

# Glossary

**Account Classification:** The method in which suppliers of electricity, natural gas, or fuel oil classify and bill their customers. Commonly used account classifications are “Commercial,” “Industrial,” and “Residential.” Suppliers’ definitions of these terms vary from supplier to supplier and from the definitions used in CBECS. In addition, the same customer may be classified differently by each of its energy suppliers.

**Activities with Large Amounts of Hot Water:** An energy-related space function within a building that requires large amounts of hot water for other than space heating. Examples of these activities are commercial laundry rooms, heated swimming pools, spas, saunas and steam rooms.

**Agricultural:** Activities involving the production, processing, sale, storage, or housing of agricultural products, including livestock. Buildings that contained commercial activities but had 50 percent or more of the floorspace devoted to agricultural activities were considered out of scope, as were farms and farm buildings, which are overwhelmingly residential and agricultural. (See **Commercial Building** and **Principal Building Activity**.)

**Air-Handling Unit:** A type of heating and/or cooling distribution equipment that channels warm or cool air to different parts of a building. This process of channeling the conditioned air often involves drawing 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 or chill water to cool the air inside the duct work.

**Authorization Form:** A form signed by the building respondent, authorizing energy suppliers that serve the building to release information on the amounts and

costs of energy consumed in the building and the participation by the building in Demand-Side Management programs during a specified period. (See **Energy Supplier**.)

**Barrel:** A volumetric unit of measure for crude oil and petroleum products equivalent to 42 U.S. gallons.

**Baseboard:** A type of heating distribution equipment in which either electric resistance coils or finned tubes carrying steam or hot water are mounted behind shallow panels along the bottom of a wall. Baseboard heating distribution equipment relies on passive convection to distribute heated air in the space. Electric baseboards are an example of an Individual Space Heater. (See **Electric Baseboard** and **Individual Space Heater**.)

**Boiler:** A type of space-heating equipment consisting of a vessel or tank where heat produced from the combustion of such fuels 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.

**Btu (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 to allow for consumption comparisons among fuels that are measured in different units. (See **Btu Conversion Factors** and **Metric Conversion Factors**.)

Energy Source	Btu Equivalent	Unit
Electricity	3,412	kilowatthour
Natural Gas	1,027	cubic foot
Distillate Fuel Oils (Nos. 1, 2, and 4)	138,690	gallon
Residual Fuel Oils (Nos. 5 and 6)	149,690	gallon

Note: A Btu of district hot water has been converted into equivalent pounds of steam by use of the conversion 1,000 Btu hot water=1 pound steam.

Sources: Energy Information Administration, *Natural Gas Annual* (1992), p. 238, for natural gas; *Monthly Energy Review* (October 1997), pp. 145-149, for electricity, distillate, residual, and kerosene; and *Methodological Issues In the Nonresidential Buildings Energy Consumption Survey* (September 1983), pp. 173-175, for district steam.

**Btu Conversion Factors:** The Btu conversion factors used for this survey are shown in the above table.

**Building:** 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. Included in the survey as a specific exception were 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 exception 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, oil storage tanks, construction sites, and mobile homes and trailers, even if they housed commercial activity. The 1995 CBECS excluded parking garages and commercial buildings on manufacturing sites. These buildings were included in previous CBECS. (See **Commercial 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 Features:** Features designed to reduce the energy loss or gain through the shell or envelope of the building. (See **Insulation, Storms or Multiple Glazing, Tinted or Reflective Glass or Shading Film, and Exterior or Interior Shadings or Awnings**.)

**Built-Up Roof:** A roof covering consisting of several successive layers (each of which is called a "ply"), usu-

ally of roofing felt, with mopping of hot asphalt between layers and topped by a mineral-surfaced layer or by gravel embedded in a heavy coat of asphalt.

**Cases or Cabinets:** Refrigeration in open or closed units for the purpose of selling, displaying, or storing perishable materials. "Open" refers to cases or cabinets with no covers or with flexible covers made of plastic or some other material, hung in strips or curtains to stop the flow of warm air into the refrigerated space. "Closed" refers to units with doors that shut.

**CDD:** See **Cooling Degree-Days (CDD)**.

**Census Region and Division:** A geographic area consisting of several States defined by the U.S. Department of Commerce, Bureau of the Census. See table on next page.

**Central Chiller:** A type of cooling equipment that is centrally located and that produces chilled water in order to cool air. The chilled water or cold air is then distributed throughout the building by use of 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**.

**Central Physical Plant:** A plant that is owned by, and on the grounds of, a multibuilding facility that provides district heating, district cooling, or electricity to one or more buildings on the same facility. 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**.)

Region	Division	States
Northeast	New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont
	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, 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

**Centralized Water-Heating System:** A type of water-heating equipment that heats and stores water for purposes other than space heating which provides hot water from a single location for distribution throughout a building. A residential-type tank water heater is a good example of a centralized water heater.

**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 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 National Oceanic and Atmospheric Administration (NOAA) Division. The climate zones are defined be-

low. (See **Heating Degree-Days (HDD)** and **Cooling Degree-Days (CDD)**.)

**Coal:** A black or brownish-black solid, combustible substance formed by the partial decomposition of vegetable matter without access to air. The term includes anthracite, bituminous, and subbituminous coal, as well as the derivative of coal (formed by destructive distillation or imperfect combustion) known as coke. Data on the use of coal were collected but no consumption and expenditure data were collected. Coal is included in the "Other" category for the energy sources, main space-heating energy sources, and space-heating energy sources categories. (See **Energy Source**.)

