Conversion Factors Table

To the right are Btu conversion factors that should be used only if you do not know the actual Btu factor of the fuels consumed at your establishment site.

If your establishment uses more precise conversion values for your operations, such as the conversion factors used for the Green House Gas (GHG) Reporting Rule, use them in place of the approximations given below. However, please identify in the Remarks section (page 63), the conversion factor(s) used, if different from those listed to the right.

General Definitions:

Btu = British thermal unit(s)
One barrel = 42 gallons
One short ton = 2,000 pounds

Examples of conversion from physical quantities to Btu include:

- Your establishment consumed 250 cubic feet of hydrogen in 2022.

The Btu equivalent is:
(250 cubic feet) x (323.6 Btu/cubic foot)

= 80,900 Btu
= 0.0809 million Btu

- Your establishment consumed 300 pounds of hydrogen in 2022.

The Btu equivalent is:
(300 pounds) x (253,395 Btu/pound)

= 76,018,500 Btu
= 76.019 million Btu

Energy Source	Conversion Factor(s)
Acetylene	21,600 Btu/pound 1,500 Btu/cubic feet
Bagasse	4,081 Btu/pound
Biomass	5,300 Btu/pound
Breeze	19.8 million Btu/short ton
Butane	4.353 million Btu/barrel 0.1036 million Btu/gallon
Coal	20.578 million Btu/short ton
Coal (**use for coke plants only**)	28.666 million Btu/short ton
Coal Coke	24.8 million Btu/short ton
Distillate Fuel Oil	5.770 million Btu/barrel
Electricity	3,412 Btu/kilowatthour
Ethane	2.783 million Btu/barrel 0.06626 million Btu/gallon
Hydrogen	253,395 Btu/pound 323.6 Btu/cubic feet 149,690 Btu/gallon
Industrial Hot Water	140 Btu/pound 7.84 pounds/gallon
Isobutane	4.183 million Btu/barrel 0.09960 million Btu/gallon
Liquefied Petroleum Gas (LPG)	3.369 million Btu/barrel 0.08021 million Btu/gallon 4.5 pounds/gallon
Natural Gas	1.039 million Btu/1,000 cubic feet 10.39 therms/1,000 cubic feet
Petroleum Coke	6.135 million Btu/barrel 30.675 million Btu/short ton 5 barrels/short ton
Propane	3.841 million Btu/barrel 0.09145 million Btu/gallon
Pulping and/or Black Liquor	11 million Btu/short ton
Residual Fuel Oil	6.287 million Btu/barrel
Roundwood	21.5 million Btu/cord 17.2 million Btu/short ton 0.014 million Btu/board foot
Sawdust (7% moisture)	8,000 Btu/pound
Steam	1,200 Btu/pound
Still, Refinery, and/or Waste Gas	6.287 million Btu/barrel 1,039 Btu/cubic feet
Waste Materials (Wastepaper)	7,500 Btu/pound
Waste Oils and Tars	6 million Btu/barrel
(Green) Wood Chips (50% moisture)	10 million Btu/short ton
Wood Waste (50% moisture)	9 million Btu/short ton