.80	
Siding or Shingles.....	802	60	26	24	0	NC	Q	32.51	
Metal Panels.....	557	22	9	9	0	0	NC	40.89	
Concrete Panels.....	240	25	17	12	8	0	NC	29.49	
Window Glass.....	33	8	0	0	0	0	0	48.11	
Other.....	46	8	Q	Q	Q	Q	Q	49.58	
Roof Materials									
Built-Up.....	1,614	230	143	123	58	11	0	10.97	
Shingles (Not Wood).....	1,392	131	56	54	14	0	0	17.91	
Metal Surfacing.....	901	33	13	11	0	0	0	34.29	
Synthetic or Rubber.....	211	44	32	28	13	0	0	23.24	
Slate or Tile.....	193	36	17	16	6	0	NC	29.87	
Concrete.....	72	6	4	3	0	0	0	46.24	
Wooden Materials.....	106	0	0	0	0	0	NC	54.11	
Other.....	38	9	Q	Q	Q	Q	Q	55.71	
Ownership and Occupancy									
Nongovernment Owned.....	3,951	293	148	138	49	8	0	10.85	
Owner Occupied.....	2,814	218	116	109	36	5	0	11.87	
Nonowner Occupied.....	1,136	74	31	28	12	0	0	24.70	
Government Owned.....	577	207	127	107	55	11	Q	13.22	

* Value rounds to zero in the units displayed.

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

**Table 116. Asbestos Removal or Treatment Method, Floorspace
(Million Square Feet)**

Building Characteristics	Total Floorspace of All Buildings	All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Method of Asbestos Removal or Treatment (Solely or in Combination)				RSE Row Factor
				Removed	Encapsulated or Sealed	Enclosed Behind Permanent Barrier	Other Treatment	
	RSE Column Factor:	0.376	0.689	0.829	0.866	1.119	1.799	2.669
All Buildings.....	63,184	18,775	13,760	12,670	5,938	1,486	326	8.86
Building Floorspace (Square Feet)								
1,001 to 5,000.....	6,790	369	149	141	0	0	0	23.98
5,001 to 10,000.....	6,532	747	359	321	0	0	0	24.12
10,001 to 25,000.....	10,393	1,893	1,071	912	519	0	0	17.66
25,001 to 50,000.....	8,801	2,464	1,760	1,557	617	0	0	15.14
50,001 to 100,000.....	9,130	3,557	2,533	2,250	1,050	0	0	15.50
100,001 to 200,000.....	8,277	3,229	2,537	2,350	1,351	454	0	21.39
200,001 to 500,000.....	7,022	3,117	2,555	2,503	680	154	0	25.66
Over 500,000.....	6,239	3,399	2,796	2,636	1,407	378	0	26.40
Principal Building Activity								
Assembly.....	6,838	1,701	991	891	381	0	0	22.56
Education.....	8,148	6,332	5,074	4,507	2,391	604	0	14.11
Food Sales.....	792	0	0	0	0	NC	NC	75.06
Food Service.....	1,167	0	0	0	0	NC	NC	54.58
Health Care.....	2,054	1,495	1,254	1,200	703	163	0	28.17
Lodging.....	3,476	1,086	703	643	250	0	0	27.59
Mercantile and Service.....	12,365	939	523	521	0	0	0	25.74
Office.....	11,802	4,264	3,444	3,183	1,614	381	0	18.48
Parking Garage.....	983	0	0	0	0	NC	NC	94.86
Public Order and Safety.....	616	337	0	0	0	NC	0	51.10
Warehouse.....	9,253	790	518	497	0	0	0	31.36
Other.....	1,529	538	393	391	0	0	0	47.11
Vacant.....	4,161	1,085	588	571	0	0	0	41.97
Year Constructed								
1899 or Before.....	1,654	365	237	221	0	0	0	41.15
1900 to 1919.....	4,245	1,765	1,384	1,315	718	0	0	30.35
1920 to 1945.....	8,098	3,766	2,827	2,633	1,357	377	0	19.19
1946 to 1959.....	10,511	5,138	3,861	3,638	1,399	310	0	18.42
1960 to 1969.....	12,167	4,490	3,185	2,806	1,525	399	0	15.14
1970 to 1979.....	13,329	2,638	1,852	1,642	774	0	0	17.36
1980 to 1983.....	4,274	317	0	0	0	0	0	38.24
1984 to 1986.....	5,670	204	0	0	0	0	0	34.24
1987 to 1989.....	3,235	Q	0	0	0	NC	NC	61.51
Metropolitan Status								
Metropolitan.....	50,809	16,491	11,956	11,067	5,198	1,269	263	9.70
Nonmetropolitan.....	12,375	2,284	1,804	1,603	740	0	0	20.16
Workers								
Fewer than 5.....	13,292	1,235	643	543	264	0	0	20.20
5 to 9.....	7,939	769	415	360	120	0	0	26.44
10 to 19.....	6,445	1,370	905	799	447	0	0	23.25
20 to 49.....	9,665	3,355	2,050	1,874	809	0	0	16.95
50 to 99.....	7,389	3,387	2,617	2,287	1,310	0	0	17.44
100 to 249.....	6,771	2,783	2,276	2,144	924	336	0	19.00
250 or More.....	9,829	5,433	4,691	4,498	2,001	504	0	21.79
Weekly Operating Hours								
39 or Fewer.....	6,073	1,369	793	705	288	0	0	24.61
40 to 48.....	13,905	4,448	3,437	2,995	1,538	534	0	17.45
49 to 60.....	13,473	3,361	2,466	2,260	941	181	0	19.59
61 to 84.....	10,777	3,104	2,205	2,054	955	0	0	15.91
85 to 167.....	9,387	2,794	2,103	1,995	911	0	0	24.85
168 (Open Continuously).....	9,569	3,700	2,756	2,662	1,306	319	0	17.44
Energy Sources (Solely or in Combination)								
Electricity.....	61,587	18,537	13,699	12,609	5,913	1,465	304	8.92
Natural Gas.....	41,593	14,220	10,540	9,650	4,689	1,124	0	10.02
Fuel Oil.....	12,684	5,829	4,607	4,225	2,478	673	0	15.58
District Heat.....	6,856	4,730	3,925	3,699	1,677	356	0	21.86
District Chilled Water.....	2,101	1,261	1,039	1,004	665	0	0	31.40
Propane.....	4,695	1,425	1,143	1,105	418	0	0	36.28
Any Other.....	1,542	400	297	280	Q	0	0	36.44
Energy End Uses (Solely or in Combination)								
Heated Buildings.....	57,868	18,222	13,521	12,435	5,862	1,478	326	8.99
Air-Conditioned Buildings.....	51,771	15,683	11,777	10,906	5,013	1,226	208	9.77
Buildings with Water Heating.....	53,585	17,524	13,165	12,104	5,679	1,352	291	9.17
Buildings with Cooking.....	23,668	10,746	8,402	7,757	3,809	1,032	0	11.99
Buildings with Manufacturing..	5,601	2,128	1,771	1,734	277	Q	0	35.11

See footnotes at end of table.

ASBESTOS
Table 116. Asbestos Removal or Treatment Method, Floorspace (Continued)
 (Million Square Feet)

Building Characteristics	Total Floorspace of All Buildings	All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Method of Asbestos Removal or Treatment (Solely or in Combination)				RSE Row Factor
				Removed	Encapsulated or Sealed	Enclosed Behind Permanent Barrier	Other Treatment	
	RSE Column Factor:	0.376	0.689	0.829	0.866	1.119	1.799	2.669
Wall Materials								
Masonry.....	42,074	14,177	10,197	9,348	4,893	1,153	267	8.52
Siding or Shingles.....	4,788	577	277	221	0	NC	Q	32.39
Metal Panels.....	5,689	678	446	440	0	0	NC	38.26
Concrete Panels.....	7,221	2,085	1,789	1,642	585	0	NC	34.07
Window Glass.....	1,924	494	392	376	0	0	Q	28.71
Other.....	1,487	Q	Q	Q	Q	0	Q	54.28
Roof Materials								
Built-Up.....	31,057	10,916	8,313	7,528	3,639	989	0	10.84
Shingles (Not Wood).....	10,917	2,622	1,369	1,258	583	0	0	19.38
Metal Surfacing.....	8,197	666	498	479	0	0	0	34.46
Synthetic or Rubber.....	6,911	2,500	1,923	1,834	607	0	0	26.04
Slate or Tile.....	2,582	1,066	813	736	433	0	NC	32.88
Concrete.....	1,932	334	271	267	0	0	0	39.06
Wooden Materials.....	727	0	0	0	0	0	NC	49.56
Other.....	860	Q	Q	Q	Q	Q	Q	58.88
Ownership and Occupancy								
Nongovernment Owned.....	48,842	9,346	6,232	5,880	2,587	648	0	10.95
Owner Occupied.....	35,955	7,530	5,096	4,791	2,229	561	0	12.13
Nonowner Occupied.....	12,888	1,816	1,136	1,089	358	0	0	26.50
Government Owned.....	14,342	9,429	7,528	6,789	3,352	839	0	14.11

NC No cases in sample.

Q Data withheld because the RSE was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Sources: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Table 117. Asbestos Removal or Treatment Year, Number of Buildings and Floorspace

Method of Asbestos Removal or Treatment	Number of Buildings (thousand)						Total Floorspace (million square feet)						RSE Row Factor	
	All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Year Removed or Treated			All Buildings with Asbestos Ever Present	All Buildings with Asbestos Removed or Treated	Year Removed or Treated			Before 1988	1988	1989	
			Before 1988	1988	1989			Before 1988	1988	1989				
RSE Column Factor:	0.872	0.890	0.897	1.093	1.150	0.825	0.884	1.032	1.254	1.210				
All Buildings.....	499	275	211	157	126	18,775	13,760	10,557	8,239	8,249				7.63
Removed.....	245	245	172	124	98	12,670	12,670	8,870	6,912	7,244				8.52
Encapsulated or Sealed.....	104	104	74	53	49	5,938	5,938	4,198	2,792	2,977				11.28
Enclosed Behind Permanent Barrier.....	19	19	14	8	6	1,486	1,486	1,049	792	685				21.08
Other Treatment.....	9	9	7	Q	Q	326	326	256	Q	Q				28.52

Q Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • To obtain a RSE percentage for any table cell, multiply the cell's corresponding RSE column and RSE row factors. • See Glossary for explanation of abbreviations and definitions of terms used in this report.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, Form EIA-871A, "Building Questionnaire" of the 1989 Commercial Buildings Energy Consumption Survey.

Appendix A

How the Survey Was Conducted

A structure under construction with walls and/or roof still incomplete at the time of interview is out of scope for the CBECS.

OFFICE BUILDING

STATE OF NEW JERSEY

Appendix A

How the Survey Was Conducted

Introduction

The Commercial Buildings Energy Consumption Survey (CBECS) is conducted by the Energy Information Administration (EIA) to provide basic statistical information on the consumption of and expenditures for energy in U.S. commercial buildings, along with data on energy-related characteristics of these buildings. To obtain this information, a sample of commercial buildings was selected according to the sample design described in the "Sample Design" section below.

This is the fourth in a series of surveys for this sector. Previous surveys were conducted in 1979, 1983, and 1986 under the name Nonresidential Buildings Energy Consumption Survey or NBECS. The survey design remains essentially the same--just the name was changed. For consistency, all the surveys will be referred to as CBECS in this report.

The CBECS was conducted in two major stages. In the first stage, information about the selected buildings was collected in the Building Characteristics Survey through voluntary personal interviews with the buildings' owners, managers, or tenants.

In the second stage, the Energy Supplier Survey, data concerning the actual consumption of energy were obtained from records maintained by energy suppliers to the building. This information was obtained by means of a mail survey conducted under EIA's mandatory data collection authority. A survey research firm conducted both the personal interviews for the Building Characteristics Survey and the mail survey of energy suppliers under EIA's direction.

The data presented in this report are from the Building Characteristics Survey only. These data were collected on Forms EIA-871A, Commercial Buildings Energy Consumption Survey for 1989 Building Questionnaire (consists of the Building Questionnaire together with the Authorization Form); EIA-871H, the asbestos questions collected for the Environmental Protection Agency (EPA); and EIA-871G, Construction Improvements and Maintenance and Repairs Supplement, for the Census Bureau. The Authorization Form was used to secure the release of the buildings' energy consumption records to the data collection contractor during the Energy Supplier Survey (Form EIA-871B-F). A companion volume to this report, scheduled for release in the spring of 1992, will cover data on consumption and expenditures for these buildings.

In addition to describing the sample design, this appendix describes the procedures used to collect the building characteristics data, the authorization forms, and special data collections for the Environmental Protection Agency (EPA) and the Bureau of the Census (Forms EIA-871H and EIA-871G incorporated as Sections R and S of Form EIA-871A, respectively). The data collected for the Bureau of the Census are published by the Bureau, and are not included in this report. The Building Questionnaire and the Authorization Form are shown in Appendix G.

Sample Design

In the CBECS, the individual building is the basic sample unit. (See the Glossary for the definition of a "commercial building" as used in this survey.) For the 1989 CBECS, 8,791 buildings were selected for inclusion in the sample. A total of 6,659 sample buildings were selected by use of multistage area probability methods as explained below. A supplementary sample of 2,132 buildings was obtained by sampling from lists of large and specialized buildings within the same Primary Sampling Units (PSU) as were selected for the multistage

area sample. Because "large" buildings had a higher probability of being selected into the sample than "small" buildings, certain very large buildings that had been included in previous CBECS were also included in the 1989 CBECS. Except for these few buildings, the 1989 sample did not overlap with the earlier survey samples. However, the 1989 sample was selected from the same penultimate sampling units as the 1986 sample. That is, buildings were selected within the PSU's originally selected for the 1986 sample. For the area sample, buildings were selected within the same segments as were used for the 1986 sample.

The sample design for the 1989 CBECS was based on the 1986 CBECS sample with the following changes summarized below:

- The number of PSU's was reduced by 10, to cut costs in the 1989 CBECS. The dropped PSU's were selected by subsampling PSU's from entirely non-Metropolitan Statistical Area (MSA) strata in each of the four Census regions.
- The reduction in number of PSU's was accompanied by a reduction in the number of buildings in the sample, that is, there was no attempt to "replace" in other PSU's, the buildings that would have been selected from the deleted PSU's. An additional weighing factor was introduced in the 1989 sample design to compensate for the reduced sampling rate in entirely non-MSA strata.
- A subset of the 1989 area segments was randomly selected to be updated for new construction since 1986. Segments estimated in advance (from the 1986 data) to have larger numbers of new buildings had higher probability of being selected as "update" segments. In the "nonupdate" segments, the sample of buildings for 1989 was selected only from the 1986 listings.

In the update segments, the 1986 listings were updated to include newly constructed buildings and buildings newly converted to commercial use. The within-segment sampling rates for old buildings were the same as the sampling rates for nonupdated segments. Higher within-segment sampling rates for new (or newly listed) buildings were established to reflect the fact that such buildings could be selected only from updated segments.

- Dodge Reports on new construction projects¹ were added to the list frame to help identify buildings constructed during the period between the 1986 and 1989 surveys.

The following two subsections concerning the area sample and the list sample components provide more details about the sample design and selection.

Multistage Area Probability Sample

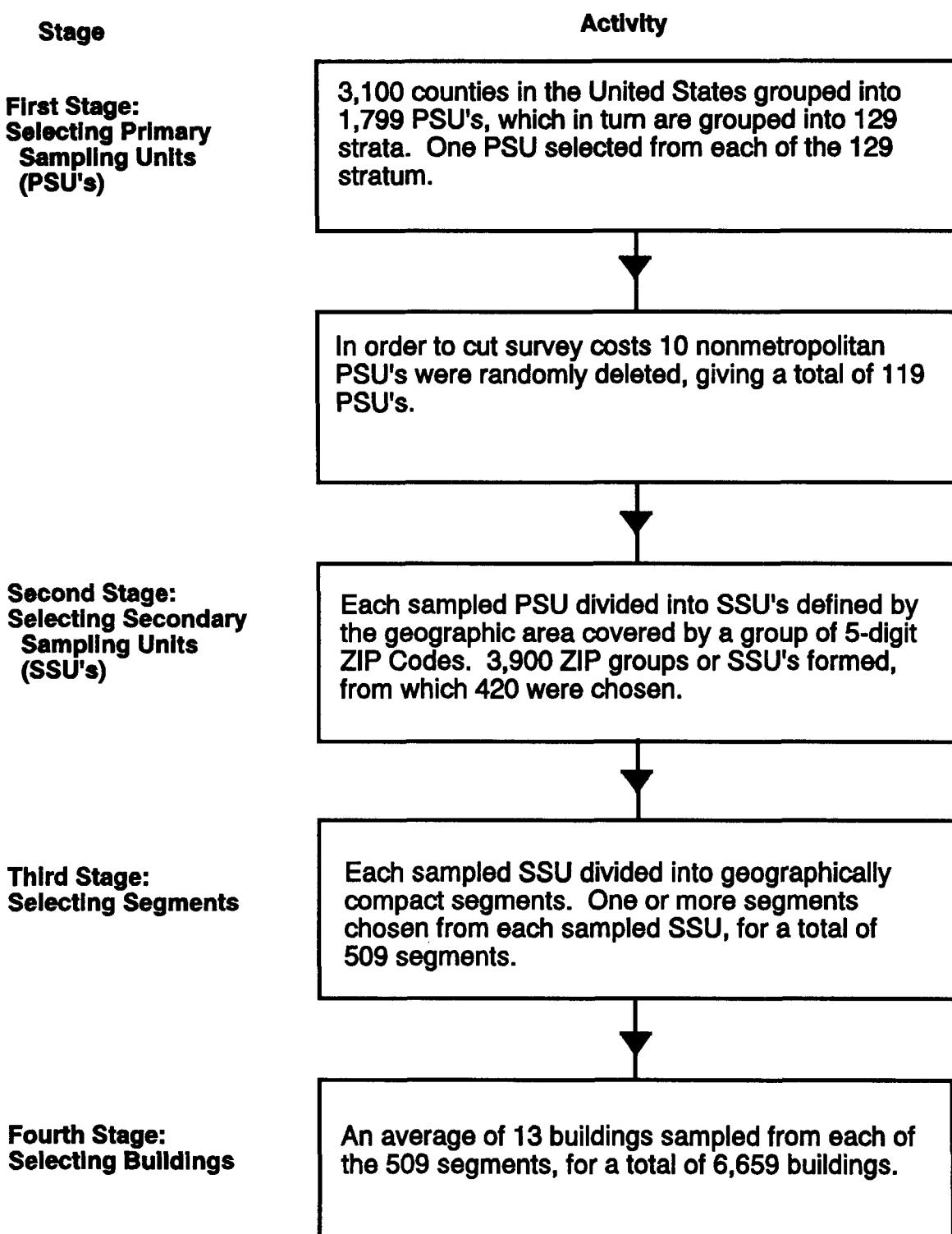
The area component of the 1989 CBECS sample used a four-stage cluster sampling design: Selecting Primary Sampling Units, Selecting Secondary Sampling Units, Selecting Segments, and Selecting Buildings (Figure A1).

Selecting Primary Sampling Units (PSU)

To prepare for the first-stage sample, the approximately 3,100 counties and independent cities of the United States were grouped into 1,799 PSU's. A PSU typically consists of one or more contiguous counties, such as a metropolitan area with surrounding suburban counties, or a set of one or more rural counties. Essentially,

¹Dodge Reports are collected, maintained, and distributed by the F.W. Dodge Division of the McGraw-Hill Information Systems Company, New York.

Figure A1. Multistage Area Probability Sample



Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, 1989 Commercial Buildings Energy Consumption Survey.

the same PSU's were selected for both the 1989 CBECS and the 1987 Residential Energy Consumption Survey (RECS) (Energy Information Administration, September 1988). The two survey designs diverged at the second and subsequent stages.

PSU's with similar characteristics were grouped to form 129 strata. Characteristics used to define the strata were Census division, MSA or non-MSA status, the predominant residential heating fuel in 1980, and climate zone (Energy Information Administration, September 1988). The design of efficient area samples requires that the area segments be as nearly equal in size as is possible. For CBECS, population is correlated with our characteristic of interest--buildings. An example of a measure of size (MOS) is the number of households reported in the 1980 Census. Within each stratum, one PSU was selected with probability proportional to its 1980 Census population.

Probability-proportional-to-size (PPS) sampling is commonly used to take advantage of existing knowledge about the sample units, to improve the reliability of survey estimates. For quantities roughly proportional to these MOS's, estimates based on PPS sampling have lower variances than estimates based on equal-probability sampling. Despite being a measure of people rather than of buildings, the 1980 population of a PSU was a useful MOS because of its relationship with commercial activity and energy consumption.

Thirty-two PSU's had populations large enough that each of these PSU's formed a stratum by itself, so that each was selected with certainty. For the noncertainty PSU's, the Keyfitz method (Hansen, Hurwitz, and Madow, 1953) was used to assign selection probabilities. This method enhanced the probability of inclusion of specific PSU's that had been selected for the previous RECS, while, at the same time, ensuring that the current RECS selection probabilities were still proportional to 1980 population levels. Controlled selection (Groves and Hess, 1975) was used to improve the geographic coverage of the sample by maximizing the number of different States represented by the sampled PSU's. Finally, 10 non-MSA PSU's were randomly deleted from the initial sample of PSU's to reduce survey costs for the 1989 CBECS.

Selecting Secondary Sampling Units (SSU)

To form second-stage sampling units for CBECS, each sampled PSU was divided into areas corresponding to 5-digit ZIP Codes (Energy Information Administration, October 1989). ZIP Codes covering small areas or representing individual buildings or post office boxes were grouped together with larger area ZIP Codes. All second-stage sample units are, thus, referred to as ZIP groups. A total of about 3,900 ZIP groups were formed within the sampled PSU's. Of these, 420 were selected, using probabilities proportional to a second-stage MOS. Designed to reflect the level of commercial activity, this MOS was the estimated number of buildings in the ZIP group. This MOS was computed for each ZIP group using employment data from the U.S. Department of Commerce, Bureau of the Census' 1983 County Business Patterns (CBP) reports, and employee occupancy rates in different building types obtained from the 1979 CBECS.

The ZIP group MOS's were used to select ZIP groups into the sample, using a procedure that was closely integrated with the selection of the third-stage units. The 129 sampled PSU's were sorted into cells defined by Census region and MSA/non-MSA status. A size for each cell was defined as the sum of the PSU-weighted MOS's of all ZIP groups in the PSU's of that cell. The desired number of third-stage sample units (prior to deletion of the 10 non-MSA PSU's) were allocated to the cells, proportional to the cell sizes. The third-stage units were then suballocated to the PSU's within the cells, again using the ZIP group MOS's.

Within each PSU, a controlled selection procedure was used to allocate third-stage units to the ZIP groups within that PSU, such that ZIP groups of various MOS's were represented in the sample. A ZIP group was considered to be selected into the sample if one or more third-stage units were allocated to it. Of the ZIP groups sampled, most were selected once. However, some ZIP groups with large MOS's were selected two or more times. A total of 509 selections occurred within the original sample of 129 PSU's, representing 444 unique ZIP groups. The number of times that a ZIP group was selected corresponded to the number of third-stage sample units to be drawn into the sample from that ZIP group.

Selecting Segments

The third-stage sample unit was the segment, which was a geographically compact area containing roughly 100 nonresidential buildings. Sampled ZIP groups were divided into segments based on field mapping and rough counting of nonresidential buildings. Within the original sample of 129 PSU's, a total of 509 segments were selected from within sampled ZIP groups, using equal probability sampling. If the field mapping and counting procedures were performed in all PSU's and ZIP groups nationwide, approximately 43,260 potential segments would result. Thus, the 509 segments actually selected represented a sampling rate of roughly 1 in 85 segments nationwide. Within PSU's and ZIP groups, the segments were selected such that 509 of the 43,260 potential segments nationwide were sampled with equal overall probabilities. However, due to the subsampling of PSU's mentioned earlier, segments in the non-MSA PSU's in the 119 PSU's designated for the 1989 CBECS had overall probabilities of selection equal to approximately three-fourths of the probabilities of selection of segments in the MSA PSU's.

Once segments were selected, preparations were made for the fourth stage of sampling, selecting commercial buildings from within segments. With a few exceptions, a building is defined as a structure totally enclosed by walls extending from the foundation to the roof. A commercial building was one that housed some type of commercial activity. (See the Glossary for a complete definition of a commercial building.) Field workers canvassed each sampled segment on foot, identifying and listing the addresses of all commercial buildings. Field workers also estimated the square footage and apparent principal usage of listed buildings, information that was subsequently used to assign buildings to strata for sampling.

Since the sample for the 1989 CBECS was based on the 1986 CBECS sample, a complete relisting (updating) of 200 of the originally sampled 509 segments was done for the 1989 CBECS to take account of any buildings newly constructed or converted to commercial use after the earlier survey. The selection of the 200 update segments was made randomly within strata defined on the basis of advance estimates of the number of newly constructed buildings in the segment. Since the update segments represented a stratified subsample of the original sample of segments, new buildings in these segments could be appropriately weighted to provide national estimates of newly constructed buildings. The remaining segments were not updated, and thus were weighted to reflect only those buildings in existence at the time of the 1986 CBECS.

To avoid double counting, buildings in nonupdate segments that were constructed after the 1986 listings were not eligible for the sample, since such new construction was already represented by the weighted update sample. For this reason, if a sample building in a nonupdate segment was found at interview to have a construction year later than 1987, the building was deleted on the assumption that it was a new building on the site of an old listing. Nonupdate segment buildings reported as constructed in 1987 were retained if they otherwise matched the 1986 listing description.

Selecting Buildings

Buildings were sampled within size/usage strata with equal probability. However, sampling fractions varied between strata so that strata containing large buildings were sampled more intensively than strata containing small buildings. For example, while the stratum of office buildings with less than 10,000 square feet was sampled at an overall rate of only 1 in 1,530, the stratum of office buildings with 50,000 square feet or more was sampled at a rate of 1 in 230. This stratified sampling is similar to PPS sampling in that each uses MOS's (but in a different way) to increase the reliability of estimates of square footage and energy consumption.

An average of 13 buildings were sampled from each segment. If during the interview a sample selection turned out to be a facility (for example, campus or complex) of two or three buildings rather than a single building, all buildings in the facility were taken into the sample. Facilities of four or more buildings were subsampled. A final total of 6,659 buildings was selected into the multistage area probability sample.

Supplementary Sample from Lists of Large and Specialized Buildings

To ensure adequate coverage of buildings that were significant energy users, the multistage area probability sample was supplemented within each selected PSU by a sample from a list of "large" buildings or facilities. In addition, to improve the precision of energy consumption estimates for certain types of buildings, a supplementary sample was also drawn from seven lists of specialized buildings (Figure A2).

In PSU's that were MSA's, the list of large buildings contained buildings with 250,000 or more square feet of enclosed floorspace. In the non-MSA PSU's, this list contained buildings of 100,000 square feet or more. The list was compiled through inquiries with Chambers of Commerce, other local sources, and special directories. The seven lists of specialized buildings were limited to certain types of buildings or facilities with 50,000 square feet or more. These lists were (1) hospitals, (2) colleges and universities, (3) elementary and secondary schools, (4) post offices, (5) Federal Government buildings, (6) Dodge reports for "small" new construction projects (50,000 to 250,000 square feet) and (7) Dodge reports for "large" new construction projects (over 250,000 square feet). These lists of specialized buildings were used for three reasons. First, they contained many large buildings and, thus, helped ensure accurate coverage of significant energy users. The Dodge reports ensured better representation in the sample of newly constructed large buildings. Second, the special lists ensured good coverage for certain building types that are distinguished separately in CBECS reports, such as health care and education. Third, the lists compensated for inadequacies in the MOS's developed for ZIP groups using the 1983 Current Business Population (CBP) reports. The CBP reports do not cover employees exempt from the Social Security System, such as the majority of the Federal workforce. The weighting procedure used for the final sample does not require that the supplemental lists be comprehensive to produce unbiased estimates. However, the more complete these lists are, the more efficient the sample design is.

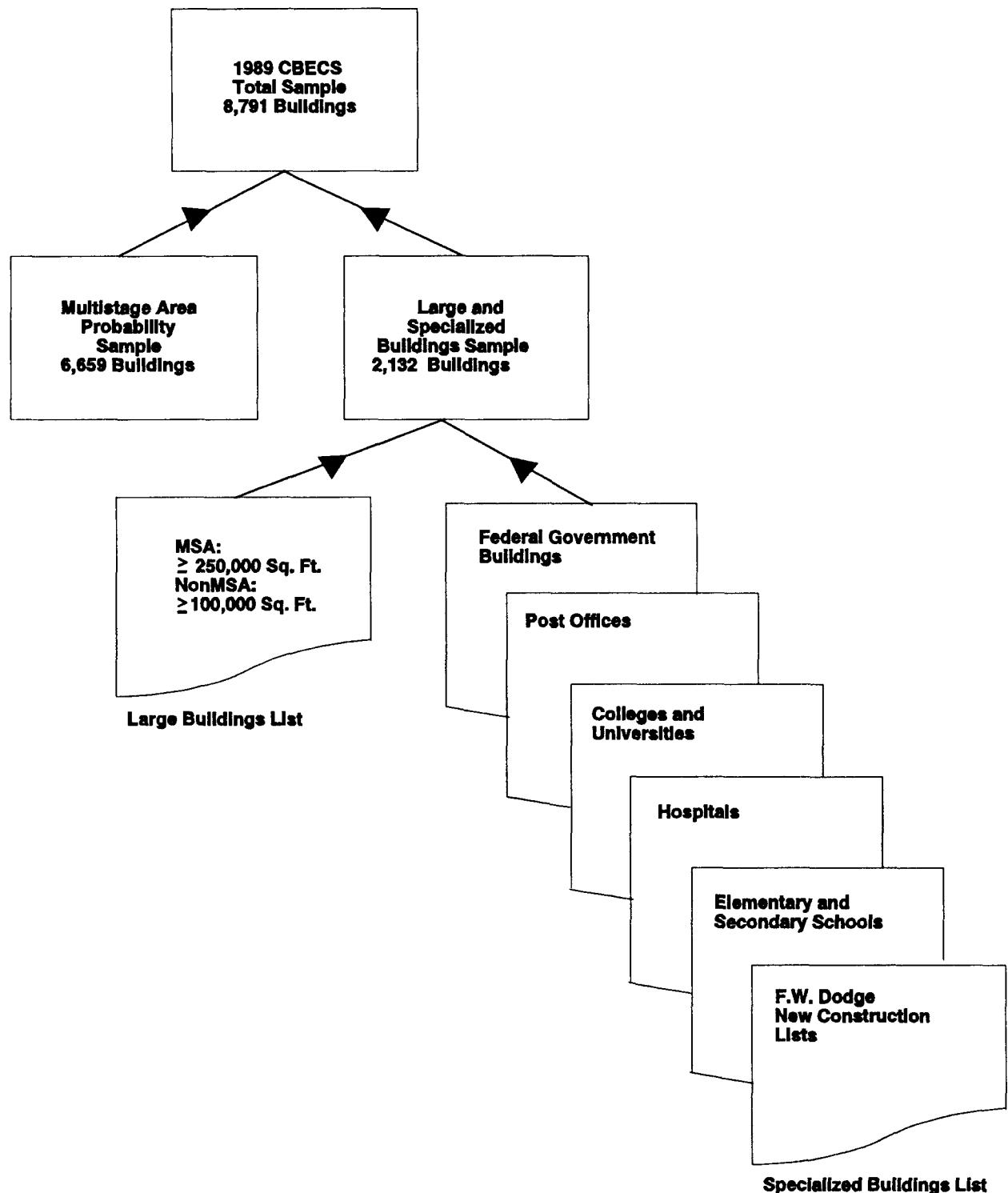
The lists within each sampled PSU were stratified by building size and general usage, and buildings were sampled with equal probability within strata. (In many cases, building size in square feet was estimated from available data such as the number of beds for hospitals, or the number of students for education buildings.) As in the area sample, strata containing large buildings were sampled more intensively than strata of small buildings. Also, as with the area probability sample, if a selected unit turned out to be a facility with three or fewer buildings, all were taken into the sample. Otherwise, the facility was subsampled.

