

Appendix C

Life Cycle Inventory Data for Scenarios

Table C-1. Landfill Venting Scenario Los Angeles 2003

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,114,328	434,162	9,371	625,944	44,851
Air Emissions						
Total Particulate Matter	lb	91,517	10,234	4,029	68,341	8,914
Nitrogen Oxides	lb	1,079,104	790,189	53,128	173,888	61,899
Sulfur Oxides	lb	150,421	71,057	6,249	55,548	17,567
Carbon Monoxide	lb	746,492	130,833	13,337	541,303	61,018
Carbon Dioxide Biomass	lb	5,614,012,219	17,259	529	5,613,992,704	1,728
Carbon Dioxide Fossil	lb	40,941,936	19,482,524	1,513,606	12,730,781	7,215,025
Green House Equivalents	MTCE	3,940,475	2,689	:-1. 207.17047C	3,936,592	987
Hydrocarbons (non CH4)	lb	218,272	151,350	6,635	35,383	24,905
Lead	lb	1	1	0	0	0
Ammonia	lb	44	0	2	30	11
Methane	lb	1,374,089,423	11,199	269	1,374,076,807	1,147
Hydrochloric Acid	lb	6,826	72	2	6,745	7
Total Solid Waste	lb	3,935,693	372,125	10,206	3,515,679	37,683
Water Emissions						
Dissolved Solids	lb	134,066	95,556	2,096	26,554	9,860
Suspended Solids	lb	5,477	2,194	55	3,004	224
BOD	lb	692,336	356	8	691,935	37
COD	lb	1,928,133	2,387	52	1,925,447	246
Oil	lb	230,724	2,223	48	228,223	229
Sulfuric Acid	lb	50	19	1	28	2
Iron	lb	221	54	2	159	5
Ammonia	lb	22,121	38	1	22,078	4
Copper	lb	0	0	0	0	0
Cadmium	lb	5	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	167	10	0	156	1
Selenium	lb	0	0	0	0	0
Chromium	lb	6	4	0	2	0
Lead	lb	0	0	0	0	0
Zinc	lb	2	2	0	0	0

Table C-2. Landfill Venting Scenario Los Angeles 2005

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,256,463	490,571	10,588	704,625	50,679
Air Emissions						
Total Particulate Matter	lb	104,565	11,563	4,552	78,377	10,072
Nitrogen Oxides	lb	1,217,828	892,858	60,031	194,996	69,942
Sulfur Oxides	lb	169,512	80,290	7,061	62,311	19,849
Carbon Monoxide	lb	827,439	147,832	15,070	595,590	68,947
Carbon Dioxide Biomass	lb	6,386,351,020	19,501	597	6,386,328,968	1,953
Carbon Dioxide Fossil	lb	46,204,675	22,013,881	1,710,276	14,328,012	8,152,506
Green House Equivalents	MTCE	4,497,535	3,038	234	4,493,147	1,115
Hydrocarbons (non CH4)	lb	246,483	171,015	7,497	39,830	28,141
Lead	lb	1	1	0	0	0
Ammonia	lb	49	0	3	33	13
Methane	lb	1,568,367,381	12,654	304	1,568,353,126	1,297
Hydrochloric Acid	lb	7,501	81	3	7,409	8
Total Solid Waste	lb	4,427,995	420,475	11,532	3,953,409	42,579
Water Emissions						
Dissolved Solids	lb	151,358	107,972	2,368	29,877	11,141
Suspended Solids	lb	6,173	2,479	63	3,379	253
BOD	lb	778,526	403	9	778,073	42
COD	lb	2,168,179	2,697	58	2,165,145	279
Oil	lb	259,752	2,512	55	256,926	259
Sulfuric Acid	lb	56	22	1	32	2
Iron	lb	249	61	2	179	6
Ammonia	lb	24,875	43	1	24,826	4
Copper	lb	0	0	0	0	0
Cadmium	lb	6	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	188	11	0	176	1
Selenium	lb	0	0	0	0	0
Chromium	lb	7	4	0	3	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	1	0

