

National Dioxins Emission Inventory (Summary)

Sources of Dioxin Emissions	Total Amount of Dioxins Emission (g-TEQ/year)														reduction target
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
1 Fields of waste disposal	7205~	3355~	2562~	2121~	1689~	748~	219~	215~	213~	193~	181~	132~	102~	95	164~
"water"	7658	3808	2893	2252	1801	771	244	237	237	218	199	137	103	0.7	189
General waste incinerators	5000	1550	1350	1019	812	370	71	64	62	54	52	42	36	33	51
"water"	0.044	0.044	0.035	0.035	0.019	0.008	0.004	0.002	0.001	0.003	0.002	0.001	0.001	0.002	
Industrial waste incinerators	1505	1105	695	558	535	266	75	70	73	63	60	42	34	29	50
"water"	5.3	5.3	5.3	2.5	1.5	0.86	0.60	0.65	0.36	0.78	1.6	0.6	0.6	0.7	
Small-scale waste incinerators	700~	700~	517~	544~	342~	112~	73~	81~	78~	76~	69~	48~	33~	33	63~
"water"	1153	1153	848	675	454	135	98	103	102	101	87	53	34	33	88
2 Fields of industry	470	335	306	268	205	189	149	125	110	93	100	80	50	61	146
"water"	6.3	5.8	5.8	5.0	1.8	1.2	0.93	1.0	1.0	0.75	0.8	0.5	0.3	0.6	
Electric steel-making furnaces	229	140	142	131	95.3	94.8	80.3	64.0	49.6	39.5	50.2	33.0	20.1	30.1	80.3
Sintering facilities for steel industry	135	114	101	69.8	65.0	51.1	35.7	30.4	29.3	21.2	20.5	22.5	9.1	10.9	35.7
Facilities for recovering zinc	47.4	25.4	21.8	26.5	9.2	14.7	5.5	8.1	4.1	8.2	1.8	3.1	2.1	2.3	5.5
"water"	0.0036	0.0036	0.0036	0.0036	0.0036	0.0026	0.0066	0.0047	0.0018	0.00065	0.0014	0.0006	0.0008	0.0004	
Facilities for manufacturing aluminum	31.0	28.8	23.1	22.2	19.7	16.3	17.4	13.0	15.2	12.9	15.6	11.3	11.1	8.7	14.3
base alloy	0.34	0.068	0.093	0.056	0.082	0.024	0.029	0.011	0.008	0.027	0.023	0.009	0.008	0.011	
Facilities for recovering copper	0.053	0.053	0.048	0.038	0.013	0.088	—	—	—	—	—	—	—	—	0.048
Pulping process with bleaching	0.74	0.71	0.74	0.73	0.90	0.65	0.46	0.62	0.58	0.50	0.58	0.27	0.19	0.24	0.46
"water"	0.74	0.71	0.74	0.73	0.90	0.65	0.46	0.62	0.58	0.50	0.58	0.27	0.19	0.24	
Other facilities	26.5	25.6	17.8	17.9	15.3	11.0	9.9	9.1	10.8	10.2	11.1	9.6	7.5	8.5	9.9
"water"	5.2	5.0	5.0	4.2	0.85	0.52	0.44	0.38	0.42	0.22	0.19	0.20	0.13	0.32	
3 Others	4.8~	4.9~	4.9~	4.9~	4.7~	4.3~	4.4~	4.2~	4.2~	4.0~	4.2~	3.6~	2.4~	2.5~	4.4~
"water"	7.4	7.6	7.7	7.6	7.5	7.2	7.3	7.2	7.2	7.0	7.3	6.3	4.0	4.3	7.7
"water"	1.2	1.2	1.2	1.2	1.0	0.53	0.56	0.37	0.47	0.24	0.29	0.20	0.14	0.24	
Crematories	2.1~	2.2~	2.2~	2.2~	2.2~	2.3~	2.3~	2.4~	2.4~	2.5~	2.6~	2.2~	1.2~	1.2~	
"water"	4.6	4.8	4.9	4.8	4.9	5.1	5.1	5.3	5.3	5.4	5.7	4.9	2.8	3.0	
Cigarette smoke	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1~	0.1	0.07	0.06	0.06
"water"	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.07	0.06	0.06
Automobile exhaust	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.3	1.2	1.2	1.2	1.1	1.0	1.0	
Sewage treatment plants	1.1	1.1	1.1	1.1	0.99	0.51	0.54	0.36	0.46	0.23	0.28	0.19	0.13	0.23	
"water"	1.1	1.1	1.1	1.1	0.99	0.51	0.54	0.36	0.46	0.23	0.28	0.19	0.13	0.23	
Solid waste final disposal sites	0.093	0.093	0.093	0.056	0.027	0.021	0.020	0.018	0.012	0.014	0.010	0.010	0.006	0.006	
"water"	0.093	0.093	0.093	0.056	0.027	0.021	0.020	0.018	0.012	0.014	0.010	0.010	0.006	0.006	
Total	7680~	3695~	2874~	2394~	1899~	941~	372~	344~	327~	289~	285~	215~	155~	158~	315~
"water"	8135	4151	3208	2527	2013	967	400	369	354	317	306	223	157	160	343
"water"	12.8	12.3	12.4	8.7	4.4	2.6	2.1	2.0	1.8	1.8	2.7	1.3	1.1	1.5	

Note 1: Emissions from 1997 to 2007 used WHO-TEF(1998), and emissions after 2008 used WHO-TEF(2006) where possible.

Note 2: "Water" in the table means the amount emitted into water.