The eight lists (that is, the large buildings list and seven specialized building lists) were sampled independently. The problem of overlap was handled by unduplicating the large buildings list to the extent possible, and by using a "priorities" approach, whereby a building present on a higher priority list was disregarded if it was selected only from a lower priority list. The priorities of the lists, in descending order, were as follows: (1) hospitals, (2) colleges and universities, (3) elementary and secondary schools, (4) post offices, (5) large buildings lists, (6) Federal Government buildings (7) Dodge reports over 250,000 square feet and (8) Dodge reports 50,000 to 250,000 square feet. For example, if a given building was present on the hospitals list, its selection from another list was disregarded (Energy Information Administration, October 1989).

For the Dodge reports on large projects (over 250,000 feet), a complete list of projects in each sampled PSU was obtained, and a sample was drawn from that list. Thus, it was possible to determine if a building sampled from some other source was also included in this Dodge list. For small Dodge projects (between 50,000 and 250,000 square feet) only a sample was obtained. There was, therefore, no way to verify whether a building that, by definition, should have been covered by this list was in fact included in the list from which that sample was drawn. For this reason, this "conceptual list" was given lowest priority.

There was also a problem of overlap between the list sample and the multistage area probability sample. Computation of joint probabilities of selection would be somewhat intractable in the complex design. Instead, a less efficient, but unbiased, procedure was adopted where buildings were made self-representing if they were sampled from an area segment and also appeared on one of the list frames (Chu, 1987). A new building sampled from an update segment of the area sample and between 50,000 and 250,000 square feet in size was assumed to appear on the (unverifiable) Dodge list for that size range. Smaller new buildings were assumed

Figure A2. 1989 CBECS Sample Design



Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey.

not to appear on Dodge lists, and larger ones were checked against the complete lists that were obtained for this size range.

A total of 1,660 list entries were sampled. Because some entries were multibuilding facilities, the final list sample comprised 2,132 individual buildings.

Description of the Target Population

The target population for the 1989 CBECS consisted of all commercial buildings larger than 1,000 square feet in the United States. Thus, to be eligible for the survey, a building had to satisfy three criteria: (1) it had to meet the definition of a building, (2) it had to be used primarily for some commercial purpose, and (3) it had to measure 1,001 square feet or more. The eligibility of a building for inclusion in this survey was evaluated at three points: during the initial listing of the sample, at the time the interviewer observed the building, and during the interviewing of the building owner or manager. At the stages of listing and interviewer observation, eligibility was determined using somewhat looser bounds. These broader bounds ensured that marginal cases were screened ultimately by interviewing a knowledgeable respondent, rather than on the basis of lister or interviewer judgment.

The first eligibility criterion, the building definition, has been used consistently in all the CBECS. The second criterion, of commercial activity, has been tightened in the successive surveys, to restrict attention to a well-defined population that does not overlap with a group covered by other EIA surveys. The third criterion, size, was added in the 1986 CBECS to eliminate a large, inherently ill-defined, group of marginal buildings; those very small buildings contribute minimally to total commercial floorspace and energy consumption, yet different reasonable decisions on how to identify these buildings could lead to substantial variations in building counts.

The definition of a building was the same one used in previous CBECS: a structure totally enclosed by walls that extend from the foundation to the roof and intended for human access. Thus, structures such as water, radio and television towers were excluded from the survey. Also excluded were partially open structures, such as lumber yards; enclosed structures that people usually do not enter, such as pumping stations and cooling towers at electric power plants; enclosed structures that are not buildings, such as oil tanks, statues, and monuments; and dilapidated or incompletely buildings missing a roof or a wall. Structures that were included in the survey by specific exception despite not being "totally enclosed by walls", were parking garages and structures on pillars.

The second criterion was that a building had to be primarily used for some commercial purpose; that is more than 50 percent of the building's floorspace must be devoted to activities that are neither residential nor industrial nor agricultural. Buildings that were 100 percent residential and farm buildings, such as barns, were out of scope for the 1989 survey (as in previous surveys) and should not have been included during the listing stage. The use of the sampled building is the governing consideration for this criterion. That is, if an administrative office building within an industrial complex was the sampled building, it was considered in scope, since its principal building activity is commercial. However, if the sampled building were an industrial processing plant within the same complex, it would be out of scope because its principal activity is industrial. Buildings used for industrial purposes and for processing of agricultural products were included in the listing stage. During the interviewing stage, interviewers were instructed not to begin interviews at buildings where they observed 75 percent or more of the floorspace was used for residential, industrial, or agricultural purposes. Once the interview began, screening questions instructed the interviewer to terminate the interview if the respondent indicated half or more than half of the square footage was used for nonresidential, industrial, or agricultural purposes. Interviewers retired 121 cases prior to beginning the interview and terminated 936 interviews because the building's use was not predominantly commercial.

The third criterion was that a commercial building had to measure more than 1,000 square feet (about twice the size of a 2-car garage) to be considered in scope for the 1989 CBECS. Buildings of less than 500 square feet were included in listings from nonupdate segments, but were excluded from the update segment listings. Interviewers did not begin interviews when they observed a building to be 500 square feet or less; 154 cases were retired for this reason. Screening questions asked during the interview instructed the interviewer to terminate when the square footage was 1,000 square feet or less. Interviewers terminated 521 interviews because the building did not meet the size criterion.

Response Rates

As mentioned in the Sample Design section, the total sample of the 1989 CBECS consisted of 8,791 buildings, 6,659 from the area sample and 2,132 from the list sample (Table A1). Of these, 6,352 buildings were eligible for interviewing, 4,770 from the area sample, and 1,582 from the list sample. Of the total number of buildings eligible for interview, interviews were completed at 92.5 percent, or 5,877 buildings.

Authorization forms were obtained for 91.1 percent of interviews completed (5,167 of 5,670 buildings) where energy was used in the buildings.

Data Collection

Data Collection Procedures

Initial contact with the building representatives was made through an introductory letter sent to each building in the survey sample. The letter, signed by the Director of the Office of Energy Markets and End Use of the EIA, was addressed to the building owner or manager. The letter explained that the building had been selected for the survey, introduced the survey contractor, assured the building manager that the data would remain confidential, and discussed the uses and needs for the CBECS data in setting national energy policies. To protect confidentiality, the letter was addressed by the survey contractor after it was signed at EIA.

The data were collected from August 7, 1989 through November 30, 1989 by personal interview. Interviewers visited all sampled buildings in person to ascertain if the structure met the eligibility requirements of the survey and to identify the individual meeting the criteria for a building representative or respondent. The respondent could be the owner of the building, a tenant, a hired building manager or engineer, or a spokesperson for a management company.

A limited number of interviews were conducted by telephone. This occurred as part of the nonresponse conversion effort, or if a knowledgeable building respondent was not located in the same PSU as the sampled building. However, in all cases, an interviewer had first visited and observed the sample building.

Questionnaire Changes

The CBECS questionnaire was similar to that used in the previous three surveys, with some wording and structural changes made to improve data quality. Experience with the prior surveys resulted in major changes being made to resolve ambiguities, and permit better description of the characteristics of the building. The questionnaire is shown in Appendix G.

Entire sections of the questionnaire were redesigned to make them easier for the respondent to understand. The heating and cooling equipment sections were reconfigured and simplified to include just one list for each use, combining both distribution and production equipment. The "Energy Conservation Features" section was shortened and simplified and the reference to energy audits was eliminated.

Table A1. Number and Distribution of 1989 CBECS Sample Buildings by Building Disposition

Building Disposition	Number of Buildings	Percent of All Buildings	Percent of Eligible Buildings
Total Sample			
Total	8,791	100.0	NA
Eligible for Interview	6,352	72.2	100.0
Interviewed	5,877	66.8	92.5
Not Interviewed	475	5.4	7.5
Not Eligible for Interview	2,439	27.8	NA
Area Sample			
Total	6,659	100.0	NA
Eligible for Interview	4,770	71.6	100.0
Interviewed	4,389	65.9	92.0
Not Interviewed	381	5.7	8.0
Not Eligible for Interview	1,889	28.4	NA
List Sample			
Total	2,132	100.0	NA
Eligible for Interview	1,582	74.2	100.0
Interviewed	1,488	69.8	94.1
Not Interviewed	94	4.4	5.9
Not Eligible for Interview	550	25.8	NA

"NA" = Not applicable.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey.

Due to budget constraints, 10 nonmetropolitan PSU's were dropped from the sample frame (see the Sample Design section of this appendix for more details) and billing data were no longer collected from propane suppliers to the building in the "Energy Supplier" portion of the 1989 CBECS. Building Characteristics Survey respondents were still asked if propane was used in the building and this information is included in the tables in this report.

To reflect growing concerns over the use of chlorofluorocarbons (CFC's), several questions were added concerning the presence of different types of refrigeration equipment and installation date of the main chiller or packaged air-conditioning equipment. These data could be used to estimate the amount and type of CFC's currently present in the commercial buildings sector.

Interest in cogeneration is increasing and questions were added to the 1989 CBECS Building Questionnaire on the amount cogenerated, nameplate capacity, whether the building was interconnected to a utility and whether the building was designated as a Qualifying Facility under the Public Utilities Regulatory Policies Act of 1978 (PURPA).

In addition, for the first time in CBECS, it was asked if the sampled building was part of a multibuilding facility and whether the multibuilding facility had a central physical plant that produced district heating, district cooling, or electricity. The purpose of this question was to provide information needed for a follow-up survey on the facility's generation of district heating, district cooling, and electricity--including cogeneration--even if that generation took place in a building that might be out of scope for the CBECS.

Changes in specific data items, as a result of experience with the previous survey included:

- "concrete" was added as a response category for type of roofing material
- "masonry" became a single exterior wall material category; the distinction between
- masonry over wood or steel or solid masonry was eliminated
- "indoor enclosed parking garage" was added as a separate building activity
- the distinction between "energy-efficient" and "standard" light-bulbs was eliminated.

Other additional questions were the presence of an environmentally-controlled space for computers, and participation in a utility-sponsored conservation program.

Data were also added at the request, and with the financial support, of other Federal agencies. Section R, EIA-871H, Asbestos in Buildings, was added for and funded by the Environmental Protection Agency (EPA). See the later section in this appendix for more details on the EPA questions. The content of Section S, EIA-871G, Construction Improvements and Maintenance and Repairs Supplement, collected by the EIA as an agent for the Bureau of the Census, was modified as a result of experience gained during the 1986 CBECS. Since all respondents were asked the Census-sponsored questions in the 1989 CBECS, versus only half in 1986, these questions were included as part of the Building Questionnaire, as opposed to a separate questionnaire. See the later section in this appendix for more details on the Census-funded questions.

The Interview

Each interview began with a series of screening questions designed to verify the building's address, location within the segment boundaries, and eligibility for the survey. Respondents were asked about the building as a whole rather than individual establishments located within the building.

The average completed building interview lasted 36 minutes. This included the time for the interviewer to ascertain and record if the listing was correct, to ask all questions on the Building Characteristics Questionnaire, and to obtain a signed authorization form from the respondent. The EPA section took an additional four minutes and the Census section added six minutes to the interview. The EPA and Census sections of the Building Questionnaire were each submitted to the U.S. Office of Management and Budget separately by the sponsoring agency.

The average time for each completed case (including interviewer preparation, travel, callbacks, interviewing, and editing time) was 5 hours and 36 minutes. Each interviewer conducted an average of 42 interviews: 12 interviewers each completed 10 or fewer interviews, while four interviewers each completed between 90 and 100.

Interviewer Training and Supervision

The data were collected by the contractor's field staff consisting of 140 interviewers under the supervision of six regional supervisors and their assistants, and a central office staff consisting of a project manager, a field director, and a subsampling assistant. The six regional supervisors and their assistants were trained at a four-day supervisor training session. They were trained in data collection, field office procedures, and quality control. The supervisors were also trained to serve as small-group leaders at the interviewer training sessions.

Three-and-a-half-day interviewer training sessions were held at two locations during August 1989. All interviewers working on CBECS were trained at one of these sessions or at a replacement interviewer-training course held in September. Twenty-seven of the interviewing staff had worked on the 1986 CBECS. Of the 140 interviewers, 123 had some prior interviewing experience, and 17 had no prior interviewing experience.

Each training session was conducted by the contractor's central office staff with the assistance of the regional supervisors. EIA personnel observed both sessions. The sessions covered the background of the CBECS, the definition of a building, finding the sampled building, a question-by-question review of the questionnaire, and administrative information. New interviewers were trained on general interviewing techniques. A variety of training techniques were used including lectures, slide presentations, and small-group sessions to practice interviewing and administering the questionnaire. All interviewers had completed four scripted-practice interviews by the conclusion of the training session. Each trainee's performance was monitored and evaluated by the regional supervisors and only those judged qualified were given field assignments. Every interviewer was provided with a CBECS "Interviewer's Manual," which included step-by-step instructions for planning, conducting, and recording interviews; and question-by-question specifications describing the intent of each question, definitions of terms used in the survey, and how each question was to be asked.

Several steps were taken to ensure that the interviews were conducted as intended. Questionnaires were field edited twice; once by the interviewer and once by the supervisor before being mailed to the central office for data processing. For more information about how the data were edited, see the section on "Data Editing."

In addition, the regional supervisor conducted a validation of a random sample of 10 percent of each interviewer's work. Interviewers were informed that a sample of their work would be validated, but they were not informed which cases would be checked. The regional supervisors telephoned the respondents identified on the interview to confirm that the interview had been conducted and to verify several key data items.

Corrective actions were taken when problems with an interviewer's performance were identified. These actions included monitoring the interviewer's work more closely, retraining the interviewer on the sections of the questionnaire causing the problems and, as a last resort, dismissal of the interviewer. Overall, 17 percent of cases were validated.

Minimizing Nonresponse

Several approaches were employed in the effort to minimize nonresponse. As previously noted, before the initial contact with the building was made, a letter was sent to the owner or manager of each building from the Director of the Office of Energy Markets and End Use. Then, during the field period, the interviewer assigned to the building was authorized to make up to four callbacks at different times of the day throughout the week to minimize the number of uncontacted buildings. After four failed callbacks, the interviewer and supervisor discussed the case and additional callbacks could be authorized. Field supervisors also notified the home office of potential refusals and the field director sent personalized letters addressing individual concerns and urging participation. Approximately 230 such letters were mailed, with completed interviews obtained for one-quarter of these buildings.

There were three categories of nonresponse for CBECS: refusals, cases where the knowledgeable respondent was located outside of the sample PSU, and cases where the respondent was unavailable during the field data collection period. In November 1989, 483 refusals and other cases of nonresponse were reviewed; 78 refusals and 15 other nonresponse cases were selected for nonresponse conversion. Individualized letters explaining the importance of the survey were mailed to the cases selected for nonresponse conversion. The cases were assigned to telephone interviewers with special training and experience in refusal conversion strategies. The nonresponse conversion effort resulted in 5 ineligible cases and 28 of the 93 cases (or 32 percent) being turned into completed interviews.

An additional type of nonresponse conversion dealt with respondents who declined to sign the authorization forms that would allow consumption records to be released by their energy suppliers. Personalized written requests for signed authorization forms were mailed for all buildings for which energy usage had been reported and a signed form had not been obtained by an interviewer. Such requests were mailed to 522 buildings interviewed by field staff and to the 28 buildings for which interviews were conducted by telephone. A total of 155 signed authorizations were received by mail.

Data Editing

Data editing for the Building Characteristics Survey occurred at several points during data collection and processing. As mentioned in the previous section, questionnaires were edited twice in the field before being sent to the central office. The first field edit was performed by the interviewer after completing the interview and before submitting it to the field supervisor. During this edit, the interviewer checked the form for legibility and completeness. Once received by the field supervisor, the form underwent a second field edit using the "Field Edit Form" to check a set of 17 specified data items. The purpose of this field edit was to provide the supervisor, the data collection contractor, and the interviewer with continuous feedback on the quality of the data being collected. The supervisor mailed a copy of the form to the interviewer and discussed the results of these edits in weekly telephone conferences with each interviewer and mailed a copy of the field edit form with each questionnaire to the contractor's central office.

After the contractor received the questionnaire, it was manually edited and prepared for data entry. The scan edit checked for completeness and logical consistency and identified cases with missing data. Certain data were designated as key data items. These key data items required telephone data retrieval if missing from the questionnaire.

Cases proceeded to coding and data entry after telephone data retrieval was completed. Preparation for data entry involved checking the accuracy of the questionnaire skip patterns and checking that only allowable values or codes were entered. All data entry was performed with 100 percent verification of all keystrokes.

The contractor took several steps to resolve inconsistencies or ambiguities in the data. First, answers to other parts of the questionnaire were reviewed to see if they might help explain the problem. The interviewers had been asked to write comments after the interview or to explain any special cases in the margin of the questionnaire. These notes were relied upon extensively in this part of the review and were very helpful in explaining some of the inconsistencies. EIA personnel reviewed some of the hard-to-resolve cases and provided technical guidance on how to reconcile some questionnaire responses. When these efforts failed to resolve a problem, especially if it concerned the energy sources or heating and cooling equipment, the contractor contacted the respondent by telephone.

Telephone contacts to clarify both questionable or missing information were made to the respondents for 1,108 buildings, 19 percent of all completed cases. All changes made to any questionnaire response as a result of these reviews were carefully documented and explained on an error resolution sheet attached to the questionnaire.

Next, the data were machine edited to ensure further completeness and logical consistency, and to verify that the values fell within allowable codes or within acceptable ranges. Items failing these edits were reviewed by trained editors to assess the nature of the problem and determine how to correct it. These edit failures were most often due to problems in coding or data entry. Items failing edits that could not be resolved were referred to the contractors' supervisory-level personnel for review and resolution. EIA personnel also provided technical guidance for the error-resolution process.

As the last step, prior to delivery, the data type to the EIA, the contractor produced data frequencies and crosstabulations. These were reviewed to search for outlying values and inconsistencies that the edits may not have identified.

Data Preparation for Report

Draft data tapes from the Building Characteristics Survey portion of the 1989 CBECS were received in July and September, 1990. EIA data analysts reviewed and processed the data to prepare them for the final data tape. Crosstabulations were run to check for internal consistency of the data and 1989 CBECS data were compared with data from previous CBECS. Questions concerning data accuracy or values were referred to the survey contractor for verification. Respondents were recontacted to verify responses when possible. EIA staff judgment was the final authority on some of the data items.

If retrieval of missing data for one or more items failed, or if retrieval was not performed because the item was not a key data item, data values were supplied by imputation. For a description of the imputation process, see Appendix B, "Nonsampling and Sampling Errors."

Confidentiality of Information

The EIA does not receive or take possession of the names or addresses of individual respondents or any other individually identifiable energy data that could be specifically linked with a building respondent. All names and addresses are maintained by the survey contractor for survey verification purposes only. All building-level records that are placed on public use data files are masked for further confidentiality protection.

Public Use Tape Preparation

This publication was produced using the basic data from the September 1990 data tape. Following the publication of the statistical reports for both the Building Characteristics Survey and the Energy Supplier Survey of the CBECS, further work is performed on the basic survey data at the microlevel to prepare the final data tape for release to the public. This tape contains both the building characteristics and energy supplier data. Measures such as the stripping of all geographic identifiers except Census Region and Census Division, are taken to mask the data to ensure that the identity of individual respondents is kept confidential. All of these procedures culminate in the release of a final data tape to the public through the National Technical Information Service (NTIS). (See Appendix H for information on how to order these tapes.) The final data are available both on magnetic computer tapes for use with a main frame computer and on floppy diskettes to use with personal computers.

Special Data Collection for the Bureau of Census

For both the 1986 and 1989 CBECS, the EIA collected supplemental information for the Bureau of the Census, U.S. Department of Commerce on expenditures for construction improvements and for maintenance and repairs. In the 1989 CBECS, this information was in Section S (Census Supplement) of the Building Questionnaire and all respondents were asked these questions.

Any respondent who did not have access to the construction improvement and maintenance and repair data was asked the name, address, and telephone number of the person who would have it. These individuals were later contacted if the building was selected for the subsequent followup study. Before the followup study was conducted, item response on the key item concerning construction improvements was 92.2 percent, or 5,421 of the 5,877 buildings had completed data for this item.

In the fall of 1989, a three-part followup study for the Census Supplement was conducted with 307 owner and tenant representatives. This followup was done to reduce both total and partial nonresponse to the supplement, as well as to verify independently the data that were obtained during the original interview. The building owners and tenant representatives were first sent a letter explaining the purpose of the survey, along with worksheets and definitions. The respondents were told to use the worksheets to calculate and record the amount of expenditures and to retain the worksheets pending a telephone call from the data collection contractor. Then, several weeks later, specially trained telephone interviewers called to obtain the data. The overall response rate for the Census Followup was 82.4 percent.

In the first phase of the followup study, 60 cases were selected for Group 1, "Nonresponse Conversion." Forty of those buildings were 100,000 square feet or larger. These cases were selected from buildings for which no data had been obtained on the Census Supplement at the time of the building characteristics interview. The principal reason for having no supplement data for these 60 buildings was because of refusals. A total of 40 responses were obtained from this followup effort.

In the second phase of the followup study, data retrieval for item nonresponse was conducted. A subsample of 90 buildings selected from those for which the respondents provided a "don't know" response to one or both of the Census-sponsored questions, and, instead, provided the name, address, and telephone number of the person or persons who would have the information. Referrals such as these were often to management companies not located in the same city as the sampled buildings. Followup for the 90 buildings provided additional information, covering 76 or 84.4 percent of the 90 sampled buildings.

In the third and final phase of the followup study, a sample of 157 buildings was selected to verify independently the data obtained in the original interview. Packages of materials explaining the verification study and requesting the respondent to provide data on the two types of expenditures were mailed to the original respondents to the Census-sponsored questions. The respondents were then telephoned to obtain the data. Of the 157 original respondents, 137 or 87.3 percent resubmitted the data.

The results of the followup study are being evaluated by the Bureau of the Census and will be used in the design of future surveys. The data from the construction improvements and maintenance and repairs questions will be published by the Bureau of the Census in a supplement to the Current Construction Reports, C-30 Series, Value of New Construction Put in Place.²

² 1986 results were published in Expenditures for Nonresidential Improvements and Upkeep: 1986, *Current Construction Reports Special Studies*, Bureau of the Census, March 1989.

Special Data Collection for the Environmental Protection Agency

The U.S. Environmental Protection Agency (EPA) sponsored Section R, "Asbestos in Buildings" on the 1989 CBECS Building Questionnaire. The five questions in this section were designed to collect information on the presence and possible abatement of asbestos in commercial buildings.

The questions contained in Section R were treated as an extension of those in the rest of the questionnaire. Thus, if a case was found to be ineligible for interview for purposes of CBECS, it was ineligible for the entire questionnaire, including the EPA questions. Similarly, if a case was found to represent more than one building for purposes of CBECS, more than one building characteristics interview was conducted including the EPA questions. Interviewers were trained for Section R using the same techniques used for other parts of the questionnaire (See the prior section on "Interviewer Training and Supervision.") Question-by-question specifications for Section R were included as a separate section in the CBECS Interviewer's Manual.

Field edits performed by supervisors included checks pertaining specifically to Section R. Once received at the Central Office, other edits developed by EPA were performed. These included range and consistency checks. However, because of budget limitations, data retrieval was performed only when the entire section had been omitted or when a "key" item in the other sections of the questionnaire was required. Even without individual item data retrieval, the overall item response rate was high: 91.5 percent.

The final response rate for the entire asbestos section, based on the 5,877 completed CBECS questionnaires, was 99 percent. The results from Section R are presented in this publication in the Detailed Tables (Tables 111 through 117).

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Appendix B

Nonsampling and Sampling Errors

The 1989 CBECS distinguished parking garages as a separate building activity category. Even though most parking garages are not totally enclosed by walls, the CBECS defines these structures as buildings, by specific exception to the general definition.

Appendix B

Nonsampling and Sampling Errors

Introduction

All the statistics published in this report are estimates of population values, such as the total floorspace in U. S. commercial buildings. These estimates are based on reports from representatives of a randomly chosen subset of the entire population of commercial buildings. As a result, the estimates always differ from the true population values.

The differences between the estimated values and the actual population values are of two types, nonsampling errors and sampling errors. Differences that would be expected to occur in all possible samples, or in the average of all estimates from all possible samples, are known as systematic errors, or biases. Sampling errors, on the other hand, are random differences between the survey estimate and the population value, that occur because of the particular sample that was selected by chance. The average sampling error, averaged over all possible samples, would be zero. Although the sampling error is nonzero and unknown for the particular sample chosen, the sample design permits sampling errors to be estimated. The section, "Estimation of Standard Errors," describes how the sampling error is estimated and presented for statistics given in this report.

The two sections that follow this introduction, "Data Collection Problems" and "Nonresponse," describe some of the sources of nonsampling error, and how the survey is designed and conducted to minimize such errors. Unlike the sampling error, the nonsampling error's magnitude cannot be estimated from the sample data. For this reason, avoiding biases at the outset is a primary objective of all stages of survey design and field procedures. One possible source of bias is inaccuracy in the collection of the data, either because of poorly worded questions, interviewer error, or respondent misunderstanding. The section "Data Collection Problems" discusses some of the difficulties encountered in trying to obtain meaningful data on questionnaire items in the 1989 survey. Another potential source of bias is nonresponse, either for an entire sampled building (unit nonresponse) or for a particular question from a responding building (item nonresponse). Most unit nonresponse cases were caused by a representative's refusing to cooperate or being unavailable. Item nonresponse resulted when the building representative did not know, or, less frequently, refused to give, the answer to a particular question. The section "Nonresponse" presents in detail the procedures used to handle these two types of nonresponse.

Data Collection Problems

Even though the interviewer was instructed to conduct the interview with the person most knowledgeable about the building, there was a great deal of variation in how much CBECS respondents knew about their buildings. Some respondents did not know some of the information requested; some were able to provide certain information only if the questions are expressed in the particular terms they understood. This has presented a special challenge to the CBECS questionnaire designers: with such a diverse population of respondents, it is difficult to construct standard wording with concepts that are understood by all respondents. The questionnaire is reproduced in Appendix G. Even when the question is worded clearly and the respondent understands the question and has the required knowledge, simple clerical errors (possibly the fault of the questionnaire layout) can sometimes lead to inaccuracies in the data.

Following is a summary of some difficulties that EIA staff has identified with the survey responses. The extent of these comments should not be viewed as a failure of the questionnaire or the interview process; the data

collection process worked well. Rather, these comments indicate areas that require further refinements to improve overall data quality.

Principal Building Activity

The principal building activity refers to the primary function that takes place in the particular building sampled. In some cases, though, the respondent apparently reported the overall function of the facility or establishment to which the building belonged. For instance, a library is a public assembly building, but a library on a university campus may have been reported instead as an education building (academic or technical instruction). Another difficulty with identifying principal activities is that buildings with the same title may, in fact, have different primary functions. For example, space in a building referred to as a "courthouse" may be devoted primarily to office activities (office), to jail cells (public order and safety), or to hearing rooms (public assembly).

The principal activities of respondent buildings were checked against interviewer observations, and recoded if an obvious assignment error was made. For some buildings, no one activity occupied 50 percent or more of the floorspace, but the activity occupying more space than any other was either industrial or residential. For example, it is possible for a building to have 30 percent of the floorspace devoted to assembly, 30 percent to food sales, and 40 percent to residential. Since more than 50 percent of the floorspace was occupied by commercial activity, these buildings were retained in the sample as commercial buildings, but were included in the "Other" category.

One problem noticed in the 1989 CBECS involved the absence or presence of refrigeration equipment in buildings classified as refrigerated or nonrefrigerated warehouses. A detailed examination of these principal building activities was possible because, for the first time, the questionnaire included questions about refrigeration equipment. This examination revealed many cases where a building listed as a refrigerated warehouse had no commercial or residential refrigerators or freezers. Similarly, some nonrefrigerated warehouses had refrigerators or freezers present. Upon further examination, the reported principal building activities of some of these cases appeared to be incorrect, possibly because, in the building activity section of the questionnaire, the row for refrigerated warehouses appeared immediately above the row for nonrefrigerated warehouses. The proximity of these similarly-worded questions may have caused confusion. In particular, buildings without equipment that were classified as refrigerated warehouses tended to be incorrectly classified, and to fit more closely the description of nonrefrigerated warehouses. In most cases, however, nonrefrigerated warehouses had reasons for their refrigeration equipment, either because the building was of a type that requires some cold storage, or because the building was a point of storage or sale for the equipment in question.

Operating Hours

During preliminary examination of the data, some buildings with anomalous operating hours were discovered, and a closer investigation of operating hours became necessary. A listing was generated of buildings that did not have an A.M. opening time and a P.M. closing time. Upon closer examination, many of these buildings did indeed have their operating hours reported correctly--for example, there is nothing unusual about a public assembly building that closes after midnight, even though its closing hour is indeed A.M. However, some cases required detailed scrutiny of the questionnaire. Some A.M. times had been reported as P.M. times, and vice versa, apparently through an interviewer or respondent error. Other cases were apparently reported accurately--some buildings do indeed have unusual hours.

In a change from the 1986 survey questionnaire, data on operating hours were not ascertained in cases where the building respondent reported that the building was not in use during the previous 12 months. These cases are treated in the Detailed Tables as having zero operating hours per week.

Number of Workers

The CBECS collects data on the number of people who work in commercial buildings. Included in this number are volunteer workers, but not clients, students, or employees who work away from the building. Employment totals for 1989 were somewhat smaller than the corresponding estimates for 1986, in part because of a change in question wording: the 1986 CBECS asked for the total number of people who ever work in the building, while the 1989 survey asked for the number working during the main shift. The 1986 wording provided a better basis for estimating floorspace for a region from employment data, which tend to be more readily available from economic series. The 1989 wording gives a more meaningful engineering number. The effect of this change in wording was most noticeable for building activities that tend to involve multiple shifts: the 1989 estimates of total workers in food sales and food service buildings were reduced by almost half their 1986 values. Workers in office buildings, on the other hand, showed an increase from 1986 to 1989.

As with operating hours, data on the number of workers were not ascertained in cases where the building respondent reported that the building was not in use during the previous 12 months. These cases were omitted from the "workers" row stub and column headers, and were treated as zero workers in Table 28.

Heating and Cooling

The phrasing of questions on heating and cooling equipment has presented difficulties in every CBECS conducted thus far, and, unfortunately, illustrates problems both in question wording and in respondent knowledge. Commercial buildings' heating and cooling systems vary greatly in design and complexity. The CBECS questionnaire developers try to formulate a few questions that could broadly characterize building heating and cooling systems.