Table C-3. Landfill Venting Scenario Los Angeles 2007

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,592,938	622,053	13,426	893,196	64,262
Air Emissions						
Total Particulate Matter	lb	132,778	14,663	5,772	99,572	12,771
Nitrogen Oxides	lb	1,544,268	1,132,163	76,122	247,294	88,689
Sulfur Oxides	lb	215,033	101,809	8,954	79,101	25,169
Carbon Monoxide	lb	1,050,797	187,454	19,110	756,807	87,426
Carbon Dioxide Biomass	lb	8,117,224,308	24,728	758	8,117,196,346	2,476
Carbon Dioxide Fossil	lb	58,592,337	27,914,037	2,168,678	18,172,014	10,337,608
Green House Equivalents	MTCE	5,716,469	3,852	297	5,710,905	1,414
Hydrocarbons (non CH4)	lb	312,533	216,852	9,506	50,491	35,683
Lead	lb	1	1	0	0	0
Ammonia	lb	62	1	3	42	16
Methane	lb	1,993,437,198	16,046	385	1,993,419,123	1,644
Hydrochloric Acid	lb	9,533	102	3	9,417	10
Total Solid Waste	lb	5,626,457	533,169	14,623	5,024,673	53,992
Water Emissions						
Dissolved Solids	lb	191,959	136,910	3,002	37,920	14,127
Suspended Solids	lb	7,835	3,143	79	4,292	321
BOD	lb	989,525	511	11	988,951	53
COD	lb	2,755,800	3,420	74	2,751,953	353
Oil	lb	329,219	3,185	69	325,636	329
Sulfuric Acid	lb	71	28	1	40	3
Iron	lb	316	78	3	228	8
Ammonia	lb	31,617	55	1	31,555	6
Copper	lb	0	0	0	0	0
Cadmium	lb	7	5	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	239	14	0	223	1
Selenium	lb	0	0	0	0	0
Chromium	lb	9	5	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Table C-4. Landfill Venting Scenario Los Angeles 2010

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,740,291	679,633	14,669	975,778	70,211
Air Emissions						
Total Particulate Matter	lb	145,133	16,020	6,307	108,853	13,953
Nitrogen Oxides	lb	1,687,226	1,236,962	83,168	270,197	96,898
Sulfur Oxides	lb	234,968	111,233	9,783	86,453	27,499
Carbon Monoxide	lb	1,148,613	204,806	20,879	827,409	95,519
Carbon Dioxide Biomass	lb	8,875,229,069	27,017	828	8,875,198,519	2,706
Carbon Dioxide Fossil	lb	64,017,283	30,497,904	2,369,426	19,855,425	11,294,528
Green House						
Equivalents	MTCE	6,250,280	4,209	324	6,244,201	1,545
Hydrocarbons (non CH4)	lb	341,458	236,926	10,386	55,160	38,986
Lead	lb	1	1	0	0	0
Ammonia	lb	68	1	4	46	18
Methane	lb	2,179,588,863	17,531	421	2,179,569,115	1,796
Hydrochloric Acid	lb	10,423	112	4	10,296	11
Total Solid Waste	lb	6,151,303	582,521	15,977	5,493,815	58,990
Water Emissions						
Dissolved Solids	lb	209,740	149,583	3,280	41,442	15,435
Suspended Solids	lb	8,562	3,434	87	4,691	350
BOD	lb	1,081,929	558	12	1,081,301	58
COD	lb	3,013,138	3,736	81	3,008,935	386
Oil	lb	359,641	3,480	76	355,726	359
Sulfuric Acid	lb	78	30	1	44	3
Iron	lb	345	85	3	249	8
Ammonia	lb	34,569	60	1	34,502	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	6	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	261	15	0	244	2
Selenium	lb	0	0	0	0	0
Chromium	lb	10	6	0	4	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Table C-5. Landfill Flaring Scenario Los Angeles 2003