**Cogeneration:** The sequential or simultaneous process in which useful heat/steam is generated, used in a variety of process applications, and then directed into a

Climate Zone	Average Annual Cooling Degree-Days	Average Annual Heating Degree-Days
1	Fewer than 2,000	More than 7,000
2	Fewer than 2,000	5,500 to 7,000
3	Fewer than 2,000	4,000 to 5,499
4	Fewer than 2,000	Fewer than 4,000
5	2,000 or More	Fewer than 4,000

turbine to generate electricity and/or mechanical work from the useful thermal energy still available for use. This process of electric generation may be electrically interconnected with an electric utility and grid, to deliver electricity to the grid as well as receive it from the grid. 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/industrial, 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, the following: 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. Agricultural buildings, parking garages, residences, and manufacturing/industrial buildings were excluded from the survey. In 1995, commercial buildings on manufacturing sites were also excluded. For a list of building types, see Appendix C, "Description of Building Types." (See **Building, Commercial, Residential, Manufacturing/Industrial, Agricultural, and Principal Building Activity**.)

**Commercial Food Preparation:** An energy-related function that has space specifically designed and equipped to meet the needs for preparing and serving food commercially. This includes kitchens in restaurants, diners, and other commercial institutions, such as schools. The term "commercial" also includes what is sometimes classified as "institutional"—that is, food preparation and serving areas in schools, hospitals, prisons, shelters, churches, and nursing homes. This category includes cafeterias where food is brought in and kept warm with steam tables or other warming devices until it is served. It does *not* include employee or student "lounge" areas with microwaves or other food preparation equipment and/or vending machines.

**Commercial Refrigeration/Freezer Equipment:** Refrigeration equipment is designed to maintain the stored items below room temperature but above the freezing point of water. Freezer equipment is designed to keep its contents below the freezing point of water

(32 degrees Fahrenheit). This category includes: commercial refrigeration/freezer units for the sale or storage of perishable materials; residential-type refrigerators/freezers that are a necessary part of the building's principal activity; or any other commercial refrigeration equipment, excluding air conditioning. Data are collected on refrigeration/freezer equipment inside and/or adjacent to a building. (See **Cases or Cabinets and Walk-in Refrigeration Units**.)

**Compact Fluorescent Light Bulb:** A light bulb designed to replace screw-in incandescent light bulbs; they are often found in table lamps, wall sconces, and hall and ceiling fixtures of commercial buildings with residential type lights. They combine the efficiency of fluorescent lighting with the convenience of standard incandescent bulbs. Light is produced the same way as with other fluorescent lamps. Compact fluorescent bulbs have either electronic or magnetic ballasts.

**Computer Room with Separate Air-Conditioning System:** An energy-related function that has space specifically designed and equipped to meet the needs of computer equipment. The air-conditioning system for this area controls the temperature and/or humidity and is separate from that used to control the environment in other parts of the building. The space is usually separated by walls and doors. Sometimes such rooms have raised floors with ventilation equipment located under the floor.

**Computer Terminal:** Electronic equipment which consists of a computer screen (monitor) or terminal and a data entry device, such as a keyboard. Terminals used in offices usually look like personal computers (PC's) without the box or central processing unit (CPU) case. The "CPU" for the terminal is the mainframe computer located in a central place. (See **Personal Computer**.)

**Concrete Panels:** 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. (See **Precast Concrete Panel**.)

**Concrete Roof:** A poured concrete roof, often intended to bear the load of a parking garage that occupies the roof area of a building.

**Conditional Energy Intensity:** Total consumption of a particular energy source(s) or fuel(s) divided by the total floorspace of buildings that use the energy source(s) or fuel(s), i.e., the ratio of consumption to en-

ergy source-specific floorspace. This measure is used in the fuel-specific detailed tables.

**Consumption:** The amount of energy used in, or delivered to, a building during a given period of time. Unless otherwise noted, all consumption statistics are site energy consumption, which includes electric utility sales to commercial buildings but excludes electrical system and district heat energy losses. Statistics presented are on an annual basis for the 365-day period of calendar year 1995. Site consumption is the amount of energy delivered to the site (building); no adjustment is made for the fuels consumed to produce electricity or district sources. Site consumption is also referred to as net energy. Primary consumption is the amount of site consumption plus losses that occur in the electricity generation process.

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). Total consumption is reported as well as “Consumption per Square Foot”—the aggregate ratio of total consumption for a particular set of buildings to the total floorspace of those buildings; and “Consumption per Worker”—the aggregate ratio of total consumption to total number of workers (main shift). (See **Btu, Conversion Losses, Energy Supplier, Expenditures, Floorspace, and Workers(Main Shift)**.)

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

**Conversion Losses:** The amount of energy lost during generation, transmission, and distribution of energy sources, particularly electricity, including plant and unaccounted-for uses. (See **Site Electricity** and **Primary Electricity**.)

**Cooking:** As an energy end use, the use of energy for commercial or institutional food preparation. Specifically, cooking that took place in a kitchen facility that was not part of a residence. It does not include employee lounge areas that are equipped with microwaves, other food preparation equipment, and/or vending machines. (See **Energy End Use**.)

**Cooling:** As an energy end use, the conditioning of air in a room for human comfort by a refrigeration unit (such as an air conditioner or heat pump) or by a central

cooling or district cooling system that circulates chilled water. Excluded is the use of fans or blowers by themselves, without chilled air or water. (See **Energy End Use**.)

**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-day is the difference between that day’s average temperature and 65 degrees if the daily average is greater than 65; it is zero if the daily average temperature is less than or equal to 65. Cooling degree-days for a year are the sum of the daily cooling degree-days for that year.

**Cooling Distribution Equipment:** The part of a cooling system that distributes conditioned water and/or air throughout a building by means of pipes, ducts, or fans. Often the distribution serves both heating and cooling. (See **Duct, Individual Air Conditioner, and Fan-Coil Unit**.)