Some building respondents, especially those from larger buildings, found the questions to be too general to adequately describe their buildings' systems. Other building respondents lacked even the rudimentary knowledge of their buildings' systems required by the questionnaire. For example, several dozen respondents indicated "ducts" as their only heating or cooling equipment. Apparently, these respondents were unaware of the source of the heated or cooled air that flowed through those ducts.

The question of whether the building used "heating or reheating coils in the air ducts or air-handling units" also confused a number of respondents. As worded, the question had too many elements (heating *or* reheating coils, air ducts *or* air-handling units). Furthermore, the question was included in the list of heating equipment, while reheating coils are actually features of cooling systems, that bring the 55 °F. air supply up to a comfortable room temperature. Fifty respondents claimed to have heating or reheating coils, but no air ducts for either heating or cooling.

Rate Schedules

For the first time, the 1989 CBECS building respondents were asked about specific rate features for electricity and natural gas. Table B1 has the data as reported by building respondents. The reported presence of these features is much too low. For example, based on data from electricity suppliers, the *Commercial Buildings Consumption and Expenditures 1986* report (Energy Information Administration 1989; Table 40) estimated that 42 percent of all commercial buildings were billed for peak demand, compared with 12 percent based on the 1989 building respondents. (The estimate for 1989, to appear in the *Commercial Buildings Consumption and Expenditures 1989* report, will also be based on supplier data rather than these building respondent data.) With regard to natural gas, the American Gas Association (1990) has estimated that 15 percent of all commercial accounts have interruptible service, compared with only 1.2 percent based on the 1989 building respondents.

Problems obtaining data on billing from building respondents are not unique to the CBECS. In a small-scale study, Komor et al. (1989), also found that a large proportion of store managers were unaware of billing features. In particular, among store managers whose electricity bills were 40 percent demand charges, none knew what a demand charge was, or even that they were billed for it.

Since rate features are an important component of demand-side management analysis, alternative ways of obtaining this information will be investigated in future CBECS's, and related EIA activities.

Table B1. Responses Reported to Questions on Rate Features

Rate Feature	Percent of Buildings Reporting Feature	Percent of Buildings That Did Not Know
Electricity		
Seasonal Pricing	4.6	6.8
Time-of-Day Pricing	1.9	6.5
Time-of-Day Lockout/Limit	0.5	6.0
Interruptible/Curtailable	11.9	5.5
Demand Charges		7.5
Natural Gas	1.2	6.5
Interruptible		

Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey.

Nonresponse

Unit Nonresponse

The response rate for the 1989 CBECS, as reported in Appendix A, was 92.5 percent. That is, of the 6,352 buildings eligible for interview, 7.5 percent did not respond at all to the Building Characteristics Survey. This rate was similar to that for the 1986 CBECS, and represents a low unit nonresponse rate for a survey of this length and complexity.

Weight adjustment was the method used to reduce unit nonresponse bias in the survey statistics. The CBECS sample was designed so that survey responses could be used to estimate characteristics of the entire stock of nonresidential buildings in the United States. The method of estimation was to calculate basic sampling weights (base weights) that related the sampled buildings to the entire stock of nonresidential buildings. In statistical terms, a base weight is the reciprocal of the probability of selecting a building into the sample. A base weight can be understood as the number of actual buildings represented by a sampled building: a sampled building that has a base weight of 1,000 represents itself and 999 similar (but unsampled) buildings in the total stock of buildings.

To reduce the bias from unit nonresponse in the survey statistics, the base weights of respondent buildings were adjusted upward, so that the respondent buildings would represent not only unsampled buildings but also nonrespondent buildings. The base weights of respondent buildings were multiplied by the adjustment factor A, defined as the sum of the base weights over all buildings selected for the sample divided by the corresponding sum over all respondent buildings. Respondent weights remained nonzero after weight adjustment. Nonrespondent weights were set to zero, because they were accounted for by the upward adjustment of respondent weights.

Unit nonrespondents tended to fall into certain categories. For example, nonresponse tended to be higher in the Northeast than in the Midwest. To reduce nonresponse bias as much as possible, adjustment factors were computed independently within 119 subgroups according to characteristics known from the sampling stage for both responding and nonresponding buildings. These characteristics included the general building activity, the rough size of the building, Census region, and metropolitan versus nonmetropolitan location.

Item Nonresponse

Table B2 contains item nonresponse rates for some of the building characteristics presented in this report. "Eligible" in this context refers to interviewed buildings to which the question item applied; certain sequences of responses to previous questions would make some question items not applicable for some respondents.

Nonresponses to several items in otherwise completed questionnaires were treated by a technique known as hot-deck imputation. In hot-decking, when a certain response is missing for a given building, another building, called a "donor," is randomly chosen to furnish its reported value for that missing item. That value is then assigned to the building with item nonresponse (the nonrespondent, or "receiver").

To serve as a donor, a building had to be similar to the nonrespondent in characteristics correlated with the missing item. This procedure was used to reduce the bias caused by different nonresponse rates for a particular item among different types of buildings. What characteristics were used to define "similar" depended on the nature of the item to be imputed. The most frequently used characteristics were: principal building activity, floorspace category, year constructed category, and Census region. Other characteristics (such as type of heating fuel and presence of furnace or boilers) were used for specific items. To hot-deck values for a particular item, all buildings were first grouped according to the values of the matching characteristics specified for that item. Within each group defined by the matching variables, donor buildings were assigned randomly to receiver buildings.

As in the 1986 survey, the 1989 CBECS used a vector hot-deck procedure. With this procedure, the building that donated a particular item to a receiver also donated certain related items if any of these were missing. Thus, a vector of values, rather than a single value, is copied from the donor to the receiver. This procedure helps to keep the hot-decked values internally consistent, avoiding the generation of implausible combinations of building characteristics.

Estimation of Standard Errors

Sampling error, as described in the introduction to this appendix, is the random difference between the survey estimate and the true population value. This difference arises because a random subset, rather than the whole population, is observed. The typical magnitude of the sampling error is measured by the standard error of the estimate. The standard error is the root-mean-square difference between the estimate based on a particular sample and the value that would be obtained by averaging estimates over all possible samples.

If the estimates are unbiased, meaning there is no systematic error, this average over all possible samples is the true population value. In this case, the standard error is simply the root-mean-square difference between the survey estimate and the true population value. If systematic error is present, however, this bias is not included in the error measured by the standard error. Thus, the standard error tends to underestimate the total estimation error if there are nonnegligible biases.

Table B2. Item Nonresponse Percentages for Selected Building Characteristics

Building Characteristics	Eligible Buildings	Number Missing	Percent Nonresponse
Square footage	5,877	1,046	17.8
Square footage category	5,877	64	1.1
Percent heated in past 12 months	5,877	66	1.1
Boilers used	5,184	30	0.6
Furnaces that heat air used	5,184	50	1.0
Self-contained heating units used	5,184	31	0.6
Packaged heating units used	5,184	35	0.7
Heat pump used for heating	5,184	86	1.7
Air ducts used (heating)	5,184	55	1.1
Reheating coils in air ducts used	5,184	145	2.8
Fan-coil units used (heating)	5,184	52	1.0
Steam/hot water baseboards used	5,184	36	0.7
Percent cooled in past 12 months	5,877	52	0.9
Central chillers used	4,505	31	0.7
Air conditioners (walls/window) used	4,505	33	0.7
Packaged cooling units used	4,505	34	0.8
Heat pump used for cooling	4,505	84	1.9
Air ducts used (cooling)	4,505	48	1.1
Fan-coil units (cooling)	4,505	56	1.2
Year main central chiller installed	960	97	10.1
Owned by a government agency	5,877	18	0.3
Occupant status	5,877	1	0.0
Space vacant for at least 3 months	5,877	33	0.6
Percent vacant for at least 3 months	5,877	79	1.3
Total weekly hours open	5,653	645	11.4
Total weekly hours open category	5,653	87	1.5
Number of workers	5,653	1,028	18.2
Number of workers category	5,653	99	1.8
Year construction was completed	5,877	1,602	27.3
Year construction was completed category	5,877	228	3.9
Percent lit during operating hours	5,877	124	2.1
Roof or ceiling insulation	5,877	361	6.1
Exterior wall insulation	5,877	590	10.0
Storm windows or doors	5,877	124	2.1
Tinted or reflective glass	5,877	82	1.4
Shadings or awnings	5,877	59	1.0
Weather stripping or caulking	5,877	178	3.0
High-efficiency ballasts	5,877	597	10.2
Energy management and control system	5,877	31	0.5
Participated in utility conservation program	5,877	305	5.2
Non-emergency generating capability	5,877	44	0.7
Able to switch main heating fuel	5,197	415	8.0
Asbestos currently inside building	5,877	717	12.2
Asbestos ever removed or treated	5,877	639	10.9
Inspected by certified inspector	5,877	1,061	18.1

Source: Energy Information Administration, Office of Energy Markets and End Use, 1989 Commercial Buildings Energy Consumption Survey.

In principle, random errors can be contributed to the estimate by sources other than the sampling process. Such additional sources of random error include random errors by respondents and by data entry staff, and random unit nonresponse. To recognize these additional sources of variation, the definition of the sampling process can be expanded to include not just the selection of buildings but all steps required to obtain a set of responses. Under this expanded definition, all random errors can be regarded as sampling errors. The procedures designed to estimate the sampling error must, therefore, incorporate all random components of the estimation process.

Jackknife Replication

Throughout this report, standard errors are given as percents of their estimated values, that is, as relative standard errors (RSE's). Computations of standard errors are more conveniently described, however, in terms of the estimation variance, which is the square of the standard error.

For some types of surveys, a convenient algebraic formula for computing variances can be obtained. However, the CBECS used a list-supplemented, multistage area sample design (see Appendix A, "How the Survey Was Conducted") of such complexity that it is virtually impossible to construct an exact algebraic expression for estimating variances. In particular, convenient formulas based on an assumption of simple random sampling, typical of most standard statistical packages, are entirely inappropriate for the CBECS estimates. Such formulas tend to give severely understated standard errors, making the estimates appear much more accurate than is the case.

The method used to estimate sampling variances for this survey was a jackknife replication method (National Center for Health Statistics 1966, 1969). The idea behind replication methods is to form several pseudoreplicates of the sample by selecting subsets of the full sample. The subsets are selected in such a way that the observed variance of estimates based on the different pseudoreplicates estimates the sampling variance in the overall estimate.

The replication method used begins by pairing first-stage sampling units, such that the two units in each pair represent two independent draws from the same pool of first-stage units, and draws for different pairs are also independent. This pairing of first-stage sampling units must be done in accordance with the way the sampling was actually conducted. For the 1989 CBECS, 40 pairs of first-stage sampling units were created in this way.

The k^{th} jackknife pseudoreplicate sample set is obtained by deleting all observations from one of the two members in the k^{th} pair, and multiplying the weights on all cases in the other pair member by 2. Observations in all other pairs are unaffected. The k^{th} pseudoestimate is then obtained from this pseudoreplicate sample by following all the steps used to construct the full-sample estimate.

The variances are estimated from the pseudoestimates in the following way. Let X' be a survey estimate (based on the full sample) of characteristic X for a certain category of buildings. For example, X may be the total square footage of buildings using natural gas in the Midwest. Let X_k' be the pseudoestimate of X based on the k^{th} pseudoreplicate sample. The estimated variance of the full-sample estimate X' is then given by:

$$S_{X'}^2 = \sum_{k=1}^{40} (X_k' - X')^2 .$$

The standard error of X' is given by:

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

The relative standard error (percent) of X' is obtained from this standard error as:

$$RSE_{X'} = \left(\frac{S_{X'}}{X'} \right) \times 100 .$$

Additional computational background and details are given in Gargiullo and Goldberg (1989).

Effects of Missing Data on Error Estimation

The preceding section of this appendix described the procedures used to adjust for unit and item nonresponse. Because the missing cases and the responding cases used to adjust for them arise randomly (within adjustment groups), nonresponse contributes to the estimation variance, even when appropriate adjustment procedures are used to remove the nonresponse bias. Replication-based estimates of variance account for this component of variance only if adjustments are made separately for each replicate.

To capture the effect of random unit nonresponse on the variance of estimates, a separate unit nonresponse adjustment factor, as described in the section on "Unit Nonresponse," was computed for each pseudoreplicate sample. Thus, each pseudoestimate was computed using a slightly different set of adjusted weights.

A different approach was taken to estimate the effect of random item nonresponse on the variance of estimates. The method chosen is known as multiple imputation (Rubin 1987). For each missing value, 10 independent imputations were made, thus reflecting the range of values that could have been obtained. The 10 sets of imputed values were used to create 10 versions of the data file for which estimates and estimated sampling errors were calculated. The 10 sets of estimates and estimated sampling errors were then combined, yielding an estimate of the total variance that incorporated variance due to imputation.

Due to lack of time and resources, it was not possible to modify the CBECS table production programs to include multiple imputation variances in the publication tables. However, multiple imputation variances were calculated for a number of the most important variables. Some results for number of buildings and floorspace were:

- For the estimated total number of buildings, there was no item imputation effect. The number of buildings was estimated by summing the building weights, which were adjusted to deal with unit nonresponse.
- For estimates of the number of buildings by building characteristics, there was no item imputation effect for variables that required no item imputations for any building. These items included location characteristics (Census region, Census division, climate zone, and metropolitan status) and any characteristics that were completely reported. The latter group included two critical items: principal building activity and energy sources used.
- For estimates of the number of buildings by building characteristics that were imputed, the item imputation effects were minor, rarely exceeding 5 percent of the total variance.
- For the estimated total floorspace, the item imputation effect was also minor. Without multiple imputation, the RSE for total floorspace was 3.17. Taking item imputation effects into account, the RSE was raised to 3.23. Of the total variance, only 1.7 percent was due to item imputation.
- For estimates of floorspace by building characteristics, item imputation usually accounted for less than 5 percent of the total variance, although there were isolated instances where the item imputation effect was considerably higher.

Despite the relatively high nonresponse rate for floorspace (17.8 percent), imputation effects for floorspace were kept low because, for most floorspace nonrespondents, the floorspace category was available for use in imputation. Details of the multiple imputation results are given in Burns (1991).

Generalized Variances

For every estimate in this report, the RSE was computed by the methods described above. This was the RSE used for any statistical tests or confidence intervals given in the text, or to determine if the estimate was too inaccurate to publish (RSE greater than 50 percent).

Space limitations prevent publishing the complete set of RSE's with this document. Instead, a generalized variance technique is provided, by which the reader can compute an approximate RSE for each of the estimates in the main summary tables. For an estimate in the i^{th} row and j^{th} column of a particular table, the approximate RSE is given by the simple formula

$$\text{RSE}_{ij} = R_i C_j$$

where R_i is the RSE row factor given in the last column of row i , and C_j is the RSE column factor given at the top of column j .

The use of the row and column RSE factors is illustrated in Figure B1, for a sample table from a previous report. Using the row of the table labeled "Mercantile and Service," and the column labeled "Total Floorspace (million square feet)" gives an estimate of 12.805 billion square feet for the total commercial floorspace contained in Mercantile and Service buildings. The RSE row factor is $R_{\text{Mercantile and Service}} = 5.17$. The RSE column factor is $C_{\text{Total Floorspace}} = 1.096$. The approximate RSE for the estimate is, therefore, computed as:

$$\begin{aligned} \text{RSE}_{\text{Mercantile and Service, Total Floorspace}} \\ = 5.17 \times 1.096 = 5.67 \text{ percent.} \end{aligned}$$

The approximate standard error for the estimate is thus:

$$\begin{aligned} \text{Standard Error}_{\text{Mercantile and Service, Total Floorspace}} \\ = .0567 \times 12,805 = 726 \text{ million square feet.} \end{aligned}$$

This value for the standard error can be used to construct confidence intervals and to perform hypothesis tests by standard statistical methods. However, because the generalized variance procedure gives only approximate RSE's, such confidence intervals and statistical tests must also be regarded as only approximate. For the example above, the RSE determined directly by the half-sample method is actually 6.7, not 5.7.

Derivation of Row and Column Factors

The row and column factors are determined from a two-factor analysis of the table of RSE's, on the basis of the model

$$\log(\text{RSE}_{ij}) = m + a_i + b_j.$$

Figure B1. Use of RSE Row and Column Factors

Table 1. Principal Building Activity

Building Characteristics	Number of Buildings (thousand)	Number of Buildings (percent)	Total Floorspace (million square feet)	Total Floorspace (percent)	RSE Row Factor
RSE Column Factor:	0.975	0.879	1.096	1.064	
All Buildings.....	4,154	100.0	58,229	100.0	3.13
Principal Building Activity					
Assembly.....	575	13.8	7,339	12.6	6.22
Education.....	241	5.8	7,321	12.6	6.62
Food Sales.....	102	2.5	712	1.2	13.65
Food Service.....	201	4.8	1,281	2.2	8.48
Health Care (inpatient).....	14	.3	1,757	3.0	20.29
Health Care (outpatient).....	38	.9	350	.6	19.96
Laboratory.....	17	.4	283	.5	28.19
Lodging.....	123	3.0	2,179	3.7	10.11
Mercantile and Service.....	1,287	31.0	12,805	22.0	5.17
Office.....	614	14.8	9,546	16.4	5.76
Public Order and Safety.....	55	1.3	680	1.2	14.96
Skilled Nursing.....	13	.3	605	1.0	23.46
Warehouse (nonrefrigerated)....	524	12.6	8,522	14.6	6.74
Warehouse (refrigerated).....	25	.6	474	.8	24.12
Other.....	86	2.1	1,442	2.5	15.37
Vacant	238	5.7	2,931	5.0	8.94

R(Mercantile and Service) = 5.17
 C(Total Floorspace) = 1.096.
 Approximate RSE(Mercantile and Service, Total Floorspace)
 = $(5.17) \cdot (1.096) = 5.67$ percent.
 Approximate Standard Error(Mercantile and Service, Total Floorspace)
 = $(.0567) \cdot (12,805) = 726$ million square feet.

Source: Energy Information Administration, Office of Energy Markets and End Use, Energy End Use Division, 1986 Nonresidential Buildings Energy Consumption Survey.

The least-squares estimates for this model are given (Cochran and Cox, 1957) by

$$m = \overline{\log(RSE)}$$

$$a_i = \overline{\log(RSE_i)} - \overline{\log(RSE)}$$

$$b_j = \overline{\log(RSE_j)} - \overline{\log(RSE)}$$

where $\overline{\log(RSE)}$ is the mean of $\log(RSE_{ij})$ over all rows i and columns j, $\overline{\log(RSE_i)}$ is the mean over all columns j for a particular row i, and $\overline{\log(RSE_j)}$ is the mean over all rows i for a particular column j. The row and column RSE factors are then computed as

$$R_i = \log^{-1}(m + a_i) = \log^{-1}(\overline{\log(RSE_i)})$$

$$C_j = \log^{-1}(b_j) = \log^{-1}(\overline{\log(RSE_j)} - \overline{\log(RSE)}) .$$

The RSE row factor, R_i , is thus the geometric mean of the RSE's in row i, and the RSE column factor, C_j , is an adjustment factor with geometric mean equal to 1.0.

For a few table cells, there were no sample cases, hence no estimate and no RSE. As a result, some of the arrays of direct estimates RSE_{ij} had a few missing values. In such cases, the formulas given above for row and column factors still apply, but only after appropriate estimates have been substituted for the missing values (Cochran and Cox, 1957 p. 110). In cases where a statistic was not publishable, because of a high RSE or small cell sample size, the value of RSE_{ij} was set to missing, so that the computed row and column factors are based only on published cases.

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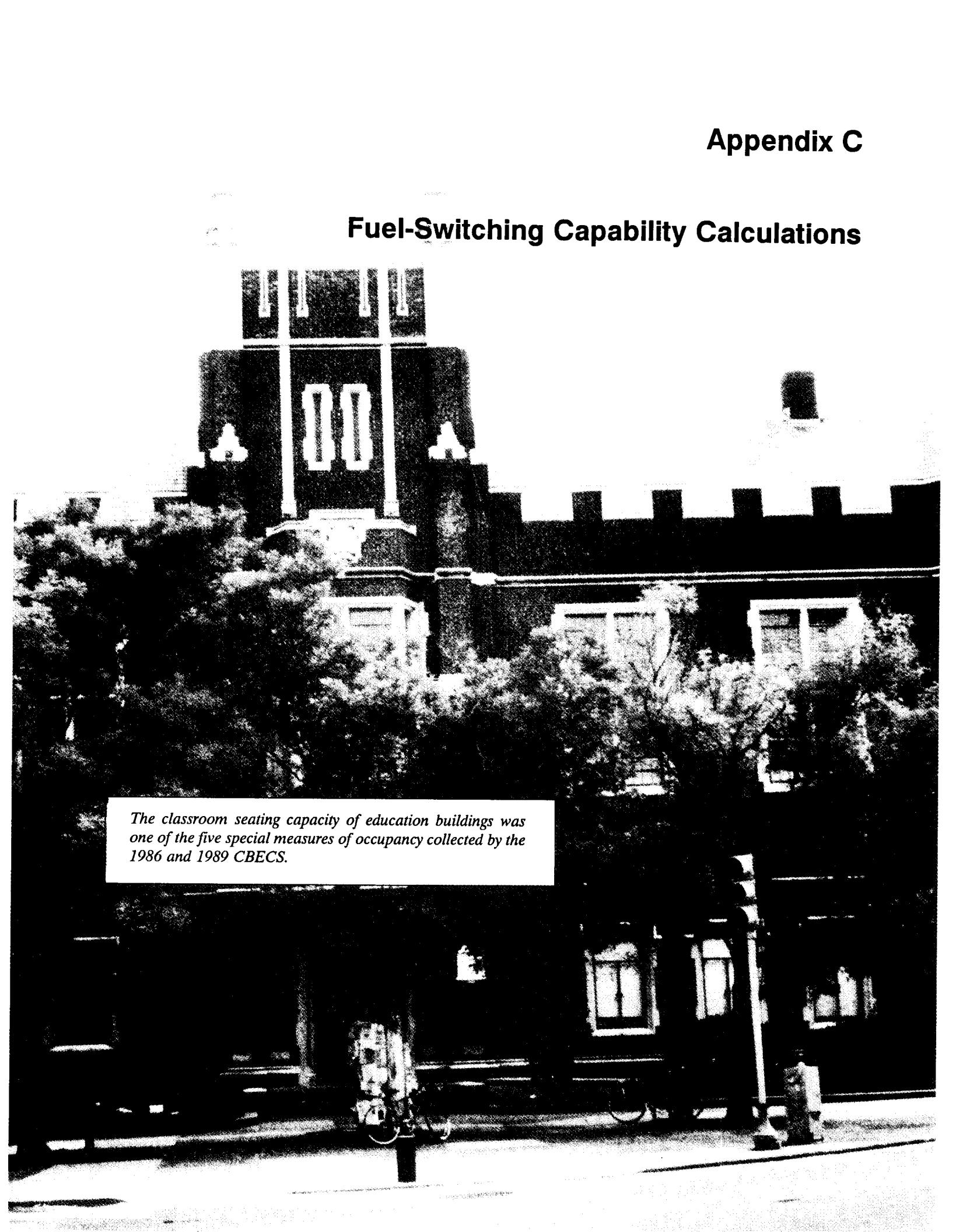
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Appendix C

Fuel-Switching Capability Calculations



The classroom seating capacity of education buildings was one of the five special measures of occupancy collected by the 1986 and 1989 CBECS.

Appendix C

Fuel-Switching Capability Calculations

Introduction

This appendix details the process by which the estimates presented in the text for consumption by buildings heating with fuel oil, and the consumption that could be switched to an alternate fuel, were derived, given the fact that the consumption data for the 1989 CBECS were incomplete at the time of this report. These estimates were also released by EIA in the *Daily Situation Analysis Report*, dated October 5, 1990.

Estimation of Consumption

The estimates presented in the text for consumption by buildings heated with fuel oil, and the heating fuel to which those buildings could switch, are preliminary because the 1989 CBECS consumption data have not yet been fully edited and data imputations completed. The derivation of these preliminary estimates is presented more fully here. First, from the buildings surveyed for the 1989 CBECS, those that use fuel oil for their main heating fuel were selected. Of those, the buildings that could switch to an alternative fuel within one week were further subdivided on the basis of their alternative heating fuel--natural gas only, electricity only, propane only, a combination of more than one fuel, or other (including another petroleum product, coal, wood, solar, and district heat).

Next, the square footage totals for buildings in these categories were translated into estimates of energy consumption by using figures for annual energy consumption in thousands of Btu per square foot. National estimates for buildings using fuel oil for their main heating fuel were taken from Table 16 in the 1986 CBECS Consumption and Expenditures report (Energy Information Administration, 1988), and estimates for the Northeast, Midwest, and South Census regions were taken from Table 22 of that report (Table C1). The figure for the West was not published because of data quality criteria.

These numbers are presented below:

**Table C1. 1986 Fuel Oil Intensity for Buildings
Using Fuel Oil for Main Heating
(Thousand Btu per Square Foot per Year)**

Total U.S.	59.7
Northeast	62.8
Midwest	72.9
South	53.7

Source: Energy Information Administration, Energy Markets and End Use, 1986 Commercial Buildings Consumption Survey.

These figures were converted to thousands of barrels of oil per day by the following conversion factor:

$$\begin{aligned}
 & \frac{\text{thousand Btu}}{\text{square foot} \times \text{year}} \times \frac{1 \text{ gallon}}{140 \text{ thousand Btu}} \times \frac{1 \text{ thousand barrels}}{42,000 \text{ gallons}} \times \frac{1 \text{ year}}{365 \text{ days}} \\
 & = 4.65940 \times 10^{-10} \frac{\text{thousand barrels}}{\text{square foot} \times \text{day}}
 \end{aligned}$$

Finally, the fuel oil delivery data for oil-heated buildings from the 1986 CBECS were used to determine what percentage of consumption occurred in each season--March through May, June through August, September through November, and December through February. These percentages vary by region (Table C2).

**Table C2. Seasonal Proportion of Fuel Oil Consumption for Buildings Using Fuel Oil for Main Heating, 1986
(Percent)**

Season	All Buildings	Census Region			
		Northwest	Midwest	South	West
Annual	100.00	100.00	100.00	100.00	100.00
March - May	18.24	18.87	18.56	16.43	16.97
June - August	9.19	7.35	18.68	8.66	8.34
September - November	13.87	13.25	20.23	10.23	22.75
December - February	58.71	60.35	42.54	64.68	51.94

Note: Relative Standard Errors were not computed for these proportions.

Sources: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys.

Because it was assumed that the relative proportion of energy used in each season would be the same in 1989 as in 1986, these proportions were used to obtain seasonal consumption rates. The consumption figures in the preceding step were multiplied by these percentages, and the time element of the conversion factor was adjusted to obtain seasonal estimates of the average daily consumption by region, for each subset of buildings (Table C3).

Table C3. Preliminary Estimates of Consumption of Fuel Oil in Buildings Heating Primarily with Fuel Oil, 1989-1990
 (Thousand Barrels per Day)

	Average Consumption (thousand barrels per day)				
	Sep. - Nov.	Dec. - Feb.	Mar. - May	Jun. - Aug.	Annual
Total United States					
Total Consumption	86.39	365.67	113.61	57.24	155.71
Not Switchable	63.21	267.56	83.13	41.88	113.93
Switchable	23.18	98.11	30.48	15.36	41.78
Natural Gas Only	13.73	58.11	18.05	9.10	24.75
Electricity Only	3.50	14.80	4.60	2.32	6.30
Propane Only	2.54	10.74	3.34	1.68	4.57
No Single Fuel/Other	3.42	14.46	4.49	2.26	6.15
Northeast Census Region					
Total Consumption	59.87	272.68	85.26	33.21	112.96
Not Switchable	47.54	216.52	67.70	26.37	86.69
Switchable	12.33	56.16	17.56	6.84	23.26
Natural Gas Only	6.74	30.69	9.60	3.74	12.71
Electricity Only	Q	Q	Q	Q	Q
Propane Only	Q	Q	Q	Q	Q
No Single Fuel/Other	Q	Q	Q	Q	Q

Q=Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.

Notes: • The numbers from the alternative fuel subcategories do not add up to the total switchable consumption due to rounding.
 • Because most of the consumption occurred in the Northeast Census Region, those estimates are presented here along with the national estimates. • These figures include only those buildings that heat primarily with fuel oil. Not included are buildings that use fuel oil for some purpose other than heating, and buildings that heat with district steam produced by a central plant, even if that plant uses fuel oil. All fuel oil consumption by the included buildings is presented, even if some fuel oil is consumed for purposes other than heating.

Source: Energy Information Administration, Office of Energy Markets and End Use, 1986 and 1989 Commercial Buildings Energy Consumption Surveys.

Appendix D

CBEGS Coverage Related to EIA Supply Survey



This university chapel is an assembly building. The activity designation refers to the individual building, not to the larger facility or complex the building may belong to.



Appendix D

CBECS Coverage Related to EIA Supply Surveys

The primary purpose of the Commercial Buildings Energy Consumption Survey (CBECS) is to collect accurate estimates of energy consumption totals, disaggregated by building characteristics. The Energy Information Administration (EIA) also collects data on total energy supply by sector. For the supply information, a different reporting system is used for each fuel. The boundaries between the different sectors (eg., residential, commercial, industrial) are drawn differently for each of the different systems. A detailed examination of these differences, and the differences between the supply and consumption surveys. (Energy Information Administration, 1990.)

For the commercial sector, there are several general differences between the CBECS coverage and the set of accounts classified as commercial.

- (1) CBECS only covers consumption in buildings. Commercial accounts are not necessarily associated with buildings.
- (2) CBECS covers all consumption in buildings whose principal activity is commercial, and none in other buildings. Consumption for commercial activity in noncommercial buildings is not included, but consumption for noncommercial activity in a commercial building is included. Accounts within a building may be commercial or noncommercial.
- (3) The activities included as commercial differ between the CBECS and the supply-side reporting systems.

The supply data on the different fuels are compiled in individual fuel reports and summarized in EIA's *State Energy Data Report* (SEDR). (Energy Information Administration, 1988.) The most recent year for which the CBECS and SEDR data can be compared is 1986. (Energy Information Administration, 1986.) Only electricity, natural gas, fuel oil, and propane can be compared directly. CBECS does not collect data on coal consumption, and SEDR does not collect district heating. For these three fuels, the largest SEDR-CBECS difference is for natural gas, over 0.6 quads (Table D1). This difference can be attributed to several sources:

- (1) Sales to commercial accounts not associated with buildings, including agricultural uses.
- (2) Direct purchase of natural gas, also known as transportation gas, resulting in an understatement of commercial buildings consumption by the 1986 CBECS. This practice has become increasingly common in recent years. The resulting accounting problem is one that the 1989 CBECS is attempting to correct.
- (3) Sales to commercial accounts associated with central heating plants for multibuilding facilities. In most cases, a central heating plant would be in a building classified as noncommercial, so that consumption by this plant would be excluded from the CBECS total. The 1989 CBECS is attempting to quantify such central-plant fuel consumption.

