Table 12.1 Emissions of Greenhouse Gases, 1980-2002

Year	Greenhouse Gases (million metric tons of gas)				Greenhouse Gases, Based on Global Warming Potential [1] (million metric tons carbon dioxide equivalent [2])				
	Carbon Dioxide [2,3]	Methane	Nitrous Oxide	HFCs PFCs SF_6	Carbon Dioxide [2]	Methane	Nitrous Oxide	HFCs PFCs SF_6	Total
1980	R4,775.4	17.4	0.9	—	R4,775.4	400.0	R268.9	70.4	R5,514.6
1981	R4,654.1	18.0	0.9	—	R4,654.1	413.2	R273.1	74.0	R5,414.4
1982	R4,406.7	17.7	0.9	—	R4,406.7	408.1	R262.6	55.4	R5,132.8
1983	R4,370.0	18.4	0.8	—	R4,370.0	423.4	R248.9	67.1	R5,109.4
1984	R4,615.3	18.9	0.9	—	R4,615.3	433.7	R268.1	75.5	R5,392.7
1985	R4,599.7	23.8	1.0	—	R4,599.7	547.1	R301.5	70.5	R5,518.8
1986	R4,608.0	23.9	1.0	—	R4,608.0	548.7	R291.7	75.0	R5,523.4
1987	R4,767.6	24.1	1.0	—	R4,767.6	555.2	R287.5	77.8	R5,688.2
1988	R4,983.7	24.5	0.9	—	R4,983.7	563.5	R275.9	91.3	R5,914.4
1989	R5,063.7	24.9	1.0	—	R5,063.7	573.6	R289.3	94.5	R6,021.2
1990	R5,006.1	R31.3	R1.1	—	R5,006.1	R719.1	R333.8	R96.8	R6,155.8
1991	R4,959.0	R31.4	R1.1	—	R4,959.0	R722.9	R339.3	R88.0	R6,109.2
1992	R5,072.6	R31.6	1.2	—	R5,072.6	R725.7	R346.7	R87.9	R6,232.9
1993	R5,180.0	R30.6	1.2	—	R5,180.0	R702.7	R347.6	R93.6	R6,324.0
1994	R5,262.5	R30.6	1.3	—	R5,262.5	R703.1	R371.0	R90.9	R6,427.5
1995	R5,318.5	R30.5	R1.2	—	R5,318.5	R701.8	R355.3	R94.6	R6,470.2
1996	R5,508.9	R29.4	1.2	—	R5,508.9	R675.9	R352.3	113.3	R6,650.4
1997	R5,572.5	R29.1	1.2	—	R5,572.5	R668.2	R344.4	R116.0	R6,701.2
1998	R5,602.4	R28.2	1.2	—	R5,602.4	R648.4	R342.6	R126.2	R6,719.6
1999	R5,686.1	R27.8	1.2	—	R5,686.1	R639.7	R347.2	R122.1	R6,795.1
2000	R5,854.0	R27.8	1.2	—	R5,854.0	R638.8	R341.2	R123.2	R6,957.2
2001	R5,748.3	R27.4	R1.1	—	R5,748.3	R630.2	R336.8	R113.6	R6,828.9
2002P	5,795.6	26.6	1.1	—	5,795.6	612.8	333.1	120.6	6,862.0

[1] Emissions of greenhouse gases were weighted based upon their relative global warming potential (gwp), with carbon dioxide equal to a weight of one. The use of updated estimates of gwp resulted in a number of revisions to previously published data. It is also important to note that revisions in estimated emissions result from revisions in energy consumption as well.

[2] Metric tons of carbon dioxide can be converted to metric tons of carbon equivalent by multiplying by 12/44.

[3] Carbon dioxide data in this table differ from those for the United States in Table 11.19 due to: the exclusion of emissions from international bunker fuels consumption; the inclusion of emissions from geothermal power generation, cement production and other industrial processes, and municipal solid waste combustion; and the inclusion of data for the U.S. Territories.

R=Revised. P=Preliminary. — = Not applicable because these gases cannot be summed in native units.

Notes: • HFCs = hydrofluorocarbons; PFCs = perfluorocarbons; and SF_6 = sulfur hexafluoride. • Emissions are from anthropogenic sources. "Anthropogenic" means produced as the result of human activities, including emissions from agricultural activity and domestic livestock. Emissions from natural sources, such as wetlands and wild animals, are not included. • Because of the continuing goal to improve estimation methods for greenhouse gases, data are frequently revised on an annual basis in keeping with the latest findings of the international scientific community.

Web Page: For related information, see http://www.eia.doe.gov/environment.html.

Sources: • 1980-1989—Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States,* annual reports and unpublished revisions. • 1990 forward—EIA, *Emissions of Greenhouse Gases in the United States 2002* (October 2003), Tables ES1 and ES2.