**Cooling Equipment:** The equipment used for cooling room air in a building for human comfort. (See **Residential-Type Central Air Conditioner, Heat Pump, Individual Air Conditioner, Central Chiller, District Chilled Water, Packaged Unit, and Evaporative Cooler [Swamp Cooler]**.)

**Cubic Foot (cf):** As a natural gas measure, the volume of gas contained in a cube with an edge that is 1 foot long at standard temperature and pressure (60 degrees Fahrenheit and 14.73 pounds standard per square inch.) The thermal content varies by the composition of the gas. (See **Natural Gas** and **Btu Conversion Factors**.)

**Degree-Days 45-Year Average:** The average of the total annual heating and cooling degree-days (base, 65 Degrees Fahrenheit) in each NOAA Division, for the 45 years, 1931 through 1975. Computed from the Division’s daily temperature averages for each year in question and used to assign individual buildings to climate zones. (See **NOAA Division** and **Climate Zone**.)

**Demand:** The rate of energy consumption per unit of time. The term is most commonly applied to electricity, for which demand is typically measured in watts (W) or kilowatts (kW). (See **Peak Demand**.)

**Demand-Metered:** Having a meter to measure peak demand (in addition to total consumption) during a

billing period. The 1995 CBECS collected data on metered demand only for electricity. Demand is not usually metered for other energy sources. (See **Peak Demand**.)

**Distributed Water-Heating System:** A type of system for heating water for purposes other than space-heating which is located at more than one place within a building. Often called a “point-of-use” water heating system, the water heater is located at the faucet and heats water only as required for immediate use. Because water is not heated until it is required, this equipment is more energy efficient.

**District Chilled Water:** Water chilled outside of a building in a central plant and piped into the building as an energy source for cooling. 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**.)

**District Heat:** Steam or hot water produced outside of a building in a central plant and piped into the building as an energy source for space heating or another end use. 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.) District heat includes district steam and/or district hot water. (See **Energy Source**.)

**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 type of heating and/or cooling distribution equipment that is 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 use. (See **Air-Handling Unit**.)

**Economizer Cycle:** A heating, ventilation, and air-conditioning (HVAC) conservation feature consisting of indoor and outdoor temperature and humidity sensors, dampers, motors, and motor controls for the ventilation system to reduce the air-conditioning load. Wherever the temperature and humidity of the outdoor air are more favorable (lower heat content) than the temperature and humidity of the return air, more outdoor air is brought into the building.

**Electric Baseboard:** An individual space heater with electric resistance coils mounted behind shallow panels along the bottom of a wall. Electric baseboards rely on passive convection to distribute heated air to the space. (See **Individual Space Heater** and **Baseboard**.)

**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. (See **Energy Source**.)

**Electricity Generation:** As an energy end use, the *on-site* production of electricity by means of electricity generators on either a regular or emergency basis. (See **Energy End Use** and **Electricity**.)

**EMCS:** See **Energy Management and Control System (EMCS)**.

**Energy Audit:** An energy management practice consisting of an evaluation to provide information on the physical and operating characteristics of a building and its energy uses and processes. The energy audit is conducted at the premise or facility by trained auditors. Audit services vary from simple walk-throughs to building management training programs and site-specific process and efficiency evaluations. Audits can be initiated or sponsored and performed by a local utility; a Federal, State or local government; a building owner; or an energy service contractor.

**Energy Conservation Features:** This category includes building shell conservation features, HVAC conservation features, and lighting conservation features incorporated by a building. (See **Building Shell Conservation Features**, **HVAC Conservation Features**, and **Lighting Conservation Features**.)

**Energy-Efficient Ballasts:** A lighting conservation feature consisting of an energy-efficient version of a conventional electromagnetic ballast. The ballast is the transformer for fluorescent and high-intensity discharge (HID) lamps and provides the necessary current, voltage, and wave-form conditions to operate the lamp. An energy-efficient ballast requires lower power input than a conventional ballast to operate HID and fluorescent lamps.

**Energy End Use:** A use for which energy is consumed in a building. Information on six specific end uses was collected in this survey (cooking, cooling, electricity generation, manufacturing, space heating, and water heating). End-use estimates for eight end uses and an “other” category are provided in this report (cooking, cooling, lighting, office equipment, refrigeration, space heating, ventilation, and water heating). (See **Cooking, Cooling, Electricity Generation, Lighting, Manufacturing, Office Equipment, Refrigeration, Space Heating, and Water Heating.**)

**Energy Intensity:** The ratio of consumption to unit of measurement (floorspace, number of workers, etc.) Energy intensity is usually given on an aggregate basis, as the ratio of the total consumption for a set of buildings to the total floorspace in those buildings. Conditional energy intensity and gross energy intensity are presented. The energy intensity can also be computed for individual buildings. (See **Conditional Energy Intensity and Gross Energy Intensity.**)

**Energy Management and Control System (EMCS):** An energy management feature that uses mini/micro-computers, 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 an EMCS are time-clock thermostats.

**Energy-Related Space Functions:** The use of space in the building for one or more of three specific functions: commercial food preparation, computer rooms with separate air conditioning systems, and activities requiring large amounts of hot water. (See **Commercial Food Preparation, Computer Room with Separate Air-Conditioning System, and Activities with Large Amounts of Hot Water.**)

**Energy Source:** A type of energy or fuel consumed in a building. In this survey, information about the use of electricity, natural gas, fuel oil, district heat, district chilled water, propane, wood, coal, and solar thermal panels in commercial buildings was obtained from the building respondent. In most tables, wood, coal, and solar thermal panels are included in “Other” in the Energy Sources category. (See **Electricity, Natural Gas, Fuel Oil, District Heat, District Chilled Water, Liquefied Petroleum Gas [LPG], Propane, Wood, Coal and Solar Thermal Panels.**)

**Energy Source-Specific Floorspace:** Total floorspace of those buildings that use a particular fuel. (See **Conditional Energy Intensity.**)

**Energy Supplier:** Fuel companies supplying electricity, natural gas, fuel oil, or other sources of energy to a building. In the 1995 CBECS, only suppliers of electricity, natural gas, fuel oil, and district heat were sent the Energy Supplier Survey forms. (See **Energy Source.**)

**Establishment:** As defined by the Standard Industrial Classification Manual developed by the U.S. 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 the building — i.e., hold or lease space in it on a full-time basis.