Nonbuildings consumption (1) is outside the scope of the CBECS, but is part of the commercial sector as defined for the SEDR. The transportation gas (2) is unallocated buildings consumption. During the period 1983 to 1986, when transportation gas was beginning to become more common, SEDR commercial sales of natural gas showed a decline of 0.1 quads, while the CBECS commercial total showed a decline of 0.5 quads. If this change in the coverage difference between SEDR and CBECS reflects the increase in transportation gas unaccounted for by CBECS, as much as 0.4 quads of the SEDR-CBECS difference may be attributable to transportation gas.

Table D1. Comparison of CBECS and SEDR Consumption Totals 1986
(Quadrillion Btu Delivered)

	Electricity	Natural Gas	Fuel Oil*	LPG	Total	District Heat	Coal
1986 SEDR	2.44	2.38	0.89	0.07	5.78	--	0.11
1986 CBECS	2.29	1.72	0.44	0.06	4.51	0.42	--
Difference SEDR-CBECS	----	----	----	----	----		
	0.15	0.66	0.45	0.01	1.27		

*Fuel oil includes distillate, residual, and kerosene.

Source: Energy Information Administration 1988, *State Energy Data Report Consumption Estimates 1960-1988*, DOE/EIA-0214(88); Energy Information Administration 1989, *Nonresidential Buildings energy Consumption Survey: Commercial Buildings Consumption and Expenditures 1986*, DOE/EIA-0318(86).

Central heating plant consumption (3) is also buildings-related. According to the 1986 CBECS, 0.42 quads were supplied to commercial buildings in the form of district heat, i.e., steam and hot water generated at another building or plant. About three quarters of this district heating, or 0.3 quads, came from a central plant on the same multibuilding facility. For the most part, the input fuels for this heat generation would be fossil fuels included in the SEDR commercial sales totals.

Assuming a system efficiency of 50 percent, the nonpurchased steam and hot water measured by the 1986 CBECS would represent about 0.6 quads of commercial fossil fuel consumption. If the entire 0.11 quads of commercial coal sales shown by SEDR was for central plant consumption, that would leave 0.5 quads of natural gas and fuel oil consumed at district heating plants on commercial facilities.

Thus, of the overall 1.3 quads discrepancy between the 1986 SEDR and CBECS commercial totals, roughly 1.0 quad can plausibly be attributed to the combination of transportation gas underreporting and central heating plant consumption of fossil fuels. The remaining discrepancy can be attributed to differences in the populations covered by the two data sources.

The consumption data collected for the 1989 CBECS are designed to provide more accurate estimates of the consumption by central plants for district heating. These estimates will be included in the companion volume to this report.

References

Energy Information Administration *State Energy Data Report Consumption Estimates 1960-1988*. DOE/EIA-0214(88) (Washington, DC, 1988).

Energy Information Administration *Energy Consumption by End-Use Sector*. DOE/EIA-0533 (Washington, DC, 1990).

Energy Information Administration *Nonresidential Buildings Energy Consumption Survey: Commercial Buildings Consumption and Expenditures 1986*. DOE/EIA-0318(86) (Washington DC, 1989).

Appendix E

Types of Buildings

A building with more than 50 percent of its floorspace unoccupied at the time of interview was classified as vacant.

LEASE
RETAIL SPACE 2,000 SF
Call JON FISHER

Appendix E

Types of Buildings

Buildings were classified according to principal activity, which was the primary business, commerce, or function carried on within each building. Buildings used for more than one of the activities described below were assigned to the activity occupying the most floorspace at the time of the interview. Thus, a building assigned to a particular principal activity category may have housed other activities in a portion of its space or at some time during the year.

Each of the principal activity categories is listed alphabetically and described below. Lists of specific types of buildings included in each category are presented for clarification, but are not intended to be exhaustive.

- **Agricultural:** See Other.
- **Assembly:** signifies buildings used for the gathering of people for social, recreational, or religious activities whether in private or nonprivate meeting halls. Included in this category are the following types of buildings:

Entertainment Building:

Archive/art gallery/exhibit hall/library/museum
Coliseum/arena (enclosed)
Concert hall
Observatory/planetarium
Nightclub
Radio/TV station or studio
Theater/movie house/cinema

Recreational Facility:

Amusement arcade
Bowling alley
Gymnasium/YMCA or YWCA/indoor racket sports, recreation center/athletic facility
Indoor pool
Poolroom
Skating rink (ice skating or roller skating)

Religious Assembly:

Chapel
Church
Mosque
Synagogue

Social/Public/Civic Assembly:

Assembly hall
Auditorium
Convention hall
Funeral home
Lecture hall
Lodge hall

Meeting hall
Student union
Town hall

Other Enclosed Assembly Building:

Armory
Passenger terminal
Stadium

- **Education:** refers to buildings that house academic or technical classroom instruction. This category includes the following:

Schools:
Preschool
Elementary
Junior high
Senior high
College or university classrooms/Laboratories
Vocational school

Other activities that occur on school campuses are reported separately:

Administration (see Office)
Auditorium (see Assembly)
Dormitory (see Lodging)
Gymnasium (see Assembly)
Infirmary (see Health Care)
Library (see Assembly)
Museum (see Assembly)
School for the Mentally Retarded (see Health Care)
Stadium (see Assembly)
Student Union (see Assembly)

- **Food Sales:** involves retail or wholesale of food.

Convenience store or market
Farmer's market, Fruit/Vegetable market
Meat/Seafood store
Retail bakery
Specialty food store
Supermarket/Grocery store

- **Food Service:** Activities involve preparation and sale of food and beverages for consumption.

Prepared-Meal Services:
Cafeteria

Carryout-Service:
Caterer
Fast-food establishment
Pizza parlor
Sandwich shop

Full-Service Restaurant:

Bar
Bar and grill
Coffee shop
Diner
Full-menu-service establishment

- **Health Care:** covers diagnostic and treatment facilities for both inpatient and outpatient care.

Inpatient facilities treat the mentally or physically ill. Buildings for overnight care are in this grouping. This type of building includes the following:

Medical Care Hospital:

Chronic disease
Ear, eye, nose, and throat
General medical and surgical
Maternity
Medical infirmary (connected with an institution)
Orthopedic
Tuberculosis/other respiratory disease

Mental Facility:

Mental retardation/schools for the mentally retarded
Psychiatric

Rehabilitation Facility:

Alcoholism
Substance abuse/narcotics/drug addiction
Physical therapy

Veterinary Facility:

Hospital for animals
Kennel

Excluded from this group are skilled nursing or other residential care facilities (nursing homes). These buildings are classified as "Lodging" buildings.

Outpatient care may be medical, dental, or psychiatric. A building housing outpatient veterinary practices also falls into this category. Buildings of this type include:

Dental Clinic

Medical Clinic:

Abortion/birth control
Ear, eye, nose, and throat
Emergency walk-in
General

Mental health/psychiatric clinic

Veterinary clinic

Inpatient and outpatient buildings are combined in the detailed tables of this report.

- **Industrial/Manufacturing:** See Other.
- **Laboratory:** activities utilize equipment for experimental testing or for analysis. Included are:

Mechanical/Electrical laboratory
 Medical/Dental laboratory
 Agricultural laboratory

Laboratory buildings are included in the "Other" category in the detailed tables of this report.

- **Lodging:** refers to buildings that offer multiple accommodations for short-term or long-term residents (including nursing homes). The following types are included:

Short-term residence:
 Convention hotel
 Hotel
 Inn
 Motel
 Shelter home
 Tourist home

Long-term residence:
 Boarding house
 Convent/monastery
 Dormitory/sorority/fraternity
 Orphanage

Skilled nursing homes are included in the "Lodging" category in the detailed tables of this report.

- **Mercantile and Service:** refers to buildings containing sales and displays of goods or services (excluding food). The category includes the following:

Automotive Sales and Service:
 Automobile dealers
 Gasoline stations
 Motor vehicle repair/service

Retail Sales:
 Building materials, garden supply, hardware store
 Department stores, apparel stores
 Drugstores
 Furniture, home-furnishings and home-equipment stores
 Multiretail establishments

Services (Except Food):
 Laundry/dry cleaner/car wash
 Multiservice establishment
 Personal services
 Post office

Shopping mall

Strip shopping center

Wholesale goods (except food)

- **Nonrefrigerated Warehouse or Storage:** See **Warehouse and Storage**.
- **Office:** refers to buildings used for general office space, professional offices, and administrative offices. The category includes the following:

Data Processing:

Computer center

Data entry/Keypunch

Financial Office Building:

Bank

Brokerage firm

Insurance

Real estate

Securities

Professional Office Building:

Administration of an institution

Consulting

Corporate

Engineering

Law

Management

Medical

Mixed professional

- **Other:** covers buildings that do not fit into any of the previously named categories. This category includes the following:

Crematorium

Hangar

Public restrooms/Shower

Telephone exchange

Also included in the "Other" category are buildings that are 50 percent or more commercial, but whose principal activity is agricultural, industrial/manufacturing, or residential.

Laboratory buildings are also included in the "Other" category in the Detailed Tables section of this report.

- **Parking Garage:** refers to buildings used to park cars. Buildings in this category need not be totally enclosed by walls. (In previous surveys, Parking Garages have been classified under Other.)

- **Public Order and Safety:** describes buildings used in the preservation of law and order or safety. The following are included:

Courthouse
Fire station
Jail/Prison
Penitentiary
Police station
Reformatory
Sheriff's Office

- **Refrigerated Warehouse or Storage:** See **Warehouse and Storage**.
- **Residential:** See **Other**.
- **Skilled Nursing/Other Residential Care** facilities refers to buildings offering 24-hour nursing/medical care. This category includes the following:

Homes for the aged
Nursing homes

Skilled nursing homes are included in the "Lodging" category in the detailed tables of this report.

- **Warehouse and Storage:** describes buildings used to store goods, manufactured products, merchandise, or raw materials. This category includes the following:

Refrigerated Storage
Nonrefrigerated Warehouse

Refrigerated storage is specifically designed to store perishable goods or merchandise under refrigeration. Includes "cold storage" facilities, which store products at temperatures between 0 °F. and 50 °F and "freezer facilities" which store products at between 0 °F and -20 °F.

Refrigerated and nonrefrigerated warehouses are combined in the detailed tables of this report.

- **Vacant:** designates buildings in which more floorspace was vacant than was used for any single activity (as defined above) at the time of interview. A vacant building, thus, may have some occupied floorspace.

Appendix E

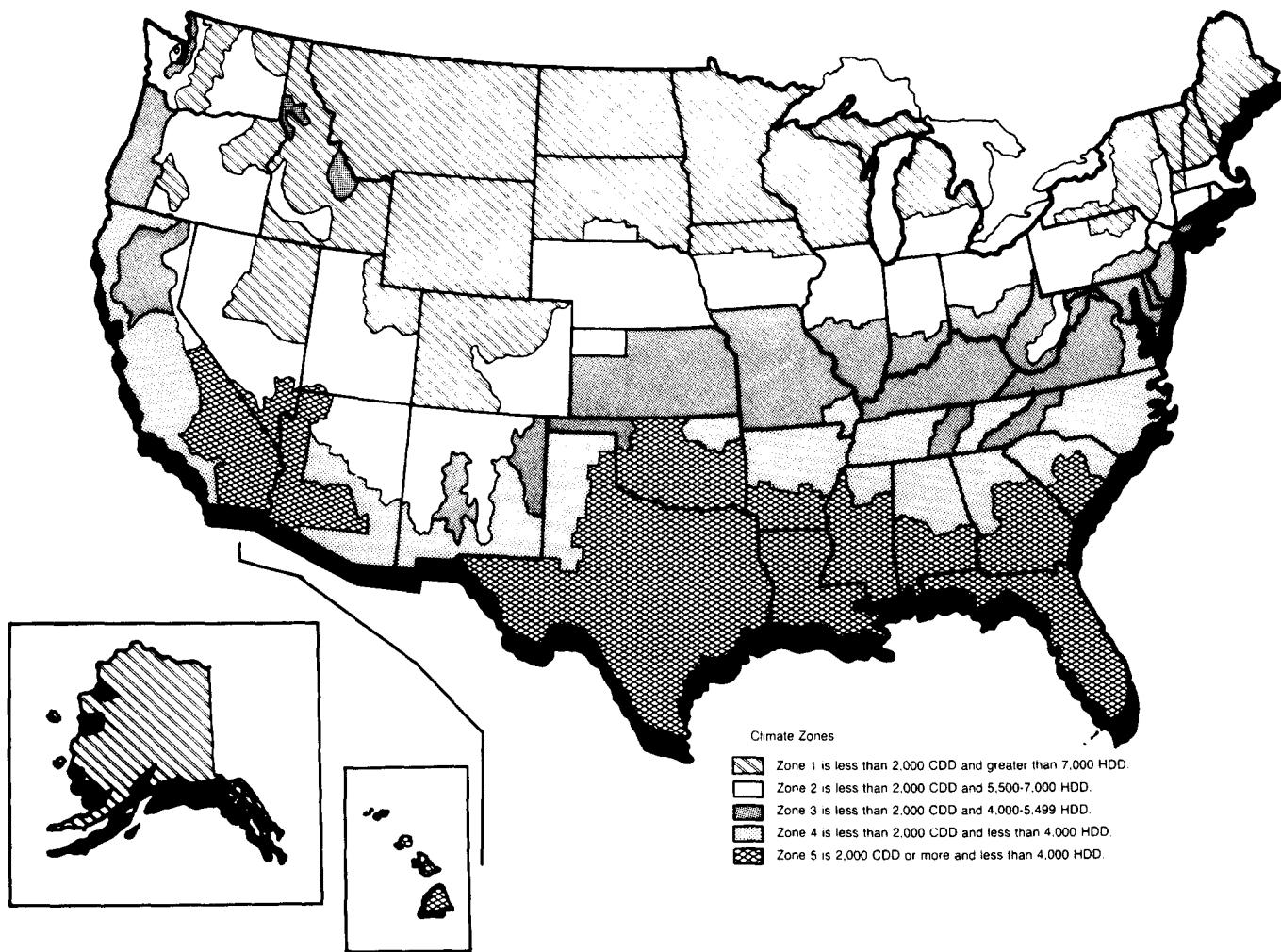
Introducing
the Zoning
Definitions Map

ASSEMBLY Concourse C Sales

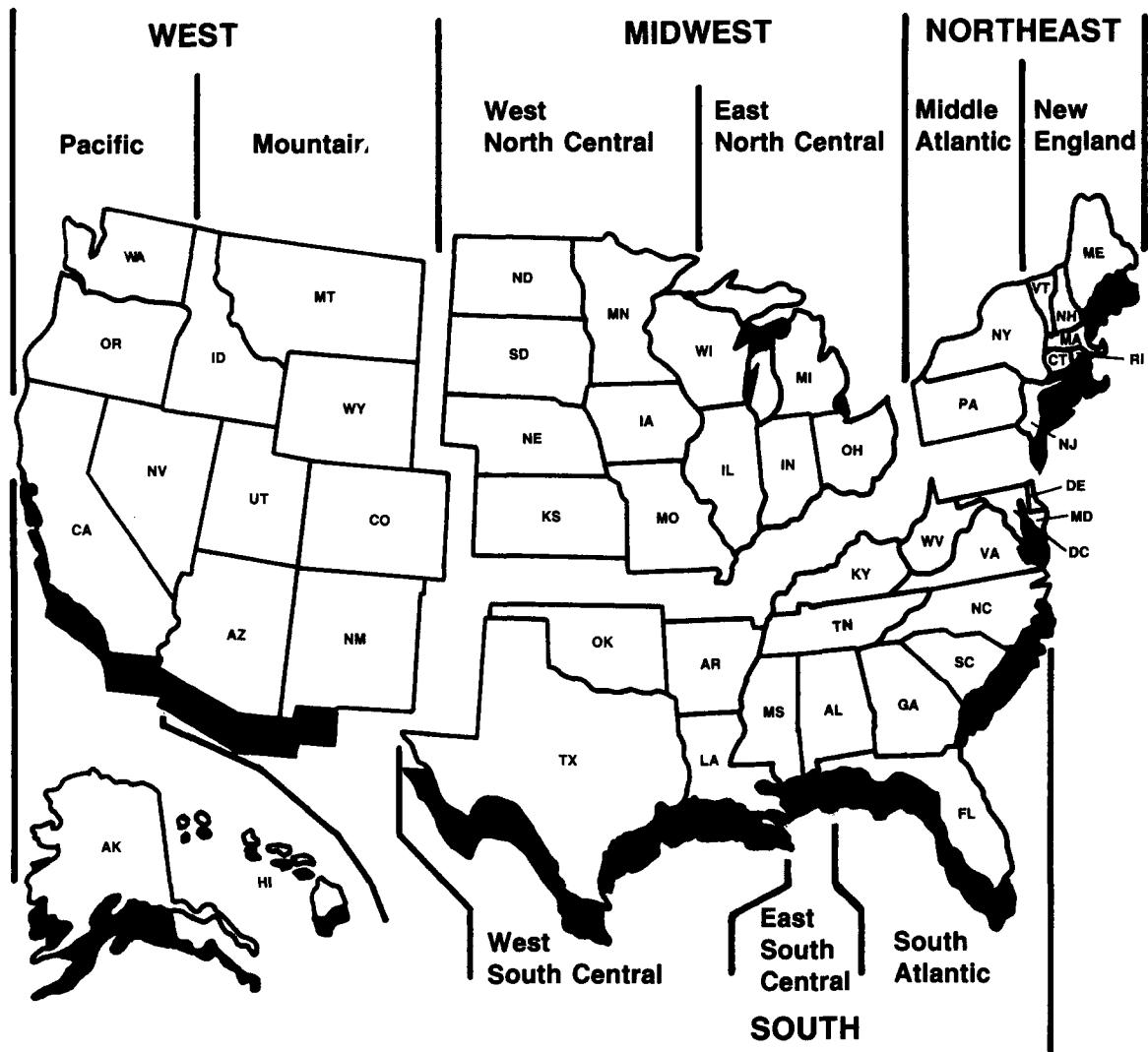
Though generally including some sales activity, most airports, trains, and bus terminals fall into the assembly building category.



U.S. Climate Zone Map



U.S. Census Regions and Divisions



Appendix G

Survey Forms

This bookstore occupies the basement of an owner-occupied building, and has a separate electric meter.

Appendix G

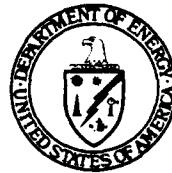
Survey Forms

This appendix contains the following data collection forms used in the 1989 CBECS:

- Form EIA-871A--Building Questionnaire
- Form EIA-871A--Authorization Form
- Form EIA-871G--Construction Improvement and Maintenance and Repairs Supplement
- Form EIA-871H--Asbestos in Buildings

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A

Form EIA-871A (06/89)



Form Approval
OMB No: 1905-0145
Expires: May 31, 1992

U.S. DEPARTMENT OF ENERGY

COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY FOR 1989
BUILDING QUESTIONNAIRE

ID: _____		
BUILDING NAME: _____		
ADDRESS: _____ STREET		
CITY _____	STATE _____	ZIP _____
COMMENTS: _____ _____ _____		

INITIAL CONTACT TO DETERMINE RESPONDENT

I'm _____ from Westat, Inc., a social science research firm. We are conducting a study for the U.S. Department of Energy about energy consumption in nonresidential buildings. May I speak with the building manager or a person knowledgeable about the types of energy coming into the building? May I have that person's name, title and address at which he or she might be located?

NAME: _____

TITLE: _____

LOCATION: _____ PHONE (_____) _____

INTRODUCTION TO INTERVIEW

Hello, I'm _____ from Westat, Inc., a social science research firm. We are conducting a study for the U.S. Department of Energy about energy consumption in nonresidential buildings (HAND LETTER). Although your response is voluntary, we hope you will participate in this important study of energy use.

IF ASKED ABOUT CONFIDENTIALITY, READ:

Any information we collect that would 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.

INTERVIEWER NAME: _____ ID NO. _____

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

TIME BEGAN: _____

A. **BUILDING IDENTIFICATION QUESTIONS**

BOX 1

IF BUILDING IS A SHOPPING CENTER/MALL, CHECK BOX AND SKIP TO A-7 ON PAGE 4.

First, I need to make sure we have correctly described the building we want you to answer questions about. The original records indicate the building as (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING).

- A-1. INTERVIEWER OBSERVATION: DOES THE ADDRESS OR DESCRIPTION FROM LABEL OR LISTING REPRESENT AN ENTIRELY FREESTANDING STRUCTURE OR IS THERE ANOTHER STRUCTURE ATTACHED TO OR ABUTTING IT?

STRUCTURE IS FREESTANDING 1 (A-2)
STRUCTURE ATTACHED TO OTHER 2 (A-5)

SAMPLED STRUCTURE IS FREE STANDING

- A-2. Is the entire structure owned by the same person or organization?

YES 1 (A-3)
NO 2 (A-4)

- A-3. Is this structure subdivided into separate parts by walls extending from ground to roof without pass-through?

YES 1 (A-4)
NO 2 → GO TO BOX 3
AND CHECK A.

- A-4. What are the addresses of the (separate/separately owned) parts of this structure? IF PARTS OF STRUCTURE DO NOT HAVE ADDRESSES, OBTAIN DISTINGUISHING DESCRIPTIONS.

(1) _____

(2) _____

(3) _____

(4) _____



GO TO BOX 3
AND CHECK B.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

SAMPLED STRUCTURE IS ATTACHED TO ANOTHER

- | | |
|---|---|
| A-5. What are the addresses of the different parts of this structure attached to (COMPLETE ADDRESS OR DESCRIPTION FROM LABEL OR LISTING)? | A-6. Are there walls extending from ground to roof without pass-through between (ADDRESS OR DESCRIPTION FROM LABEL OR LISTING) and (ADDRESS OR DESCRIPTION OF ATTACHED PART)? |
|---|---|

	<u>YES</u>	<u>NO</u>
(1) _____	1	2
(2) _____	1	2
(3) _____	1	2
(4) _____	1	2

BOX 2

SEE A-6. ARE ALL ANSWERS "YES"?

ALL "YES" 1 GO TO BOX 3
AND CHECK A.

NOT ALL "YES" 2 GO TO BOX 3
AND CHECK C.

BOX 3

LISTING IS:

- A. CORRECT. STRUCTURE ON LABEL OR LISTING IS ONE BUILDING. CONDUCT ONE INTERVIEW. GO TO A-7.
- B. INCORRECT. STRUCTURE ON LABEL OR LISTING IS MORE THAN ONE BUILDING. BE SURE TO CROSS OFF ANY ADDRESSES YOU ADDED WHICH ARE ALREADY LISTED. CONDUCT A SEPARATE INTERVIEW FOR EACH BUILDING (EACH PART SEPARATELY OWNED OR SEPARATED BY WALLS) RECORDED AT A-4. GO TO A-7.
- C. INCORRECT. STRUCTURE ON LABEL OR LISTING IS PART OF A LARGER BUILDING. CONDUCT ONE INTERVIEW, INVOLVING ALL PARTS OF THE BUILDING THAT ARE NOT SEPARATED FROM THE LISTED STRUCTURE BY WALLS WITHOUT PASS-THROUGH. GO TO A-7.

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

- A-7. The questions I will be asking refer to the building at (COMPLETE BUILDING ADDRESS). Does this building, as we have described it, have any other addresses associated with it?

RECORD VERIFIED STREET ADDRESS: _____

RECORD ADDITIONAL STREET ADDRESS(ES): _____

- A-8. What is the name of this building?

VERIFIED NAME: _____ (BOX 4)
OR
BUILDING HAS NO NAME (A-9)

BOX 4

VERIFIED BUILDING NAME IS: (CHECK ONE)

- NAME OF BUILDING OR ONLY ESTABLISHMENT IN BUILDING**
 NAME OF MAJOR ESTABLISHMENT IN BUILDING
 NAME OF ESTABLISHMENT BUT NOT MAJOR

- A-9. What is the building's ZIP Code?

ZIP Code

BOX 5

IF AREA SAMPLE: CHECK TO SEE IF THE BUILDING'S ZIP MATCHES ZIP ON THE LABEL (CHECK ONE BOX)

- BUILDING ZIP MATCHES LABEL: CONTINUE WITH INTERVIEW.**
 BUILDING ZIP DOES NOT MATCH LABEL: VERIFY THAT YOU ARE AT THE CORRECT ADDRESS AND WITHIN THE SEGMENT BOUNDARIES. IF YOU ARE, CONTINUE WITH INTERVIEW. IF NOT, DISCONTINUE AND CALL SUPERVISOR.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

B. PRINCIPAL BUILDING ACTIVITIES

- B-1. What is the gross or total square feet of all the space, both finished and unfinished, enclosed within the exterior walls of this building including: basements, indoor parking facilities, hallways, lobbies, stairways and elevator shafts?

TOTAL SQUARE FEET

IF 1,000 OR LESS, GO TO B-8; ON PAGE 8,
OTHERWISE, RECORD ON FOLD-OUT
AND GO TO B-3.

DON'T KNOW 9-8 (B-2)

- B-2. Here is a card that has categories of total square feet. HAND CARD 1. Which category in your estimation best describes the total square feet in this building including all the areas just mentioned? CIRCLE CODE BELOW AND ENTER B-2 RANGE ON FOLD-OUT PAGE.

HAND
CARD
1

1,000 SQUARE FEET OR LESS	01	(B-8)
1,001 TO 5,000 SQUARE FEET	02	
5,001 TO 10,000 SQUARE FEET	03	
10,001 TO 25,000 SQUARE FEET	04	
25,001 TO 50,000 SQUARE FEET	05	
50,001 TO 100,000 SQUARE FEET	06	
100,001 TO 200,000 SQUARE FEET	07	
200,001 TO 500,000 SQUARE FEET	08	
500,001 TO 1 MILLION SQUARE FEET	09	
OVER 1 MILLION SQUARE FEET	10	
DON'T KNOW	98	

The FOLD-OUT appears on page 335 of this publication.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

B-3. INTERVIEWER:
 CODE BEST DESCRIPTION BASED ON YOUR
 OBSERVATION.

The purpose of the next few questions is to find out about the kinds of activities that occur within this building. By activity we mean what the building is used for. For example, space in a building may be used for (YOUR OBSERVATION).

B-4. Here is a card that shows how building activities are categorized for this study. HAND CARD 2. Considering all of the (B-1/B-2 SQUARE FEET) square feet in this building, would you estimate that 75 percent or more of this space (is used for/is) (YOUR OBSERVATION)?



<u>ACTIVITY</u>	<u>CIRCLE ONE</u>	<u>YES</u>	<u>NO</u>
a. VACANT	01	1 (B-7a)	2 (B-5)
b. OFFICE/PROFESSIONAL	02	1 (C-1)	2 (B-5)
c. SHOPPING CENTER/MALL/RETAIL/SERVICE	03	1 (C-1)	2 (B-5)
d. PUBLIC ASSEMBLY	04	1 (C-1)	2 (B-5)
e. FOOD SALES	05	1 (C-1)	2 (B-5)
f. PUBLIC ORDER AND SAFETY	06	1 (C-1)	2 (B-5)
g. OUTPATIENT HEALTH SERVICES/CLINIC	07	1 (C-1)	2 (B-5)
h. INDUSTRIAL PROCESSING AND MANUFACTURING	08	1 (GO TO B-8)	2 (B-5)
i. AGRICULTURAL PURPOSES	09	1 (GO TO B-8)	2 (B-5)
j. LABORATORY	10	1 (C-1)	2 (B-5)
k. REFRIGERATED WAREHOUSE OR STORAGE	11	1 (C-1)	2 (B-5)
l. NONREFRIGERATED WAREHOUSE OR STORAGE	12	1 (C-1)	2 (B-5)
m. EDUCATION	13	1 (B-7m)	2 (B-5)
n. FOOD SERVICES	14	1 (B-7n)	2 (B-5)
o. HOSPITAL/INPATIENT HEALTH SERVICES	15	1 (B-7o)	2 (B-5)
p. SKILLED NURSING/OTHER RESIDENTIAL CARE (NURSING HOME)	16	1 (B-7p)	2 (B-5)
q. HOTEL/MOTEL/DORM, ETC.	17	1 (B-7q)	2 (B-5)
r. RESIDENTIAL (LIVING QUARTERS WITH KITCHEN FACILITIES)	18	1 (GO TO B-8)	2 (B-5)
s. INDOOR ENCLOSED PARKING GARAGE	19	1 (C-1)	2 (B-5)
t. OTHER (SPECIFY):	20	1 (C-1)	2 (B-5)

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

- B-5. Please tell me which activities occupy space in this building.

CIRCLE
ALL
ACTIVITIES
MENTIONED

- B-6. Of the (B-1/B-2 SQUARE FEET) square feet in this building, approximately what percentage of space does this activity occupy?

**ASK ALL APPROPRIATE B-7 QUESTIONS
BEFORE C-1**

a. 01	%	→
b. 02	%	
c. 03	%	
d. 04	%	
e. 05	%	
f. 06	%	
g. 07	%	
h. 08	% IF 50% OR MORE, GO TO B-8	
i. 09	% IF 50% OR MORE, GO TO B-8.	
j. 10	%	
k. 11	%	
l. 12	%	

m. 13	_____ %	→	m. How many students can be seated in all of the classrooms in the building at one time? _____ STUDENTS
n. 14	_____ %	→	n. What is the total seating capacity of the food service areas of the building? _____ SEATS
o. 15	_____ %	→	o. What is the licensed bed capacity of the building? _____ BEDS
p. 16	_____ %	→	p. What is the licensed bed capacity of the building? _____ BEDS
q. 17	_____ %	→	q. How many guest rooms are there in the building? _____ ROOMS
r. 18	_____ % IF 50% OR MORE, GO TO B-8.		
s. 19	_____ %		
t. 20	_____ %		

TOTAL SHOULD EQUAL 100%

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

BEGIN AT B-8 ONLY IF:

- 50% OR MORE OF THE FLOOR SPACE IN THE BUILDING IS AGRICULTURAL, INDUSTRIAL, OR RESIDENTIAL
OR
- BUILDING HAS 1,000 SQUARE FEET OR LESS

- B-8.** Is the building part of a multibuilding facility or complex? By a multibuilding facility or complex, we mean a group of two or more buildings on the same site owned or operated by a single organization, business or individual.

YES 1 (BOX 6)
NO 2 (B-14)

BOX 6

B-9 THROUGH B-13 SHOULD ONLY BE ASKED OF THE FIRST SAMPLED BUILDING AT THE FACILITY. IF THE ANSWERS TO THESE QUESTIONS (OR J-2 THROUGH J-6) ARE RECORDED IN ANOTHER QUESTIONNAIRE, ENTER THE ID NUMBER FOR THAT BUILDING AND GO TO B-14.

ID OF Q'NAIRE WITH FACILITY INFORMATION

- B-9.** What is the full name of the facility?

FACILITY

- B-10.** Does this facility have a central physical plant that produces district heating, district cooling, or electricity?

YES 1
NO 2 (B-14)

- B-11.** Is the central physical plant for this facility located in the building we have been talking about?

YES 1 (B-13)
NO 2
DON'T KNOW 8 (B-13)

- B-12.** What is the full name and address of the building containing the central physical plant?

BUILDING NAME

BUILDING STREET ADDRESS

CITY, STATE, ZIP

- B-13.** What is the name and phone number of a contact person for this central physical plant?

