Glossary

Air Conditioning: See **Energy End Use**, *Cooling*.

Authorization Form: A form signed by the respondent 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**.)

British Thermal Unit: A unit of energy consumed by or delivered to a building. A Btu is defined as the amount of energy required to increase the temperature of 1 pound of water by 1 degree Fahrenheit, at normal atmospheric pressure. Energy consumption is expressed in Btu in this report to allow for consumption comparisons among fuels that are measured in different units. (See **Metric Conversion Factors.**)

Btu: See **British Thermal Unit**.

Btu Conversion Factors: The Btu conversion factors for this report are as follows:

Energy Source	Btu Equivalent	Unit
Electricity	Varies[a]	kilowatthour
Natural Gas	Varies[b]	cubic foot
Distillate Fuel Oils (Nos. 1,2, and 4)	138,690	gallon
Residual Fuel Oils (Nos. 5 and 6)	149,690	gallon
Kerosene	135,000	gallon
District Heat (Steam and Hot Water)	1,000	pound

[a]The Btu equivalent of primary electricity varies by survey year: in 1979, 10,353; in 1980, 10,388; in 1981, 10,453; in 1982, 10,454; in 1983, 10,520; in 1984, 10,440; in 1986, 10,446; in 1987, 10,419; in 1989, 10,317; and, in 1990, 10,335.

[b]The Btu equivalent of natural gas varies by survey year: in 1979, 1,019; in 1980, 1,021; in 1981, 1,027; in 1982, 1,027; in 1983, 1,031; in 1984, 1,031; in 1986, 1,029; in 1987, 1,031; in 1989, 1,030; and, in 1990, 1,027.

Sources: Energy Information Administration, *Monthly Energy Review* (April 1995), DOE/EIA-0035(95/04) for electricity, natural gas, distillate fuel oils, residual fuel oils, and kerosene; and *Methodological Issues in the Nonresidential Buildings Energy Consumption Survey* (September 1983) for district steam.

Building: For this report, a structure totally enclosed by walls extending from the foundation to the roof. Structures that were included in the survey as specific exceptions were commercial parking garages not totally enclosed by walls and a roof and structures erected on pillars which elevate the first fully enclosed level, but leave the sides at ground level open. (See **Commercial Building**, **Residential Building**, and **Housing Unit**.)

Building Floorspace: See **Floorspace**.

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 Census Regions and Divisions map in Appendix D.)

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 Census Regions and Divisions map in Appendix D of this report.

Coal: See **Energy Source**, *Coal*.

Commercial: Neither residential, manufacturing, nor agricultural. (See **Commercial Building**.)

Commercial Building: A building used primarily 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 sites 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. (See **Building**, **Commercial**, and **Principal Building Activity.**)

Commercial Floorspace: All the area enclosed by the exterior walls of a commercial building, including hallways, lobbies, stairways, and elevator shafts. (See **Residential Floorspace**.)

Consumption: The amount of energy used by, or delivered to, a building during a given period of time. Statistics for this report are presented on an annual basis for the calendar year. Data on energy consumption were not collected by end uses separately. For example, although it might be known that electricity was used in some buildings for heating, the consumption of electricity reported for those buildings would typically include other uses of electricity as well (such as lighting and water heating).

For this report, all consumption statistics, unless otherwise noted, consist of primary electricity, and site energy for all other energy sources. (See **Btu**, **Energy Supplier**, **Primary Electricity**, and **Site Energy**.)

Conversion Factors: See **Btu Conversion Factors** and **Metric Conversion Factors**.

Cooking: See **Energy End Use**, *Cooking*.

Cooling: See **Energy End Use**, *Cooling*.

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 (approximately 18 degrees Celsius), and the period of time is 1 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. One cooling degree-day Fahrenheit equals five-ninths of a degree-day Celsius. (See **Heating Degree-Days (HDD)**)

Cubic Foot: As a natural gas measure, the volume of gas at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch) contained in a cube which has edges equal to 1 foot. The thermal content varies by the composition of the gas. (See **Energy Source,** *Natural Gas* and **Btu.)**

District Chilled Water: See **Energy Source**, *District Chilled Water*.

