

Table 19. U.S. Methane Emissions from Landfills, 1990-2002

Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	P2002
Million Metric Tons Methane													
Gross Emissions from Landfills.....	12.20	12.32	12.44	12.50	12.56	12.61	12.61	12.59	12.57	12.58	12.72	12.85	12.81
Methane Recovered for Energy (-) ..	0.73	0.77	0.83	0.89	1.03	1.06	1.22	1.45	1.75	2.00	2.19	2.40	3.00
Methane Assumed Flared (-).....	0.46	0.69	0.84	1.02	1.26	1.67	2.02	2.34	2.57	2.66	2.66	2.87	2.87
Net Emissions.....	11.01	10.86	10.77	10.58	10.27	9.87	9.37	8.80	8.25	7.91	7.87	7.58	6.94
Million Metric Tons Carbon Dioxide Equivalent													
Gross Emissions from Landfills.....	280.64	283.41	286.14	287.49	288.86	289.92	290.06	289.51	289.21	289.26	292.62	295.46	294.67
Methane Recovered for Energy (-) ..	16.84	17.76	19.00	20.52	23.64	24.47	28.06	33.40	40.30	46.05	50.30	55.11	69.07
Methane Assumed Flared (-).....	10.53	15.80	19.34	23.53	28.87	38.36	46.55	53.77	59.06	61.20	61.20	65.94	65.94
Net Emissions.....	253.26	249.81	247.76	243.41	236.31	227.05	215.40	202.34	189.85	182.01	181.11	174.41	159.66

P = preliminary data.

Note: Data in this table are revised from the data contained in the previous EIA report, *Emissions of Greenhouse Gases in the United States 2001*, DOE/EIA-0573(2001) (Washington, DC, December 2002).

Sources: Municipal solid waste landfilled from "Nationwide Survey: The State of Garbage in America," Biocycle (various years) for years before 2001. Waste generation and waste landfilled for 2001 and 2002 estimated on the basis of annual economic growth. Emissions calculations based on S.A. Thomeloe et al., "Estimate of Methane Emissions from U.S. Landfills," Prepared for the U.S. Environmental Protection Agency, Office of Research and Development (April 1994), and D. Augenstein, "The Greenhouse Effect and U.S. Landfill Methane," *Global Environmental Change* (December 1992), pp. 311-328. Methane recovered and flared from U.S. Environmental Protection Agency, Office of Air and Radiation, Non-CO₂ Gases and Sequestration Branch, Landfill Methane Outreach Program, web site www.epa.gov/lmop/.