CONTACT NAME

CONTACT PHONE NUMBER

TERMINATE:

- B-14.** This completes the interview. Thank you very much for your time and help. TIME END: _____

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

C. **ENERGY SOURCES AND END USES**

- C-1. Here is a list of various types of fuels or energy sources. Which of these fuels or energy sources were used in this building during the past 12 months? HAND CARD 3.

HAND CARD 3	ELECTRICITY	DISTRICT HOT WATER PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY
	NATURAL GAS	DISTRICT CHILLED WATER PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY
	FUEL OIL, DIESEL OR KEROSENE	WOOD
	BOTTLED GAS, LPG OR PROPANE	COAL
	DISTRICT STEAM PIPED INTO THE BUILDING FROM A CENTRAL PLANT OR UTILITY	ACTIVE SOLAR WITH COLLECTOR PANELS

FOR EACH ENERGY SOURCE USED, PLACE A CHECK (/) IN COLUMN C-1
ON THE FOLD-OUT PAGE

- C-2. In addition to (NAMES OF ENERGY SOURCES), were there any other energy sources used in this building during the past 12 months?

YES 1 RECORD ON FOLD-OUT PAGE
NO 2 (C-3)

- C-3. Which of the energy sources you just mentioned were used in the past 12 months:

The FOLD-OUT appears on page 335 of this publication.

RECORD ON
FOLD-OUT PAGE

a. As the main fuel for heating this building? (CHECK ONLY ONE)

b. As the secondary or backup fuel for heating this building?

c. For cooling this building?

d. For heating water, other than for heating this building?

e. For commercial or institutional cooking?

f. For manufacturing or any other type of industrial activity?

g. For electricity generation

(CHECK ALL THAT APPLY)

- C-4. SCAN ACROSS THE ROWS ON THE FOLD-OUT PAGE. DOES EACH REPORTED ENERGY SOURCE, OTHER THAN ELECTRICITY, HAVE AT LEAST ONE END-USE REPORTED?

YES
 NO: How was (ENERGY SOURCE) used in the building during the past 12 months?

- C-5. SCAN EACH COLUMN ON THE FOLD-OUT PAGE. HAS AT LEAST ONE BOX BEEN CHECKED IN EACH COLUMN?

YES
 NO: What energy source was used for (END-USE) during the past 12 months?

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D. HEATING AND COOLING SYSTEMS

BOX 7

IF "NOT PERFORMED" IS CHECKED IN COLUMN C-3a ON THE FOLD-OUT PAGE, GO TO BOX 8 ON PAGE 12.

The FOLD-OUT appears on page 335 of this publication.

- D-1. During the heating season in the past 12 months, what percentage of the (B-1/B-2 SQUARE FEET) square feet in the building was heated to at least 50° Fahrenheit? Be sure to include basements and enclosed garages if they are heated to at least 50 degrees.

PERCENTAGE

[RECONFIRM C-3a] BUILDING NOT HEATED 000 (BOX 8)
DON'T KNOW 998

- D-2. Do most of the people who work in the building, other than maintenance personnel, have any control over the amount of heat in the building?

YES 1
NO 2 (D-4)
DON'T KNOW 8 (D-4)

- D-3. Can most of the people who work in the building set the temperature in their areas by using a thermostat?

YES 1
NO 2
DON'T KNOW 8

- D-4. Is there usually a reduction in the heat produced by the system during the hours the building is not in full use?

(That is, in the evening, on weekends and holidays, during the off-season and so forth?)

YES 1
NO 2
BUILDING ALWAYS IN FULL USE 7
DON'T KNOW 8

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- D-5. Here is a card showing different types of equipment that may be part of the building's heating system. HAND CARD 4. During the past 12 months, did this building use any:

HAND
CARD
4

<u>HEATING EQUIPMENT</u>			YES	NO	DK
a. Boilers inside the building that produce steam or hot water? <i>(Also include boilers just outside of the building that are primarily associated with it.)</i>	1	2	8		
b. Furnaces that heat air directly, without using steam or hot water? <i>(Similar to a residential furnace)</i>	1	2	8		
c. Individual space heaters, free standing or mounted in wall, ceiling, or window? <i>(This would include portable heaters, hanging unit heaters, heating panels, electric baseboards, wood stoves, and fireplaces.)</i>	1	2	8		
d. Packaged heating units, usually mounted on the roof or on a slab beside the building? <i>(These are self-contained units, usually serving more than one room, which contain both heating equipment and fans.)</i>	1	2	8		
e. Heat pump for heating?	1	2	8		
f. Air ducts or air handling units?	1	2	8		
g. Heating or reheating coils in the air ducts or air handling units?	1	2	8		
h. Circulating hot water with fans? <i>(That is, fan-coil units.)</i>	1	2	8		
i. Steam or hot water baseboards or radiators?	1	2	8		
j. Any other equipment for heating? <i>(SPECIFY) _____</i> _____ _____	1	2	8		

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Form EIA-871A (Continued)

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BOX 8

IF "NOT PERFORMED" IS CHECKED IN COLUMN C-3c ON THE FOLD-OUT PAGE, GO TO D-13 ON PAGE 14.

The FOLD-OUT appears on page 335 of this publication.

- D-6. During the cooling season in the past 12 months, what percentage of the (B-1/B-2 SQUARE FEET) square feet in the building was cooled by air-conditioning equipment?

PERCENTAGE

[RECONFIRM C-3c] BUILDING NOT COOLED 000 (D-13)
DON'T KNOW 998

- D-7. Do most of the people who work in the building, other than maintenance personnel, have any control over the amount of cooling in the building?

YES 1
NO 2 (D-9)
DON'T KNOW 8 (D-9)

- D-8. Can most of the people who work in the building set the temperature in their areas by using a thermostat?

YES 1
NO 2
DON'T KNOW 8

- D-9. Is there usually a reduction in the cooling produced by the system during the hours the building is not in full use?

(That is, in the evening, on weekends and holidays, during the off-season and so forth?)

YES 1
NO 2
BUILDING ALWAYS IN FULL USE 7
DON'T KNOW 8

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Form EIA-871A (Continued)

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- D-10. Here is a card showing different types of equipment that may be part of the building's cooling system.
 HAND CARD 5. During the past 12 months, did this building use any:

HAND
CARD
5

<u>COOLING EQUIPMENT</u>	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. Central chillers inside the building that chill water for air conditioning? <i>(Also include chillers just outside of the building that are primarily associated with it.)</i>	1	2	8
b. Individual room air conditioners mounted in a window or wall?	1	2	8
c. Packaged air conditioning units, usually mounted on the roof or on a slab beside the building? <i>(These are self-contained units, usually serving more than one room, which contain both cooling equipment and fans.)</i>	1	2	8
d. Heat pump for cooling?	1	2	8
e. Air ducts or air handling units?	1	2	8
f. Circulating chilled water with fans? <i>(That is, fan-coil units.)</i>	1	2	8
g. Any other equipment for cooling? <i>(SPECIFY) _____</i> _____ _____	1	2	8

BOX 9
*IF NO CENTRAL CHILLER (D-10a = "NO"), GO TO BOX 10
 ON PAGE 14.*

- D-11. HAND CARD 6. When was the building's main central chiller installed?

HAND
CARD
6

1959 OR BEFORE	1
1960 - 1969	2
1970 - 1979	3
1980 - 1986	4
1987 - 1989	5
DON'T KNOW	8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

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BOX 10
IF NO PACKAGED AIR CONDITIONING (D-10c = "NO"), GO TO D-13

D-12. HAND CARD 6. When was the building's main packaged air conditioning system installed?



1959 OR BEFORE	1
1960 - 1969	2
1970 - 1979	3
1980 - 1986	4
1987 - 1989	5
DONT KNOW	8

D-13. Are any of the following types of equipment present in this building:

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. Commercial refrigeration units for the sale or storage of perishable materials, such as food or medical supplies?	1	2	8
b. Commercial freezers for the sale or storage of perishable materials, such as food or medical supplies?	1	2	8
c. Residential-type refrigerators?	1	2	8
d. Residential-type freezers?	1	2	8
e. Ice-making machines?	1	2	8
f. Soda or any other refrigerated vending machines?	1	2	8
g. Water coolers?	1	2	8
h. Any other refrigeration equipment, excluding air conditioning?	1	2	8
(SPECIFY) _____			

**Commercial Buildings Energy Consumption Survey for 1989
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Form EIA-871A (Continued)**

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E. BUILDING OWNERSHIP AND OCCUPANCY CHARACTERISTICS

- E-1. The next few questions are about the ownership and occupancy of the building. Is the building owned by a government agency?

YES	1
NO	2 (E-3)
DONT KNOW	8 (E-3)

- E-2. Is the building owned by a Federal, State, or local government agency? CIRCLE ONLY ONE.

FEDERAL GOVERNMENT AGENCY	1
STATE GOVERNMENT AGENCY	2
LOCAL GOVERNMENT AGENCY	3

- E-3. Here is a card that lists different ways establishments or organizations can occupy a building. By "occupy", we mean to hold or lease space on a full-time basis. HAND CARD 7. Please tell me which category best applies to this building. RECORD HERE AND ON FOLD-OUT PAGE.



ONE OCCUPANT: THE OWNER OR OWNER'S REPRESENTATIVE	1 (E-6)
ONE OCCUPANT: NOT THE OWNER OR OWNER'S REPRESENTATIVE	2 (E-6)
MORE THAN ONE OCCUPANT, INCLUDING THE OWNER OR OWNER'S REPRESENTATIVE	3
MORE THAN ONE OCCUPANT, BUT NOT THE OWNER OR OWNER'S REPRESENTATIVE	4
CURRENTLY UNOCCUPIED	5 (E-6)

- E-4. (Including the owner or owner's representative), how many establishments or organizations currently occupy the building?

_____ (E-6)
NUMBER OF OCCUPANTS

DON'T KNOW

9-8

The FOLD-OUT appears on page 335 of this publication.

Commercial Buildings Energy Consumption Survey for 1989
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Form EIA-871A (Continued)

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- E-5. HAND CARD 8. Which category on this card best describes the number of establishments or organizations currently occupying the building?

**HAND
CARD
8**

2 - 5	1
6 - 10	2
11 - 20	3
21 - 49	4
50 - 99	5
100 or more	6
DON'T KNOW	8

- E-6. Was any space in the building vacant or unoccupied for at least 3 consecutive months during the past 12 months?

YES	1
NO	2 (E-8)
DON'T KNOW	8 (E-8)

- E-7. Approximately what percentage of the square feet was vacant or unoccupied during that time?

PERCENTAGE VACANT

DON'T KNOW 998

- E-8. How many months out of the past 12 months was this building in use?

NUMBER OF MONTHS

NOT IN USE DURING PAST	
12 MONTHS	00 (F-1)
DON'T KNOW	98

- E-9. During the months when the building was in use, what were the usual operating hours on:

DAY(S)	TIME	OPEN 24 HOURS	NOT OPEN	OR →	HOURS VARY
a. Monday through Friday?	____ AM to ____ AM ____ PM to ____ PM	<input type="checkbox"/>	<input type="checkbox"/>	GO TO E-11	□ E-10
b. Saturday?	____ AM to ____ AM ____ PM to ____ PM	<input type="checkbox"/>	<input type="checkbox"/>		
c. Sunday?	____ AM to ____ AM ____ PM to ____ PM	<input type="checkbox"/>	<input type="checkbox"/>		

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

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- E-10. HAND CARD 9. Which category on the card best describes the number of operating hours per week for most of the building when it was in use?



0 HOURS	0
1-39 HOURS	1
40-48 HOURS	2
49-60 HOURS	3
61-84 HOURS	4
85-167 HOURS	5
OPEN CONTINUOUSLY.....	7
DON'T KNOW	8

- E-11. During the months the building was in use, how many people worked in the building during its main shift? Do not include employees who worked out of the building such as drivers with delivery routes, customers, patients, or students. Do include volunteer workers.

_____ (F-1)
NUMBER OF PEOPLE

DON'T KNOW 9-8

- E-12. HAND CARD 10. Which category on this card best describes the number of people who worked in the building during its main shift in the months it was in use?



0	00
1-4	01
5-9	02
10-19	03
20-49	04
50-99	05
100-249	06
250-499	07
500-999	08
1,000-2,499	09
2,500-4,999	10
5,000 or more	11
DON'T KNOW	98

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

F. BUILDING ENVELOPE CHARACTERISTICS

- F-1. Now I would like to ask you some questions about the construction of the building.

When was the construction of the major or largest portion of the (B-1/B-2 SQUARE FEET) square feet completed?

YEAR

IF COMPLETED IN 1989, ASK F-2;
IF COMPLETED BEFORE 1989,
GO TO F-4

DON'T KNOW 9-8 (F-3)

- F-2. In what month of 1989 was the building first open for occupancy?

_____ (F-4)
MONTH

DON'T KNOW 98 (F-4)

- F-3. Here is a card with categories of years. HAND CARD 11. In your estimation, which category contains the year the largest portion of the building was completed?

HAND
CARD
11

1899 or before	01	1970 - 1979	06
1900 - 1919	02	1980 - 1983	07
1920 - 1945	03	1984 - 1986	08
1946 - 1959	04	1987 - 1989	09
1960 - 1969	05	DON'T KNOW	98

- F-4. How many floors are in the tallest section of the building? Please include basements, floors that may be used as a parking garage, or any other floors below ground level.

_____ # OF FLOORS
DON'T KNOW 998

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

- F-5. Here is a card that shows different types of construction materials. HAND CARD 12. Which best describes the **major type** of exterior wall construction material used on this building? CIRCLE ONLY ONE.



WINDOW OR VISION GLASS (GLASS THAT CAN BE SEEN THROUGH)	01
DECORATIVE OR CONSTRUCTION GLASS	02
CONCRETE PANELS	03
BRICK, STONE, STUCCO, OR OTHER MASONRY	04
WOOD, PLASTIC OR METAL SIDING, SHINGLES OR SHAKES	05
PRE-ENGINEERED METAL OR LIGHT-WEIGHT METAL PANELS	06
OTHER (SPECIFY) _____	07
DON'T KNOW	98

- F-6. Here is a card with different types of roofing materials. HAND CARD 13. Which best describes the building's **major type** of exterior roof surface? CIRCLE ONLY ONE.



WOOD SHINGLES, SHAKES OR OTHER WOODEN MATERIALS	01
SLATE OR TILE SHINGLES	02
ASPHALT, FIBERGLASS, OR OTHER SHINGLES	03
BUILT-UP (TAR, FELTS OR FIBERGLASS AND A BALLAST, SUCH AS STONE)	04
METAL SURFACING	05
PLASTIC, RUBBER, OR SYNTHETIC SHEETING (SINGLE OR MULTIPLE PLY)	06
CONCRETE	07
OTHER (SPECIFY) _____	08
DON'T KNOW	98

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Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

G. THE LIGHTING SYSTEM

The next set of questions pertains to the lighting system used in this building during the past 12 months.

- G-1. What percentage of the (B-1/B-2 SQUARE FEET) square feet of the interior of this building was lit...

- a. During usual operating hours?

%
NOT IN USE DURING PAST
12 MONTHS 997
DONT KNOW 998

- b. During off-hours? Do not include the space lit by emergency lighting.

%
NO OFF-HOURS 997
DON'T KNOW 998

IF ANY PERCENTAGE OF THE BUILDING WAS LIT DURING
THE PAST 12 MONTHS, CONTINUE WITH G-2; OTHERWISE
SKIP TO SECTION H.

COLUMN A	COLUMN B
G-2. During the past 12 months, was any of the square footage in this building lit by: <u>LIGHTING TYPE</u>	IF "YES" IN COLUMN A: What percentage of the electrically lighted interior space in the building is lit by (LIGHTING TYPE):
<u>YES</u> <u>NO</u> <u>DK</u>	
a. Incandescent bulbs? 1 2 8 b. Fluorescent lights? 1 2 8 c. High-Intensity Discharge lights such as mercury vapor, metal halide or high pressure sodium? 1 2 8 d. Some other lighting equipment? 1 2 8 (SPECIFY) _____	_____ % _____ % _____ % _____ %
TOTAL MUST BE AT LEAST 100%	

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Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

H. ENERGY CONSERVATION FEATURES OR PRACTICES

COLUMN A	COLUMN B	COLUMN C				
	IF "YES" IN COLUMN A ASK: (Was/Were) the (FEATURE) installed during building construction or added afterwards?	IF "ADDED" IN COLUMN B ASK: When was the (FEATURE) added? Was it in 1989, between 1984 and 1988, or before 1984?				
		DK	INSTALLED	ADDED	1984- 1989	BEFORE 1988
					1984- 1988	1984
a. Roof or ceiling insulation?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
b. Insulation in exterior walls?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
c. Storm windows, storm doors or double- or triple-paned glass?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
d. Tinted or reflective glass or shading films?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
e. Exterior or interior shadings or awnings?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
f. Weather stripping or caulking?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						
g. High-efficiency ballasts for lighting?					1	2
YES 1	—————>	8	1	2 —>	3	8
NO 2						
DON'T KNOW 8						

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Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

- H-2. As of July 1, 1989, did the building have a computerized energy management and control system (EMCS)?

YES	1
NO	2 (H-4)
DON'T KNOW	8 (H-4)

- H-3. As of July 1, 1989, did the EMCS control:

	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. Lighting?	1	2	8
b. Heating and cooling (HVAC)?	1	2	8
c. Anything else?	1	2	8
SPECIFY _____ _____			

- H-4. As of July 1, 1989, was there a regularly scheduled maintenance and repair program for the heating and cooling system in the building?

YES	1
NO	2
DON'T KNOW	8

- H-5. As of July 1, 1989, did the building have any environmentally controlled space for computers; that is, a computer area with a separate air conditioning system?

YES	1
NO	2
DON'T KNOW	8

- H-6. As of July 1, 1989, had the building ever participated in a utility sponsored conservation program to improve the efficiency of the lighting system, the efficiency of any equipment, or the thermal efficiency of the building's shell?

YES	1
NO	2
DON'T KNOW	8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

I. **COGENERATION**

- I-1. Is there equipment in the building that can generate electricity for any purpose other than emergency or backup power?

YES	1
NO	2 (J-1)
DON'T KNOW	8 (J-1)

- I-2. Does the building have a cogeneration system? That is, does it have equipment that produces both electricity and usable heat?

YES	1
NO	2 (I-6)
DON'T KNOW	8 (I-6)

- I-3. During the past 12 months, how many kilowatthours of electricity were cogenerated in the building?

KILOWATTHOURS

ELECTRICITY NOT GENERATED IN PAST 12 MONTHS	0-0
DON'T KNOW	9-8

- I-4. What was the total nameplate capacity of all cogeneration units that were in place in the building on December 31, 1988?

KILOWATTS

DON'T KNOW	9-8
------------------	-----

- I-5. As of December 31, 1988, was the building's cogeneration system electrically interconnected with an electric utility? That is, was it able to deliver electricity to the grid as well as receive electricity?

YES	1
NO	2
DON'T KNOW	8

- I-6. Is the building currently designated as a Qualifying Facility under the Public Utilities Regulatory Policies Act of 1978, or PURPA?

YES	1
NO	2
DON'T KNOW	8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

J. CENTRAL PHYSICAL PLANT/FACILITIES

- J-1. Is the building part of a multibuilding facility or complex? By a multibuilding facility or complex, we mean a group of two or more buildings on the same site owned or operated by a single organization, business or individual.

YES 1 (BOX 11)
NO 2 (BOX 12)

BOX 11

J-2 THROUGH J-6 SHOULD ONLY BE ASKED OF THE FIRST SAMPLED BUILDING AT THE FACILITY. IF THE ANSWERS TO THESE QUESTIONS (OR B-9 THROUGH B-13) ARE RECORDED IN ANOTHER QUESTIONNAIRE, ENTER THE ID NUMBER FOR THAT BUILDING AND GO TO BOX 12.

ID OF Q'NAIRE WITH FACILITY INFORMATION

- J-2. What is the full name of the facility?

FACILITY

- J-3. Does this facility have a central physical plant that produces district heating, district cooling, or electricity?

YES 1
NO 2 (BOX 12)

- J-4. Is the central physical plant for this facility located in the building we have been talking about?

YES 1 (J-6)
NO 2
DON'T KNOW 8 (J-6)

**Commercial Buildings Energy Consumption Survey for 1989
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Form EIA-871A (Continued)**

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- J-5. What is the full name and address of the building containing the central plant?

BUILDING NAME

BUILDING STREET ADDRESS

CITY, STATE, ZIP

- J-6. What is the name and phone number of a contact person for this plant?

CONTACT NAME

CONTACT PHONE NUMBER

BOX 12

SCAN C-1 COLUMN ON THE FOLD-OUT PAGE. DOES THIS BUILDING HAVE
AT LEAST ONE SHADED ENERGY SOURCE CHECKED?

YES (J-7)

NO (SKIP TO Q-2 ON PAGE 38)

- J-7. The next few questions are about the companies or organizations that supplied the building with energy during the past 12 months. An energy supplier may be a utility or private dealer, or it may be a central physical plant or distribution center.

The FOLD-OUT appears on page 335 of this publication.

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Form EIA-871A (Continued)**

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K. ELECTRICITY PAGE

NO ELECTRICITY USED IN BUILDING. GO TO NATURAL GAS PAGE.

K-1. What is the name and address of the electric utility or central physical plant that supplied electricity to the building during the past 12 months?

Has any other supplier provided electricity to the building in the past 12 months? ASK K-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX.

IF ONE OCCUPANT OR VACANT, GO TO K-5.

MULTIPLE OCCUPANTS

K-2. Is the electricity bill or statement from (SUPPLIER) for the entire building or do any of the tenants or establishments have separate statements?

K-3. How many separate bills or statements are there? PROBE IF ANSWER IS "DON'T KNOW": Could you give an estimate or the approximate number of separate bills or statements?

K-4. Please tell me the name of each company, organization or agency that received a bill or statement from (SUPPLIER) for electricity during the past 12 months.

IF LIST IS NOT PROVIDED, COMPLETE
A "SUPPLIER CUSTOMER SHEET."

ONE OCCUPANT OR VACANT

K-5. Does the bill or statement from (SUPPLIER) cover just this building or does it cover other buildings as well?

K-6. What is the approximate square footage of the other buildings that are included on this bill or statement?

BOX K

ASK ABOUT NEXT ELECTRICITY SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO NATURAL GAS PAGE.

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Form EIA-871A (Continued)

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K. ELECTRICITY PAGE

SUPPLIER NO. 1	SUPPLIER NO. 2	SUPPLIER NO. 3
K-1. NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
K-2. ONE BILL/STATEMENT 1 (K-5) SEPARATE STATEMENTS 2 (K-3)	ONE BILL/STATEMENT 1 (K-5) SEPARATE STATEMENTS 2 (K-3)	ONE BILL/STATEMENT 1 (K-5) SEPARATE STATEMENTS 2 (K-3)
K-3. NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS
K-4. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
<input type="button" value="GO TO BOX K"/>	<input type="button" value="GO TO BOX K"/>	<input type="button" value="GO TO BOX K"/>

K-5. JUST THIS BUILDING 1 (BOX K) OTHER BUILDING(S) 2 (K-6) DON'T KNOW 8 (BOX K)	JUST THIS BUILDING 1 (BOX K) OTHER BUILDING(S) 2 (K-6) DON'T KNOW 8 (BOX K)	JUST THIS BUILDING 1 (BOX K) OTHER BUILDING(S) 2 (K-6) DON'T KNOW 8 (BOX K)
K-6. _____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8	_____ SQUARE FOOTAGE DON'T KNOW 8

**Commercial Buildings Energy Consumption Survey for 1989
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Form EIA-871A (Continued)**

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L. NATURAL GAS PAGE

NO NATURAL GAS USED IN BUILDING. GO TO FUEL OIL/DIESEL/KEROSENE PAGE.

L-1. What is the name and address of the company that supplied natural gas to this building during the past 12 months?

Has any other company supplied natural gas to the building in the past 12 months? ASK L-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX.

IF ONE OCCUPANT OR VACANT, GO TO L-5.

MULTIPLE OCCUPANTS

L-2. Is the natural gas bill from (SUPPLIER) for the entire building or do any of the tenants or establishments have separate bills?

L-3. How many separate bills are there? PROBE IF ANSWER IS "DON'T KNOW": Could you give an estimate or the approximate number of separate bills?

L-4. Please tell me the name of each company, organization or agency that received a bill from (SUPPLIER) for natural gas during the past 12 months.

IF LIST IS NOT PROVIDED, COMPLETE
A "SUPPLIER CUSTOMER SHEET."

ONE OCCUPANT OR VACANT

L-5. Does the bill from (SUPPLIER) cover just this building or does it cover other buildings as well?

L-6. What is the approximate square footage of the other buildings that are included on this bill?

BOX L

ASK ABOUT NEXT NATURAL GAS SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO FUEL OIL/DIESEL/KEROSENE PAGE.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

L. NATURAL GAS PAGE

SUPPLIER NO. 1	SUPPLIER NO. 2	SUPPLIER NO. 3
L-1. NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
L-2. ONE BILL/STATEMENT 1 (L-5) SEPARATE STATEMENTS 2 (L-3)	ONE BILL/STATEMENT 1 (L-5) SEPARATE STATEMENTS 2 (L-3)	ONE BILL/STATEMENT 1 (L-5) SEPARATE STATEMENTS 2 (L-3)
L-3. NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS
L-4. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
<input type="button" value="GO TO BOX L"/>	<input type="button" value="GO TO BOX L"/>	<input type="button" value="GO TO BOX L"/>

L-5. JUST THIS BUILDING 1 (BOX L) OTHER BUILDING(S) 2 (L-6) DON'T KNOW 8 (BOX L)	JUST THIS BUILDING 1 (BOX L) OTHER BUILDING(S) 2 (L-6) DON'T KNOW 8 (BOX L)	JUST THIS BUILDING 1 (BOX L) OTHER BUILDING(S) 2 (L-6) DON'T KNOW 8 (BOX L)
L-6. SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

M. FUEL OIL/DIESEL/KEROSENE PAGE

NO FUEL OIL/DIESEL/KEROSENE USED IN BUILDING. GO TO STEAM/HOT WATER/CHILLED WATER PAGE.

M-1. What is the name and address of the company that supplied (fuel oil/diesel/kerosene) to this building during the past 12 months?

Has any other company supplied (fuel oil/diesel/kerosene) to the building in the past 12 months? ASK M-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX.

IF ONE OCCUPANT OR VACANT, GO TO M-5.

MULTIPLE OCCUPANTS

M-2. Is the (fuel oil/diesel/kerosene) bill from (SUPPLIER) for the entire building or do any of the tenants or establishments have separate bills?

M-3. How many separate bills are there? PROBE IF ANSWER IS "DON'T KNOW": Could you give an estimate or the approximate number of separate bills?

M-4. Please tell me the name of each company, organization or agency that received a bill from (SUPPLIER) for (fuel oil/diesel/kerosene) during the past 12 months.

IF LIST IS NOT PROVIDED, COMPLETE
A "SUPPLIER CUSTOMER SHEET."

ONE OCCUPANT OR VACANT

M-5. Does the bill from (SUPPLIER) cover just this building or does it cover other buildings as well?

M-6. What is the approximate square footage of the other buildings that are included on this bill?

BOX M

ASK ABOUT NEXT SUPPLIER. IF NO ADDITIONAL SUPPLIERS, GO TO STEAM/HOT WATER/CHILLED WATER PAGE. IF MORE THAN THREE FUEL OIL/DIESEL/KEROSENE SUPPLIERS, GO TO 'ADDITIONAL SUPPLIER PAGE.'

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

M. FUEL OIL/DIESEL/KEROSENE PAGE

SUPPLIER NO. 1	SUPPLIER NO. 2	SUPPLIER NO. 3
M-1. NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
M-2. ONE BILL/STATEMENT 1 (M-5) SEPARATE STATEMENTS 2 (M-3)	ONE BILL/STATEMENT 1 (M-5) SEPARATE STATEMENTS 2 (M-3)	ONE BILL/STATEMENT 1 (M-5) SEPARATE STATEMENTS 2 (M-3)
M-3. NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS
M-4. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
<div style="text-align: center; margin-top: 20px;"> <input type="button" value="GO TO BOX M"/> </div>		

M-5. JUST THIS BUILDING 1 (BOX M) OTHER BUILDING(S) 2 (M-6) DON'T KNOW 8 (BOX M)	JUST THIS BUILDING 1 (BOX M) OTHER BUILDING(S) 2 (M-6) DON'T KNOW 8 (BOX M)	JUST THIS BUILDING 1 (BOX M) OTHER BUILDING(S) 2 (M-6) DON'T KNOW 8 (BOX M)
M-6. SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

N. STEAM/HOT WATER/CHILLED WATER PAGE

NO STEAM, HOT WATER, OR CHILLED WATER USED IN BUILDING. GO TO SECTION O.
CHECK BOX ABOVE COLUMNS ON NEXT PAGE FOR EACH DISTRICT ENERGY SOURCE USED.

N-1. What is the name and address of the company or organization that supplied (steam/hot water/chilled water) to the building during the past 12 months?

IF CENTRAL PLANT WITH NAME AND ADDRESS RECORDED IN SECTION B OR J:
ENTER "CP" IN COLUMN AND GO TO N-5.

IF NOT CENTRAL PLANT: RECORD NAME AND ADDRESS IN COLUMN.

IF ONE OCCUPANT OR VACANT, GO TO N-5a.

MULTIPLE OCCUPANTS

N-2. Is the bill from (SUPPLIER) for (steam/hot water/chilled water) for the entire building or do any of the tenants have separate bills?

N-3. How many separate bills are there? PROBE IF ANSWER IS "DON'T KNOW": Could you give me an estimate or the approximate number of separate bills?

N-4. Please tell me the name of each company, organization or agency that received a bill from (SUPPLIER) during the past 12 months.

IF LIST IS NOT PROVIDED, COMPLETE A "SUPPLIER CUSTOMER SHEET."

ONE OCCUPANT OR VACANT

IF CENTRAL PLANT:

N-5. Is there a statement indicating how much (steam/hot water/chilled water) the central physical plant pipes into just this building or does the statement cover other buildings as well?

N-6. What is the approximate square footage of the other buildings on the district loop that serves this building?

IF NOT CENTRAL PLANT:

N-5a. Does the bill from (SUPPLIER) cover just this building or does it cover other buildings as well?

N-6a. What is the approximate square footage of the other buildings that are included on this bill?