District Heat: See **Energy Source**, *District Heat.*

District Hot Water: See **Energy Source**, *District Heat.*

District Steam: See **Energy Source**, *District Heat*.

Electricity: See **Energy Source**, *Electricity*.

Energy End Use: A use for which energy is consumed in a building. Each end use for which estimates were provided in this report are given below. The general meaning of each end use, as defined by the CBECS and RECS are also provided.

RECS	Energy End Use	CBECS
Use of mechanical equipment (includes wood stoves and active solar heating devices) to heat all or part of a building to at least 50 degrees Fahrenheit.	**Space Heating**	Use of mechanical equipment (includes wood stoves and active solar heating devices) to heat all or part of a building to at least 50 degrees Fahrenheit.
Energy used to heat water for hot running water and to heat water on a stove and auxiliary water heating equipment for bathing, cleaning, and other noncooking applications.	**Water Heating**	Use of energy to heat water for purposes other than space heating.
See **Air Conditioning** and **Appliances**.	**Cooling**	Conditioning of room air for human comfort by a refrigeration unit or evaporative cooler 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.
Cooling and dehumidification of air in a building by a refrigeration unit driven by electricity or gas. This includes units that are unused and those that are not in working condition and excludes fans, blowers, and evaporative cooling systems that are not connected to a refrigeration unit.	**Air Conditioning**	Included in **Cooling**.
Energy for all uses except those covered by space heating, water heating, and air conditioning. These include: lighting, television, personal computers, washing machines, refrigeration, and most small appliances. Special energy uses for appliances are energy used to heat: food, water for cooking, water for hot drinks, air to dry clothes, water in a water bed, and water for a swimming pool. Also included is energy to operate fans for a central forced-air space-heating system or air-conditioning system and energy for an evaporative cooling system.	**Appliances**	Not applicable.

RECS	Energy End Use	CBECS
Included in **Appliances**.	**Ventilation**	The circulation of air through a building to provide fresh air to the occupants and to deliver heating and cooling to the occupied spaces.
Included in **Appliances**.	**Lighting**	The illumination of the interior of a building by use of artificial sources of light.
Included in **Appliances**.	**Cooking**	Use of energy for commercial or institutional food preparation.
Included in **Appliances**.	**Refrigeration***	Use of energy to maintain perishable goods at a cool temperature for storage or sale.
Not applicable.	**Manufacturing**	Any energy-using operations required for manufacturing/industrial processes.
Not applicable.	**Office Equipment**	A class of energy-using equipment including typewriters, copiers, cash registers, computer terminals, personal computers, printers, mainframe computer systems, and other miscellaneous office equipment.
Included in **Appliance**.	**Other**	Use of energy for all end uses not specifically mentioned.

*In the 1990 RECS, energy used for refrigeration was not included in the appliance end use category; instead, refrigeration was considered a separate end use. For consistency among survey years, the 1990 appliance end use category includes energy used for refrigeration.

Energy Intensity: The ratio of energy consumption to some measure of demand for services provided by energy. In this report, energy intensity is given on an aggregate basis, as the ratio of total consumption of an energy source for a set of buildings to the total floorspace served by that energy source in those buildings. (See **Consumption**.)

Energy Source: A type of energy or fuel consumed in the building. For this report, the energy sources identified are:

RECS	Energy Source	CBECS
Metered electric power supplied by a central utility company to a residence via power lines. Electricity is measured as the amount of power used at any instant (demand expressed in watts or kilowatts) or as power used over a given time (consumption expressed in kilowatthours).	**Electricity**	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.
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 liquified petroleum gas or to privately owned gas wells operated by a building owner.	**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 liquified petroleum gas or to privately owned gas wells operated by a building owner.
A liquid petroleum product less volatile than gasoline. It includes distillate fuel oil (No. 1, No. 2, and No. 4).	**Fuel Oil**	A liquid petroleum product less volatile than gasoline. It includes distillate fuel oil (No. 1, No. 2, and No. 4), residual fuel oil (No. 5 and No.6), and kerosene.
A petroleum distillate with properties similar to those of No. 1 fuel oil, used primarily in space heaters, cooking stoves, and water heaters.	**Kerosene**	Included in **Fuel Oil.**
Any fuel gas supplied to a residence in liquid form, such as propane or butane. It is usually delivered by tank truck and stored near the residence in a tank or cylinder until used.	**Liquefied Petroleum Gas (LPG)**	Included in **Propane**.
Included in **Liquefied Petroleum Gas (LPG)**.	**Propane**	A gaseous petroleum product that liquefies under pressure; propane is a major component in liquefied petroleum gas (LPG). Any LPG reported was assumed to be propane.