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,114,328	434,162	9,371	625,944	44,851
Air Emissions						
Total Particulate Matter	lb	170,014	10,234	4,029	146,838	8,914
Nitrogen Oxides	lb	1,270,439	790,189	53,128	365,223	61,899
Sulfur Oxides	lb	199,482	71,057	6,249	104,608	17,566
Carbon Monoxide	lb	4,278,821	130,833	13,337	4,073,633	61,018
Carbon Dioxide Biomass	lb	5,864,917,061	17,259	529	5,864,897,545	1,728
Carbon Dioxide Fossil	lb	40,941,924	19,482,524	1,513,604	12,730,781	7,215,015
Green House						
Equivalents	MTCE	1,058,821	2,689	207	1,054,938	987
Hydrocarbons (non CH4)	lb	218,272	151,350	6,635	35,383	24,905
Lead	lb	1	1	0	0	0
Ammonia	lb	44	0	2	30	11
Methane	lb	367,797,442	11,199	269	367,784,827	1,147
Hydrochloric Acid	lb	53,924	72	2	53,843	7
Total Solid Waste	lb	3,935,693	372,125	10,206	3,515,679	37,683
Water Emissions						
Dissolved Solids	lb	134,066	95,556	2,096	26,554	9,860
Suspended Solids	lb	5,477	2,194	55	3,004	224
BOD	lb	692,336	356	8	691,935	37
COD	lb	1,928,133	2,387	52	1,925,447	246
Oil	lb	230,724	2,223	48	228,223	229
Sulfuric Acid	lb	50	19	1	28	2
Iron	lb	221	54	2	159	5
Ammonia	lb	22,121	38	1	22,078	4
Copper	lb	0	0	0	0	0
Cadmium	lb	5	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	167	10	0	156	1
Selenium	lb	0	0	0	0	0
Chromium	lb	6	4	0	2	0
Lead	lb	0	0	0	0	0
Zinc	lb	2	2	0	0	0

Table C-6. Landfill Flaring Scenario Los Angeles 2005

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,256,463	490,571	10,588	704,625	50,679
Air Emissions						
Total Particulate Matter	lb	194,170	11,563	4,552	167,983	10,072
Nitrogen Oxides	lb	1,436,241	892,858	60,031	413,410	69,942
Sulfur Oxides	lb	225,515	80,290	7,061	118,315	19,849
Carbon Monoxide	lb	4,859,689	147,832	15,070	4,627,840	68,946
Carbon Dioxide Biomass	lb	6,672,765,653	19,501	597	6,672,743,601	1,953
Carbon Dioxide Fossil	lb	46,204,663	22,013,881	1,710,273	14,328,012	8,152,496
Green House Equivalents	MTCE	1,208,049	3,038	234	1,203,661	1,115
Hydrocarbons (non CH4)	lb	246,483	171,015	7,497	39,830	28,141
Lead	lb	1	1	0	0	0
Ammonia	lb	49	0	3	33	13
Methane	lb	419,657,986	12,654	304	419,643,732	1,297
Hydrochloric Acid	lb	61,264	81	3	61,172	8
Total Solid Waste	lb	4,427,995	420,475	11,532	3,953,409	42,579
Water Emissions						
Dissolved Solids	lb	151,358	107,972	2,368	29,877	11,141
Suspended Solids	lb	6,173	2,479	63	3,379	253
BOD	lb	778,526	403	9	778,073	42
COD	lb	2,168,179	2,697	58	2,165,145	279
Oil	lb	259,752	2,512	55	256,926	259
Sulfuric Acid	lb	56	22	1	32	2
Iron	lb	249	61	2	179	6
Ammonia	lb	24,875	43	1	24,826	4
Copper	lb	0	0	0	0	0
Cadmium	lb	6	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	188	11	0	176	1
Selenium	lb	0	0	0	0	0
Chromium	lb	7	4	0	3	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	1	0

