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zFacts on ethanol

See yellow **highlights** on the [following page\(s\)](#).

Fact: Total US GHG emissions in 2004 = 7122 Tg

Source: US Department of Energy, Annual Energy Review, 2005, Table 12.1. (Google this title to find complete document.)

Notes: See p. 339 (PDF p.2) below. Due to high oil prices, fossil fuel use increased little in 2005, and declined in 2006. Consequently GHG emissions must have remained fairly constant.

Table 12.1 Emissions of Greenhouse Gases, 1980-2004

Year	Greenhouse Gases				Greenhouse Gases, Based on Global Warming Potential ¹				
	Carbon Dioxide ^{2,3}	Methane	Nitrous Oxide	HFCs PFCs SF ₆	Carbon Dioxide ²	Methane	Nitrous Oxide	HFCs PFCs SF ₆	Total
	Million Metric Tons of Gas				Million Metric Tons Carbon Dioxide Equivalent ²				
1980	4,824.7	28.6	1.0	—	4,824.7	658.0	287.0	70.4	5,840.0
1981	4,704.3	29.2	1.0	—	4,704.3	671.1	292.0	74.0	5,741.3
1982	4,448.8	29.4	1.0	—	4,448.8	676.8	282.6	55.4	5,463.7
1983	4,408.0	29.1	0.9	—	4,408.0	669.9	270.2	67.1	5,415.3
1984	4,655.8	29.8	1.0	—	4,655.8	684.5	294.0	75.5	5,709.9
1985	4,638.3	30.0	1.1	—	4,638.3	689.7	330.7	70.5	5,729.3
1986	4,642.5	29.4	1.1	—	4,642.5	676.5	323.8	75.0	5,717.8
1987	4,800.2	29.9	1.1	—	4,800.2	688.3	323.4	77.8	5,889.8
1988	5,012.6	30.1	1.1	—	5,012.6	692.0	316.9	91.3	6,112.8
1989	5,105.8	30.2	1.1	—	5,105.8	693.8	332.8	94.5	6,226.9
1990	R5,002.3	R31.4	1.1	—	R5,002.3	R721.4	R337.0	R88.1	R6,148.8
1991	R4,953.0	R31.3	R1.2	—	R4,953.0	R720.7	R342.6	R79.9	R6,096.1
1992	R5,067.8	R31.5	R1.2	—	R5,067.8	R723.6	R349.7	R82.2	R6,223.2
1993	R5,183.0	R30.4	1.2	—	R5,183.0	R700.2	R349.5	R86.1	R6,318.8
1994	R5,259.0	R30.4	R1.3	—	R5,259.0	R698.9	R374.5	R87.5	R6,419.9
1995	R5,312.1	R30.4	1.2	—	R5,312.1	R699.9	R357.6	R94.3	R6,463.9
1996	R5,499.7	R29.4	1.2	—	R5,499.7	R675.8	R358.0	R114.3	R6,647.7
1997	R5,563.0	R29.4	R1.2	—	R5,563.0	R675.2	R349.1	R122.0	R6,709.3
1998	R5,598.1	R28.4	R1.2	—	R5,598.1	R654.2	R348.8	R137.7	R6,738.8
1999	R5,677.9	R27.9	R1.2	—	R5,677.9	R642.2	R347.1	R137.4	R6,804.7
2000	R5,845.5	R27.8	R1.2	—	R5,845.5	R639.8	R343.5	R142.1	R6,970.8
2001	R5,785.5	R27.2	1.1	—	R5,785.5	R625.8	R338.8	R133.9	R6,884.1
2002	R5,808.5	R27.2	1.1	—	R5,808.5	R626.2	R335.1	R143.1	R6,912.9
2003	R5,871.8	R27.6	1.1	—	R5,871.8	R633.9	R335.2	R142.4	R6,983.2
2004 ^P	5,973.0	27.8	1.2	—	5,973.0	639.5	353.7	155.9	7,122.1

¹ Emissions of greenhouse gases are 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 SF₆ = 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. • Totals may not equal sum of components due to independent rounding.

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

Sources: **1990 and 1996-2004:** Energy Information Administration (EIA), *Emissions of Greenhouse Gases in the United States 2004* (December 2005), Tables ES1 and ES2. **All Other Data:** EIA, *Emissions of Greenhouse Gases in the United States*, annual reports and unpublished revisions.