

Comparisons across surveys from the 1992 *Commercial Buildings Energy Consumption Survey (CBECS)* through the 2018 CBECS

Table 7. Energy-using equipment

	1992	1995	1999	2003	2012	2018
Heated floorspace	Percentage of total floorspace heated to at least 50°F (number or range)	Same as 1992	Percentage of total floorspace heated to at least 50°F (number only)	Same as 1999	Same as 1999	Same as 1999
Heating equipment types	Types of equipment and percentage of floorspace heated by: <ul style="list-style-type: none"> • Heat pumps • Furnaces • Individual space heaters • District steam or hot water piped in from outside the building • Boilers • Packaged heating units • Other (specify) 	Same as 1992	Same as 1992	Same as 1992	Same as 1992	For each energy source, as applicable, the types of equipment and percentage of floorspace heated by: <ul style="list-style-type: none"> • Packaged central units • Boilers • Heat pumps • Residential-type furnaces • Individual space heaters • Fireplaces • Duct reheat • District steam or hot water piped in from outside the building • Other (specify)
Cooled floorspace	Percentage of total floorspace cooled by air conditioning equipment (number or range)	Same as 1992	Percentage of total floorspace cooled by air conditioning equipment (number only)	Same as 1999	Same as 1999	Same as 1999

	1992	1995	1999	2003	2012	2018
Cooling equipment	Types of equipment and percentage of floorspace cooled by: <ul style="list-style-type: none"> • Residential-type central air conditioners • Heat pumps for cooling • Individual room air conditioners • District chilled water piped in from outside the building • Central chillers • Packaged air-conditioning units • Swamp coolers • Other (specify) 	Same as 1992	Same as 1992	Same as 1992	Same as 1992	For each energy source, as applicable, the types of equipment and percentage of floorspace cooled by: <ul style="list-style-type: none"> • Packaged air-conditioning units • Central chillers • Heat pumps for cooling • Residential-type central air conditioners • Individual room or portable air conditioners • District chilled water piped in from outside the building • Swamp coolers • Other (specify)
Main heating and/or cooling equipment	Not collected	If more than one type, which one is the main one	If percentages do not determine the main equipment, which one is the main one, and whether the main equipment has been replaced since 1995	If percentages do not determine the main equipment, which one is the main one, and whether the main equipment has been replaced since 1990	If percentages do not determine the main equipment, which one is the main one, and whether the main equipment has been replaced since 1990	If percentages do not determine the main equipment, which one is the main one, and whether the main equipment has been replaced since 2000
Heat pump attributes (for heating and/or cooling)	Not collected	Not collected	Not collected	Heat pump system: <ul style="list-style-type: none"> • Packaged unit • Residential-type split system • Individual room heat pump Heat pump type: <ul style="list-style-type: none"> • Air source • Ground source or ground water • Water loop 	Heat pump system: <ul style="list-style-type: none"> • Packaged unit • Residential-type split system • Individual room heat pump • Ductless mini-split • Variable refrigerant flow (VRF) Heat pump type: <ul style="list-style-type: none"> • Air source • Ground source or ground water • Combination air source and geothermal • Water loop Also, whether the heat pump has a backup fuel (electric resistance or natural gas)	Heat pump type: <ul style="list-style-type: none"> • Air source • Ground source or ground water • Combination air source and geothermal • Water loop Also, whether it is a dual-fuel heat pump that uses natural gas and electricity, whether it is a Packaged Terminal Heat Pump (PTHP), and whether it is a VRF system

	1992	1995	1999	2003	2012	2018
Packaged unit attributes (for heating and/or cooling)	Not collected	Not collected	Not collected	Not collected	Type of packaged unit: <ul style="list-style-type: none"> • Factory-assembled unitary • Custom built-up Heating components: <ul style="list-style-type: none"> • Furnace • Heat pump • Heating coil • Power induction unit (PIU) • Duct reheat 	Whether the packaged unit contains a heat pump
Type of individual heater	Not collected	Not collected	Not collected	Not collected	Heater types: <ul style="list-style-type: none"> • Infrared radiant heater • Baseboard heater • Portable space heater • Wall heater • Individual furnace • Unit heater • Heating element in packaged terminal air conditioner (PTAC) 	Whether the space heaters are Packaged Terminal Heat Pumps (PTHPs)
Other heating components	Not collected	Not collected	Not collected	Not collected	Heating component types: <ul style="list-style-type: none"> • Heating coil or electric heat strip • Duct reheat or electric reheat • Powered induction units (PIU) 	Not collected, but duct reheat captured in equipment
Type of chiller	Not collected	Not collected	Not collected	Not collected	Chiller types: <ul style="list-style-type: none"> • Air cooled • Water cooled • Absorption And, if absorption, whether it is a <i>heater chiller</i>	Chiller types: <ul style="list-style-type: none"> • Air cooled • Water cooled • Absorption
Cooling tower	Not collected	Not collected	Not collected	Not collected	For select cooling equipment types, whether it has a cooling tower	Same as 2012

