Table 12.4 Carbon Dioxide Emissions From Consumption of Energy for All Purposes in the Manufacturing Sector, 1998

(Million Metric Tons of Carbon Dioxide,[1] Except as Noted)

NAICS [2] Code	Major Group	Carbon Dioxide Emissions						Carbon Dioxide Emissions per Unit of Primary Consumption [5]	Carbon Dioxide Emissions per Dollar of Shipments [6]
		Coal	Natural Gas	Petroleum	Electricity [3]	Other [4]	Total		
311	Food	12.2	30.0	2.8	41.4	0.1	86.5	59.0	202.0
312	Beverage and Tobacco Products	2.7	2.4	0.4	4.7	0.0	10.2	65.1	99.4
313	Textile Mills	1.9	5.4	1.4	19.8	(s)	28.6	62.4	497.9
314	Textile Product Mills	0.3	1.3	Q	3.5	0.0	5.3	62.8	171.3
315	Apparel	0.1	1.2	0.3	3.5	0.0	5.1	61.0	78.5
316	Leather and Allied Products	0.0	0.2	0.0	0.6	0.0	0.8	60.4	78.0
321	Wood Products	0.2	3.9	1.2	14.0	0.2	19.4	29.8	213.3
322	Paper	25.8	30.9	15.2	46.7	0.7	119.3	37.0	769.8
323	Printing and Related Support	0.0	2.3	0.1	9.9	0.1	12.4	62.1	123.4
324	Petroleum and Coal Products	0.0	53.2	175.0	24.5	69.8	322.5	42.6	2,337.5
325	Chemicals	28.7	125.2	56.6	112.2	4.9	327.6	45.4	786.1
326	Plastics and Rubber Products	0.3	6.7	0.8	35.6	0.0	43.3	62.7	264.5
327	Nonmetallic Mineral Products	27.7	23.4	6.7	26.1	0.7	84.6	67.9	914.5
331	Primary Metals	94.6	49.3	3.3	106.0	3.6	256.8	70.5	1,546.2
332	Fabricated Metal Products	0.6	12.7	1.0	34.2	0.1	48.7	61.2	191.8
333	Machinery	0.6	5.2	0.4	18.7	0.2	25.1	61.6	89.6
334	Computer and Electronic Products	0.0	3.4	0.2	26.6	0.0	30.2	63.2	68.0
335	Electrical Equipment, Appliances, and Components	0.1	2.8	0.4	10.7	0.9	14.9	58.8	128.2
336	Transportation Equipment	2.8	11.2	1.8	37.9	0.2	53.9	61.3	88.0
337	Furniture and Related Products	0.2	1.4	0.1	5.8	0.1	7.7	52.2	109.9
339	Miscellaneous	0.0	2.1	0.3	7.8	0.0	10.2	60.2	96.8
—	Total Manufacturing	198.6	374.2	268.6	590.4	81.4	1,513.2	50.7	388.0

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

[2] The Standard Industrial Classification (SIC) system has been replaced by the North American Industry Classification System (NAICS).

[3] Carbon dioxide emitted from energy inputs used to produce electricity (including associated losses), derived by calculating the manufacturing subsector share of the electric power sector's total carbon dioxide emissions based upon the weighted share of electricity retail sales to (receipts by) the manufacturing subsector. Estimates presented here are based upon the electric power sector and differ from prior estimates that were based upon data for electric utilities only.

[4] Includes all other types of energy that respondents indicated were consumed or allocated, such as asphalt and road oil, lubricants, naphtha < 401° F, other oils >= 401° F, special naphthas, waxes, and miscellaneous nonfuel products, which are nonfuel products assigned to the petroleum refining industry group (NAICS 324110).

[5] Data are in million metric tons of carbon dioxide per quadrillion Btu of energy (including allocated electricity losses).

[6] Data are in metric tons of carbon dioxide per million (nominal) dollars.

(s)=Less than 0.05 million metric tons. Q=Data withheld because the relative standard error was greater than 50 percent.

Notes: • For prior surveys and the current Manufacturing Energy Consumption Survey, emissions are available classified under the 1987 Standard Industrial Classification System. See the Web Page. • The estimates are for the first use of energy for heat and power and as feedstocks or raw material inputs. First use is defined as the consumption of the energy that was originally produced offsite or was produced onsite from input materials not classified as energy. • Electricity was converted from point-of-use to primary electricity using Table A6 of this report. • See Table 2.2 for manufacturing energy use. • Totals may not equal sum of components due to independent rounding.

Web Page: For related information, see http://www.eia.doe.gov/emeu/mecs.

Sources: Energy Information Administration, Form EIA-846, "1998 Manufacturing Energy Consumption Survey," Form EIA-810, "Monthly Refinery Report" for 1998, and *Emissions of Greenhouse Gases in the United States 2002* (October 2003).