RECS	Energy Source	CBECS
Not applicable.	**District Heat**	Steam or hot water from an outside source used for any 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 this is part of the same multibuilding facility. District steam and district hot water are reported together in this report.
Not applicable.	**District Chilled Water**	Chilled water from an outside source used as an energy source for cooling. 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.
Wood, solar, and coal.	**Other***	Wood

*The other energy source category is included in the *All Energy Source* categories in tables found in Appendix A, "Detailed Tables."

Energy Supplier: A company that provides electricity, natural gas, fuel oil, or other sources of energy to a building. (See **Energy Source**.)

Expenditures: Funds spent for the energy consumed in, or delivered to, a building during a given period of time. For this report, all expenditure statistics are presented on an annual basis, for the calendar year. The total dollar amount includes State and local taxes, fuel adjustment charges, system charges, and demand charges. The total dollar amount excludes merchandise, repair charges, and service charges. Expenditure statistics are given in both nominal and real (the base weight year is 1987) dollars. (See **Consumption**, **Energy Supplier**, **Nominal** and **Real (1987)**.)

Floorspace: See **Commercial Floorspace** and **Residential Floorspace**.

Fuel: See **Energy Source**.

Fuel Oil: See **Energy Source**, *Fuel Oil*.

Gallon: A volumetric measure equal to 4 quarts (231 cubic inches) used to measure fuel oil. Forty-two gallons equal one barrel.

GDP: See **Gross Domestic Product (GDP)**.

Gross Domestic Product (GDP): The total market value of all the goods and services produced by a nation during a specified period.

HDD: See **Heating Degree-Days (HDD).**

Heating: See **Energy End Use**, *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 (approximately 18 degrees Celsius), and the period of time is 1 year. The heating degree-days for a single day are 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 are the sum of the daily heating degree-days for days in that period. One degree-day Fahrenheit equals five-ninths of a degree-day Celsius. (See **Cooling Degree-Days (CDD)**.)

Household: A family, an individual, or a group of up to nine unrelated persons occupying the same housing unit. "Occupy" means the housing unit was the person's usual or permanent place of residence at the time of the first field contact. Household members include babies, lodgers, boarders, employed persons who live in the housing unit, and persons who usually live in the household but are away traveling or in a hospital. The household does not include: (1) persons who are normally members of the household but were away from home as college students or members of the armed forces at the time of the contact; (2) persons temporarily visiting with the household if they have a place of residence elsewhere; (3) persons who eat meals with the household but usually lodge or sleep elsewhere; (4) domestic employees or other persons employed by the household who do not sleep in the same housing unit; and (5) persons who are former members of the household, but have since become inmates of correction or penal institutions, mental homes, convents or monasteries, or other places in which residents may remain for long periods of time. By definition, in the RECS, the number of households is the same as the number of occupied housing units. (See **Housing Unit** and **Residential Building**.)

Housing Unit: A house, an apartment, a group of rooms, or a single room if it is either occupied, or intended for occupancy, as separate living quarters by a family, an individual, or a group of one to nine unrelated persons. Separate living quarters means the occupant(s) (1) live and eat separately from other persons in the same house or apartment and (2) have direct access from the outside of the building or through a common hall (i.e., one can get to it without going through someone else's living quarters). Hotel and motel rooms are considered housing units if occupied as the usual or permanent place or residence. Housing units do not include group quarters, such as prisons or nursing homes where ten or more unrelated persons live. (See **Household** and **Residential Building**.)

Kerosene: See **Energy Source**, *Kerosene*.