Table C-7. Landfill Flaring Scenario Los Angeles 2007

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,592,938	622,053	13,426	893,196	64,262
Air Emissions						
Total Particulate Matter	lb	246,669	14,663	5,772	213,463	12,771
Nitrogen Oxides	lb	1,821,877	1,132,163	76,122	524,904	88,689
Sulfur Oxides	lb	286,215	101,809	8,954	150,283	25,169
Carbon Monoxide	lb	6,175,895	187,454	19,110	5,881,905	87,426
Carbon Dioxide Biomass	lb	8,481,265,033	24,728	758	8,481,237,071	2,476
Carbon Dioxide Fossil	lb	58,592,324	27,914,037	2,168,676	18,172,014	10,337,598
Green House Equivalents	MTCE	1,535,444	3,852	297	1,529,880	1,414
Hydrocarbons (non CH4)	lb	312,533	216,852	9,506	50,491	35,683
Lead	lb	1	1	0	0	0
Ammonia	lb	62	1	3	42	16
Methane	lb	533,396,570	16,046	385	533,378,495	1,644
Hydrochloric Acid	lb	77,868	102	3	77,752	10
Total Solid Waste	lb	5,626,457	533,169	14,623	5,024,673	53,992
Water Emissions						
Dissolved Solids	lb	191,959	136,910	3,002	37,920	14,127
Suspended Solids	lb	7,835	3,143	79	4,292	321
BOD	lb	989,525	511	11	988,951	53
COD	lb	2,755,800	3,420	74	2,751,953	353
Oil	lb	329,219	3,185	69	325,636	329
Sulfuric Acid	lb	71	28	1	40	3
Iron	lb	316	78	3	228	8
Ammonia	lb	31,617	55	1	31,555	6
Copper	lb	0	0	0	0	0
Cadmium	lb	7	5	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	239	14	0	223	1
Selenium	lb	0	0	0	0	0
Chromium	lb	9	5	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Table C-8. Landfill Flaring Scenario Los Angeles 2010

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,740,291	679,633	14,669	975,778	70,211
Air Emissions						
Total Particulate Matter	lb	269,660	16,020	6,307	233,380	13,953
Nitrogen Oxides	lb	1,990,759	1,236,962	83,168	573,731	96,898
Sulfur Oxides	lb	312,797	111,233	9,783	164,282	27,499
Carbon Monoxide	lb	6,752,304	204,806	20,879	6,431,101	95,519
Carbon Dioxide Biomass	lb	9,273,264,741	27,017	828	9,273,234,192	2,706
Carbon Dioxide Fossil	lb	64,017,270	30,497,904	2,369,423	19,855,425	11,294,518
Green House						
Equivalents	MTCE	1,678,820	4,209	324	1,672,742	1,545
Hydrocarbons (non CH4)	lb	341,458	236,926	10,386	55,160	38,986
Lead	lb	1	1	0	0	0
Ammonia	lb	68	1	4	46	18
Methane	lb	583,206,333	17,531	421	583,186,585	1,796
Hydrochloric Acid	lb	85,139	112	4	85,012	11
Total Solid Waste	lb	6,151,302	582,521	15,977	5,493,815	58,990
Water Emissions						
Dissolved Solids	lb	209,740	149,583	3,280	41,442	15,435
Suspended Solids	lb	8,562	3,434	87	4,691	350
BOD	lb	1,081,929	558	12	1,081,301	58
COD	lb	3,013,138	3,736	81	3,008,935	386
Oil	lb	359,641	3,480	76	355,726	359
Sulfuric Acid	lb	78	30	1	44	3
Iron	lb	345	85	3	249	8
Ammonia	lb	34,569	60	1	34,502	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	6	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	261	15	0	244	2
Selenium	lb	0	0	0	0	0
Chromium	lb	10	6	0	4	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Table C-9. Landfill ER Scenario Los Angeles 2003

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	310,832	434,162	9,371	-177,551	44,851
Air Emissions						
Total Particulate Matter	lb	22,606	10,234	4,029	-570	8,914
Nitrogen Oxides	lb	1,261,354	790,189	53,128	356,138	61,899
Sulfur Oxides	lb	-1,924,505	71,057	6,249	-2,019,378	17,567
Carbon Monoxide	lb	2,793,265	130,833	13,337	2,588,076	61,018
Carbon Dioxide Biomass	lb	5,893,603,127	17,259	529	5,893,583,611	1,728
Carbon Dioxide Fossil	lb	-224,232,718	19,482,524	1,513,606	-252,443,873	7,215,025
Green House Equivalents	MTCE	1,029,705	2,689	207	1,025,822	987
Hydrocarbons (non CH4)	lb	6,146	151,350	6,635	-176,743	24,905
Lead	lb	-9	1	0	-10	0
Ammonia	lb	-1,173	0	2	-1,187	11
Methane	lb	370,257,346	11,199	269	370,244,731	1,147
Hydrochloric Acid	lb	33,696	72	2	33,615	7
Total Solid Waste	lb	-42,040,594	372,125	10,206	-42,460,608	37,683
Water Emissions						
Dissolved Solids	lb	-994,735	95,556	2,096	-1,102,247	9,860
Suspended Solids	lb	-166,911	2,194	55	-169,384	224
BOD	lb	686,899	356	8	686,498	37
COD	lb	1,900,299	2,387	52	1,897,614	246
Oil	lb	210,178	2,223	48	207,677	229
Sulfuric Acid	lb	-2,160	19	1	-2,182	2
Iron	lb	-12,994	54	2	-13,055	5
Ammonia	lb	21,852	38	1	21,809	4
Copper	lb	0	0	0	0	0
Cadmium	lb	-46	4	0	-50	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-938	10	0	-949	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-45	4	0	-49	0
Lead	lb	0	0	0	0	0
Zinc	lb	-15	2	0	-17	0