**Evaporative Cooler (Swamp Cooler):** A type of cooling equipment that turns air into moist, cool air by saturating the air with water vapor. It does not cool air by use of a refrigeration unit. This type of equipment is commonly used in warm, dry climates.

**Expenditures:** Funds spent for the energy consumed in, or delivered to, a building during a given period of time. All expenditure statistics are presented on an annual basis for calendar year 1995. 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. Data on energy expenditures were not collected by end uses separately. For example, although it might be known that electricity was used in some buildings for heating, the expenditures for electricity reported for those buildings would typically include other uses of electricity as well (such as lighting and water heating). Total expenditures were reported as well as “Expenditures per Million Btu”—the aggregate ratio of a group of buildings’ total expenditures for a given fuel to the total consumption of that fuel and “Expenditures per Square Foot”—the aggregate ratio of a group of buildings’ total expenditures for a given fuel to the total floorspace in those buildings. (See **Consumption.**)

**Exterior or Interior Shadings or Awnings:** A building shell conservation feature designed to reduce the transmission 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, horizontal or vertical shades, mini blinds, or any other means of covering a window from the inside to limit the amount of solar or thermal penetration.

**Fan-Coil Unit:** A type of heating and/or cooling distribution equipment that circulates hot or chilled water with fans but without ducts. Fan-coil units have thermostatically controlled built-in fans that draw air from a room and then carry the air 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 can 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 that are actually considered a part of the 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**.)

**Fluorescent Light Bulb:** Usually a long, narrow, white tube made of glass, coated on the inside with fluorescent material that is connected to an electric fixture at both ends of the light bulb; the may also be circular or U-shaped. The light bulb produces light by passing electricity through mercury vapor, causing the fluorescent coating to glow, or fluoresce. Excluded are compact fluorescent light bulbs, which are listed in a separate category. Fluorescent light bulbs are included in **Standard Fluorescent** in the **Lighting Equipment** category.

**Forced Air through Vents:** See **Air-Handling Unit**.

**Fuel Oil:** A liquid petroleum product used as an energy source that is less volatile than gasoline. Fuel oil includes distillate fuel oil (Nos. 1, 2, and 4), residual fuel oil (Nos. 5 and 6), and kerosene. (See **Energy Source**.)

**Furnace:** A type of space-heating equipment with an enclosed chamber where fuel is burned or electrical re-

sistance is used to heat air directly without steam or hot water. The heated air is then distributed throughout a building, typically by air ducts.

**Gallon:** A volumetric measure equal to 4 quarts (231 cubic inches) used to measure fuel oil. One barrel equals 42 gallons.

**Gas Transported for the Account of Others:** Natural gas physically delivered to a building by a local utility, but not purchased from that utility. A separate transaction is made to purchase the volume of gas and the utility is paid for the use of its pipeline to deliver the gas. Included are quantities covered by long-term contracts and quantities involved in short-term or spot-market sales. Also called "Direct-Purchase Gas," "Spot-Market Gas," "Spot Gas," "Transported Gas," and "Self-Help Gas."

**Geothermal Heat Pump:** A renewable energy feature that uses the natural heat storage ability of the earth and/or the groundwater to heat and/or cool a building. The earth has the ability to absorb and store heat energy from the sun. To use that stored energy, heat is extracted from the earth through a liquid medium (groundwater or an anti-freeze solution) and is pumped to the heat pump or heat exchanger. There, the heat is used to heat the building. In the summer, the process is reversed and indoor heat is extracted from the building and transferred to the earth through the liquid. The geothermal heat pump is more efficient than an air-source heat pump.

**Government Owned:** A building 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.

**Gross Energy Intensity:** Total consumption of a particular energy source(s) or fuel(s) by a group of buildings, divided by the total floorspace of those buildings, including buildings and floorspace where the energy source or fuel is not used, i.e., the ratio of consumption to gross floorspace. (See **Conditional Energy Intensity**.)

**Gross Floorspace:** Total floorspace of a group of buildings, regardless of which end uses are present or which energy sources or fuels are used within the buildings. (See **Energy Source-Specific Floorspace** and **Gross Energy Intensity**.)

**Ground Source Heat Pump:** See **Geothermal Heat Pump**.

**Halogen Light Bulb:** A type of incandescent light bulb that lasts much longer and is more efficient than a standard incandescent light bulb. The light bulb uses a halogen gas, usually iodine or bromine, that causes the evaporating tungsten to be redeposited on the filament, thus prolonging its life.

**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-day is the difference between that day's average temperature and 65 degrees if the daily average is less than 65; it is zero if the daily average temperature is greater than or equal to 65. Heating degree-days for a year are the sum of the daily heating degree-days for days that year.

**Heating Distribution Equipment:** The part of a heating system that distributes conditioned water and/or air throughout a building by means of pipes, ducts, or fans. Often the distribution equipment serves both heating and cooling. (See **Radiator, Baseboard, Duct, Individual Space Heater, and Fan-Coil Unit**.)

**Heating Equipment:** The equipment used for heating ambient air in a building, such as a heat pump, furnace, boiler, packaged-heating unit, individual space heater, and district steam or hot water piped in from outside the building. (See **Boiler, Furnace, Heat Pump, Individual Space Heater, and Packaged Unit**.)