Kilowatthour (Kwh): A unit of work or energy, measured as 1 kilowatt (1,000 watts) of power expended for 1 hour. (See **Btu**, **Consumption**, and **Energy Source**, *Electricity*.)

Lighting: See **Energy End Use**, *Lighting*.

Liquefied Petroleum Gas (LPG): See **Energy Source**, *Propane*.

LPG: See **Liquefied Petroleum Gas (LPG).**

Manufacturing: See **Energy End Use**, *Manufacturing*.

Metric Conversion Factors: In this report, estimates are presented in customary U.S. units. Floorspace estimates may be converted to metric units by using this relationship: 1 square foot is approximately equal to .0929 square meters. Energy estimates may be converted to metric units by using this relationship: 1 Btu is approximately equal to 1,055 joules. (See **Btu**.)

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.

Natural Gas: See **Energy Source,** *Natural Gas*.

Nominal: Energy expenditures that include the effects of changes in the purchasing power of the dollar due to inflation. (See **Expenditures** and **Real (1987)**.)

Office Equipment: See **Energy End Use**, *Office Equipment*.

Other End Uses: See **Energy End Use**, *Other*.

Pounds (District Heat): A weight quantity of steam; also used in this report to denote a quantity of energy in the form of steam. The amount of usable energy obtained from a pound of steam depends on its temperature and pressure at the point of consumption and on the drop in pressure after consumption. (See **Btu**, **District Steam**, and **District Heat**.)

Primary Electricity: The amount of electricity delivered to buildings adjusted to account for the energy used to produce the electricity. That is, primary electricity is site electricity plus the amount of energy lost during generation, transmission, and distribution of electricity. (See **Energy Source**, *Electricity*, **Consumption**, and **Site Electricity**).

Primary Energy: The energy embodied in energy sources. Primary energy takes into account the amount of energy used to produce and deliver energy sources. (See **Consumption**.)

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**.)

Principal Building Activity: The activity or function occupying the most floorspace in a commercial building. The categories were designed to group buildings that have similar patterns of energy consumption. (See **Commercial Building**, **Commercial Floorspace**, and **Type of Housing Unit**.)

The principal building activity categories used in this report are described below.

> **Assembly**: signifies buildings used for the gathering of people for social, recreational, or religious activities, whether in private or nonprivate meeting halls.
>
> **Education**: refers to buildings that house academic or technical classroom instruction.
>
> **Food Sales and Service**: include the retail or wholesale sale of food, such as grocery stores, and activities that involve preparation and sale of food and beverages for consumption, such as restaurants.
>
> **Health Care**: covers diagnostic and treatment facilities for both inpatient and outpatient care. Excluded from this group are skilled nursing or other residential care facilities (nursing homes). These buildings are classified as "Lodging" buildings.
>
> **Lodging**: refers to buildings that offer multiple accommodations for short-term or long-term residents (including nursing homes).
>
> **Mercantile and Service**: refers to buildings containing sales and displays of goods or services (excluding food).
>
> **Office**: refers to buildings used for general office space, professional offices, and administrative offices.
>
> **Other**: includes parking garages, buildings used in the preservation of law and order or safety, and buildings that do not fit into any of the other named categories.
>
> **Warehouse**: describes buildings used to store goods, manufactured products, merchandise, or raw materials. This category includes both refrigerated and nonrefrigerated warehouses.
>
> **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 may have some occupied floorspace.

Propane: See **Energy Sources**, *Propane*.

PSU: See **Primary Sampling Unit (PSU)**.

Quadrillion Btu: Equivalent to 1,000,000,000,000,000 (10^{15}) Btu. (See **Btu**.)

Real (1987): Energy expenditures in which the rate of inflation has been deducted so that purchasing power remains constant, and is expressed in 1987 dollars. (See **Expenditures** and **Nominal**)

Refrigeration: See **Energy End Use**, *Refrigeration*.

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**.)

Residential Building: A structure used primarily as a dwelling for one or more households. (See **Household** and Appendix C, "Residential Building as Units of Analysis.")