Table C-10. Landfill ER Scenario Los Angeles 2005

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	349,760	490,571	10,588	-202,079	50,679
Air Emissions						
Total Particulate Matter	lb	25,519	11,563	4,552	-668	10,072
Nitrogen Oxides	lb	1,425,563	892,858	60,031	402,731	69,942
Sulfur Oxides	lb	-2,177,934	80,290	7,061	-2,285,135	19,849
Carbon Monoxide	lb	3,160,364	147,832	15,070	2,928,514	68,947
Carbon Dioxide Biomass	lb	6,669,079,112	19,501	597	6,669,057,060	1,953
Carbon Dioxide Fossil	lb	-253,802,660	22,013,881	1,710,276	-285,679,323	8,152,506
Green House Equivalents	MTCE	1,165,184	3,038	234	1,160,796	1,115
Hydrocarbons (non CH4)	lb	6,589	171,015	7,497	-200,063	28,141
Lead	lb	-11	1	0	-11	0
Ammonia	lb	-1,328	0	3	-1,344	13
Methane	lb	418,975,515	12,654	304	418,961,261	1,297
Hydrochloric Acid	lb	38,130	81	3	38,038	8
Total Solid Waste	lb	-47,573,062	420,475	11,532	-48,047,648	42,579
Water Emissions						
Dissolved Solids	lb	-1,125,826	107,972	2,368	-1,247,306	11,141
Suspended Solids	lb	-188,879	2,479	63	-191,673	253
BOD	lb	777,279	403	9	776,826	42
COD	lb	2,150,333	2,697	58	2,147,299	279
Oil	lb	237,380	2,512	55	234,554	259
Sulfuric Acid	lb	-2,444	22	1	-2,469	2
Iron	lb	-14,704	61	2	-14,773	6
Ammonia	lb	24,727	43	1	24,678	4
Copper	lb	0	0	0	0	0
Cadmium	lb	-52	4	0	-57	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-1,062	11	0	-1,074	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-51	4	0	-55	0
Lead	lb	0	0	0	0	0
Zinc	lb	-17	2	0	-19	0

Table C-11. Landfill ER Scenario Los Angeles 2007

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	440,493	622,053	13,426	-259,248	64,262
Air Emissions						
Total Particulate Matter	lb	32,309	14,663	5,772	-897	12,771
Nitrogen Oxides	lb	1,808,304	1,132,163	76,122	511,331	88,689
Sulfur Oxides	lb	-2,768,635	101,809	8,954	-2,904,567	25,169
Carbon Monoxide	lb	4,016,007	187,454	19,110	3,722,017	87,426
Carbon Dioxide Biomass	lb	8,476,579,339	24,728	758	8,476,551,378	2,476
Carbon Dioxide Fossil	lb	-322,725,080	27,914,037	2,168,678	-363,145,403	10,337,608
Green House Equivalents	MTCE	1,480,962	3,852	297	1,475,398	1,414
Hydrocarbons (non CH4)	lb	7,622	216,852	9,506	-254,420	35,683
Lead	lb	-13	1	0	-14	0
Ammonia	lb	-1,687	1	3	-1,708	16
Methane	lb	532,529,131	16,046	385	532,511,056	1,644
Hydrochloric Acid	lb	48,463	102	3	48,347	10
Total Solid Waste	lb	-60,468,289	533,169	14,623	-61,070,073	53,992
Water Emissions						
Dissolved Solids	lb	-1,431,375	136,910	3,002	-1,585,415	14,127
Suspended Solids	lb	-240,082	3,143	79	-243,625	321
BOD	lb	987,941	511	11	987,366	53
COD	lb	2,733,117	3,420	74	2,729,270	353
Oil	lb	300,784	3,185	69	297,201	329
Sulfuric Acid	lb	-3,107	28	1	-3,138	3
Iron	lb	-18,689	78	3	-18,777	8
Ammonia	lb	31,428	55	1	31,367	6
Copper	lb	0	0	0	0	0
Cadmium	lb	-66	5	0	-72	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-1,350	14	0	-1,365	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-65	5	0	-70	1
Lead	lb	0	0	0	0	0
Zinc	lb	-22	3	0	-25	0