**Heating, Ventilation, and Air Conditioning (HVAC):** The system or systems that condition air in a building.

**Heat Pump:** A type of heating and/or cooling equipment that 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.

**High-Intensity Discharge (HID) Light Bulb:** A lamp bulb 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- and low-pressure sodium lamps. HID lamps

have an extremely long life and emit many more lumens per fixture than do fluorescent lights.

**HVAC:** See **Heating, Ventilation, and Air Conditioning (HVAC)**.

**HVAC Conservation Features:** A building feature designed to reduce the amount of energy consumed by the heating, cooling, and ventilating equipment. This category includes the presence of a variable air-volume (VAV) system, an economizer cycle, and HVAC maintenance programs. (See **Variable Air-Volume (VAV) System, Economizer Cycle, and HVAC Maintenance**.)

**HVAC Maintenance:** An HVAC conservation feature consisting of a program of routine inspection and service for heating and/or cooling equipment. The inspection is performed on a regular basis, even if there are no apparent problems.

**Imputation:** A statistical method used to generate values for missing items, designed to minimize the bias of estimates based on the resulting data set. In this survey, missing responses were generated by using a Hot-Deck imputation procedure which used a random resampling from nonmissing cases to generate values for missing cases.

**Incandescent Light Bulb:** A light bulb that produces a soft warm light by electrically heating a tungsten filament so that it glows. Because so much of the energy is lost as heat, these are highly inefficient sources of light. Included in this category are the familiar type of light bulbs which screw into sockets, as well as energy-efficient incandescent bulbs, such as Reflector or R-Lamps (accent and task lighting), Parabolic Aluminized Reflector (PAR) lamps (flood and spot lighting), and Ellipsoidal Reflector (ER) lamps (recessed lighting).

**Individual Air Conditioner:** A type of cooling equipment installed in either walls or windows (with heat-radiating condensers exposed to the outdoor air). These self-contained units are characterized by a lack of pipes or duct work for distributing the cool air; the units condition only air in the room or areas where they are located.

**Individual Space Heater:** A type of space heating equipment that is a free-standing or a 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 a building.

**Insulation:** A building shell conservation feature consisting of material placed between the interior of a building (in the roof below the waterproofing layer or in the ceiling of the top floor in the building or between the exterior and interior walls 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.

**Intensity:** The amount of a quantity per unit of measurement (floorspace, number of workers, etc.) This is a method of adjusting either the amount of energy consumed or expenditures spent, for the effects of various building characteristics, such as size of the building, number of workers, or number of operating hours, to facilitate comparisons of energy across time, fuels, and buildings. (See **Conditional Energy Intensity, Energy Intensity, Expenditures, Gross Energy Intensity, and Peak Intensity.**)

**Kerosene:** A petroleum distillate with properties similar to those of 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.**)

**Kilowatthour (kWh):** A unit of work or energy, measured as 1 kilowatt (1,000 watts) of power expended for 1 hour. One kWh is equivalent to 3,412 Btu. (See **Btu.**)

**Lighting:** The illumination of the interior of a building by use of artificial sources of light. End-use estimates are provided for lighting and eight other end-uses. (See **Energy End Use.**)

**Lighting Conservation Features:** A building feature or practice designed to reduce the amount of energy consumed by the lighting system. Lighting Conservation Features include natural lighting control sensors, manual dimmer switches, occupancy sensors, specular reflectors, time clocks or timed switches, and energy-efficient ballasts. (See **Natural Lighting Control Sensors, Manual Dimmer Switches, Occupancy Sen-**

**sors, Specular Reflectors, Time Clocks or Timed Switches, and Energy-Efficient Ballasts.**)

**Lighting Equipment:** Light bulbs used to light a building's interior. (See **Incandescent Light Bulb, Standard Fluorescent Light Bulb, Compact Fluorescent Light Bulb, High-Intensity Discharge (HID) Light Bulb, and Halogen Light Bulb.**)

**Liquefied Petroleum Gas (LPG):** Any fuel gas supplied to a building in liquid form. Propane is the usual LPG, but gases such as butane, propylene, butylene, and ethane are also LPG. For this report, any LPG reported was assumed to be propane. (See **Energy Source, Propane, and Natural Gas.**)

**Load Factor:** The ratio of average demand to peak demand, usually computed only for electricity demand. In this report, load factors were determined on an annual basis, for calendar year 1995, as

$$\text{Load Factor} = \frac{\text{Annual Consumption (kWh)} / (366 \times 24 \text{ Hours})}{\text{Annual Peak Demand (kW)}}$$

Load Factors were computed only for individual buildings, not for aggregates, since aggregate peak demand could not be meaningfully determined. (See **Peak Demand.**)

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

**Major Fuels:** The energy sources or fuels for which consumption and expenditures data were collected in the 1995 CBECS. These fuels or energy sources are: electricity, fuel oil, natural gas, district steam, district hot water, and district chilled water. District chilled water is not included in any totals for the sum of major energy sources or fuels. (See **Energy Source.**)

**Manual Dimmer Switches:** A lighting conservation feature that changes the level of light in a building. These are like residential-style dimmer switches, which are not commonly used with fluorescent or HID lamps.

**Manufacturing:** As an energy end use, any of the energy-using operations required for manufacturing/industrial processes. (See **Energy End Use and Manufacturing/Industrial.**)

**Manufacturing/Industrial:** Activities involving the processing or procurement of goods, merchandise, raw materials, or food. Manufacturing/industrial buildings

were out of scope for the CBECS and were not listed. Unlike previous CBECS, the 1995 CBECS excluded commercial buildings that were located on manufacturing sites (such as offices on manufacturing sites). (See **Principal Building Activity**.)

**Masonry:** A general term covering wall construction and the use of 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.

