Table A-8. National $PM_{2.5}$ Emissions Estimates, 1990–2000 (thousand short tons)

SOURCE CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Fuel Combustion	909	893	927	852	841	898	735	737	705	719	756
FUEL COMB. ELEC. UTIL.	121	105	106	112	108	107	157	161	130	137	141
Coal	97	85	87	90	86	86	133	135	103	113	116
bituminous	59	53	53	57	54	52	88	89	62	57	59
subbituminous	14	16	18	18	17	20	32	31	30	35	35
anthracite & lignite	23	16	16	15	15	15	13	15	11	20	22
Oil	5	5	4	5	5	3	5	6	4	3	2
Gas	NA	NA	NA	NA	NA	NA	1	1	1	0	0
Other	NA	NA	NA	NA	NA	NA	0	0	3	3	4
Internal Combustion	20	15	16	17	17	18	17	18	18	19	19
FUEL COMB. INDUSTRIAL	177	151	159	172	183	203	153	149	147	150	157
Coal	29	23	25	24	25	25	23	23	23	24	24
bituminous	23	18	20	20	19	19	18	18	18	18	18
subbituminous	2	1	1	2	3	3	3	3	3	3	3
anthracite & lignite	1	1	0	0	0	1	0	0	0	0	0
other	3	3	3	3	2	2	2	2	2	2	2
Oil	31	26	26	27	26	28	26	24	24	24	26
residual	26	22	22	23	22	24	22	20	19	20	22
distillate	4	3	3	4	4	4	4	4	4	4	4
other	1	1	1	1	1	1	0	1	0	0	1
Gas	39	34	39	41	42	44	39	39	38	39	41
natural	29	23	26	28	29	29	25	25	25	25	26
process	11	10	13	13	14	15	13	14	14	14	15
other	0	0	0	0	0	0	0	0	0	0	0
Other	73	58	59	69	60	59	50	48	48	48	51
wood/bark waste	68	55	54	58	55	55	44	42	42	43	45
liquid waste	1	0	0	1	0	0	0	0	0	0	0
other	4	3	4	10	4	3	6	5	5	5	5
Internal Combustion	5	10	10	11	29	48	15	15	15	15	16
FUEL COMB. OTHER	611	638	662	568	550	589	425	427	428	432	458
Commercial/Institutional Coal	6	6	6	6	6	6	7	7	7	7	7
Commercial/Institutional Oil	5	5	5	5	5	5	5	5	4	4	4
Commercial/Institutional Gas	5	5	6	6	6	6	7	7	7	7	7
Misc. Fuel Comb. (Except Residential)	78	73	72	72	72	73	72	75	78	81	83
Residential Wood	501	535	558	464	446	484	319	319	319	319	342
fireplaces	501	535	558	464	446	484	144	144	144	144	154
woodstoves	NA	NA	NA	NA	NA	NA	175	175	175	175	188
Residential Other	15	15	15	15	15	15	15	14	13	14	14
Industrial Processes	794	812	819	788	771	749	874	886	891	893	915
CHEMICAL & ALLIED PRODUCT MFG	47	43	45	41	49	42	39	39	40	40	41
Organic Chemical Mfg	10	10	11	10	11	11	12	12	12	12	13
Inorganic Chemical Mfg	12	3	4	4	4	3	3	3	3	3	3
Polymer & Resin Mfg	4	3	4	3	3	3	2	2	2	2	2
Agricultural Chemical Mfg	8	8	8	8	8	8	5	6	6	6	6
Paint, Varnish, Lacquer, Enamel Mfg	0	0	0	0	0	0	0	0	0	0	0
Pharmaceutical Mfg	0	0	0	0	0	0	0	0	0	0	0
Other Chemical Mfg	13	17	17	15	23	16	16	16	17	17	17

Table A-8. National $PM_{2.5}$ Emissions Estimates, 1990–2000 (thousand short tons) (continued)