Table C-12. Landfill ER Scenario Los Angeles 2010

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	480,228	679,633	14,669	-284,285	70,211
Air Emissions						
Total Particulate Matter	lb	35,282	16,020	6,307	-998	13,953
Nitrogen Oxides	lb	1,975,919	1,236,962	83,168	558,890	96,898
Sulfur Oxides	lb	-3,027,321	111,233	9,783	-3,175,836	27,499
Carbon Monoxide	lb	4,390,721	204,806	20,879	4,069,517	95,519
Carbon Dioxide Biomass	lb	9,268,141,488	27,017	828	9,268,110,938	2,706
Carbon Dioxide Fossil	lb	-352,908,418	30,497,904	2,369,426	-397,070,276	11,294,528
Green House Equivalents	MTCE	1,619,251	4,209	324	1,613,172	1,545
Hydrocarbons (non CH4)	lb	8,074	236,926	10,386	-278,224	38,986
Lead	lb	-15	1	0	-16	0
Ammonia	lb	-1,845	1	4	-1,867	18
Methane	lb	582,257,891	17,531	421	582,238,142	1,796
Hydrochloric Acid	lb	52,989	112	4	52,862	11
Total Solid Waste	lb	-66,115,521	582,521	15,977	-66,773,009	58,990
Water Emissions						
Dissolved Solids	lb	-1,565,185	149,583	3,280	-1,733,484	15,435
Suspended Solids	lb	-262,505	3,434	87	-266,376	350
BOD	lb	1,080,196	558	12	1,079,569	58
COD	lb	2,988,337	3,736	81	2,984,134	386
Oil	lb	328,551	3,480	76	324,635	359
Sulfuric Acid	lb	-3,397	30	1	-3,431	3
Iron	lb	-20,434	85	3	-20,530	8
Ammonia	lb	34,363	60	1	34,296	6
Copper	lb	0	0	0	0	0
Cadmium	lb	-72	6	0	-79	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-1,476	15	0	-1,493	2
Selenium	lb	0	0	0	0	0
Chromium	lb	-71	6	0	-77	1
Lead	lb	0	0	0	0	0
Zinc	lb	-24	3	0	-27	0