BOX N

ASK ABOUT NEXT DISTRICT ENERGY SOURCE. IF NO ADDITIONAL DISTRICT SOURCES, GO TO SECTION P.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

N. STEAM, HOT WATER, OR CHILLED WATER PAGE

<input type="checkbox"/> STEAM	<input type="checkbox"/> HOT WATER	<input type="checkbox"/> CHILLED WATER												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%;">N-1.</td> <td style="width: 33.33%;">NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____</td> <td style="width: 33.33%;">NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____</td> </tr> </table>			N-1.	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____									
N-1.	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____												
N-2.	ONE BILL 1 (N-5a) SEPARATE BILLS 2 (N-3)	ONE BILL 1 (N-5a) SEPARATE BILLS 2 (N-3)												
N-3.	NUMBER OF BILLS	NUMBER OF BILLS												
N-4.	LIST PROVIDED 1 NOT PROVIDED 2 <input type="button" value="GO TO BOX N"/>	LIST PROVIDED 1 NOT PROVIDED 2 <input type="button" value="GO TO BOX N"/>												
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%;">N-5.</td> <td style="width: 33.33%;">STATEMENT FOR BUILDING ONLY 1 (BOX N) STATEMENT INCLUDES OTHER BUILDING(S) 2 (N-6) NO STATEMENT 7 (BOX N) DON'T KNOW 8 (BOX N)</td> <td style="width: 33.33%;">STATEMENT FOR BUILDING ONLY 1 (BOX N) STATEMENT INCLUDES OTHER BUILDING(S) 2 (N-6) NO STATEMENT 7 (BOX N) DON'T KNOW 8 (BOX N)</td> </tr> <tr> <td style="width: 33.33%;">N-6.</td> <td style="width: 33.33%;">SQUARE FOOTAGE DON'T KNOW 8</td> <td style="width: 33.33%;">SQUARE FOOTAGE DON'T KNOW 8</td> </tr> <tr> <td style="width: 33.33%;">N-5a.</td> <td style="width: 33.33%;">BILL FOR BUILDING ONLY 1 (BOX N) BILL INCLUDES OTHER BUILDING(S) 2 (N-6A) DON'T KNOW 8 (BOX N)</td> <td style="width: 33.33%;">BILL FOR BUILDING ONLY 1 (BOX N) BILL INCLUDES OTHER BUILDING(S) 2 (N-6A) DON'T KNOW 8 (BOX N)</td> </tr> <tr> <td style="width: 33.33%;">N-6a.</td> <td style="width: 33.33%;">SQUARE FOOTAGE DON'T KNOW 8</td> <td style="width: 33.33%;">SQUARE FOOTAGE DON'T KNOW 8</td> </tr> </table>			N-5.	STATEMENT FOR BUILDING ONLY 1 (BOX N) STATEMENT INCLUDES OTHER BUILDING(S) 2 (N-6) NO STATEMENT 7 (BOX N) DON'T KNOW 8 (BOX N)	STATEMENT FOR BUILDING ONLY 1 (BOX N) STATEMENT INCLUDES OTHER BUILDING(S) 2 (N-6) NO STATEMENT 7 (BOX N) DON'T KNOW 8 (BOX N)	N-6.	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8	N-5a.	BILL FOR BUILDING ONLY 1 (BOX N) BILL INCLUDES OTHER BUILDING(S) 2 (N-6A) DON'T KNOW 8 (BOX N)	BILL FOR BUILDING ONLY 1 (BOX N) BILL INCLUDES OTHER BUILDING(S) 2 (N-6A) DON'T KNOW 8 (BOX N)	N-6a.	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8
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N-6.	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8												
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N-6a.	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8												

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

O. **ADDITIONAL SUPPLIER PAGE** (FOR USE WHEN MORE THAN THREE SUPPLIERS FOR ANY ENERGY SOURCE)

- O-1. Has any other company supplied (ENERGY SOURCE) to the building in the past 12 months? ASK O-1 UNTIL THE RESPONDENT ANSWERS "NO" AND CHECK THE "NO OTHER SUPPLIERS" BOX.

IF ONE OCCUPANT OR VACANT, GO TO O-5.

MULTIPLE OCCUPANTS

- O-2. Is the (ENERGY SOURCE) bill from (SUPPLIER) for the entire building or do any of the tenants or establishments have separate bills?

- O-3. How many separate bills are there? PROBE IF ANSWER IS "DON'T KNOW": Could you give an estimate or the approximate number of separate bills?

- O-4. Please tell me the name of each company, organization or agency that received a bill from (SUPPLIER) for (ENERGY SOURCE) during the past 12 months.

IF LIST IS NOT PROVIDED, COMPLETE
A "SUPPLIER CUSTOMER SHEET."

ONE OCCUPANT OR VACANT

- O-5. Does the bill from (SUPPLIER) cover just this building or does it cover other buildings as well?

- O-6. What is the approximate square footage of the other buildings that are included on this bill?

BOX O

ASK ABOUT NEXT SUPPLIER. IF NO ADDITIONAL SUPPLIERS,
RETURN TO APPROPRIATE ENERGY SOURCE PAGE.

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

O. ADDITIONAL SUPPLIERS

ENERGY SOURCE	ENERGY SOURCE	ENERGY SOURCE
O-1. NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS	NAME _____ ST. ADD. _____ PO BOX _____ CITY _____ STATE/ZIP _____ <input type="checkbox"/> NO OTHER SUPPLIERS
O-2. ONE BILL/STATEMENT 1 (O-5) SEPARATE STATEMENTS 2 (O-3)	ONE BILL/STATEMENT 1 (O-5) SEPARATE STATEMENTS 2 (O-3)	ONE BILL/STATEMENT 1 (O-5) SEPARATE STATEMENTS 2 (O-3)
O-3. NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS	NUMBER OF BILLS/STATEMENTS
O-4. LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2	LIST PROVIDED 1 NOT PROVIDED 2
<input type="button" value="GO TO BOX O"/>	<input type="button" value="GO TO BOX O"/>	<input type="button" value="GO TO BOX O"/>

O-5. JUST THIS BUILDING 1 (BOX O) OTHER BUILDING(S) 2 (O-6) DON'T KNOW 8 (BOX O)	JUST THIS BUILDING 1 (BOX O) OTHER BUILDING(S) 2 (O-6) DON'T KNOW 8 (BOX O)	JUST THIS BUILDING 1 (BOX O) OTHER BUILDING(S) 2 (O-6) DON'T KNOW 8 (BOX O)
O-6. SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8	SQUARE FOOTAGE DON'T KNOW 8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

P. **ENERGY SOURCE DELIVERY**

- P-1. NO ELECTRICITY USED IN BUILDING. GO TO P-2.

Earlier you mentioned that the building used electricity. This card lists different features found in electric rate schedules or tariffs. HAND CARD 14. Do any of the electricity accounts of the building have:

HAND
CARD
14

<u>RATE FEATURES</u>	<u>YES</u>	<u>NO</u>	<u>DK</u>
a. Seasonal pricing? <i>(The price depends on the season of the year.)</i>	1	2	8
b. Time-of-day pricing? <i>(The pricing depends on the time of day.)</i>	1	2	8
c. Time-of-day lock-out or limit? <i>(Use is prohibited or restricted to a reduced level at fixed times of the day.)</i>	1	2	8
d. Interruptible or curtailable rate? <i>(Service is temporarily cut off or demand must be reduced by the customer on short notice to maintain service for higher priority users.)</i>	1	2	8
e. Metered peak demand?	1	2	8

- P-2. NO NATURAL GAS USED IN BUILDING. GO TO P-3.

Earlier you mentioned that the building used natural gas. During most of the past 12 months, were any of the natural gas accounts in the building on an interruptible service rate?

(This is a special rate offered by gas companies to customers that allows the gas company to cut back on the amount of gas supplied to the building during periods of high demand.)

YES	1
NO	2
DON'T KNOW	8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

- P-3. NO FUEL OIL OR DIESEL USED IN BUILDING. GO TO P-4.

Earlier you said the building used (fuel oil/diesel). Think about all the fuel oil storage tanks for this building. What is the total capacity, in gallons, of all the fuel oil storage tanks?

_____ GALLONS
DON'T KNOW 9-8

- P-4. BUILDING NOT HEATED. GO TO SECTION Q.

Could this building switch to a different main heating fuel within one week's time without substantially reducing the area heated or the temperature maintained in the heated area?

YES 1
NO 2 (SECTION Q)
DON'T KNOW 8 (SECTION Q)

- P-5. If the building did have to switch the main heating fuel within one week's time, what fuels would be used instead of (ENERGY SOURCE FROM C-3a)? CIRCLE ALL MENTIONED.

ELECTRICITY 01
NATURAL GAS 02
FUEL OIL/KEROSENE/DIESEL 03
DISTRICT STEAM 04
DISTRICT HOT WATER 05
OTHER (SPECIFY) 06

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

Q. WAIVERS

- Q-1. As I mentioned, the purpose of this study is to relate building characteristics with energy consumption and expenditures. This information can only be obtained by going directly to each energy supplier of the building. In order for the energy company to release this information to Westat, we need to have an authorization form from you, or some other representative of your company. **We also need account numbers for the building.**

- a. Should the authorization form be signed by you or someone else?

RESPONDENT 1
SOMEONE ELSE (SPECIFY) 2

NAME: _____

TITLE: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: (_____) _____

- b. Should the account number(s) be obtained from you or someone else?

RESPONDENT 1
INDIVIDUAL LISTED ABOVE 2
SOMEONE ELSE (SPECIFY) 3

NAME: _____

TITLE: _____

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: (_____) _____

BOX 13

AFTER WAIVER OBTAINED, CODE STATUS OF ACCOUNT NUMBER EFFORT

	<u>NOT OBTAINED</u>	<u>OBTAINED</u>	<u>INAPPLICABLE</u>
ELECTRICITY	1	2	3
NATURAL GAS	1	2	3

- Q-2. RECORD TIME ENDED AND CONTINUE WITH SECTION S, THE CENSUS SUPPLEMENT.

TIME ENDED: _____

Asbestos In Buildings

EIA-871H

Form EIA-871H (07/88)
Collected for the U.S. Environmental
Protection Agency

OMB No: 2070-0104 Approval Expires: 10/12/1989

Public reporting burden for this collection of information is estimated to average six (6) minutes per response, including time for hearing and responding yes or no to each of five questions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, D.C. 20460; and to the Office of Management and Budget, Paperwork Reduction Project (2070-0104), Washington, D.C. 20503.

R. ASBESTOS IN BUILDINGS

LABEL

Now I would like to ask you a few questions about any asbestos the building may contain and any asbestos treatment that may have taken place. This information will be used to help establish environmental policies.

(Asbestos is a group of naturally occurring minerals that separate into long, thin fibers. It was used for many years to insulate and to fire-proof buildings.)

In this series of questions, we are only concerned with asbestos-containing materials inside the building. Asbestos in the attic, in the basement, or in the crawl spaces under the building is considered to be inside the building. We are not interested in asbestos used on the exterior of the building such as for roofing shingles or exterior wall shingles or siding.

R-1. Does the building, excluding the exterior roof and walls, currently contain asbestos?

YES	1
NO	2 (R-3)
DON'T KNOW	8 (R-3)

R-2. Here is a card showing types of asbestos found in buildings. HAND CARD 14A. Does the building contain asbestos in:

HAND
CARD
14A

	YES	NO	DK
a. Heating or cooling system insulation wrap?	1	2	8
b. Sprayed on or trowelled on surfacing material?	1	2	8
c. Ceiling tiles?	1	2	8
d. Flooring tiles?	1	2	8
e. Some other form? RECORD BELOW	1	2	8

R-3. Has any asbestos ever been removed from or treated in the building?

YES	1
NO	2 (R-5)
DON'T KNOW	8 (R-5)

Asbestos In Buildings
EIA-871H (Continued)

Form EIA-871H (07/89)

COLUMN A	COLUMN B																													
<p>R-4. Here is a card showing different ways asbestos may have been treated in the building. HAND CARD 14B. At any time, was any asbestos:</p>																														
<div style="border: 1px solid black; padding: 5px; width: 100%; text-align: center;"> HAND CARD 14B </div>	<p style="text-align: center;"><u>TREATMENT</u></p>																													
<p>IF "YES" IN COLUMN A, ASK FOLLOWING FOR EACH OF THREE TIME PERIODS:</p>																														
<p>Was any of this work done:</p>																														
<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33.33%; text-align: center; padding: 2px;">(1) Since January 1, 1989?</th> <th style="width: 33.33%; text-align: center; padding: 2px;">(2) During 1988?</th> <th style="width: 33.33%; text-align: center; padding: 2px;">(3) Before 1988?</th> </tr> <tr> <th style="width: 33.33%; text-align: center; padding: 2px;">YES</th> <th style="width: 33.33%; text-align: center; padding: 2px;">NO</th> <th style="width: 33.33%; text-align: center; padding: 2px;">DK</th> <th style="width: 33.33%; text-align: center; padding: 2px;">YES</th> <th style="width: 33.33%; text-align: center; padding: 2px;">NO</th> <th style="width: 33.33%; text-align: center; padding: 2px;">DK</th> <th style="width: 33.33%; text-align: center; padding: 2px;">YES</th> <th style="width: 33.33%; text-align: center; padding: 2px;">NO</th> <th style="width: 33.33%; text-align: center; padding: 2px;">DK</th> </tr> </thead> <tbody> <tr> <td style="width: 33.33%; text-align: center; padding: 2px;">1</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> </tr> </tbody> </table>										(1) Since January 1, 1989?	(2) During 1988?	(3) Before 1988?	YES	NO	DK	YES	NO	DK	YES	NO	DK	1	2	8	1	2	8	1	2	8
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YES	NO	DK	YES	NO	DK	YES	NO	DK																						
1	2	8	1	2	8	1	2	8																						
<p>a. Removed?</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">YES</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1 —></td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">NO</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">DON'T KNOW</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> </table>									YES	1 —>	1 2 8	NO	2	1 2 8	DON'T KNOW	8	1 2 8												
YES	1 —>	1 2 8																												
NO	2	1 2 8																												
DON'T KNOW	8	1 2 8																												
<p>b. Encapsulated or sealed with a protective coating?</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">YES</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1 —></td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">NO</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">DON'T KNOW</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> </table>									YES	1 —>	1 2 8	NO	2	1 2 8	DON'T KNOW	8	1 2 8												
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NO	2	1 2 8																												
DON'T KNOW	8	1 2 8																												
<p>c. Enclosed behind an airtight permanent barrier?</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">YES</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1 —></td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">NO</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">DON'T KNOW</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> </table>									YES	1 —>	1 2 8	NO	2	1 2 8	DON'T KNOW	8	1 2 8												
YES	1 —>	1 2 8																												
NO	2	1 2 8																												
DON'T KNOW	8	1 2 8																												
<p>d. Treated in some other way?</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">YES (SPECIFY)</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1 —></td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td colspan="3" style="height: 40px;"></td> </tr> <tr> <td colspan="3" style="height: 40px;"></td> </tr> <tr> <td colspan="3" style="height: 40px;"></td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">NO</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">DON'T KNOW</td> <td style="width: 33.33%; text-align: center; padding: 2px;">8</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> </table>									YES (SPECIFY)	1 —>	1 2 8										NO	2	1 2 8	DON'T KNOW	8	1 2 8			
YES (SPECIFY)	1 —>	1 2 8																												
NO	2	1 2 8																												
DON'T KNOW	8	1 2 8																												
<p>e. RESPONDENT MENTIONS THAT SOMETHING WAS DONE BUT DOES NOT KNOW SPECIFICALLY WHAT WAS DONE.</p>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">YES</td> <td style="width: 33.33%; text-align: center; padding: 2px;">1 —></td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> <tr> <td style="width: 33.33%; text-align: left; padding: 2px;">NO</td> <td style="width: 33.33%; text-align: center; padding: 2px;">2</td> <td style="width: 33.33%; text-align: right; padding: 2px;">1 2 8</td> </tr> </table>									YES	1 —>	1 2 8	NO	2	1 2 8															
YES	1 —>	1 2 8																												
NO	2	1 2 8																												

R-5. Has the building been inspected for asbestos by an EPA or State certified inspector?

YES 1
NO 2

R MENTIONS INSPECTOR BUT
DOES NOT KNOW IF CERTIFIED 3

DON'T KNOW 8

**Construction Improvement and Maintenance and Repairs Supplement
Form EIA-871G**

Form EIA-871G (06/89)

Form Approval
OMB No: 0607-0543
Expires: December 31, 1990

S. **CONSTRUCTION IMPROVEMENTS AND MAINTENANCE AND REPAIRS SUPPLEMENT**

TIME BEGAN: _____

The final questions of the interview are about expenditures for construction improvements and maintenance and repairs to this building during 1989. This information will be used to measure the effect of these activities on the U.S. economy.

- S-1. The first question is about the cost of construction improvements, including additions, alterations, and major replacements to the building. Approximately, what is the total amount of money that will be spent in calendar year 1989 by all persons and businesses for construction improvements to the building? **Include expenditures to date plus estimated expenditures for the remainder of the year.** Construction improvements are defined on this card. HAND CARD 15.



\$ _____ (S-2)
DOLLARS

NEEDS A FEW DAYS TO COMPILE DATA ... 9-6 (S-1a)
DON'T KNOW 9-8 (S-1b)

- S-1a. When can I call you back to get this information?

_____ (S-2)
DATE TIME

- S-1b. What is the name, address, and telephone number of the person who is most likely to know the total amount expected to be spent on construction improvements to this building during calendar year 1989?

NAME: _____ (S-2)

ADDRESS: _____

CITY, STATE, ZIP: _____

PHONE NUMBER: (_____) _____

NO ONE PERSON KNOWS THE TOTAL 6 (BOX 14)
DON'T KNOW 8 (BOX 14)

BOX 14

CHECK QUESTIONS E-3 AND E-4 ON PAGE 15 AND CIRCLE ONE:

CURRENTLY UNOCCUPIED (E-3 = 5) 1 (S-1c)

ONE OCCUPANT: THE OWNER (E-3 = 1) 2 (S-2)

ONE OCCUPANT: A TENANT (E-3 = 2) 3 (S-1c)

TWO OCCUPANTS: THE OWNER AND A TENANT
(E-3 = 3 AND E-4 = 2) 4 (S-1c)

ALL OTHER SITUATIONS (MORE THAN ONE TENANT) 5 (S-2)

Construction Improvement and Maintenance and Repairs Supplement
Form EIA-871G (Continued)

Form EIA-871G (06/89)

- S-1c. How much money will the owner spend on construction improvements to this building during calendar year 1989?

\$ _____ (S-1e)
DOLLARS

DON'T KNOW 9-8 (S-1d)

- S-1d. What is the name, address, and telephone number of the person who is most likely to know how much the owner will spend on construction improvements to this building?

NAME: _____ (S-1e)
ADDRESS: _____
CITY, STATE, ZIP: _____
PHONE NUMBER: (_____) _____

DON'T KNOW 8 (S-2)

- S-1e. CURRENTLY UNOCCUPIED. SKIP TO S-2.

- S-1f. How much (additional) money will the current tenant spend on construction improvements to this building during calendar year 1989?

\$ _____ (S-2)
DOLLARS

DON'T KNOW 9-8 (S-1g)

- S-1g. What is the name, address, and telephone number of the current tenant in this building?

NAME: _____ (S-2)
ADDRESS: _____
CITY, STATE, ZIP: _____
PHONE NUMBER: (_____) _____

Construction Improvement and Maintenance and Repairs Supplement
Form EIA-871G (Continued)

Form EIA-871G (06/89)

- S-2. The next question is about expenditures for maintenance and repairs to the building. This refers to the cost for the upkeep of the building rather than additional investment in it and is described in more detail on this card. HAND CARD 16.

Approximately, what is the total amount of money that will be spent in calendar year 1989 by all persons and businesses for maintenance and repairs to the building?
Include expenditures to date plus estimated expenditures for the remainder of the year.

HAND
CARD
16

\$ _____ (S-2e)
DOLLARS

NEEDS A FEW DAYS TO COMPILE DATA ... 9-6 (S-2a)

DON'T KNOW OR NO ONE PERSON

KNOWS 9-8 (BOX 15)

- S-2a. When can I call you back to get this information?

_____ DATE _____ TIME (S-2e)

BOX 15

CHECK QUESTIONS E-3 AND E-4 ON PAGE 15 AND CIRCLE ONE:

CURRENTLY UNOCCUPIED (E-3 = 5) 1 (S-2b)

ONE OCCUPANT: THE OWNER (E-3 = 1) 2 (S-2e)

ONE OCCUPANT: A TENANT (E-3 = 2) 3 (S-2b)

TWO OCCUPANTS: THE OWNER AND A TENANT

(E-3 = 3 AND E-4 = 2) 4 (S-2b)

ALL OTHER SITUATIONS (MORE THAN ONE TENANT) 5 (S-2e)

- S-2b. How much money will the owner spend on maintenance and repairs to this building during calendar year 1989?

\$ _____ (S-2c)
DOLLARS

DON'T KNOW 9-8 (S-2e)

- S-2c. CURRENTLY UNOCCUPIED. SKIP TO S-2e.

**Construction Improvement and Maintenance and Repairs Supplement
Form EIA-871G (Continued)**

Form EIA-871G (06/89)

- S-2d. How much (additional) money will the current tenant spend on maintenance and repairs for this building during calendar year 1989?

\$ _____ (S-2e)
DOLLARS

DON'T KNOW 9-8 (S-2e)

- S-2e. END: This completes the interview. Thank you very much for your time and help.

TIME ENDED: _____

BOX 16			
INDICATE WHO PROVIDED THE EXPENDITURE INFORMATION FOR CONSTRUCTION IMPROVEMENTS AND MAINTENANCE AND REPAIRS:			
	S-3 CONSTRUCTION IMPROVEMENTS (CIRCLE ONE)	S-4 MAINTENANCE AND REPAIRS (CIRCLE ONE)	
a. OWNER	1	1	
b. OWNER'S BUSINESS OR REPRESENTATIVE	2	2	
c. TENANT	3	3	
d. TENANT REPRESENTATIVE	4	4	
e. OTHER (SPECIFY)	5	5	

RESPONDENT NAME: _____

TELEPHONE: (_____) _____

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

INTERVIEWER OBSERVATIONS

FILL THIS OUT IF YOU COMPLETE THE BUILDING INTERVIEW.

1. Building is, or is part of a facility that is, a (CIRCLE ONE):

Hospital	1
College/University	2
Elementary/Middle/High School	3
Post Office	4
Other	5

2. Does the interview's definition of the building agree with the listing sheet (BOX 3 = "CORRECT")?

YES, AGREES WITH LISTING	1 (4)
NO	2
INAPPLICABLE (SHOPPING CENTER)	7 (4)

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

NAME: _____

ADDRESS: _____

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

(A-8) NAME: _____

(A-7) ADDRESS: _____

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

4. The individual who completed all or most of the questionnaire should be recorded on the front cover. Did any other person respond to the questionnaire?

YES	1
NO	2 (6)

**Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

5. Please list all other respondents.

NAME: _____

TITLE: _____

LOCATION: _____ PHONE NO. (_____) _____

NAME: _____

TITLE: _____

LOCATION: _____ PHONE NO. (_____) _____

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

7. Is this building, as defined for the interview, freestanding or attached to another building?

FREESTANDING 1
ATTACHED 2

8. Please describe any unusual circumstances you may have encountered in obtaining the waiver. (If you did not obtain the waiver or account numbers, explain why.)

9. Is this a strip shopping center or enclosed mall?

STRIP SHOPPING CENTER 1
ENCLOSED MALL 2
NOT A STRIP CENTER/MALL 3 (END)

10. Approximately how many establishments are in this shopping center/mall?

2-5 1
6-10 2
11-20 3
21-49 4
50-99 5
100 OR MORE 6

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

NONINTERVIEW REPORT

FILL THIS OUT IF YOU DID NOT COMPLETE
THE BUILDING INTERVIEW.

1. Why were you unable to complete the interview?

REFUSAL/BREAKOFF	1
INELIGIBLE BUILDING	2 (4)
RESPONDENT COULD NOT BE CONTACTED	3

2. IF NOT RECORDED ON FRONT COVER: What is the name, title, and telephone number of the individual who refused, broke off, or could not be contacted for the interview?

NAME: _____

TITLE: _____

TELEPHONE NO. (_____) _____

3. Why did the respondent refuse? (RECORD VERBATIM) OR: Why were there problems contacting the respondent?

SKIP TO 5

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

4. Please explain in detail why the building was ineligible for the interview.

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

6. How many floors does the building have, ground level and above?

_____ # OF FLOORS

IF INELIGIBLE BUILDING: END.

7. IF INDUSTRIAL, AGRICULTURAL, OR RESIDENTIAL MENTIONED IN 5: Would you estimate that 50% or more of the space in this building is used for (industrial/agricultural/residential) activities?

YES	1
NO	2
DON'T KNOW	8

8. Which category in your estimation best applies to the total square feet in this building?

1,000 square feet or less	1
1,001 to 50,000 square feet	2
Over 50,000 square feet	3
DON'T KNOW	8

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
1. Name _____ Address _____	_____ _____
2. Name _____ Address _____	_____ _____
3. Name _____ Address _____	_____ _____
4. Name _____ Address _____	_____ _____
5. Name _____ Address _____	_____ _____
6. Name _____ Address _____	_____ _____
7. Name _____ Address _____	_____ _____
8. Name _____ Address _____	_____ _____
9. Name _____ Address _____	_____ _____
10. Name _____ Address _____	_____ _____
11. Name _____ Address _____	_____ _____
12. Name _____ Address _____	_____

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
13. Name _____ Address _____	_____
14. Name _____ Address _____	_____
15. Name _____ Address _____	_____
16. Name _____ Address _____	_____
17. Name _____ Address _____	_____
18. Name _____ Address _____	_____
19. Name _____ Address _____	_____
20. Name _____ Address _____	_____
21. Name _____ Address _____	_____
22. Name _____ Address _____	_____
23. Name _____ Address _____	_____
24. Name _____ Address _____	_____

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
25. Name _____ Address _____	
26. Name _____ Address _____	
27. Name _____ Address _____	
28. Name _____ Address _____	
29. Name _____ Address _____	
30. Name _____ Address _____	
31. Name _____ Address _____	
32. Name _____ Address _____	
33. Name _____ Address _____	
34. Name _____ Address _____	
35. Name _____ Address _____	
36. Name _____ Address _____	

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

SUPPLIER CUSTOMER SHEET

ENERGY SOURCE: _____

SUPPLIER'S NAME: _____

LIST OF RECIPIENTS OF SEPARATE BILLS	ADDITIONAL INFORMATION TO EXPLAIN BILLING
37. Name _____ Address _____	_____
38. Name _____ Address _____	_____
39. Name _____ Address _____	_____
40. Name _____ Address _____	_____
41. Name _____ Address _____	_____
42. Name _____ Address _____	_____
43. Name _____ Address _____	_____
44. Name _____ Address _____	_____
45. Name _____ Address _____	_____
46. Name _____ Address _____	_____
47. Name _____ Address _____	_____
48. Name _____ Address _____	_____

Commercial Buildings Energy Consumption Survey for 1989
Building Questionnaire
Form EIA-871A (Continued)

Form EIA-871A (06/89)

FOLD-OUT PAGE

KEY BUILDING CHARACTERISTICS	
B-1/B-2 - SQUARE FEET: _____	E-3 OCCUPANT STATUS: 1 ONE OCCUPANT: THE OWNER 2 ONE OCCUPANT: NOT THE OWNER 3 MORE THAN ONE OCCUPANT, INCLUDING THE OWNER 4 MORE THAN ONE OCCUPANT, NOT INCLUDING THE OWNER 5 CURRENTLY UNOCCUPIED

	C-3. WHICH ENERGY SOURCES WERE USED IN PAST 12 MONTHS:						
	a. Main fuel for heating	b. Secondary or backup fuel for heating	c. Fuel for cooling	d. Fuel for domestic hot water	e. Fuel for commercial/ institutional cooking	f. Fuel for manufacturing/ industrial activity	g. Fuel for electricity generation
NOT PERFORMED	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C-1. ENERGY SOURCES (CHECK ALL USED)	CHECK ONE	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY	CHECK ALL THAT APPLY
a. Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Natural Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Fuel Oil/Diesel/ Kerosene	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Bottled Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. District Steam	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. District Hot Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. District Chilled Water	<input type="checkbox"/>			<input type="checkbox"/>			
h. Wood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Coal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Active Solar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Other (Specify) _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
END USE PERFORMED BUT ENERGY SOURCE NOT KNOWN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Commercial Buildings Energy Consumption Survey
Authorization Form
Form EIA-871A**

Form EIA-871A (06/89)

Form Approval:
OMB No: 1905-0145
Expires: May 31, 1992

**UNITED STATES DEPARTMENT OF ENERGY
COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY
AUTHORIZATION FORM**

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 the fuels consumed during the 26-month period of December 1, 1988 to January 31, 1991 by the building/establishment identified below.

Companies are authorized to provide this information by monthly periods or by delivery date, whichever is applicable. A photocopy of this authorization may be accepted with the same authority as the original.

Building name _____

Address _____

City _____

State _____

ZIP _____

Please print name of authorizing person _____	Employed by _____	Telephone () _____
<u>X</u> Signature of authorizing person _____	Address (if different than above) _____	
Title _____	City _____	State _____
	ZIP _____	

PLEASE COMPLETE ONE BLOCK FOR EACH COMPANY THAT SUPPLIED FUEL
USED BY THE ABOVE NONRESIDENTIAL BUILDING SINCE DECEMBER 1, 1988.

Energy Source _____

Print full name of company _____		
Address (if known) _____	City and State _____	ZIP _____
() Telephone _____		
Account Number(s) _____		
Print full name of company _____		
Address (if known) _____	City and State _____	ZIP _____
() Telephone _____		
Account Number(s) _____		
Print full name of company _____		
Address (if known) _____	City and State _____	ZIP _____
() Telephone _____		
Account Number(s) _____		

Energy Source _____

Energy Source _____

CONTINUED ON REVERSE SIDE

**Commercial Buildings Energy Consumption Survey
Authorization Form
Form EIA-871A (Continued)**

Form EIA-871A (06/89)

**COMMERCIAL BUILDINGS ENERGY CONSUMPTION SURVEY
AUTHORIZATION FORM (Continued)**

X
Signature of Authorizing Person

Energy Source

Print full name of company

Address (if known) City and State ZIP

()

Telephone

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

()

Telephone

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

()

Telephone

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

()

Telephone

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

()

Telephone

Account Number(s)

Energy Source

Print full name of company

Address (if known) City and State ZIP

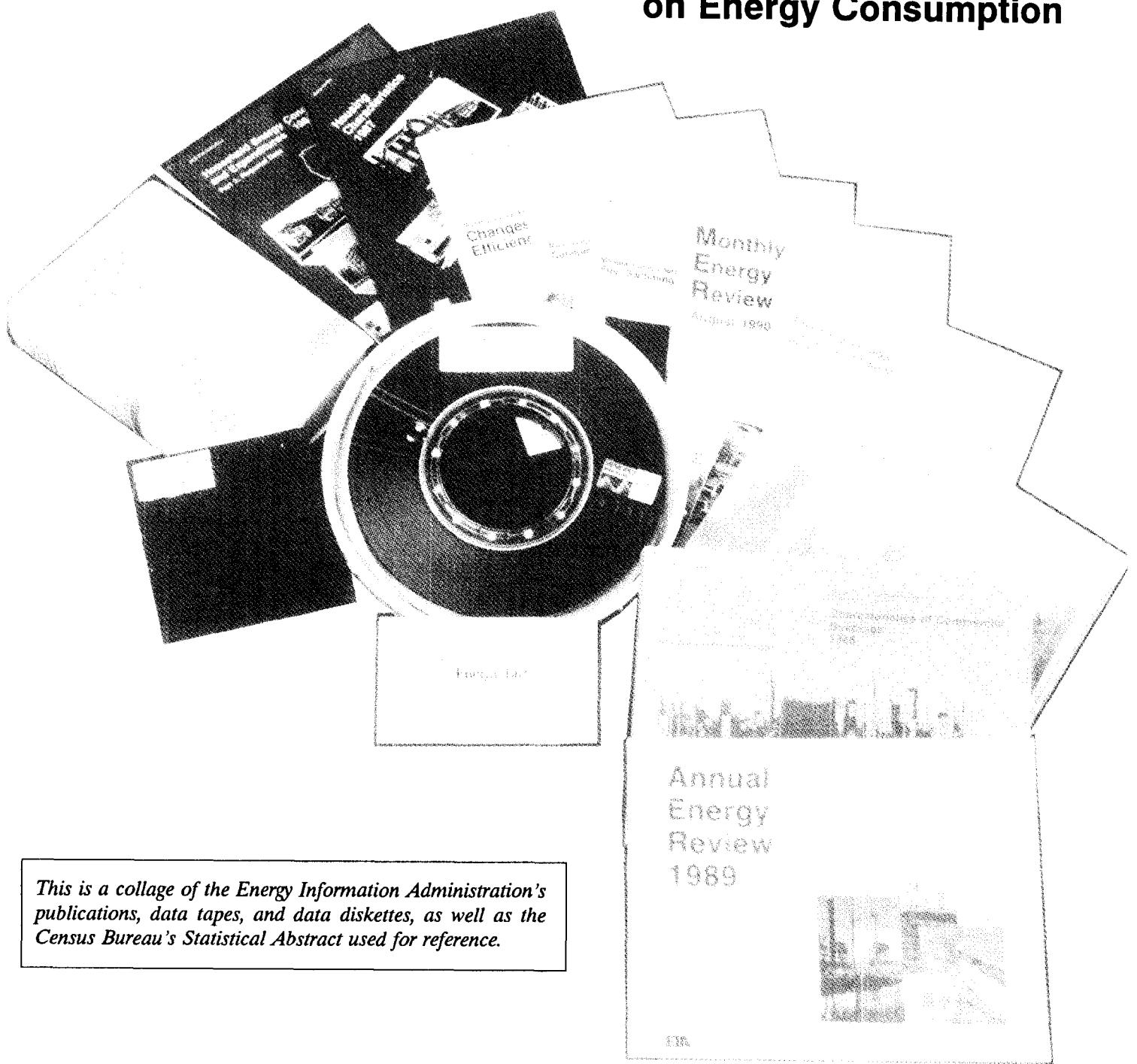
()

Telephone

Account Number(s)

Appendix H

Related EIA Publications on Energy Consumption



Appendix H

Related EIA Publications on Energy Consumption

These publications are available from the National Energy Information Center or the Superintendent of Documents. See the inside cover of this report on how to obtain copies of these publications. Please note that the prices quoted are subject to change.