SOURCE CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
METALS PROCESSING	157	197	198	125	125	134	100	105	105	104	107
Non-Ferrous Metals Processing	31	29	29	25	25	25	22	23	23	23	23
copper	9	9	9	8	8	8	4	5	4	4	5
lead	2	2	2	2	2	2	2	2	2	2	2
zinc	5	5	5	1	1	1	1	1	1	1	2
other	14	13	13	14	14	14	15	15	15	15	15
Ferrous Metals Processing	121	89	83	86	86	92	65	69	68	66	68
primary	103	72	66	68	68	74	47	50	50	50	52
secondary	17	16	16	17	18	19	18	18	18	17	17
other	1	0	0	0	0	0	0	0	0	0	0
Metals Processing NEC	5	80	85	14	14	16	13	14	14	15	15
PETROLEUM & RELATED INDUSTRIES	27	24	24	22	22	22	17	17	17	17	17
Oil & Gas Production	2	2	2	2	2	2	1	1	1	1	1
Petroleum Refineries & Related Industries	13	14	14	13	13	13	12	12	12	12	12
fluid catalytic cracking units	11	12	12	11	11	11	7	8	8	8	8
other	2	2	2	2	2	2	4	4	4	4	4
Asphalt Manufacturing	12	9	8	7	7	8	4	4	4	4	4
OTHER INDUSTRIAL PROCESSES	284	264	259	260	256	256	180	186	189	191	198
Agriculture, Food, & Kindred Products	39	46	40	44	43	40	20	21	21	22	22
country elevators	6	6	7	6	6	6	1	1	1	1	1
terminal elevators	3	3	4	5	4	4	0	0	0	0	0
feed mills	2	2	2	2	2	2	1	1	1	1	1
soybean mills	5	4	4	5	5	5	3	3	3	3	3
wheat mills	1	1	1	1	1	1	1	1	1	1	1
other grain mills	4	3	3	3	3	3	2	3	3	3	3
other	17	26	19	21	22	20	14	14	14	14	15
Textiles, Leather, & Apparel Products	0	0	0	0	0	0	0	1	0	0	1
Wood, Pulp & Paper, & Publishing Products	77	61	59	59	57	60	52	53	55	56	58
sulfate (kraft) pulping	57	40	38	38	38	40	31	32	32	33	34
other	21	21	21	21	19	20	21	22	22	23	24
Rubber & Miscellaneous Plastic Products	3	3	3	3	3	3	2	2	2	2	2
Mineral Products	144	134	135	136	133	134	88	92	93	93	97
cement mfg	54	40	39	38	38	38	11	11	11	11	12
surface mining	6	6	7	7	7	6	7	7	7	7	8
stone quarrying/processing	24	28	28	28	26	26	9	9	9	9	9
other	61	60	61	62	63	63	61	64	65	66	68
Machinery Products	3	3	3	3	3	3	2	2	2	2	2
Electronic Equipment	0	0	0	0	0	0	1	1	1	1	1
Transportation Equipment	1	1	1	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0
Miscellaneous Industrial Processes	16	16	17	15	16	16	14	14	15	15	15

Table A-8. National $PM_{2.5}$ Emissions Estimates, 1990–2000 (thousand short tons) (continued)

SOURCE CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
SOLVENT UTILIZATION	4	4	5	6	6	5	5	5	5	6	6
Degreasing	0	0	0	0	0	0	0	0	0	0	0
Graphic Arts	0	0	0	0	0	0	1	1	1	1	1
Dry Cleaning	0	0	0	0	0	0	0	0	0	0	0
Surface Coating	3	3	4	4	4	4	4	4	4	4	4
Other Industrial	1	1	1	1	1	1	0	0	0	0	0
Nonindustrial	NA	NA	NA	NA	NA	NA	0	0	0	0	0
Solvent Utilization NEC	NA	NA	NA	NA	NA	NA	0	0	0	0	0
STORAGE & TRANSPORT	42	42	50	46	43	42	30	31	31	31	32
Bulk Terminals & Plants	0	0	0	0	0	0	0	0	0	0	0
Petroleum & Petroleum Product Storage	0	1	1	1	0	0	0	0	0	0	0
Petroleum & Petroleum Product Transport	0	0	0	0	0	0	0	0	0	0	0
Service Stations: Stage II	0	0	0	0	0	0	0	0	0	0	0
Organic Chemical Storage	0	0	0	0	0	0	1	1	1	1	1
Organic Chemical Transport	0	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Storage	0	0	0	0	0	0	0	0	0	0	0
Inorganic Chemical Transport	0	0	0	0	0	0	0	0	0	0	0
Bulk Materials Storage	41	41	48	44	41	41	28	29	29	30	31
storage	13	11	12	13	13	12	11	11	11	11	12
transfer	28	29	36	31	28	29	17	18	18	18	19
combined	0	0	0	0	0	0	0	0	0	0	0
other	NA	0	0	NA	0	0	0	0	0	0	0
Bulk Materials Transport	0	0	0	0	0	0	0	0	0	0	0
WASTE DISPOSAL & RECYCLING	234	238	239	288	271	247	503	503	504	504	514
Incineration	46	47	46	93	73	50	15	15	16	16	16
residential	27	28	30	31	31	31	0	0	0	0	0
other	19	18	16	62	42	19	15	15	16	16	16
Open Burning	187	190	192	195	196	197	486	486	486	486	495
residential	177	179	181	183	184	185	174	174	174	174	178
land clearing debris	NA	NA	NA	NA	NA	NA	302	302	302	302	306
other	10	11	11	11	12	11	10	10	10	10	10
POTW	0	0	0	0	0	0	0	0	0	0	0
Industrial Waste Water	0	0	0	0	0	0	0	0	0	0	0
TSDF	0	0	0	0	0	0	0	0	0	0	0
Landfills	0	0	1	1	1	0	2	2	2	2	2
Other	0	0	0	0	1	0	0	0	0	0	0
Transportation	719	720	717	688	682	640	702	686	666	638	608
ON-ROAD VEHICLES	286	288	284	261	258	237	276	263	246	230	209
Light-Duty Gas Vehicles & Motorcycles	34	33	32	32	32	32	32	33	34	34	33
ldgv	34	33	32	32	32	32	32	33	33	34	33
motorcycles	0	0	0	0	0	0	0	0	0	0	0
Light-Duty Gas Trucks	24	28	30	30	29	26	22	22	22	22	22
ldgt1	12	13	14	14	14	14	14	15	15	15	15
ldgt2	13	15	16	16	15	12	8	8	7	7	7

