Table 13. U.S. Methane Emissions from Anthropogenic Sources, 1990-2002

Source	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	P2002
Million Metric Tons Methane													
Energy Sources													
Coal Mining	4.25	4.10	4.05	3.44	3.51	3.66	3.19	3.50	3.28	3.12	2.98	2.96	2.86
Natural Gas Systems	5.60	5.83	5.89	5.88	5.89	5.98	6.00	6.01	6.02	6.19	6.41	6.38	6.47
Petroleum Systems	1.30	1.31	1.27	1.21	1.18	1.17	1.15	1.14	1.11	1.05	1.03	1.03	1.02
Stationary Combustion	0.56	0.59	0.62	0.54	0.53	0.58	0.58	0.44	0.39	0.42	0.44	0.41	0.36
Mobile Sources	0.25	0.24	0.24	0.24	0.24	0.25	0.24	0.24	0.24	0.26	0.25	0.24	0.24
Total Energy Sources	**11.96**	**12.06**	**12.07**	**11.30**	**11.35**	**11.64**	**11.16**	**11.33**	**11.04**	**11.02**	**11.10**	**11.03**	**10.95**
Waste Management													
Landfills	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
Wastewater Treatment	0.58	0.58	0.59	0.60	0.60	0.61	0.61	0.62	0.63	0.63	0.65	0.66	0.67
Total Waste Management	**11.59**	**11.44**	**11.36**	**11.18**	**10.88**	**10.48**	**9.98**	**9.42**	**8.88**	**8.54**	**8.53**	**8.24**	**7.61**
Agricultural Sources													
Enteric Fermentation	5.22	5.19	5.29	5.24	5.34	5.42	5.31	5.19	5.11	5.11	5.06	5.00	5.00
Animal Waste	1.93	2.19	2.21	2.26	2.34	2.35	2.34	2.48	2.51	2.46	2.46	2.49	2.47
Rice Cultivation	0.40	0.40	0.45	0.41	0.48	0.44	0.41	0.45	0.47	0.50	0.45	0.47	0.46
Crop Residue Burning	0.05	0.04	0.05	0.04	0.05	0.04	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Total Agricultural Sources	**7.60**	**7.81**	**8.01**	**7.95**	**8.21**	**8.26**	**8.11**	**8.18**	**8.13**	**8.11**	**8.02**	**8.01**	**7.98**
Industrial Processes	**0.12**	**0.11**	**0.12**	**0.12**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.13**	**0.11**	**0.11**
Total	**31.27**	**31.43**	**31.55**	**30.55**	**30.57**	**30.51**	**29.39**	**29.05**	**28.19**	**27.81**	**27.77**	**27.40**	**26.65**
Million Metric Tons Carbon Dioxide Equivalent													
Energy Sources													
Coal Mining	97.68	94.24	93.24	79.03	80.83	84.18	73.46	80.39	75.55	71.67	68.44	68.11	65.67
Natural Gas Systems	128.91	134.00	135.51	135.21	135.48	137.61	138.04	138.24	138.39	142.29	147.36	146.85	148.85
Petroleum Systems	29.88	30.13	29.12	27.82	27.10	26.93	26.36	26.33	25.54	24.04	23.80	23.69	23.46
Stationary Combustion	12.97	13.60	14.28	12.34	12.12	13.33	13.35	10.06	9.07	9.63	10.05	9.47	8.30
Mobile Sources	5.65	5.41	5.43	5.56	5.61	5.78	5.58	5.49	5.48	5.93	5.66	5.58	5.53
Total Energy Sources	**275.09**	**277.39**	**277.57**	**259.95**	**261.14**	**267.82**	**256.78**	**260.51**	**254.03**	**253.55**	**255.31**	**253.71**	**251.82**
Waste Management													
Landfills	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
Wastewater Treatment	13.27	13.42	13.57	13.71	13.85	13.98	14.11	14.25	14.38	14.51	15.01	15.15	15.34
Total Waste Management	**266.53**	**263.22**	**261.33**	**257.13**	**250.16**	**241.03**	**229.51**	**216.58**	**204.23**	**196.51**	**196.12**	**189.57**	**175.00**
Agricultural Sources													
Enteric Fermentation	119.96	119.27	121.75	120.48	122.80	124.67	122.21	119.45	117.44	117.42	116.40	115.08	115.05
Animal Waste	44.49	50.38	50.93	51.95	53.92	54.07	53.83	57.15	57.78	56.56	56.67	57.32	56.78
Rice Cultivation	9.30	9.09	10.31	9.40	10.95	10.22	9.42	10.32	10.71	11.47	10.24	10.78	10.54
Crop Residue Burning	1.04	0.97	1.14	0.94	1.20	0.97	1.12	1.12	1.14	1.10	1.15	1.12	1.07
Total Agricultural Sources	**174.79**	**179.71**	**184.13**	**182.76**	**188.87**	**189.93**	**186.58**	**188.05**	**187.08**	**186.55**	**184.45**	**184.30**	**183.44**
Industrial Processes	**2.70**	**2.55**	**2.69**	**2.85**	**2.97**	**3.04**	**3.08**	**3.09**	**3.05**	**3.07**	**2.93**	**2.59**	**2.58**
Total	**719.10**	**722.87**	**725.72**	**702.69**	**703.15**	**701.83**	**675.94**	**668.24**	**648.40**	**639.69**	**638.81**	**630.16**	**612.84**

P = preliminary data.

Notes: 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). Totals may not equal sum of components due to independent rounding.

Sources: EIA estimates presented in this chapter. Emissions calculations based on Intergovernmental Panel on Climate Change, *Greenhouse Gas Inventory Reference Manual: Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*, Vol. 3 (Paris, France, 1997), pp. 4.83-4.84, web site www.ipcc.ch/pub/guide.htm; and U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (Washington, DC, various years), web site http://yosemite.epa.gov/oar/globalwarming.nsf/content/ResourceCenterPublicationsGHGEmissions.html.