	1992	1995	1999	2003	2012	2018
Heating and cooling distribution system	Distribution method for each heating and cooling type (as applicable): <ul style="list-style-type: none"> • Radiators or baseboards • Forced air through ducts or air handling units • Fan-coil units without ducts • Other 	Same as 1992, plus: <ul style="list-style-type: none"> • Equipment designed to heat or cool directly 	Not collected	Not collected	Distribution method for boilers, chillers, and district (as applicable): <ul style="list-style-type: none"> • Radiators • Fan coil units • Induction units • Water loop heat pump • Central air handlers • Packaged unit • Duct reheat • Chilled beam 	Distribution method for boilers, chillers, and district (as applicable): <ul style="list-style-type: none"> • Central air handlers • Fan coil or induction units • Duct reheat • Radiators • Radiant floor/ceiling panels • Chilled beam • Water loop heat pumps • Other
Heating and cooling ventilation	Not collected	Not collected	Not collected	Not collected	Ventilation types: <ul style="list-style-type: none"> • Central air-handling units with constant air volume (CAV) • Central air-handling units with variable air volume (VAV) • Underfloor air distribution • Dedicated outside air system (DOAS) • Demand controlled ventilation 	Airflow control: <ul style="list-style-type: none"> • Variable air-volume (VAV) system • Dedicated outside air system (DOAS) • Demand controlled ventilation (DCV)
Refrigeration equipment	Whether there is any commercial refrigeration or freezer equipment	Same as 1992	Same as 1992	Whether there is any refrigeration or freezer equipment, including vending machines	Same as 2003	Same as 2003
Refrigeration types	Presence and number of: <ul style="list-style-type: none"> • Walk-in units • Open cases or cabinets • Closed cases or cabinets 	Same as 1992	Same as 1992	Same as 1992, plus presence and number of: <ul style="list-style-type: none"> • Residential-type units • Refrigerated vending machines 	Same as 2003, plus: <ul style="list-style-type: none"> • Commercial ice makers (presence and number) • Large cold storage areas (presence and percentage of total floorspace) 	Same as 2012
Size of refrigeration	Linear feet of open and closed cases or cabinets	Not collected	Not collected	Not collected	Not collected	Not collected

	1992	1995	1999	2003	2012	2018
Water heating equipment	Equipment types: <ul style="list-style-type: none"> • Centralized system <ul style="list-style-type: none"> – With self-heating tank – Which draws heat from space heating equipment – Other centralized system • Distributed or point-of-use system <ul style="list-style-type: none"> – With residential type storage tank – With instantaneous heaters at point of use – Other distributed system 	Equipment types: <ul style="list-style-type: none"> • Centralized system • Distributed or point-of-use system • Combination centralized and distributed 	Same as 1995	Same as 1995	Same as 1995	Same as 1995
Heat pump water heater	Not collected	Whether the hot water system uses a heat pump water heater, and if so, if it's the only type of water heating equipment	Not collected	Not collected	Not collected	Not collected
Instant hot water	Not collected	Not collected	Not collected	For lodging buildings, whether the water is hot as soon as you turn on the faucet	Same as 2003	Not collected
Booster water heater	Not collected	Not collected	Not collected	Not collected	For select building types with point-of-use water heaters, how many are <i>booster</i> water heaters	For select building types, whether there are any <i>booster</i> water heaters
Lighted floorspace when open	Percentage of floorspace lighted during operating hours (number or range)	Same as 1992	Same as 1992	Same as 1992	Same as 1992	Same as 1992
Lighted floorspace off hours	Percentage of floorspace lighted during off hours (range only)	Same as 1992	Percentage of floorspace lighted during off hours (number or range)	Same as 1999	Same as 1999	Same as 1999
Lights off during 24 hours	Not collected	Not collected	Not collected	Not collected	For buildings always open, whether there are any periods during a normal 24-hour day when some lights are turned off	Same as 2012
Lighted floorspace for buildings with no operating hours	Not collected	Not collected	Not collected	Not collected	Not collected	Percentage of floorspace usually lit (number or range)