In addition to the reports listed below, public use data tapes for the residential, residential transportation and commercial sectors are available from the National Technical Information Service (NTIS). To obtain information on how to order tapes, you may call NTIS at 703/487-4807, FAX number 703/321-8547.

Diskettes for use on personal computers are also available from NTIS for the most recent surveys.

Commercial Sector

Note: The name of the Nonresidential Buildings Energy Consumption Survey was changed to the Commercial Buildings Energy Consumption Survey, beginning with the 1989 survey. The survey name was also dropped from the report title.

Characteristics of Buildings

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1986; September 1988, DOE/EIA-0246(86), GPO Stock No. 061-003-00580-2, \$16.00.

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1983; July 1985, DOE/EIA-0246(83), GPO Stock No. 061-003-00439-3, \$7.50.

Nonresidential Buildings Energy Consumption Survey: Characteristics of Commercial Buildings, 1983; A Supplemental Reference, DOE/EIA-M008, \$22.95. Available from the NTIS, Order No. DE-85015581.

Nonresidential Buildings Energy Consumption Survey: Fuel Characteristics and Conservation Practices; June 1981, DOE/EIA-0278, GPO Stock No. 061-00300200-5, \$9.00.

Nonresidential Buildings Energy Consumption Survey: Building Characteristics; March 1981, DOE/EIA-0246, GPO Stock No. 061-003-00171-8, \$6.50.

Consumption and Expenditures

Nonresidential Buildings Energy Consumption Survey: Commercial Buildings Consumption and Expenditures 1986; May 1989, DOE/EIA-0318(86), GPO Stock No. 061-003-00613-2, \$19.00.

Nonresidential Buildings Energy Consumption Survey: Commercial Buildings, Consumption and Expenditures 1983; September 1986, DOE/EIA-0318(83), GPO Stock No. 061-003-00496-2, \$13.00.

Nonresidential Buildings Energy Consumption Survey: 1979 Consumption and Expenditures, Part 1: Natural Gas and Electricity; March 1983, DOE/EIA-0318/1, GPO Stock No. 061-003-00298-6, \$9.50.

Nonresidential Buildings Energy Consumption Survey: 1979 Consumption and Expenditures, Part 2: Steam, Coal, Fuel Oil, LPG, and Total Fuels; December 1983, DOE/EIA-0318(79)/2, GPO Stock No. 061003-00366-4, \$6.00.

Residential Transportation Sector

Note: The survey name was dropped from the beginning of the report title starting with the 1988 data report, and the report title changed to "Household Vehicles Energy Consumption 1988."

Household Vehicles Energy Consumption 1988; February 1990, DOE/EIA-0464(88), GPO Stock No. 061-003-00652-3, \$11.00.

Residential Transportation Energy Consumption Survey: Consumption Patterns of Household Vehicles 1985; April 1987, DOE/EIA-0464(85), GPO Stock No. 061-003-00521-7, \$8.50.

Residential Transportation Energy Consumption Survey: Consumption Patterns of Household Vehicles, 1983; January 1985, DOE/EIA-0464(83), GPO Stock No. 061-003-00420-2, \$4.50.

Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, Supplement: January 1981 to September 1981; February 1983, DOE/EIA-0328, GPO Stock No. 061-003-00297-8, \$4.75.

Residential Energy Consumption Survey: Consumption Patterns of Household Vehicles, June 1979 to December 1980; April 1982, DOE/EIA-0319 (no GPO Stock No.).

Residential Sector

Housing Characteristics

Note: The survey name was dropped from the beginning of the report title starting with the 1987 data reports.

Housing Characteristics 1987; May 1989, DOE/EIA-0314(87), GPO Stock No. 061-003-00619-1, \$13.00.

Residential Energy Consumption Survey: Housing Characteristics 1984; October 1986, DOE/EIA-0314(84), GPO Stock No. 061-003-00499-7, \$12.00.

Residential Energy Consumption Survey: Housing Characteristics, 1982; August 1984, DOE/EIA-0314(82), GPO Stock No. 061-003-00393-1, \$7.00.

Residential Energy Consumption Survey Housing Characteristics, 1981; August 1983, DOE/EIA-0314(81), GPO Stock No. 061-003-00330-3, \$6.50.

Residential Energy Consumption Survey: Housing Characteristics, 1980; June 1982, DOE/EIA-0314, GPO Stock No. 061-003-00256-1, \$11.00.

Residential Energy Consumption Survey: Characteristics of the Housing Stock and Households, 1978; February 1980, DOE/EIA-0207/2, GPO Stock No. 061-003-00093-2, \$4.25.

Residential Energy Consumption Survey: Conservation; February 1980, DOE/EIA-0207/3, GPO Stock No. 061003-00087-8, \$6.00.

Preliminary Conservation Tables from the National Interim Energy Consumption Survey; August 1979, DOE/EIA-0193/P (no GPO Stock No.).

Characteristics of the Housing Stock and Households: Preliminary Findings from the National Interim Energy Consumption Survey; October 1979, DOE/EIA-0199/P (no GPO Stock No. available).

Consumption and Expenditures

Note: The survey name was dropped from the beginning of the report title starting with the 1987 data reports. The titles were changed to *Household Energy Consumption and Expenditures 1987, Part 1 and Part 2.*

Household Energy Consumption and Expenditures 1987, Part 1: National Data; October 1989, DOE/EIA-0321/1(87), GPO Stock No. 061-003-00635-3, \$15.00. Note: Energy end-use data are included in this report.

Household Energy Consumption and Expenditures 1987, Part 2: Regional Data; DOE/EIA-0321/2(87) (no GPO Stock No available), \$16.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1984 Through March 1985, Part 1: National Data; March 1987, DOE/EIA-0321/1(84), GPO Stock No. 061-003-00519-5, \$9.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1984 Through March 1985, Part 2: Regional Data; May 1987, DOE/EIA-0321/2(84), GPO Stock No. 061-003-00528-4, \$17.00. Note: Energy end-use data are included in this report.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1982 Through March 1983, Part 1: National Data; November 1984, DOE/EIA-0321/1(82), GPO Stock No. 061-003-00411-3, \$7.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1982 Through March 1983, Part 2: Regional Data; December 1984, DOE/EIA-0321/2(82), GPO Stock No. 061-003-00414-8, \$9.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982, Part 1: National Data; September 1983, DOE/EIA-0321/1(81), GPO Stock No. 061-003-00340-1, \$6.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1981 Through March 1982, Part 2: Regional Data; October 1983, DOE/EIA-0321/2(81), GPO Stock No. 061-003-00357-5, \$8.00.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1980 Through March 1981, Part 1: National Data; September 1982, DOE/EIA-0321/1(80), GPO Stock No. 061-003-00278-1, \$7.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1980 Through March 1981, Part 2: Regional Data; June 1983, DOE/EIA-0321/2(80), GPO Stock No. 061-003-00319-2, \$7.00.

Residential Energy Consumption Survey: 1979-1980 Consumption and Expenditures, Part 1: National Data (Including Conservation); April 1981, DOE/EIA-0262/1, GPO Stock No. 061-003-00191-2, \$6.50.

Residential Energy Consumption Survey: 1979-1980 Consumption and Expenditures, Part II: Regional Data; May 1981, DOE/EIA-0262/2, GPO Stock No. 061-003-00189-1, \$8.50.

Residential Energy Consumption Survey: Consumption and Expenditures, April 1978 Through March 1979; July 1980, DOE/EIA-0207/5, GPO Stock No. 061-003-00131-9, \$7.50.

Single-Family Households: Fuel Oil Inventories and Expenditures: National Interim Energy Consumption Survey; December 1979, DOE/EIA-0207/1, GPO Stock No. 061-003-00075-4, \$3.50.

Other Publications on the Residential Sector

"*End-Use Consumption of Residential Energy*" (Article), pp. vii-xiv, *Monthly Energy Review*, July 1987, DOE/EIA-0035(87/07).

Residential Energy Consumption Survey: Trends in Consumption and Expenditures 1978-1984 June 1987, DOE/EIA-0482, GPO Stock No. 061-003-00535-7, \$12.00.

Residential Conservation Measures; July 1986, SR/EEUD/86/01 (no GPO Stock No.).

An Economic Evaluation of Energy Conservation and Renewable Energy Tax Credits; October 1985, Service Report (no GPO Stock No.).

Residential Energy Consumption and Expenditures by End Use for 1978, 1980, and 1981; December 1984, DOE/EIA-0458, GPO Stock No. 061-003-00415-6, \$4.50.

Weatherization Program Evaluation, SR-EEUD-84-1; August 1984 (available from the Office of the Assistant Secretary for Conservation and Renewable Energy, Department of Energy).

Residential Energy Consumption Survey: Regression Analysis of Energy Consumption by End Use; October 1983, DOE/EIA-0431, GPO Stock No. 061-00300347-8, \$5.00.

National Interim Energy Consumption Survey: Exploring the Variability In Energy Consumption; July 1981, DOE/EIA-0272, GPO Stock No. 061-003-00205-6, \$5.00.

National Interim Energy Consumption Survey: Exploring the Variability in Energy Consumption--A Supplement; October 1981, DOE/EIA-0272/S, GPO Stock No. 061-003-00217-0, \$4.50.

Energy Use by U.S. Households; November 1980, DOE/EIA-0248 (brochure, no GPO Stock No.).

Industrial Sector

Manufacturing Energy Consumption Survey: Energy Efficiency in Manufacturing, 1985; January 1990, DOE/EIA-0516(85), GPO Stock No. 061-00300650-7, \$4.25.

Manufacturing Energy Consumption Survey: Fuel Switching Capability, 1985; December 1988, DOE/EIA-0515(85), GPO Stock No. 061-003-00601-9, \$3.50.

Manufacturing Energy Consumption Survey: Methodological Report, 1985; November 1988, DOE/EIA-0514(85), GPO Stock No. 061-00300595-1, \$6.00.

Manufacturing Energy Consumption Survey: Consumption of Energy, 1985; November 1988, DOE/EIA-0512(85), GPO Stock No. 061-003-00594-2, \$6.00.

"Manufacturing Sector Energy Consumption 1985 Provisional Estimates," Monthly Energy Review, January 1987, DOE/EIA-0035(87/01), pp. vii-x.

Report on the 1980 Manufacturing Industries' Energy Consumption Study and Survey of Large Combustors; February 1983, DOE/EIA-0358, GPO Stock No. 061-003-00293-5, \$5.00.

Industrial Energy Consumption, "Survey of Large Combustors: Report on Alternate Fuel-Burning Capabilities of Large Boilers in 1979"; February 1982, DOE/EIA-0304, GPO Stock No. 061-003-0233-1, \$2.50.

Methodological Report of the 1980 Manufacturing Industries Survey of Large Combustors (EIA-463); March 1982, DOE/EIA-0306 (no GPO Stock No.).

Cross-Sector

Energy Consumption by End-Use Sector: A Comparison of Measures by Consumption and Supply Surveys; April 6, 1990, DOE/EIA-0533 (no GPO Stock No. available), \$2.50.

Natural Gas: Use and Expenditures; April 1983, DOE/EIA-0382, GPO Stock No. 061-003-00307-9, \$5.50.

Public Use Tapes

Note: All tapes are available through the NTIS.

Residential and Residential Transportation Sectors

Residential Energy Consumption Survey: 1987 and Residential Transportation Energy Consumption Survey, 1988, Order No. PB90-501461, \$220.

Residential Energy Consumption Survey: 1984 and Residential Transportation Energy Consumption Survey, 1985; Order No. PB87-186540, \$220.

Residential Energy Consumption Survey: 1982 and Residential Transportation Energy Consumption Survey, 1983; Order No. PB85-221760, \$220.

Residential Energy Consumption Survey: Consumption and Expenditures, 1980-1981; Monthly Billing Data; Order No. PB84-166230, \$220.

Residential Energy Consumption Survey: Housing Characteristics, 1981; Consumption and Expenditures, 1981-1982; Monthly Billing Data; Order No. PB84-120476, \$220.

Residential Energy Consumption Survey: Housing Characteristics, Annualized Consumption and Expenditures, 1980-1981; Order No. PB83-199554, \$220.

Residential Energy Consumption Survey: Household Transportation Panel Monthly Gas Purchases and Vehicle and Household Characteristics, 6/79-9/81; Order No. PB84-162452, \$220.

Residential Energy Consumption Survey: Household Screener Survey, 1979-1980; Order No. PB82-114877, \$220.

Residential Energy Consumption Survey: Household Monthly Energy Consumption and Expenditures, 1978-1979; Order No. PB82-114901, \$220.

National Interim Energy Consumption Survey (Residential), 1978; Order No. PB81-108714, \$220.

Commercial Sector

Nonresidential Buildings Energy Consumption Survey: 1986 Data; Order No. PB90-500034, \$220.

Nonresidential Buildings Energy Consumption Survey: 1979 and 1983 Data; Order No. PB88-245162, \$220.

Manufacturing Energy Consumption Survey: Consumption of Energy 1988; planned for July 1991.

Manufacturing Energy Consumption Survey: Fuel Switching Capability 1988; planned for September 1991.

Manufacturing Energy Consumption Survey: Changes in Energy Efficiency Through 1988; planned for January 1992.

Housing Characteristics 1990; planned for March 1992.

Household Energy Consumption and Expenditures 1990, Part 1: National Data; planned for September 1992.

Household Energy Consumption and Expenditures 1990, Part 2: Regional Data; planned for December 1992.

Household Vehicles Energy Consumption 1991; planned for December 1992.

Note: The Energy Information Administration also publishes the *State Energy Data Report Consumption Estimates* annually, DOE/EIA-0214. This report contains State-level annual consumption information derived from EIA Supply surveys.

Planned Publications

Commercial Buildings Consumption and Expenditures 1989; planned for early 1992.

Glossary

ACBM: Acronym for "asbestos-containing building material." (See **Asbestos**.)

Active Solar: As an energy source, energy from the sun collected and stored using mechanical pumps or fans to circulate heat-laden fluids or air between solar collectors and the building. Examples include the use of solar collectors for water or space heating. In this report, active solar is included in the Other Energy Sources category. Data on the passive collection of solar energy, such as by trombe walls, were not collected on the 1989 CBECS. (See **Energy Source**.)

Agricultural: As used in this survey, activities involving the manufacturing, processing, sale, storage, or housing of agricultural products, including livestock. These buildings were listed during the listing stage. However, buildings that had 50 percent or more of the floorspace devoted to agricultural activity were considered out of scope and were dropped from the sample during the interview phase. Farms and farm buildings (silos, grain elevators, and barns) were out of scope for the CBECS and were not listed during the listing stage. (See **Commercial Building, Out of Scope, Nonresidential Building, Building, Principal Building Activity**, and Appendix A, "How the Survey was Conducted.")

Air Conditioning: See **Cooling**.

Air Ducts or Air-Handling Units: A vehicle for channeling warm or cool air to different parts of a building. The process of moving the conditioned air often involves passing air over heating or cooling coils and forcing it from a central location through ducts or air-handling units. Air-handling units are hidden in the walls or ceilings, where they use steam or hot water to heat the air or chilled water to cool the air, inside the duct work. (See **Cooling, Duct, and Space Heating**.)

Asbestos: A group of naturally occurring minerals that separate into long, thin fibers. Asbestos was used for many years to insulate and fireproof buildings. In the 1989 CBECS, information on asbestos in buildings was collected (Section R of the Buildings Questionnaire) for the U.S. Environmental Protection Agency (EPA). Asbestos treatment methods identified in the 1989 CBECS include removal, encapsulation or sealing, and enclosure behind a permanent barrier. Types of asbestos that may be found in buildings are:

- a. Heating or cooling system insulation wrap--refers to asbestos-containing building material (ACBM) applied to pipes, boilers, tanks, ducts, or other structural components to prevent heat loss or gain, or water condensation. This insulation was typically made in preformed sections for either pipes or boilers and tanks. It is commonly chalky white in appearance with a plaster-saturated canvas utilized as a final wrap.
- b. Sprayed on or trowelled on surfacing material--refers to ACBM such as acoustic plaster on ceilings or fireproofing on structural members such as I-beams and decking. While the main use is thermal insulation, the material may also provide acoustic insulation and a decorative finish. Sprayed coatings typically have a rough, fluffy appearance while trowelled coatings have a smoother finish and may be covered with a layer of plaster or other nonasbestos material.
- c. Ceiling tiles--refer to ceiling tiles that contain asbestos. The asbestos was added to strengthen the tiles and to provide acoustic insulation and fireproofing.
- d. Flooring tiles--refer to vinyl flooring tiles to which asbestos has been added as a strengthening agent. Asbestos may also be present in the backing of vinyl sheet flooring.
- e. Some other form--refers to ACBM used in such building materials as wallboard and cement pipes.

Authorization Form: A form signed by the respondent from a building, authorizing energy supplier companies that serve the building to release information on the amounts and costs of energy consumed in the building during a specified period. (See **Energy Supplier** and Appendix A, "How the Survey Was Conducted.")

Ballast: See **High-Efficiency Ballast.**

Baseboard: As a type of heating equipment , a system in which either electric resistance coils or finned tubes carrying steam or hot water are mounted behind shallow panels along baseboards. Baseboards rely on passive convection to distribute heated air in the space. Electric baseboards are an example of an "Individual Space Heater." (See **Individual Space Heater.**)

Boiler: A type of space-heating equipment consisting of a vessel or tank where heat produced from the combustion of fuels such as natural gas, fuel oil, or coal is used to generate hot water or steam. Many buildings have their own boilers, while other buildings have steam or hot water piped in from a central plant. For this survey, only boilers inside the building (or serving only that particular building) are counted as part of the building's heating system. Steam or hot water piped into a building from a central plant is considered district heat. (See **Furnace, HVAC, and District Heat.**)

Bottled Gas: (See **Liquefied Petroleum Gas (LPG) and Propane.**)

Building: For this survey, a structure totally enclosed by walls extending from the foundation to the roof, containing over 1,000 square feet of floorspace, and intended for human occupancy. Structures that were included in the survey as a specific exception were parking garages not totally enclosed by walls and a roof, as well as structures erected on pillars to elevate the first fully enclosed level, but leaving the sides at ground level open.

Excluded from the survey as nonbuildings were the following: structures (other than the exceptions just noted) that were not totally enclosed by walls and a roof (such as oil refineries, steel mills, and water towers); street lights, pumps, billboards, bridges, swimming pools, and construction sites; mobile homes and trailers, even if they housed commercial activity; and oil storage tanks. (See **Commercial Building** and **Nonresidential Building.**)

Building Floorspace: (See **Floorspace.**)

Building Shell (Envelope): The thermal envelope of the building, that is, the roof, exterior walls, and bottom floors that enclose conditioned space through which thermal energy may be transferred to or from the exterior.

Building Shell Conservation Feature: A building feature designed to reduce the energy loss or gain through the shell or envelope of the building. The 1989 CBECS collected data on the following specific building shell energy conservation features: roof, ceiling or wall insulation; storm windows or double- or triple-paned glass (multiple glazing); tinted or reflective glass or shading films; exterior or interior shadings or awnings; and weather stripping or caulking. (See **Roof or Ceiling Insulation, Wall Insulation, Reflective or Shading Glass or Film, Storm or Multiple Glazing, Building Shell (Envelope), Exterior or Interior Shadings or Awnings, and Weather Stripping or Caulking.**)

Built-Up Roof: A roof covering consisting of several successive layers (each of which is called a ply) usually of roofing felt with moppings of hot asphalt between layers and topped by a mineral-surfaced layer or by gravel embedded in a heavy coat of asphalt.

Campus or Complex: See **Multibuilding Facility.**

Caulking: See **Weather Stripping or Caulking.**

CDD: See **Cooling Degree-Days (CDD).**

Census Division: A geographic area consisting of several States defined by the U.S. Department of Commerce, Bureau of the Census. (See the map in Appendix F.) The States are grouped into nine divisions and four regions:

Region	Division	States
Northeast	New England	Connecticut, Maine, Massachusetts, New Hampshire, Vermont, and Rhode Island
	Middle Atlantic	New Jersey, New York, and Pennsylvania
Midwest	East North Central	Illinois, Indiana, Michigan, Ohio, and Wisconsin
	West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota
South	South Atlantic	Delaware, the District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia
	East South Central	Alabama, Kentucky, Mississippi, and Tennessee
	West South Central	Arkansas, Louisiana, Oklahoma, and Texas
West	Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming
	Pacific	Alaska, California, Hawaii, Oregon, and Washington

Census Region: See **Census Division** and the map in Appendix F.

Central Chiller: Any centrally located air-conditioning system that produces chilled water in order to cool air. The chilled water or cold air is then distributed throughout the building using pipes or air ducts, or both. These systems are also commonly known as "chillers", "centrifugal chillers", "reciprocating chillers" or "absorption chillers". Chillers are generally located in or just outside the building they serve. Chillers located at central plants are included under district chilled water. (See **Cooling, District Chilled Water, Central Physical Plant, and HVAC**.)

Central Cooling: Cooling of an entire building with a refrigeration unit to condition the air. Typically central chillers and ductwork are present in the centrally cooled building.

Central Physical Plant: A plant owned by, and on the grounds of, a multibuilding facility that provides district heating, district cooling, or electricity to other buildings on the same facility. To qualify as a central plant for this survey, it must provide district heat, district chilled water, or electricity to at least one other building. The central physical plant may be by itself in a separate building or may be located in a building where other activities occur. (See **Multibuilding Facility, District Heat, or District Chilled Water**.)

CFC: See **Chlorofluorocarbon (CFC)**.

Chiller: See **Central Chiller**.

Chlorofluorocarbon (CFC): Any of various compounds consisting of carbon, hydrogen, chlorine and flourine used as refrigerants. CFC's are now thought to be harmful to the earth's atmosphere. In the 1989 CBECS, information was collected on CFC-containing equipment, such as central chillers, packaged air-conditioning units, freezers, refrigerators, and other refrigeration equipment. (See **Central Chiller, Packaged Units, and Refrigeration/Freezer Equipment.**)

Climate Zone: One of five climatically distinct areas, defined by long-term weather conditions affecting the heating and cooling loads in buildings. The zones were developed by the Energy End Use Division (EEUD) from seven distinct climate categories originally identified by the American Institute of Architects (AIA) for the U.S. Department of Energy and the U.S. Department of Housing and Urban Development.

The zones were determined according to the 45-year average (1931-1975) of the annual heating and cooling degree-days (base 65 degrees Fahrenheit). An individual building was assigned to a climate zone according to the 45-year average annual degree-days for its NOAA Division. (See **Heating Degree-Days (HDD), Cooling Degree-Days (CDD), and NOAA Division.**)

The zones are defined as follows:

AIA Group	EEUD Climate Zone	Average Annual Cooling Degree-Days	Average Annual Heating Degree-Days
1	1	Less than 2,000	More than 7,000
2	2	Less than 2,000	5,500 to 7,000
3	3	Less than 2,000	4,000 to 5,499
4	4	Less than 2,000	2,000 to 3,999
5	4	Less than 2,000	Less than 2,000
6	5	2,000 or more	Less than 2,000
7	5	2,000 or more	2,000 to 3,999

Coal: In this report, the term includes anthracite, bituminous and subbituminous coal, as well as the derivative of coal known as coke. (See **Energy Source.**)

Cogeneration: The simultaneous generation of electric power and useful heat by a single process. In essence, cogeneration involves the recovery of waste-heat from electric power generation. Neither generation of electricity without use of the byproduct heat, nor waste-heat recovery from processes other than electricity generation is included in the definition of cogeneration. (See **Electricity Generation.**)

Commercial: Neither residential, manufacturing, nor agricultural. (See **Residential, Manufacturing/Industrial, Agricultural, and Commercial Building.**)

Commercial Building: A building with more than 50 percent of its floorspace used for commercial activities. Commercial buildings include, but are not limited to, stores, offices, schools, churches, gymnasiums, libraries, museums, hospitals, clinics, warehouses, and jails. Government buildings were included except for buildings on site with restricted access, such as some military bases or reservations. Farms and buildings located on farms (such as silos, grain elevators and barns) were excluded from the survey. For a more complete list of buildings in the survey, see Appendix E, "Types of Buildings." (See **Building, Commercial, Residential, Manufacturing/Industrial, Agricultural, Nonresidential Building, and Principal Building Activity.**)

Computer Area with Separate Air-Conditioning System: In this survey, this term is used to denote space specifically designed and equipped to meet the needs of computer equipment for controlled temperatures and/or humidity. The air-conditioning system for this area is separate from that used to control the environment in other parts of the building.

Concrete Panel: A wall construction panel made of concrete, which is either prefabricated in a factory or poured at the site and then hoisted onto the structure.

Concrete Roof: For this survey, a poured concrete roof, often intended to bear the load of a parking garage that occupies the roof area of a building.

Conservation Feature: A feature in the building designed to reduce the usage of energy. (See **Building Shell Conservation Feature**, **HVAC Conservation Feature**, and **Lighting Conservation Feature**.)

Cooking: In this report, the use of energy for commercial or institutional food preparation. The 1989 CBECS asked specifically about "commercial or institutional cooking," which was intended to include any kitchen facility that was not part of a residence. This is one of six energy end uses specifically asked for in this survey. (See **Energy End Use**.)

Cooling: Conditioning of room air for human comfort by a refrigeration unit (such as an air-conditioner or heat pump) or by circulating chilled water through a central cooling or district cooling system. Use of fans or blowers by themselves, without chilled air or water, is not included in this definition of cooling. This is one of six end uses specifically asked for in this survey. (See **Energy End Use**, **Central Cooling**, **Heat Pump**, and **HVAC**.)

Cooling Degree-Days (CDD): A measure of how hot a location was over a period of time, relative to a base temperature. In this report, the base temperature is 65 degrees Fahrenheit, and the period of time is one year. The cooling degree-days for a single day is the difference between that day's average temperature and the base temperature if the daily average is greater than the base; and zero if the daily average temperature is less than or equal to the base temperature. The cooling degree-days for a longer period of time is the sum of the daily cooling degree-days for the days in that period. (See **Heating Degree-Days (HDD)** and **Climate Zone**.)

Decorative or Construction Glass: An exterior building wall material of glass decorative coverings such as glass blocks or spandrels, that are not window or vision (see through) glass. Structural glass or glass curtain walls used on the outside of buildings are also included in this category. For this report, decorative or construction glass was included in the "Other" exterior wall material category. (See **Window or Vision Glass**.)

District Chilled Water: Chilled water from an outside source used as an energy source for cooling in a building. The water is chilled in a central plant and piped into the building. Chilled water may be purchased from a utility or provided by a central physical plant in a separate building that is part of the same multibuilding facility (for example, a hospital complex or university). (See **Energy Source**, **Central Physical Plant**, and **Multibuilding Facility**.)

District Heat: Steam or hot water from an outside source used as an energy source for space heating or another end use in a building. The steam or hot water is produced in a central plant and piped into the building. The district heat may be purchased from a utility or provided by a central physical plant in a separate building that is part of the same multibuilding facility (for example, a hospital complex or university.) For this report, District Steam and District Hot Water are reported together as district heat in most places. (See **Energy Source**, **Central Physical Plant**, and **Multibuilding Facility**.)

District Hot Water: District heat in the form of hot water. (See **District Heat**.)

District Steam: District heat in the form of steam. (See **District Heat**.)

Duct: A passageway made of sheet metal or other suitable material to convey air from the heating, ventilating, and cooling systems to and from the point of utilization.

Electric Baseboard: An individual space heater with electric resistance coils mounted behind shallow panels along baseboards. Electric baseboards rely on passive convection to distribute heated air to the space. (See **Individual Space Heater** and **Baseboard**.)

Electricity: As an energy source for this report, electric energy supplied to a building by a central utility via power lines or from a central physical plant in a separate building that is part of the same multibuilding facility. Electric power generated within a building for exclusive use in that building is specifically excluded from the definition of electricity as an energy source. (See **Energy Source**, **Central Physical Plant**, and **Multibuilding Facility**.)

Electricity Generation: The onsite production of electricity using electricity generators on either a regular or emergency basis. This is one of the end uses of energy specifically asked for in this survey. Not included in this survey were electricity-generating plants belonging to utility companies, which produce electric power for sale to other buildings, not part of the same multibuilding facility. (See **Energy End Use**, **Electricity**, **Multibuilding Facility**, and **Cogeneration**.)

EMCS: (See **Energy Management and Control System (EMCS)**).

Emergency Backup Generation: The use of electric generators only during interruptions of normal power supply.

Energy End Use: A use for which energy is consumed in a building. Information on six specific end uses was collected in this survey. (See **Cooking**, **Cooling**, **Space Heating**, **Electricity Generation**, **Manufacturing**, and **Water Heating**.)

Energy Management and Control System (EMCS): An energy conservation feature that uses mini/microcomputers, instrumentation, control equipment, and software to manage a building's use of energy for heating, ventilation, air conditioning, lighting, and/or business-related processes. These systems can also manage fire control, safety, and security. Not included as EMCS are time-clock thermostats. (See **Occupant Control of Heating**, and **Occupant Control of Cooling**.)