Table C-13. WTE Scenario Los Angeles 2003

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-5,750,023	434,162	9,371	-4,317,809	48,039	21,158	-1,944,943
Air Emissions								
Total Particulate Matter	lb	-471,745	10,234	4,029	-379,934	2,980	4,205	-113,258
Nitrogen Oxides	lb	393,792	790,189	53,128	-492,249	32,464	29,200	-18,940
Sulfur Oxides	lb	-3,640,319	71,057	6,249	-3,691,173	5,520	8,287	-40,259
Carbon Monoxide	lb	550,658	130,833	13,337	644,320	11,010	28,784	-277,626
					1,630,539,335			
Carbon Dioxide Biomass	lb	1,630,565,029	17,259	529		7,091	815	0
Carbon Dioxide Fossil	lb	-245,114,881	19,482,524	1,513,606	-248,515,793	2,319,142	3,403,563	-23,317,923
Green House								
Equivalents	MTCE	-36,986	2,689	207	-37,431	318	466	-3,235
Hydrocarbons (non CH4)	lb	-369,662	151,350	6,635	-437,064	8,301	11,748	-110,632
Lead	lb	55	1	0	39	0	0	16
Ammonia	lb	-2,526	0	2	-2,538	4	5	0
Methane	lb	-1,243,742	11,199	269	-1,237,081	745	541	-19,416
Hydrochloric Acid	lb	283,338	72	2	282,849	3	3	409
Total Solid Waste	lb	-99,710,480	372,125	10,206	-94,378,659	16,654	17,776	-5,748,582
Water Emissions								
Dissolved Solids	lb	-2,244,039	95,556	2,096	-2,336,212	3,119	4,651	-13,248
Suspended Solids	lb	-361,780	2,194	55	-359,215	125	106	-5,044
BOD	lb	-1,872	356	8	-2,278	25	17	0
COD	lb	-13,641	2,387	52	-32,632	16,436	116	0
Oil	lb	-5,786	2,223	48	-40,917	32,868	108	-117
Sulfuric Acid	lb	-4,518	19	1	-4,540	1	1	0
Iron	lb	-27,127	54	2	-27,190	4	3	0
Ammonia	lb	-1,325	38	1	-273	58	2	-1,151
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-102	4	0	-106	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-2,198	10	0	-2,269	0	0	60
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-102	4	0	-106	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-34	2	0	-36	0	0	0

Table C-14. WTE Scenario Los Angeles 2005

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,401,189	490,571	9,371	-4,825,574	53,796	23,666	-2,153,018
Air Emissions								
Total Particulate Matter	lb	-524,746	11,563	4,029	-423,003	3,337	4,703	-125,375
Nitrogen Oxides	lb	452,683	892,858	53,128	-541,353	36,354	32,661	-20,966
Sulfur Oxides	lb	-4,063,830	80,290	6,249	-4,121,254	6,182	9,269	-44,566
Carbon Monoxide	lb	623,943	147,832	13,337	725,580	12,324	32,196	-307,327
Carbon Dioxide Biomass	lb	1,838,543,926	19,501	529	1,838,521,593	1,391	912	0
Carbon Dioxide Fossil	lb	-277,749,675	22,013,881	1,513,606	-281,868,708	2,597,057	3,807,021	-25,812,532
Green House Equivalents	MTCE	-41,855	3,038	207	-42,395	356	521	-3,581
Hydrocarbons (non CH4)	lb	-410,834	171,015	6,635	-488,453	9,296	13,141	-122,467
Lead	lb	62	1	0	44	0	0	17
Ammonia	lb	-2,823	0	2	-2,836	4	6	0
Methane	lb	-1,389,923	12,654	269	-1,382,456	497	605	-21,493
Hydrochloric Acid	lb	318,427	81	2	317,884	3	4	453
Total Solid Waste	lb	-111,365,421	420,475	10,206	-105,471,051	18,646	19,884	-6,363,579
Water Emissions								
Dissolved Solids	lb	-2,506,918	107,972	2,096	-2,611,015	3,492	5,203	-14,666
Suspended Solids	lb	-404,290	2,479	55	-401,499	141	118	-5,584
BOD	lb	-2,090	403	8	-2,546	27	19	0
COD	lb	-15,188	2,697	52	-36,470	18,404	130	0
Oil	lb	-6,371	2,512	48	-45,730	36,806	121	-129
Sulfuric Acid	lb	-5,049	22	1	-5,073	1	1	0
Iron	lb	-30,316	61	2	-30,386	4	3	0
Ammonia	lb	-1,465	43	1	-305	67	2	-1,274
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-114	4	0	-118	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-2,457	11	0	-2,536	0	1	66
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-114	4	0	-118	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-38	2	0	-41	0	0	0