**Mean:** The simple average for a population characteristic 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. For example, “Mean Hours per Week” is the weighted sum of the number of operating hours divided by the weighted sum of the number of buildings; “Mean Square Feet per Building” is the weighted sum of the total square feet divided by the weighted sum of the number of buildings; and “Mean Square Feet per Worker” is the weighted sum of the total square feet divided by the weighted sum of the total number of main shift workers. (See **Weight**.)

**Median:** The middle value of the population characteristic. Half the population has a value above the median and half has a value below. The median is different from the mean in that the median 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. For example, “Median Age of the Building” is the middle age of all CBECS buildings; “Median Hours per Week” is the middle number of operating hours of all CBECS buildings; “Median Square Feet per Building” is the middle size (in square feet) of all CBECS buildings; and “Median Square Feet per Worker” is the middle amount of the floorspace per worker of all CBECS buildings.

**Metal Panels:** 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.

**Metric Conversion Factors:** Estimates are presented in customary U.S. units. Floorspace estimates may be converted to metric units by using the relationship: 1 square foot is approximately equal to 0.0929 square meters. Energy estimates may be converted to metric units by using the relationship: 1 Btu is approximately equal to 1,055 joules; one kilowatthour is exactly equal to 3,600,000 joules; and one gigajoule ( $10^9$  joules) is approximately 278 kilowatthours (kWh).

**Metropolitan:** Buildings located within an MSA, as defined by the U.S. Office of Management and Budget. (See **Metropolitan Statistical Area (MSA)**.)

**Metropolitan Statistical Area (MSA):** As defined by the U.S. Office of Management and Budget: “a county or group of contiguous counties that contain (1) at least one city of 50,000 inhabitants or more (or “twin cities” with a combined population of at least 50,000), or (2) an urbanized area of at least 50,000 inhabitants and a total MSA population of at least 100,000 (75,000 in New England).” The contiguous counties are included in an MSA if, according to certain criteria, they are essentially metropolitan in character and are socially and economically integrated with the central city. In New England, MSA’s consist of towns and cities, rather than counties.

**More than One May Apply:** A row stub accompanied by this phrase indicates overlapping categories, so that a particular building may be represented 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.

**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.

**Multistage Area Probability Sample:** A sample design executed in stages with geographic “clusters” of sampling units selected at each stage.

**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 (LPG) or to

privately owned gas wells operated by a building owner. (See **Energy Source, Liquefied Petroleum Gas (LPG), and Propane.**)

**Natural Lighting Control Sensors:** A lighting conservation feature that takes advantage of sunlight to cut the amount of electric lighting used in a building by varying output of the lighting system in response to variations in available daylight. They are sometimes referred to as “daylighting controls” or “photocells.”

**NOAA Division:** One of the 356 weather divisions designated by the National Oceanic and Atmospheric Administration (NOAA), encompassing the 50 contiguous 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. A State contains an average of seven NOAA divisions; a NOAA division contains an average of nine counties. (See **Climate Zone.**)

**Nongovernment Owned:** Owned by an individual or a group, such as a private business, a nonprofit organization, a privately-owned utility company; or a church, synagogue, or other religious organization. The building may be occupied by more than one agency and may be owner occupied, nonowner occupied or unoccupied.

**Nonmetropolitan:** Buildings not located within an MSA as defined by the U.S. Office of Management and Budget. (See **Metropolitan Statistical Area (MSA).**)

**Nonowner Occupied:** Refers to a building that actually “does not have the owner or the owners’ business located at the site.” (If both the owner and other tenants are in a building, the building would be classified as owner occupied. Just because someone else is there, in and of itself, does not mean the building is nonowner occupied.)

**Occupancy Sensors:** A lighting conservation feature that uses motion or sound to switch lights on or off; also known as “ultrasonic switching.” When movement is detected, the lights turn on and remain on as long as there is movement in the room. Occupancy sensors that detect sound work like ultrasonic switching; when sound is detected, the lights turn on. In this re-

port, occupancy sensors refer to detecting movement, not sound.

**Off-Hours Equipment Reduction:** A method of conserving energy by changing the temperature setting or reducing the use of heating, cooling, or lighting equipment either manually or automatically when the building is closed.

**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. End-use estimates are provided for office equipment and eight other end-uses. (See **Energy End Use.**)

**Owner Occupied:** Refers to a building that has the owner or the owner’s business represented at the site.

**Ownership and Occupancy:** Ownership refers to the individual, agency, or organization that owns the building. Building ownership is grouped into Government ownership (Federal, State, or local) and Nongovernment ownership (a private business or nonprofit organization owned by a group or an individual). Occupancy refers to the individual, agency, or organization that leases or holds the space on a full-time basis. (See **Owner Occupied** and **Nonowner Occupied.**)

**Packaged Air-Conditioning Unit:** See **Packaged Unit.**

**Packaged-Heating Unit:** See **Packaged Unit.**

**Packaged Unit:** A type of heating and/or cooling equipment that is assembled at a factory and installed as a self-contained unit. Packaged units are in contrast to engineer-specified units built up from individual components for use in a given building. Some types of electric packaged units are also called “Direct Expansion,” or DX, units.

**Passive Solar Features:** A renewable energy feature with a deliberate approach to designing buildings to make use of natural ways to heat buildings in the winter and keep them cool in the summer. No external mechanical power is used to move the collected solar heat. Passive solar design features include structuring the building on the lot so that large window areas face south to capture sunlight during the winter months; building “overhangs” on the south-facing windows to keep the sun from over heating the building during the

summer; using certain types of building material to absorb heat during the day and release heat at night; and planting trees and vegetation to minimize heat gain in the building in the summer.

**Peak Demand:** The maximum rate of energy consumption per unit of time over a period of measurement (also called “peak load”). Peak demand (presented only for electricity) was determined on an annual basis for calendar year 1995 and was computed only for individual buildings, not for aggregates, since aggregate peak demand could not be meaningfully determined. (See **Demand**.)