Table A-8. National $PM_{2.5}$ Emissions Estimates, 1990–2000 (thousand short tons) (continued)

SOURCE CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Heavy-Duty Gas Vehicles	6	6	6	7	7	6	9	9	8	8	7
Diesels	221	220	216	192	190	173	212	199	181	166	147
hddv	204	211	207	184	182	165	208	196	179	165	145
lddt	12	2	2	2	2	2	1	1	1	1	1
lddv	6	7	7	6	6	6	2	2	1	1	1
NON-ROAD ENGINES AND VEHICLES	432	432	433	427	424	403	426	423	420	408	399
Non-Road Gasoline	43	43	43	44	44	45	81	82	83	84	85
recreational	2	3	3	3	3	3	5	5	5	5	5
construction	1	1	1	1	1	1	2	2	2	2	2
industrial	0	0	0	0	0	0	0	0	0	0	0
lawn & garden	10	10	10	11	11	11	19	19	19	19	19
farm	0	0	0	0	0	0	0	0	0	0	0
light commercial	1	2	2	2	2	2	2	2	2	2	2
logging	0	0	0	0	0	0	17	19	20	21	22
airport service	0	0	0	0	0	0	0	0	0	0	0
railway maintenance	0	0	0	0	0	0	0	0	0	0	0
recreational marine vessels	27	27	27	28	28	28	35	35	36	36	35
Non-Road Diesel	277	275	273	273	272	272	251	247	242	231	222
recreational	1	1	1	1	1	1	1	1	1	1	1
construction	137	136	136	135	134	134	130	128	124	118	111
industrial	35	34	34	35	35	35	30	30	30	30	30
lawn & garden	8	8	9	10	11	11	10	10	11	11	11
farm	71	71	70	69	68	67	57	55	53	50	48
light commercial	11	11	11	12	12	13	12	13	13	13	14
logging	12	10	9	8	8	8	8	7	6	5	5
airport service	1	1	1	1	1	1	1	1	1	1	1
railway maintenance	1	1	1	1	1	1	1	1	1	0	0
recreational marine vessels	1	1	1	1	1	1	2	2	2	1	1
Aircraft	31	31	32	30	29	28	4	4	4	4	4
Marine Vessels	32	34	33	31	32	31	61	60	61	61	60
coal	1	1	1	1	1	1	NA	NA	NA	NA	NA
diesel	25	26	25	24	24	24	38	38	38	38	39
residual oil	6	6	6	6	6	6	22	22	22	22	21
gasoline	0	0	0	0	0	0	NA	NA	NA	NA	NA
Railroads	49	48	50	48	46	25	27	28	28	27	27
Non-Road Other	1	1	1	1	1	1	2	2	2	1	1
liquified petroleum gas	1	1	1	1	1	1	1	1	1	1	1
compressed natural gas	0	0	0	0	0	0	0	0	0	0	0
NATURAL SOURCES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Geogenic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Wind Erosion	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MISCELLANEOUS	5,234	5,003	4,854	4,926	5,359	4,726	4,411	4,735	4,479	4,829	5,466
Agriculture & Forestry	1,031	1,019	976	887	941	952	953	961	961	970	979
agricultural crops	949	937	893	803	856	867	866	875	873	882	890
agricultural livestock	82	83	83	84	85	85	87	87	88	89	89

Table A-8. National $PM_{2.5}$ Emissions Estimates, 1990–2000 (thousand short tons) (continued)

SOURCE CATEGORY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Other Combustion	1,037	807	666	693	912	735	931	1,123	855	1,200	1,817
structural fires	20	20	21	21	21	22	3	3	3	3	3
agricultural fires	80	80	81	78	83	89	89	91	93	94	96
slash/prescribed burning	399	408	413	457	436	494	453	491	526	400	223
forest wildfires	538	299	151	137	372	130	386	538	233	702	1,494
other	0	0	0	0	0	0	0	0	0	0	0
Cooling Towers	0	0	0	0	0	1	2	2	3	3	3
Fugitive Dust	3,166	3,177	3,212	3,346	3,506	3,037	2,525	2,649	2,660	2,657	2,667
unpaved roads	1,687	1,684	1,642	1,718	1,709	1,559	1366	1427	1406	1,381	1,380
paved roads	562	600	606	616	634	585	600	649	666	693	686
construction	850	818	892	930	1,049	777	423	423	423	423	437
other	67	75	73	81	113	117	136	150	165	159	163
TOTAL ALL SOURCES	7,655	7,429	7,318	7,254	7,653	7,013	6,722	7,044	6,741	7,079	7,745

Note: Some columns may not sum to totals due to rounding.