

1.4.8 2010 Carbon Dioxide Emission Coefficients for Buildings (MMT CO₂ per Quadrillion Btu) (1)

	All Buildings	Residential Buildings	Commercial Buildings
Coal			
Average (2)	95.35	95.35	95.35
Natural Gas			
Average (2)	53.06	53.06	53.06
Petroleum Products			
Distillate Fuel Oil/Diesel	73.15	-	-
Kerosene	72.31	-	-
Motor Gasoline	70.88	-	-
Liquefied Petroleum Gas	62.97	-	-
Residual Fuel Oil	78.80	-	-
Average (2)	69.62	68.45	71.62
Electricity Consumption (3)			
Average - Primary (4)	57.43	57.43	57.43
Average - Site (5)	178.3	179.1	177.9
New Generation			
Gas Combined Cycle - Site (6)	112.5	112.5	112.5
Gas Combustion Turbine - Site (6)	171.4	171.4	171.4
Stock Gas Generator - Site (7)	133.9	133.9	133.9
All Fuels (3)			
Average - Primary	56.23	55.79	56.77
Average - Site	111.4	105.6	118.7

Note(s): 1) Emissions assume complete combustion from energy consumption, excluding gas flaring, coal mining, and cement production. The combustion of fossil fuels produces carbon in the form of carbon dioxide and carbon monoxide; however, carbon monoxide emissions oxidize in a relatively short time to form carbon dioxide. 2) Coefficients do not match total emissions reported in the AEO 2011 Early Release and were adjusted using Assumptions to the AEO 2010. 3) Excludes electricity imports from utility consumption. Includes nuclear and renewable (including hydroelectric) generated electricity. 4) This coefficient is used to estimate CO₂ emissions resulting from the consumption of energy by electric generators. 5) This coefficient is used to estimate CO₂ emissions resulting from the consumption of electricity by end-users. 6) This coefficient is used to estimate emissions of the next-built (2010) natural gas-fired, electric generator resulting from the consumption of electricity by end-users. 7) This coefficient is used to estimate emissions of existing natural gas-fired, electric generators resulting from the consumption of electricity by end-users.

Source(s): EIA, Annual Energy Outlook 2012 Early Release, Jan. 2012, Summary Reference Case Tables, Table A2, p. 3-5, Table A8, p. 18-19, Table A17, p. 34-35 for consumption and Table A18, p. 36 for emissions; EIA, Assumptions to the AEO 2011, July 2011, Table 1.2, p. 14 for coefficients and Table 8.2, p. 97 for generator efficiencies; EIA, Annual Energy Review 2010, Oct. 2011, Diagram 8.0, p. 233 for Transmission and Distribution (T&D) losses.