Residential Floorspace: The floor area of the housing unit that is enclosed from the weather. Residential floorspace includes: basements, whether or not they contain finished space; finished and/or heated space in attics; and garages. Not included in residential floorspace are: crawl spaces, even if they are enclosed from the weather; sheds and other buildings that are not attached to the housing unit; vacant housing units; and common areas, such as hallways, stairs, elevators, or lobbies. (See **Commercial Floorspace**.)

RSE: See **Relative Standard Error**.

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 **Relative Standard Error** and **RSE Row Factor**.)

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 **Relative Standard Error** and **RSE Column Factor**.)

Sampling: The procedure used to select a group of individual cases for interview from the total population. (See **Multistage Area Probability Sampling**.)

Site Electricity: The amount of electricity delivered to the site (building), without adjustment for the energy consumed in generation, transmission, and distribution of electricity. (See **Consumption**.)

Site Energy: The amount of energy delivered to the site (building); no adjustment is made for the energy consumed to produce and deliver energy sources. (See **Consumption**.)

Space Heating: See **Energy End Use**, *Space Heating*.

Square Footage: Floorspace, in units of square feet. One square foot is approximately equal to 0.0929 square meters. (See **Floorspace** and **Metric Conversion**.)

Standard Error: A measure of the precision of an estimate, equal to the square root of the variance. (See **Variance**, and **Relative Standard Error (RSE)**.)

Total Square Footage: Square footage of floorspace summed or aggregated over all buildings in a category. In this report, 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 **Commercial Floorspace**, **Residential Floorspace**, and **Weight**.)

Trillion Btu: Equivalent to 1,000,000,000,000 (10^{12}) Btu. (See **Btu**.)

Type of Housing Unit: Categories designed to group housing units that have similar patterns of energy consumption.

> **Single-Family**: A housing unit that provides living space for one household or family. The structure may be detached or attached to another unit. Attached houses are considered single-family houses as long as the house itself is not divided into more than one housing unit and has an independent outside entrance. A single-family house is contained within walls that go from the basement (or the ground floor, if there is no basement) to the roof. Townhouses, rowhouses, and duplexes are considered single-family attached housing units, as long as there is no household living above another one within the walls that go from the basement (or ground floor if no basement) to the roof to separate the units. A mobile home with one or more rooms added is classified as a single-family home.
>
> **Mobile Home**: A housing unit built on a movable chassis and moved to the site. It may be placed on a permanent or temporary foundation and may contain one or more rooms. If rooms are added to the structure, it is considered a single-family housing unit. A manufactured house assembled on site is a single-family housing unit, not a mobile home.
>
> **Multifamily (two to four units)**: A housing unit in a building with two to four housing units (i.e., a structure that is divided into living quarters for two, three, or four families or households).
>
> **Multifamily (five or more units)**: A housing unit in a building with five or more housing units (i.e., a structure that contains living quarters for five or more families or households).

Vacant: As a principal building activity, the designation for a commercial building in which most of the floorspace was not occupied by any tenant or establishment. A vacant commercial building may contain occupants who are using up to 50 percent of the floorspace. 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 commercial buildings, data were collected on the percent of floorspace vacant three or more months, and on the number of months the building was in use. (See **Principal Building Activity** and **Vacant Housing Unit**.)

Vacant Housing Unit: A housing unit not occupied when the first RECS field contact was made. An occupied seasonal or migratory housing unit is classified as vacant at the time of the first contact if all of its occupants had a usual place of residence elsewhere. (See **Household** and **Vacant**.)

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**.)

Ventilation: See **Energy End Use**, *Ventilation*.

Water Heating: See **Energy End Use**, *Water Heating*.

Weight: The number of cases in the total population that a particular sample case represents. To estimate the total value of a characteristic in the total population, each case's value is multiplied by the case's weight. Summing the weighted sample values provides an estimate of the population total. (See **Multistage Area Probability Sample**.)

Wood: See **Energy Source**, *Other*.

Year Constructed: The year in which the major part or the largest portion of a commercial building was constructed. The year the residential structure was originally completed or the year any part of the structure was first occupied. For mobile homes, year of construction is the model year.