	1992	1995	1999	2003	2012	2018
Lighting types	Types of bulbs and percentage of floorspace (number or range) lit by: <ul style="list-style-type: none"> • Incandescent • Fluorescent other than compact fluorescent • Compact fluorescent • High intensity discharge (HID) • Other (specify) 	Same as 1992, plus: <ul style="list-style-type: none"> • Halogen 	Same as 1995	Same as 1995	Same as 1995, plus: <ul style="list-style-type: none"> • LED lights 	Same as 2012
Percentage of exterior lighted	Not collected	Not collected	Not collected	Not collected	Percentage of exterior building wall surfaces that is lighted (range)	Same as 2012
Lighted parking spaces	Not collected	Not collected	Not collected	Not collected	Whether there is a parking area associated with the building that is lit with fixtures powered by the building's electrical service, and if so, the number of parking spaces	Whether there is an indoor or outdoor parking area associated with the building that is lit with fixtures powered by the building's electrical service, and if so, whether it is part of the building or separate and the number of parking spaces
Computing equipment	Whether there are any personal computers or computer terminals, and if so, how many (range only)	Same as 1992	Whether there are any computers used, and if so, how many (number or <i>unfolding</i> responses to find the range)	Equipment types: <ul style="list-style-type: none"> • Computers (presence and number or range) • Dedicated servers (presence and number or range) • Flat screen monitors (presence and whether all, most, some, or a few computers have them) 	Same as 2012, plus: <ul style="list-style-type: none"> • Laptop computers (presence and number or range) • Whether computers use more than one monitor, and if so, whether it is with all, most, some, or a few of the computers 	Equipment types: <ul style="list-style-type: none"> • Desktop computers (presence and number or range) • Laptop computers (presence and number or range) • Tablets (presence, whether charged in building, and if so, number charged in the building) • Dedicated servers (presence and number or range, either in number of servers or racks) • Whether computers use more than one monitor, and if so, whether it is with all, most, some, or a few of the computers

	1992	1995	1999	2003	2012	2018
Office and other equipment	Not collected	Not collected	Equipment types: <ul style="list-style-type: none"> • Fax machines (presence) • Laser printers (presence) • Electronic cash registers (presence and number) • Photocopiers other than small desktop copiers (presence and number) 	Equipment types: <ul style="list-style-type: none"> • Printers (whether each computer has one attached or number) • Type of printer (inkjet or laser) • Number of cash registers in retail, food sales, or food service buildings • Photocopiers (presence and number) • Fax machines (presence) 	Equipment types: <ul style="list-style-type: none"> • Printers (number) • Type of printer (inkjet or laser) • Interactive whiteboards (for education or office, presence and number) • Televisions or video displays (presence and number) • Cash registers or <i>point-of-sale</i> terminals (presence and number) • Photocopiers (presence and number) • Fax machines (presence) 	Equipment types, presence and number of: <ul style="list-style-type: none"> • Large floor-standing office devices • Smaller desktop office devices • Interactive whiteboards • Televisions or video displays • Cash registers or <i>point-of-sale</i> terminals
ATMs	Not collected	Not collected	Not collected	Not collected	Not collected	For banks, number of ATMs
Medical equipment	Not collected	Not collected	Whether there is any equipment used for medical diagnosis or treatment	Same as 1999	Whether there is any equipment used for medical diagnosis or treatment, and if so, the number of: <ul style="list-style-type: none"> • X-ray machines • CT scan machines • MRI machines • Linear accelerators 	Same as 2012
Laboratory equipment	Not collected	Not collected	Not collected	For select building types, whether there is specialized laboratory equipment that requires extra energy consumption	Same as 2003	Same as 2003
Machine equipment	Not collected	Not collected	Not collected	For select building types, whether there is machine or shop equipment such as woodworking tools, metalworking tools, arc welders, or any other types of power tools	Same as 2003	Same as 2003
Sterilizers or autoclaves	Not collected	Not collected	Not collected	Not collected	For select building types, whether any sterilizers or autoclaves are used	Same as 2012

	1992	1995	1999	2003	2012	2018
Natural gas dryers	Not collected	Not collected	Not collected	Not collected	Not collected	For dry cleaners and laundromats, whether there are clothes dryers that use natural gas