

ENVIRONMENT

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Carbon Dioxide Emissions Coefficients

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Carbon Dioxide Emissions Coefficients by Fuel

Carbon Dioxide (CO ₂) Factors	Pounds CO ₂	Kilograms CO ₂	Pounds CO ₂	Kilograms CO ₂
	Per Unit of Volume or Mass	Per Unit of Volume or Mass	Per Million Btu	Per Million Btu
For homes and businesses				
Propane	12.61/gallon	5.72/gallon	138.63	62.88
Diesel and Home Heating Fuel (Distillate Fuel Oil)	22.46 /gallon	10.19 /gallon	163.45	74.14
Kerosene	21.78/gallon	9.88/gallon	161.35	73.19
Coal (All types)	4,027.93/short ton	1,827.04/short ton	211.06	95.74
Natural Gas	121.31/thousand cubic feet	55.03/thousand cubic feet	116.65	52.91
Gasoline	18.74/gallon	8.50/gallon	155.77	70.66
Residual Heating Fuel (Businesses only)	24.78/gallon	11.24/gallon	165.55	75.09
Other transportation fuels				
Jet Fuel	21.50/gallon	9.75/gallon	159.25	72.23
Aviation Gas	18.32/gallon	8.31/gallon	152.46	69.15
Industrial fuels and others not listed above				
Petroleum coke	32.87/gallon	14.91/gallon	225.13	102.12
Nonfuel uses				
Asphalt and Road Oil	26.25/gallon	11.91/gallon	166.12	75.35
Lubricants	23.58/gallon	10.70/gallon	163.29	74.07
Naphthas for Petrochemical Feedstock Use	18.74/gallon	8.50/gallon	149.95	68.02
Other Oils for Petrochemical Feedstock Use	22.61/gallon	10.26/gallon	163.05	73.96
Special Naphthas (solvents)	19.94/gallon	9.04/gallon	159.57	72.38
Waxes	21.10/gallon	9.57/gallon	160.06	72.60
Coal by type				
Anthracite	5,715.11/short ton	2,592.33/short ton	228.60	103.69
Bituminous	4,929.71/short ton	2,236.08/short ton	205.40	93.17
Subbituminous	3,747.36/short ton	1,699.78/short ton	214.13	97.13
Lignite	2,811.07/short ton	1,275.08/short ton	216.24	98.08
Coke	7,174.19/short ton	3,254.16/short ton	250.59	113.67
Other fuels				
Geothermal (steam)	NA	NA	26.04	11.81
Geothermal (binary cycle)	NA	NA	0.00	0.00
Municipal solid waste ^{a,b}	5,771.04/short ton	2,617.70/short ton	91.90	41.69
Tire-derived fuel ^a	5,961.03/short ton	2,703.88/short ton	189.54	85.97
Waste oil ^a	22.51/gallon	10.21/gallon	163.14	74.00

Source: Carbon factors provided by the U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, Tables A-32, A-38, and A-232

^aCarbon factors for municipal solid waste, tire-derived fuel, and waste oil are provided by the U.S. Environmental Protection Agency, *Greenhouse Gas Emissions Factor Hub*

^bThe carbon factor for municipal solid waste has been adjusted to apply both to biogenic and non-biogenic waste

Note: To convert to carbon equivalents multiply by 12/44.

Coefficients may vary slightly with estimation method and across time.

[Voluntary Reporting Program emissions factors \(discontinued\)](#)

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