

Emissions of Greenhouse Gases in the United States 2005

Table 31. U.S. Emissions of Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride, 1990, 1995, and 1998-2005
 (Million Metric Tons Carbon Dioxide Equivalent)

Gas	1990	1995	1998	1999	2000	2001	2002	2003	2004	P2005
Hydrofluorocarbons										
HFC-23	36.1	28.1	41.6	31.7	30.9	20.6	20.6	12.9	16.3	17.3
HFC-32	0.0	0.0	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
HFC-125	0.0	4.4	10.7	12.1	13.6	14.9	16.3	17.9	19.8	22.1
HFC-134a	0.0	17.7	35.2	40.2	45.4	49.7	53.5	56.8	61.6	66.1
HFC-143a	0.0	0.9	5.9	7.5	9.3	11.4	13.8	16.5	19.5	23.0
HFC-236fa	0.0	0.0	0.6	1.3	2.0	2.6	3.2	3.5	3.5	2.9
Total HFCs	36.1	51.0	94.2	93.1	101.5	99.4	107.6	107.8	121.1	131.8
Perfluorocarbons										
CF ₄	14.6	10.0	8.4	8.3	8.4	3.8	5.0	3.8	3.2	3.2
C ₂ F ₆	5.4	5.4	5.8	5.8	4.9	3.3	3.8	3.3	3.4	3.0
NF ₃	*	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.3
C ₃ F ₈	*	*	*	*	0.1	0.1	0.1	0.1	*	*
C ₄ F ₈	*	*	*	*	*	*	0.1	0.1	0.1	0.1
Total PFCs	20.0	15.5	14.2	14.2	13.6	7.3	9.2	7.6	7.0	6.7
Other HFCs, PFCs/PFPEs	0.4	2.1	4.9	5.0	4.9	4.7	4.7	4.7	5.4	6.1
Sulfur Hexafluoride	30.7	26.3	21.0	21.6	18.1	17.1	16.3	16.4	16.0	15.7
Total Emissions	87.1	94.9	134.3	133.9	138.0	128.5	137.8	136.6	149.5	160.2

*Less than 50,000 metric tons carbon dioxide equivalent.

P = preliminary data.

Notes: Other HFCs, PFCs/PFPEs include HFC-152a, HFC-227ea, HFC-245fa, HFC-4310mee, and a variety of PFCs and perfluoropolyethers (PFPEs). They are grouped together to protect confidential data. Totals may not equal sum of components due to independent rounding.

Source: U.S. Environmental Protection Agency, Office of Air and Radiation, web site www.epa.gov/globalwarming/ (preliminary estimates, September and October 2006).

Table 32. U.S. Emissions of Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride, 1990, 1995, and 1998-2005
 (Thousand Metric Tons of Gas)

Gas	1990	1995	1998	1999	2000	2001	2002	2003	2004	P2005
Hydrofluorocarbons										
HFC-23	3.0	2.3	3.5	2.6	2.6	1.7	1.7	1.1	1.4	1.4
HFC-32	0.0	0.0	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.8
HFC-125	0.0	1.3	3.1	3.6	4.0	4.4	4.8	5.3	5.8	6.5
HFC-134a	0.0	13.6	27.1	30.9	34.9	38.2	41.2	43.7	47.4	50.8
HFC-143a	0.0	0.2	1.4	1.7	2.2	2.6	3.2	3.8	4.5	5.4
HFC-236fa	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.4	0.4	0.3
Perfluorocarbons										
CF ₄	2.6	1.8	1.5	1.5	1.5	0.7	0.9	0.7	0.6	0.6
C ₂ F ₆	0.5	0.5	0.5	0.5	0.4	0.3	0.3	0.3	0.3	0.3
NF ₃	*	*	*	*	*	*	*	*	*	*
C ₃ F ₈	*	*	*	*	*	*	*	*	*	*
C ₄ F ₈	*	*	*	*	*	*	*	*	*	*
Other HFCs, PFCs/PFPEs	M	M	M	M	M	M	M	M	M	M
Sulfur Hexafluoride	1.4	1.2	0.9	1.0	0.8	0.8	0.7	0.7	0.7	0.7

*Less than 50 metric tons of gas.

P = preliminary data. M = mixture of gases.

Notes: Other HFCs, PFCs/PFPEs include HFC-152a, HFC-227ea, HFC-245fa, HFC-4310mee, and a variety of PFCs and perfluoropolyethers (PFPEs). They are grouped together to protect confidential data. Totals may not equal sum of components due to independent rounding.

Source: U.S. Environmental Protection Agency, Office of Air and Radiation, web site www.epa.gov/globalwarming/ (preliminary estimates, September and October 2006).