

# Energy sources used in U.S. commercial buildings

The *Commercial Buildings Energy Consumption Survey* (CBECS) is the only independent, statistically representative source of national-level data on the characteristics and energy use of commercial buildings. The CBECS releases detailed estimates for four major energy sources—electricity, natural gas, fuel oil, and district heat.

## Electricity

**Electricity** is a form of energy characterized by the presence and motion of elementary charged particles generated by friction, induction, or chemical change. Electric energy is 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.



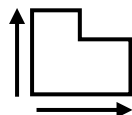
**5.6 million**

number of commercial buildings using electricity (95% of buildings)



**49%**

percentage of electricity consumption used by ventilation, lighting, and cooling—the largest end uses



**98%**

percentage of commercial floorspace using electricity



**39%**

share of electricity used by the top three consumers—office, education, and enclosed and strip mall buildings



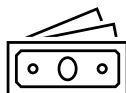
**4,081 trillion British thermal units (TBtu)**

amount of electricity consumed by commercial buildings



**40%**

share of electricity used in the South, most of which was used for cooling



**\$119 billion**

dollars spent on electricity by commercial buildings

## Natural gas

**Natural gas** is hydrocarbon gas (mostly methane) supplied as an energy source to individual buildings by pipelines from a central utility company.



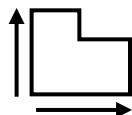
**3.0 million**

number of commercial buildings using natural gas (50% of buildings)



**69%**

percentage of natural gas consumption used by space heating—the largest end use



**70%**

percentage of commercial floorspace using natural gas



**36%**

share of natural gas used by the top three consumers—education, office, and enclosed and strip mall buildings



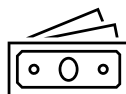
**2,300 TBtu**

amount of natural gas consumed by commercial buildings



**35%**

share of natural gas used in the Midwest, most of which was used for space heating



**\$16 billion**

dollars spent on natural gas by commercial buildings

Data source: U.S. Energy Information Administration, 2018 *Commercial Buildings Energy Consumption Survey*

## Fuel oil

**Fuel oil** is a liquid petroleum product used as an energy source that is less volatile than gasoline. Fuel oil estimates also include diesel and kerosene.



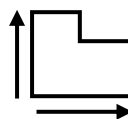
**583,000**

number of commercial buildings using fuel oil (10% of buildings)



**79%**

percentage of fuel oil consumption used by space heating—the largest end use



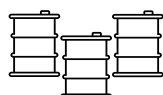
**22%**

percentage of commercial floorspace using fuel oil



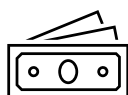
**55%**

share of fuel oil used by the top three consumers—education, service, and office buildings



**101 TBtu**

amount of fuel oil consumed by commercial buildings



**\$1.6 billion**

dollars spent on fuel oil by commercial buildings



**68%**

share of fuel oil used in the Northeast, most of which was used for space heating

## District heat

**District heat** is 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 district hot water.



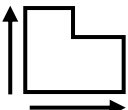
**86,000**

number of commercial buildings using district heat (1% of buildings)



**89%**

percentage of district heat consumption used by space heating—the largest end use



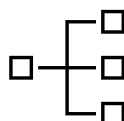
**7%**

percentage of commercial floorspace using district heat



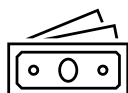
**59%**

share of district heat used by the top three consumers—public assembly, education, and office buildings



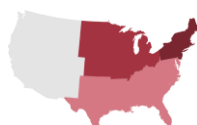
**305 TBtu**

amount of district heat consumed by commercial buildings



**\$4.3 billion**

dollars spent on district heat by commercial buildings



**87%**

share of district heat used in the Northeast (28%), Midwest (29%), and South (30%), most of which was used for space heating

Data source: U.S. Energy Information Administration, 2018 Commercial Buildings Energy Consumption Survey