**Peak Intensity:** The ratio of peak demand to floor-space, usually determined only for electricity. Peak intensity was computed only for individual buildings, not for aggregates, since aggregate peak demand could not be meaningfully determined. (See **Peak Demand**.)

**Peak Load:** See **Peak Demand**.

**Percent Lit When Closed:** The percentage of a building’s square footage that is lit electrically during all hours other than the usual operating hours.

**Percent Lit When Open:** The percentage of a building’s square footage that is lit electrically during usual operating hours.

**Percent of Floorspace Cooled:** The percentage of a building’s square footage that is cooled to meet the comfort requirements of the occupants.

**Percent of Floorspace Heated:** The percentage of a building’s square footage designed to be heated to at least 50 degrees Fahrenheit.

**Personal Computer (PC):** A self-contained electronic system with all the components necessary to perform computerized functions including a screen (monitor), keyboard and/or mouse, and a central processing unit. (See **Computer Terminal**.)

**Photovoltaic (PV) Arrays:** A renewable energy feature that is a device that produces electrical current by converting light or similar radiation.

**Precast Concrete Panel:** A wall construction material usually made in factories and delivered to the construction site, where they are hoisted onto the structure. Sometimes concrete panels are poured at the site and then hoisted on the structure. The panels are either

solid or insulated. They can have plain, colored, or textured finishing. Pre-cast concrete panels are included in **Concrete Panels** in the **Predominant Exterior Wall Material** category.

**Predominant Exterior Wall Material:** The major type of exterior wall construction material used in a building. (See **Masonry, Siding, Shingles, Metal Panels, Concrete Panels, and Window or Vision Glass**.)

**Predominant Roof Material:** The material used the most for the roof of a building. See **Built-Up Roof, Shakes, Shingles, Metal Surfacing, Synthetic or Rubber Roofing, Wooden Materials, Slate or Tile Shingles, and Concrete Roof**.

**Primary Electricity:** The amount of electricity delivered to commercial buildings adjusted to account for the fuels used to produce the electricity. That is, site electricity plus the conversion losses in the generation process at the utility plant. (See **Conversion Losses, Electricity and Site Electricity**.)

**Primary Sampling Unit (PSU):** A sampling unit selected at the first stage in a multistage area probability sample. A PSU typically consists of one to several contiguous counties—for example, an MSA with surrounding suburban counties.

**Primary Space-Heating Energy Source:** The energy source used to heat most of the heated floorspace in a building most of the time.

**Principal Building Activity:** The activity or function occupying the most floorspace in a 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 the section on Description of Building Types.)

**Propane:** A gaseous petroleum product that liquefies under pressure. Propane is the major component of liquefied petroleum gas, or LPG. Any LPG reported in the CBECS was assumed to be propane. (See **Liquefied Petroleum Gas (LPG)**.)

**Radiator:** A type of heating distribution equipment that is usually visibly exposed within the room or space to be heated. It transfers heat from steam or hot water by radiation to objects within visible range and by conduction to the surrounding air, which, in turn, is circu-

lated by natural convection. Typically, a radiator is a freestanding, cast-iron fixture.

**Refrigeration Equipment:** See **Commercial Refrigeration/Freezer Equipment**.

**Reheating Coils:** A part of some air-conditioning systems, they are 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 **Air-Handling Unit, Cooling, and Space Heating**.)

**Residential:** Activities related to use as a dwelling for one or more households. Buildings that contained commercial activities but had 50 percent or more of their floorspace devoted to residential activities were considered out-of- scope. (See **Principal Building Activity** and **Commercial Building**.)

**Residential-Type Central Air Conditioner:** A type of cooling equipment in which there are four basic parts: (1) a condensing unit, (2) a cooling coil, (3) ductwork, and (4) a control mechanism, such as a thermostat. There are two basic configurations of residential central systems: (1) a "split system," where the condensing unit is located outside and the other components are inside, and (2) a packaged-terminal air-conditioning (PTAC) unit that both heats and cools or cools only. This system contains all four components encased in one unit and is usually found in a "utility closet." If the residential type is a "PTAC," it is considered a "Packaged air-conditioning unit."

**Roof or Ceiling Insulation:** See **Insulation**.

**RSE Column Factor:** An adjustment factor that appears above each column of the detailed tables and is used to compute RSE's. The column factor is equal to the geometric mean of the RSE's in a particular column of the main tables. (See **RSE or Relative Standard Error** and **RSE Row Factor**.)

**RSE or Relative Standard Error:** A measure of the reliability or precision of a survey statistic. Variability occurs in survey statistics because the different samples that could be drawn would each produce different values for the survey statistics. The RSE is defined as the standard error (the square root of the variance) of a survey estimate, divided by the survey estimate and multiplied by 100. For example, an RSE of 10 percent means that the standard error is one-tenth as large as the survey estimate. For a survey estimate in a particu-

lar 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.

**RSE Row Factor:** An adjustment factor that appears to the right of each row of the detailed tables and is 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. (See **RSE or Relative Standard Error** and **RSE Column Factor**.)

**Secondary Heating Fuel:** Fuels used in secondary space-heating equipment. When the building does not use a secondary space-heating equipment, the secondary space-heating fuel that is used in the main space-heating equipment is not included in the tabulations. This occurs when, for example, wood and coal are both used in a furnace but wood is named the main space-heating fuel. Coal, in this case, is not tabulated.

**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" rustic appearance.

**Shingles:** Flat pieces of weatherproof material laid with others in a series of overlapping rows as covering for roofs and sometimes the walls of buildings. Shingles are manufactured in a variety of materials, including fiberglass, plastic, baked clay, tile, asbestos, asphalt, aluminum, and wood. Wood Shingles are included in "Wooden" in the **Predominant Roof Material** category.