Energy Source: A type of energy or fuel consumed in the building. For this report, the energy sources identified are electricity, natural gas, fuel oil, district heat, district chilled water, propane, wood, coal, and active solar. (See **Electricity**, **Natural Gas**, **Fuel Oil**, **District Heat**, **District Chilled Water**, **Liquefied Petroleum Gas (LPG)**, **Propane**, **Wood**, **Coal**, and **Active Solar**.)

Energy Supplier: A company that provides electricity, natural gas, fuel oil, or other sources of energy to a building. In the 1989 CBECS, only suppliers of electricity, natural gas, fuel oil, and district heat or chilled water were sent the Supplier Survey. (See **Energy Source**.)

Envelope: (See **Building Shell (Envelope)**).

Establishment: As defined by the Standard Industrial Classification Manual developed by the Office of Management and Budget, "an economic unit, generally, at a single physical location where business is conducted or where services or industrial operations are performed." However, "establishment" is not synonymous with "building." In this survey, respondents were asked how many establishments or organizations occupy (i.e., hold or lease price on a full time basis) the building.

Exterior or Interior Shadings or Awnings: A covering designed to reduce the flux of light into a building. Exterior shadings or awnings include any type of shading (including architectural) or awning on the outside of the building designed to limit solar penetration. Interior shadings are drapes, venetian blinds, shades or any other means of covering a window from the inside to limit the amount of solar or thermal penetration. (See **Building Shell Conservation Feature**.)

Evaporative Cooler ("Swamp" Cooler): A type of cooling equipment using the evaporation of water to cool air. This type of equipment is commonly found in warm, dry climates. In this report, evaporative coolers are included under "Other Cooling Equipment". (See **Cooling**.)

Facility: At the sampling stage, an economic unit that operates in more than one building at a single location. Examples include college campuses and large hospital complexes. The building represents the interviewed sampling unit for this survey. Listings for the area sample ordinarily identified each building individually. However, listings for the large and specialized buildings lists sometime represented a facility including several buildings. If an intended sampling unit turned out to be a cluster of buildings such as a campus, sampling proceeded in one of two ways: (1) If there were three or fewer buildings in the cluster, all buildings were sampled or (2) If there were four or more buildings, subsampling from the cluster was performed. For all sample buildings, a survey question determined whether the building was part of a multibuilding facility. In many cases, a building was reported at interview to be part of a multibuilding facility even though the building had not been identified as part of a facility at the sampling stage. More rarely, a building identified as part of a facility during sampling was reported not to be part of a multibuilding facility at interview. (See **Building, List Sample, Multibuilding Facility** and **Appendix A, "How the Survey was Conducted."**)

Fan-Coil Unit: A type of heating and cooling distribution equipment using circulating hot or chilled water with fans. Fan-coil units have thermostatically controlled built-in fans that draw air from the room and then across finned tubes containing hot water, steam, or chilled water. The hot water, steam or chilled water can be produced by equipment within the building or be piped into the building as part of a district heating or cooling system. (See **Space Heating and Cooling.**)

Floors: The number of levels in the tallest section of a building, including parking areas, basements, or other floors below ground level.

Floorspace: All the area enclosed by the exterior walls of a building, including indoor parking facilities, basements, hallways, lobbies, stairways, and elevator shafts. For aggregate floorspace statistics, floorspace was summed or aggregated over all buildings in a category (such as all office buildings in the United States). (See **Square Footage and Weight.**)

Fluorescent Lamp: A lamp made of a glass tube coated on the inside with fluorescent material. The lamp produces light by passing electricity through mercury vapor, which causes the fluorescent coating to glow or fluoresce. (See **Lamp.**)

Fuel Oil: A liquid petroleum product less volatile than gasoline, used as an energy source. In this report, fuel oil includes distillate fuel oil (No. 1, No. 2, and No. 4,), residual fuel oil (No. 5 and No. 6), and kerosene. (See **Energy Source.**)

Furnace: An enclosed chamber where fuel is burned or electrical resistance is used to heat air directly, without using steam or hot water. The warm air for heating, which is distributed throughout the building, typically by air ducts. (See **Boiler, Ducts, Space Heating, and HVAC.**)

Government Owned: Owned by a Federal, State, or local government agency. The building may be occupied by agencies of more than one government and may also be shared with nongovernment establishments.

HDD: See **Heating Degree-Days (HDD).**

Heat Pump: Heating and/or cooling equipment that, during the heating season, draws heat into a building from outside and, during the cooling season, ejects heat from the building to the outside. Heat pumps are vapor-compression refrigeration systems whose indoor/outdoor coils are used reversibly as condensers or evaporators, depending on the need for heating or cooling. (See **Cooling, Space Heating, Central Cooling, and HVAC.**)

Heating: See **Space Heating.**

Heating Degree-Days (HDD): A measure of how cold a location was over a period of time, relative to a base temperature. In this report, the base temperature used is 65 degrees Fahrenheit, and the period of time is one year. The heating degree-days for a single day is the difference between the base temperature and the day's

average temperature if the daily average is less than the base; and zero if the daily average temperature is greater than or equal to the base temperature. The heating degree-days for a longer period of time is the sum of the daily heating degree-days for days in that period. (See **Cooling Degree-Days (CDD)**, **Climate Zone**, and **NOAA Division**.)

HID: See **High-Intensity Discharge (HID) Lamp**.

High-Efficiency Ballast: A lighting conservation feature consisting of an energy-efficient version of a conventional electromagnetic ballast. The ballast is the transformer for fluorescent and HID lamps, which provides the necessary current, voltage, and wave-form conditions to operate the lamp. A high-efficiency ballast requires lower power input than a conventional ballast to operate HID and fluorescent lamps.

High-Intensity Discharge (HID) Lamp: A lamp that produces light by passing electricity through gas, which causes the gas to glow. Examples of HID lamps are mercury vapor lamps, metal halide lamps, and high-pressure sodium lamps. (See **Lamp**.)

Hot-Deck Imputation: An imputation procedure using random resampling from nonmissing cases to fill in values for missing cases. (See **Imputation** and Appendix B, "Nonsampling and Sampling Errors.")

HVAC: An abbreviation for heating, ventilation, and air-conditioning system; the system or systems that condition air in a building.

HVAC Conservation Feature: A building feature designed to reduce the amount of energy consumed by the heating, cooling, and ventilating equipment. The 1989 Building Characteristics Survey collected data on the presence of two HVAC conservation features: preventive maintenance program for the heating and cooling equipment and energy management and control systems. (See **Preventive Maintenance Program for the Heating and/or Cooling Equipment and Energy Management and Control System (EMCS)**.)

Imputation: A statistical method used to fill in values for missing items, designed to minimize the bias of estimates based on the filled-in data set. (See **Hot-Deck Imputation**, and Appendix B, "Nonsampling and Sampling Errors.")

Incandescent Lamp: A lamp that produces light by electrically heating a filament so that it glows. Included in this category are the familiar household light bulbs which screw into sockets, as well as energy-efficient incandescent bulbs such as Tungsten Halogen (spotlights), Reflector or R-Lamps (accent and task lighting), Parabolic Aluminized Reflector (PAR) lamps (flood and spot lighting), and Ellipsoidal Reflector (ER) lamps (recessed lighting). (See **Lamp**.)

Individual Air Conditioners in Walls or Windows: Self-contained air-conditioning units installed in either walls or windows (with heat-radiating condensers exposed to the outdoor air). These units are characterized by a lack of pipes or duct work for distributing the cool air; the units condition air only in the room or areas where they are located. (See **Cooling**.)

Individual Space Heater: A free-standing or self-contained unit that generates and delivers heat to a local zone within the building. The heater may be permanently mounted in a wall or floor, or may be portable. Examples of individual space heaters include electric baseboards, electric radiant or quartz heaters, heating panels, gas- or kerosene-fired unit heaters, wood stoves, and infrared radiant heaters. These heaters are characterized by a lack of pipes or duct work for distributing hot water, steam, or warm air through the building. (See **Electric Baseboard**.)

Industrial: See **Manufacturing/Industrial**.

In Scope: Meeting the requirements for eligibility in the CBECS, and, therefore, included in the population covered by the survey. For the 1989 survey, these eligibility requirements were (a) that the structure be a building, according to the CBECS definition; (b) that the building be larger than 1,000 square feet; and

(c) that more than 50 percent of the floorspace be used for commercial activities. (See **Building, Commercial, Floorspace**, and Appendix A, "How the Survey Was Conducted.")

Insulation: A building shell conservation feature consisting of material placed between the interior of a building and the outdoor environment to reduce the rate of heat loss to the environment or heat gain from the environment. Examples include glass-wool fill and foam board. (See **Roof or Ceiling Insulation, Wall Insulation**, and **Building Shell Conservation Feature**.)

Interruptible or Curtailable Rate: A special electricity or natural gas rate under which, in return for lower rates, the customer must either reduce energy demand on short notice or allow the electric or natural gas utility to temporarily cut off the energy supply for the utility to maintain service for higher priority users. This interruption or reduction in demand typically occurs during periods of high demand for the energy (summer for electricity and winter for natural gas). (See **Rate Features**.)

Kerosene: A petroleum distillate with properties similar to No. 1 fuel oil, used primarily in space heaters, cooking stoves, and water heaters. In this report, no distinction is made between kerosene and fuel oil. (See **Fuel Oil**.)

Lamp: A term generally used to describe a manmade source of light. The term is often used when referring to a "bulb" or "tube." The CBECS collects data only about lamps using electricity. (See **Incandescent Lamp, Fluorescent Lamp**, and **High-Intensity Discharge (HID) Lamp**.)

Large and Specialized Buildings Lists: Lists that were used to select a supplementary sample of buildings for the CBECS. The sample of buildings drawn from these lists was used to supplement the Multistage Area Probability Sample within each selected PSU. (See **Multistage Area Probability Sample, List Sample**, and Appendix A, "How the Survey was Conducted.")

Licensed Bed Capacity: The number of beds that a hospital, inpatient health service, skilled nursing, or residential care facility is licensed to have. (See **Principal Building Activity, Special Measures of Occupancy**, and Appendix E, "Types of Buildings.")

Lighting Conservation Feature: A building feature or practice designed to reduce the amount of energy consumed by the lighting system. The 1989 CBECS collected data on one lighting conservation feature--high-efficiency ballasts. (See **High-Efficiency Ballast**.)

Liquefied Petroleum Gas (LPG): Gas fuel in liquid form supplied to a building as an energy source. The fuel is usually delivered by tank trucks and stored near the building in a tank or cylinder until used. LPG contains mostly propane, but can contain such gases as butane, propylene, butylene, or ethane. For this report, any LPG reported was assumed to be propane. (See **Energy Source, Propane, and Natural Gas**.)

List Sample: A sample drawn from the large and specialized building lists used to supplement the area probability sample. (See **Large and Specialized Buildings Lists** and Appendix A, "How the Survey Was Conducted.")

LPG: See **Liquefied Petroleum Gas (LPG)**.

Manufacturing: As an energy end use, any of the energy-using operations required for manufacturing/industrial processes. Manufacturing is one of the six end uses of energy specifically requested in this survey. (See **Energy End Use** and **Manufacturing/Industrial**.)

Manufacturing/Industrial: As a building activity in this survey, activities involving the processing or procurement of goods, merchandise, raw materials, or food. These activities include: food processing; leather/textile mills; light assembly factories, such as those for apparel and electronic instruments; heavy assembly factories, such as those for machinery and other heavy equipment; paper processing; chemical or petroleum processing, metalworks, glassworks, and other similar manufacturing plants; printing and publishing;

generation, transmission, or distribution of electricity, natural gas, steam, or other utility or sanitary service; and construction and natural resource procurement.

In this survey, manufacturing and industrial buildings were excluded from the population covered. Such buildings could be included in the sample during the listing stage. However, buildings that had 50 percent or more of their square footage devoted to manufacturing or industrial activities were dropped from the sample during the interview stage. (See **Principal Building Activity**, Appendix A, "How the Survey Was Conducted and Appendix E, "Types of Buildings.")

Masonry: A general term covering wall construction using masonry materials such as brick, concrete block, stone, and tile that are set in mortar; also included is stucco. This category does not include concrete panels since concrete panels represent a different method of constructing buildings. Concrete panels are reported separately. (See **Concrete Panel**.)

Mean: The simple arithmetic average for a population; that is, the sum of all the values in a population divided by the size of the population. For this report, population means are estimated by computing the weighted sum of the sample values, then dividing by the sum of the sample weights. (See **Median and Weight**.)

Median: The middle value in the population. Half the population has a value above the median and half has a value below. The median is different from the mean in that its estimate is not influenced much by extremes in the sample. An estimate of the mean square feet per building would be affected by the inclusion of some very large buildings, and would not express square footage for a "typical" building. In contrast, the median square feet would not be so affected. (See **Mean**.)

Metal Panel: An exterior wall construction material made of aluminum or galvanized steel panels fabricated in factories and fastened to the frame of the building to form outside walls. Pre-engineered metal buildings are also included in this category.

Metal Surfacing: Light-gauge metal sheets used for roofing.

Metered Peak Demand: The presence of a devise to measure the maximum rate of electricity consumption per unit of time. This devise allows electric utility companies to bill their customers for maximum consumption, as well as for total consumption. (See **Rate Features**.)

Metropolitan: Buildings located within Metropolitan Statistical Areas (MSA's) as defined in the 1980 Census. Except in New England, an MSA is a county or a group of contiguous counties that 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 MSA if they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, MSA's consist of towns and cities rather than counties. (See **Nonmetropolitan**.)

Metropolitan Status: A building classification, either metropolitan or nonmetropolitan. (See **Metropolitan** and **Nonmetropolitan**.)

MSA: See **Metropolitan**.

Multibuilding Establishment: An establishment that operates in a multibuilding facility. (See **Multibuilding Facility**.)

Multibuilding Facility: A group of two or more buildings on the same site owned or operated by a single organization, business, or individual. Examples include university campuses and hospital complexes. (See **Building, Facility**, and Appendix A "How the Survey Was Conducted.")

Multistage Area Probability Sample: A sample design executed in stages with geographic "clusters" of sampling units selected at each stage. This procedure reduces survey expense while maintaining national coverage. (See Appendix A, "How the Survey Was Conducted.")

Multiple-Establishment Building: A single building that houses more than one establishment. Examples include enclosed shopping malls and office suites. In this survey, the building was the interviewed sampling unit. If establishments in the building were billed for an energy source using separate meters or accounts, the utility (or energy supplier) was asked to provide data on consumption and expenditures for the entire building, on an "aggregate" reporting form that was provided. (See **Establishment**, **Single-Establishment Building**, **Multibuilding Establishment**, and **Building**.)

Natural Gas: Hydrocarbon gas (mostly methane) supplied as an energy source to individual buildings by pipelines from a central utility company. Natural gas does not refer to liquefied petroleum gas or to privately owned gas wells operated by a building owner. (See **Energy Source**, **Liquefied Petroleum Gas (LPG)**, and **Propane**.)

NOAA Division: One of the 356 weather divisions designated by the National Oceanic and Atmospheric Administration (NOAA), encompassing the United States and the District of Columbia. These divisions usually follow county borders to encompass counties with similar weather conditions. However, the NOAA division does not follow county borders when weather conditions vary considerably within a county, as is likely to be the case when a county borders the ocean or contains high mountains. (See **Climate Zone**, **Cooling Degree-Days**, and **Heating Degree-Days**.)

Nonmetropolitan: Buildings not located within Metropolitan Statistical Areas as defined in the 1980 Census. (See **Metropolitan**.)

Nonresidential Building: A building used for some purpose other than residential. Nonresidential buildings comprise three groups: commercial, manufacturing/industrial, and agricultural. Commercial buildings are the focus of this report. See **Commercial Building**, **Manufacturing/Industrial Building**, **Residential**, **Principal Building Activity**, **Out of Scope**, and Appendix E, "Types of Buildings."

Number of Rooms - Lodging: The number of guest rooms or quarters in a short-term residential building, such as a motel, tourist home, or hotel; or the number of bedrooms or residential suites in a long-term facility, such as a dormitory, boarding house, orphanage, convent, monastery, fraternity, or sorority house. (See **Principal Building Activity**, **Special Measures of Occupancy**, and Appendix E, "Types of Buildings.")

Number of Workers in the Building: The number of people working in a building during the main shift on a typical workday during the year. Included in this definition are self-employed workers and volunteers. Excluded from this definition are customers, patients, and students, unless they are working for establishments in the building. Also excluded are employees who work out of the office, such as salespeople who report in, delivery people with routes, and messengers. (See Appendix B, "Nonsampling and Sampling Errors.")

Occupant Control of Cooling: Control by individuals, other than maintenance personnel, of the cooling equipment in a building.

Occupant Control of Heating: Control by individuals, other than maintenance personnel, of the heating equipment in a building.

Out of Scope: Violating one or more of the requirements for eligibility in the survey, therefore not included in the population covered by the 1989 CBECS. (See **In Scope**.)

Owner Occupied: Having the owner or the owner's business represented at the site. A building is considered owner occupied if an employee or representative of the owner (such as a building engineer or building manager) maintains office space in the building. Similarly, a chain store is considered owner occupied even though the actual owner may not be in the building but headquartered elsewhere. Other examples of the

owner's business occupying a building include State-owned university buildings, elementary and secondary schools owned by a public school district, and a post office where the building is owned by the U.S. Postal Service.

Packaged Cooling Units: (See **Packaged Units**.)

Packaged Heating Units: (See **Packaged Units**.)

Packaged Units: Units built and assembled at a factory and installed as a self-contained unit to heat or cool all or portions of a building. Packaged units are in contrast to engineer-specified units built up from individual components for use in a given building. "Packaged Units" is a term that can apply to heating equipment, cooling equipment, or combined heating and cooling equipment. Some types of electric packaged units are also called "Direct Expansion" or DX units. (See **Cooling**, **HVAC**, and **Space Heating**.)

Percent Cooled: The percentage of the building's square footage that is cooled to meet the comfort requirements of the occupants. (See **Square Footage** and **Cooling**.)

Percent Heated: The percentage of the building's square footage designed to be heated to at least 50 degrees Fahrenheit. (See **Total Square Footage** and **Space Heating**.)

Percent Lit When Closed: The percentage of the building's square footage that is lit electrically during all hours other than the usual operating hours. (See **Percent Lit When Open**, **Square Footage**, and **Weekly Operating Hours**.)

Percent Lit When Open: The percentage of the building's square footage that is lit electrically during usual operating hours. (See **Percent Lit When Closed**, **Square Footage** and **Weekly Operating Hours**.)

Preventive Maintenance Program for Heating and/or Cooling Equipment: As used in this report, a HVAC conservation feature consisting of a program of routine inspection and service for the heating and/or cooling equipment. The inspection is performed on a regular basis, even if there are no apparent problems. (See **HVAC Conservation Feature**.)

Primary Sampling Unit (PSU): The sampling units selected at the first stage in a multistage area probability sample. A PSU typically consists of one to several contiguous counties--for example, a metropolitan area with surrounding suburban counties. (See **Multistage Area Probability Sample**, **Metropolitan**, and **Appendix A**, "How the Survey Was Conducted.")

Principal Building Activity: The activity or function occupying the most floorspace in the building. The categories were designed to group buildings that have similar patterns of energy consumption. Examples of various types of principal activity include office, health care, lodging, and mercantile and service. (See **Appendix E**, "Types of Buildings.")

Propane: A gaseous petroleum product that liquefies under pressure; propane is a major component in liquefied petroleum gas, or LPG. Any LPG reported in the CBECS was assumed to be propane. (See **Liquefied Petroleum Gas (LPG)**.)

PSU: (See **Primary Sampling Unit (PSU)**).

Radiator: Space heating equipment that transfers heat from steam or hot water to air by a combination of direct radiation, conduction, and convection. Typically, a radiator is a freestanding, cast-iron fixture exposed in the space it heats. (See **Space Heating**.)

Rate Features: Special rate schedules or tariffs offered to customers by electric and/or natural gas utilities. In this survey, information was collected on five electric rate features: seasonal pricing, time-of-day pricing, time-of-day lock-out or limit, interruptible or curtailable rate, and metered peak demand. Natural gas

customers were asked about an interruptible service rate. (See **Seasonal Pricing, Time-of-Day Pricing, Time-of-Day Lock-out or Limit, Interruptible or Curtailable Rate, Metered Peak Demand**, and Appendix B, "Nonsampling and Sampling Errors.")

Reduced Use--Off Hours: A conservation feature consisting of manually or automatically reducing the amount of heating or cooling produced during the hours a building is not in full use. (See **Space Heating, Cooling and Conservation Feature**.)

Reflective or Shading Glass or Film: A building shell energy conservation feature consisting of tinted or reflective glass or shading films installed on the exterior glazing of a building to reduce the rate of solar penetration into the building. (See **Building Shell Conservation Feature**.)

Refrigeration/Freezer Equipment: A type of equipment such as: commercial refrigeration/freezer units for the sale or storage of perishable materials; residential-type refrigerators/freezers; ice-making machines; soda or any other refrigerated vending machines; water coolers; or any other refrigeration equipment, excluding air conditioning. Freezers are designed to keep their contents below the freezing point (32 degrees Fahrenheit), and refrigeration equipment is designed to maintain the stored items below room temperature, but above the freezing point. In this report, data are collected on refrigeration/freezer equipment inside and/or adjacent to the building.

Regular HVAC Maintenance: (See **Preventive Maintenance Program for Heating and/or Cooling Equipment**.)

Reheating Coils: A part of some air-conditioning systems. Electric coils in air ducts used primarily to raise the temperature of circulated air after it was over cooled to remove moisture. Some buildings report reheating coils as their sole heating source. (See **Space Heating, and Cooling, Air Duct or Air-Handling Units**.)

Relative Standard Error: See **RSE (Relative Standard Error)**.

Residential: As used in this survey, activities related to use as a dwelling for one or more households. In this survey, residential buildings that contained commercial activities were included in the sample during the listing stage. However, buildings that had 50 percent or more of their square footage devoted to residential activities were considered out of scope and dropped from the sample during the interview stage. (See **Principal Building Activity, In Scope, Commercial Building**, and Appendix A, "How the Survey Was Conducted.")

Roof or Ceiling Insulation: A building shell conservation feature consisting of insulation placed in the roof (below the waterproofing layer) or in the ceiling of the top floor in the building. (See **Insulation and Building Shell Conservation Feature**.)

RSE (Relative Standard Error): A measure of the reliability or precision of a survey statistic. The Relative Standard Error, or RSE, is defined as the standard error of a survey estimate, expressed as a percent of the estimate. For example, an RSE of 10 percent means that the standard error is one-tenth as large as the survey estimate. (See **Standard Error** and "Generalized Variances" in Appendix B, "Nonsampling and Sampling Errors.")

RSE Column Factor: An adjustment factor used to compute RSE's. For a survey estimate in a particular row and a column of a table (that is, a particular "cell"), the approximate RSE is obtained by multiplying the RSE row factor by the RSE column factor for that cell. (See **RSE (Relative Standard Error), RSE Row Factor**, and "Generalized Variances" in Appendix B, "Nonsampling and Sampling Errors.")

RSE Row Factor: A factor used to compute RSE's. The row factor is equal to the geometric mean of the RSE's in a particular row of the main tables. For a survey estimate in a particular row and column of a table (that is, a particular "cell"), the approximate RSE is obtained by multiplying the RSE row factor by the RSE column factor for that cell. (See **RSE (Relative Standard Error), RSE Column Factor**, and "Generalized Variances" in Appendix B, "Nonsampling and Sampling Errors.")

Sampling: The procedure used to select cases (in this survey, buildings) for interview from the population (commercial buildings in the United States). (See **Multistage Area Probability Sampling** and Appendix A, "How the Survey Was Conducted.")

Seasonal Pricing: A special electric rate feature under which the price per kilowatthour depends on the season of the year. (See **Rate Features**.)

Seating Capacity - Classrooms: The number of students that can be seated in the classrooms and/or lecture halls of an education building at a given time. (See **Principal Building Activity**, **Special Measures of Occupancy**, and Appendix E, "Types of Buildings.")

Seating Capacity - Food Service: The number of patrons that can be seated in a food service building at a given time. (See **Principal Building Activity**, **Special Measures of Occupancy**, and Appendix E, "Types of Buildings.")

Shadings or Awnings: (See **Exterior or Interior Shadings or Awning**.)

Shakes: Flat pieces of weatherproof material laid with others in a series of overlapping rows as covering for roofs and sometimes the sides of buildings. Shakes are similar to wood shingles, but instead of having a cut and smoothly planed surface, shakes have textured grooves and a rough or "split" appearance to give a rustic feeling. (See **Shingles, Siding, and Wooden Materials**.)

Shingles: Flat pieces of weatherproof material laid with others in a series of overlapping rows as covering for roofs and sometimes the sides of buildings. Shingles are manufactured in a variety of materials including fiberglass, wood, plastic, baked clay, tile, asbestos, asphalt, and aluminum. (See **Siding, Shakes and Wooden Materials**.)

Siding: An exterior wall covering material made of wood, plastic (including vinyl), or metal. Siding is generally produced in the shape of boards applied to the outside of a building in overlapping rows. (See **Wooden Materials**.)

Single-Establishment Building: A building that houses only one establishment, for example, a building dedicated to the offices of a single corporation. (See **Establishment**, **Multibuilding Establishment**, **Multiple-Establishment Building**, and **Building**.)

Slate or Tile: A type of roofing material. Tile refers to any thin, square, or rectangular piece of baked clay, stone, or concrete used as a roofing material. Slate refers to a particular stone used for roofing.

Solely or in Combination: In the CBECS tables, a row stub accompanied by this phrase indicates overlapping categories, so that a particular building may be included in more than one line under this stub. In general, row stubs without this designation are exclusive, that is, they divide the population of buildings into distinct groups, so that a particular building is represented in no more than one line under this stub.

Space Heating: The use of mechanical equipment (including wood stoves and active solar heating devices) to heat all, or part, of a building to at least 50 degrees Fahrenheit. This is one of the six end uses of energy specifically asked for in this survey. (See **Energy End Use**.)

Special Measures of Occupancy: A measure relating to the intensity of use of a building, for example, the number of licensed beds in a hospital or the number of guest rooms in a hotel. (See **Seating Capacity - Classrooms**, **Seating Capacity - Food Service**, **Number of Rooms - Lodging**, and **Licensed Bed Capacity**.)

Square Feet per Worker: The ratio of the total square footage in each category to the total number of workers in the category.

Square Footage: Floorspace, in units of square feet. One square foot is approximately equal to 0.0929 square meters. (See **Floorspace**.)

Standard Error: A measure of the precision of an estimate, equal to the square root of the variance. (See **Variance, RSE (Relative Standard Error)**, and Appendix B, "Nonsampling and Sampling Errors.")

Storm or Multiple Glazing: A building shell conservation feature consisting of storm windows, storm doors, or double- or triple-paned glass that are placed on the exterior of the building to reduce the rate of heat loss. (See **Building Shell Conservation Feature**.)

Synthetic or Rubber Roofing: A layer of heavy gauge plastic or rubber used for roofing.

Thermostat: A device that adjusts the amount of heating and cooling produced and/or distributed by automatically responding to the temperature in the environment.

Time-of-Day Lock-out or Limit: A special electric rate feature under which electricity usage is prohibited or restricted to a reduced level at fixed times of the day, in return for a reduction in the price per kilowatthour. (See **Rate Features**.)

Time-of-Day Pricing: A special electric rate feature under which the price per kilowatthour depends on the time of day. (See **Rate Features**.)

Tinted Glass: See **Reflective or Shading Glass or Film**.

Total Square Footage: Square footage of floorspace summed or aggregated over all buildings in a category (such as all office buildings in the United States). In this survey, aggregate square footage was estimated by multiplying each building's square footage by its weight, then summing over all sample buildings of interest to represent nationwide totals. (See **Floorspace and Weight**.)

Utility-Sponsored Conservation Program: Any program sponsored by an electric and/or natural gas utility to review equipment and construction features in buildings and advise on ways to increase the energy efficiency of buildings. Also included are utility-sponsored programs to encourage the use of more energy-efficient equipment. Included in this survey were programs to improve the energy efficiency in the lighting system or building equipment, or the thermal efficiency of the building shell.

Vacant: As a principal building activity, the designation for a building in which most of the floorspace was not occupied by any tenant or establishment. A vacant building may contain occupants who are using up to 50 percent of the floorspace. (See **Principal Building Activity**, and Appendix E, "Types of Buildings".) The CBECS also measures vacancy in terms of the fraction of space vacant within an individual building and the fraction of time the building was in use. For all buildings, data were collected on the percent of floorspace vacant three or more months, and/or the number of months the building was in use.

Variance: A measure of the variability of a set of observations that are subject to some chance variation; equal to the expected squared difference between a single observation and the average of all possible observations obtained in the same manner. The variance is the square of the standard error of estimates. For statistics presented in this report, the variance indicates the likely difference between the value computed from the CBECS sample and the average of the values that could have been computed from all possible samples that might have been obtained by the same sample selection process. (See **Standard Error**, Appendix A, "How the Survey was Conducted" and Appendix B, "Nonsampling and Sampling Errors.")

Vintage: The year of origin or age. As used in the CBECS report, the year of construction for the building, as in "building vintage," or the age of the central chillers or packaged refrigeration units, as in "vintage of refrigeration equipment." (See **Year Constructed**, **Central Chillers**, and **Packaged Units**.)

Wall Insulation: A building shell conservation feature consisting of insulation placed between the exterior and interior walls of a building. (See **Insulation and Building Shell Conservation Feature**.)

Warm-Air Furnace: See **Furnace**.

Water Heating: The use of energy to heat water for purposes other than space heating. This is one of the six end uses of energy specifically asked for in this survey. (See **Energy End Use**.)

Weather Stripping or Caulking: A building shell conservation feature that includes any material placed between the door or window and the door frame or window frame to reduce the rate of loss of heat or cold caused by air infiltration. (See **Building Shell Conservation Feature**.)

Weekly Operating Hours: The number of hours per week that a building is used, excluding hours when the building is occupied only by maintenance, security, or other support personnel. For buildings with a schedule that varied during the year, "weekly operating hours" refers to the total weekly hours for the schedule most often followed. If operating hours varied throughout a building, the usual operating hours of the largest business in the building (based on square footage) determined the operating hours for the building.

Weight: The number of buildings in the United States that a particular sample building represents. To estimate the total value of an attribute (such as square footage) in the U.S. commercial building population as a whole, each sample building's value is multiplied by the building's weight. Summing the weighted sample values provides an estimate of the nation-wide total. (See **Multistage Area Probability Sample**, **Total Square Footage**, and **Appendix B, "Nonsampling and Sampling Errors."**)

Window or Vision Glass: An exterior wall construction material made of glass that can be seen through from the inside of the building--the glass especially found in windows. Walls that are glass covered or constructed of glass material, but cannot be seen through, are excluded from this category. (See **Decorative or Construction Glass**.)

Wood: As an energy source, wood logs, chips, or wood products that are used as fuel. (See **Energy Source**.)

Wooden Materials: Wood shingles, wood shakes, or other wooden materials used as roofing materials. (See **Shingles and Shakes**.)

Year Constructed: The year in which the major part or the largest portion of a building was constructed.

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