**Siding:** An exterior wall covering material made of wood, plastic (including vinyl), or metal. The structural walls may be masonry or wood. Siding is generally produced in the shape of boards and applied to the outside of a building in overlapping rows.

**Site Electricity:** The amount of electricity delivered to commercial buildings. (See **Conversion Losses, Electricity** and **Primary Electricity**.)

**Slate or Tile Shingles:** 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.

**Solar Thermal Panels:** A system that actively concentrates thermal energy from the sun by means of solar collector panels. The panels typically consist of flat, sun-oriented boxes with transparent covers, containing water tubes or air baffles under a blackened heat absorbent panel. The energy is usually used for space heating, water heating, and for heating swimming pools. Passive collection of solar thermal energy is not included in this definition. (See **Energy Source**.)

**Space Heating:** As an energy end use, 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. (See **Energy End Use**.)

**Space in Building Vacant for at Least Three Consecutive Months:** See **Vacant**.

**Specular Reflectors:** A lighting conservation feature that is the mirror-like backing of a fluorescent lighting fixture designed specifically to reflect light into the room. The materials and shape of the reflector are designed to reduce absorption of light within the fixture, while delivering light in the desired angular pattern. The most common materials used are silver (highest reflectivity) and aluminum (lowest cost).

**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** and **RSE or Relative Standard Error**.)

**Standard Fluorescent Light Bulb:** See **Fluorescent Light Bulb**.

**Storms or Multiple Glazing:** A building shell conservation feature consisting of storm windows, storm doors, or double- or triple-pane glass that are placed on the exterior of the building to reduce the rate of heat loss. For **Storm Doors**, the feature consists of a second door installed outside or inside a prime door creating an insulating air space. Included are sliding glass doors made of double glass or of insulating glass, such as thermopane, double- or triple-pane glass as well as sliding glass doors with glass or plexiglas installed outside or inside of the door. For **Storm Windows**, the feature consists of a window or glazing material placed outside or inside a window creating an insulating air space. Windows with double glass or thermopanes are

considered storm windows as well as windows with glass or plexiglas placed on the outside or inside of the window. Plastic material(s) over windows or doors are counted only if they can be used year after year.

**Summer and Winter Peaking:** Having the annual peak demand reached both during the summer months (May through October) and during the winter months (November through April). (See **Peak Demand**.)

**Summer Peaking:** Having the annual peak demand during the summer—May through October. (See **Peak Demand**.)

**Swamp Cooler:** See **Evaporative Cooler (Swamp Cooler)**.

**Synthetic or Rubber Roofing:** A layer of heavy gauge plastic or rubber used for roofing.

**Time Clocks or Timed Switches:** A lighting conservation feature which has automatic controls that turn lights off and on at predetermined times.

**Tinted or Reflective Glass, or Shading Film:** A building shell 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.

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

**Vacant:** A building was considered vacant if 50 percent or more of the floorspace was not occupied by any tenant or establishment at the time of the interview. A vacant building may contain occupants who are using up to 50 percent of the floorspace. For all buildings, data were collected on whether the building had any floorspace that was vacant for three or more consecutive months and on the number of months the building was in use. (See **Principal Building Activity**.)

**Variable Air-Volume (VAV) System:** An HVAC conservation feature usually referred to as “VAV” that supplies varying quantities of conditioned (heated or cooled) air to different parts of a building according to the heating and cooling needs of those specific areas.

**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 observa-

tions obtained in the same manner. The variance is the square of the standard error of estimates. 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:** The circulation of air through a building to provide fresh air to the occupants and to deliver heating and cooling to the occupied spaces. End-use estimates are provided for ventilation and eight other end uses. (See **Energy End Use**.)

**Walk-In Refrigeration Units:** Refrigeration/freezer units (within a building) that are large enough to walk into. They may be portable or permanent, such as a meat storage locker in a butcher store. Walk-in units may or may not have a door, plastic strips, or other flexible covers.

**Wall Insulation:** See **Insulation**.

**Water Heating:** As an energy end use, the use of energy to heat water for purposes other than space heating. (See **Energy End Use**.)

**Water-Heating Equipment:** Automatically controlled, thermally insulated equipment designed for heating water at temperatures less than 180 degrees Fahrenheit for other than space heating purposes. This survey collected data to distinguish between two types of water heating equipment: centralized and distributed. (See **Centralized Water-Heating System** and **Distributed Water-Heating System**.)

**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" refer 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 floorspace) 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 buildings population as a whole, each sample building's value is multiplied by the building's weight. Summing (aggregating) the

weighted sample values provides an estimate of the national total.

**Well Water for Cooling:** A renewable energy feature for cooling that uses water from a well drilled specifically for that purpose. The temperature of the ground water remains relatively constant and provides a means of obtaining 55-degree Fahrenheit water with no mechanical cooling. Usually it is used for heat rejections in a water source heat pump.

**Wind Generation:** A renewable energy feature that converts wind energy into mechanical energy. The mechanical energy is then used to generate electricity. Wind energy generators are distinguished by a propeller which rotates with the wind and a tall tower on which the propeller and generator are mounted.

**Window or Vision Glass:** An exterior wall construction material made of glass that can be seen through from the inside of the building, like the glass found in windows. Walls that are glass-covered or constructed of non-transparent material are excluded from this category.

**Winter Peaking:** Having the annual peak demand during the winter—November through April. (See **Peak Demand**.)

**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 or exterior wall materials. Wooden materials are included in **Siding or Shingles** in the **Predominant Exterior Wall Material** category.

**Workers (Main Shift):** The number of people working in a building during the main shift on a typical workday during the year. The main shift is the time when most people are in the building. Included in this definition are self-employed workers and volunteers. Excluded 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 into the office, delivery people with routes, and messengers.

**Year Constructed:** The year in which the major part or the largest portion of a building was constructed.