Table C-15. WTE Scenario Los Angeles 2007

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-8,053,525	622,053	9,371	-6,046,818	68,343	30,070	-2,736,544
Air Emissions								
Total Particulate Matter	lb	-659,277	14,663	4,029	-528,829	4,240	5,976	-159,355
Nitrogen Oxides	lb	571,806	1,132,163	53,128	-674,521	46,185	41,499	-26,648
Sulfur Oxides	lb	-5,091,232	101,809	6,249	-5,162,276	7,853	11,777	-56,645
Carbon Monoxide	lb	778,366	187,454	13,337	911,630	15,657	40,908	-390,621
Carbon Dioxide Biomass	lb	2,336,974,177	24,728	529	2,336,945,590	2,172	1,159	0
Carbon Dioxide Fossil	lb	-369,938,411	27,914,037	1,513,606	-374,694,159	3,299,367	4,837,160	-32,808,422
Green House Equivalents	MTCE	-55,434	3,852	207	-56,055	452	662	-4,552
Hydrocarbons (non CH4)	lb	-515,724	216,852	6,635	-612,058	11,809	16,697	-155,659
Lead	lb	79	1	0	56	0	0	22
Ammonia	lb	-3,539	1	2	-3,555	5	8	0
Methane	lb	-1,741,765	16,046	269	-1,732,185	654	769	-27,318
Hydrochloric Acid	lb	399,788	102	2	399,099	4	5	576
Total Solid Waste	lb	-139,650,674	533,169	10,206	-132,154,720	23,688	25,264	-8,088,280
Water Emissions								
Dissolved Solids	lb	-3,140,486	136,910	2,096	-3,271,898	4,437	6,610	-18,641
Suspended Solids	lb	-506,735	3,143	55	-503,165	179	150	-7,097
BOD	lb	-2,614	511	8	-3,191	34	25	0
COD	lb	-18,684	3,420	52	-45,701	23,381	165	0
Oil	lb	-7,322	3,185	48	-57,305	46,760	154	-164
Sulfuric Acid	lb	-6,327	28	1	-6,357	1	1	0
Iron	lb	-37,986	78	2	-38,075	6	4	0
Ammonia	lb	-1,857	55	1	-382	86	3	-1,619
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-143	5	0	-148	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-3,078	14	0	-3,178	0	1	84
Selenium	lb	1	0	0	0	1	0	0
Chromium	lb	-143	5	0	-148	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-48	3	0	-51	0	0	0

Table C-16. WTE Scenario Los Angeles 2010

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-8,777,136	679,633	9,371	-6,581,640	74,714	32,874	-2,992,088
Air Emissions								
Total Particulate Matter	lb	-718,193	16,020	4,029	-575,173	4,635	6,533	-174,236
Nitrogen Oxides	lb	623,974	1,236,962	53,128	-732,839	50,491	45,369	-29,137
Sulfur Oxides	lb	-5,541,164	111,233	6,249	-5,618,173	8,585	12,875	-61,934
Carbon Monoxide	lb	845,993	204,806	13,337	993,106	17,117	44,724	-427,098
Carbon Dioxide Biomass	lb	2,555,253,010	27,017	529	2,555,221,287	2,911	1,267	0
Carbon Dioxide Fossil	lb	-410,310,784	30,497,904	1,513,606	-415,345,373	3,606,932	5,288,291	-35,872,144
Green House Equivalents	MTCE	-61,380	4,209	207	-62,037	494	724	-4,977
Hydrocarbons (non CH4)	lb	-561,659	236,926	6,635	-666,189	12,910	18,254	-170,195
Lead	lb	87	1	0	62	0	0	24
Ammonia	lb	-3,852	1	2	-3,869	6	8	0
Methane	lb	-1,895,827	17,531	269	-1,885,342	743	841	-29,869
Hydrochloric Acid	lb	435,419	112	2	434,666	4	5	630
Total Solid Waste	lb	-152,037,684	582,521	10,206	-143,840,347	25,897	27,620	-8,843,582
Water Emissions								
Dissolved Solids	lb	-3,417,945	149,583	2,096	-3,561,320	4,850	7,227	-20,381
Suspended Solids	lb	-551,599	3,434	55	-547,687	195	164	-7,760
BOD	lb	-2,843	558	8	-3,473	37	27	0
COD	lb	-20,214	3,736	52	-49,743	25,560	181	0
Oil	lb	-7,738	3,480	48	-62,374	51,119	168	-180
Sulfuric Acid	lb	-6,886	30	1	-6,919	1	1	0
Iron	lb	-41,345	85	2	-41,442	6	4	0
Ammonia	lb	-2,029	60	1	-416	94	3	-1,770
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-155	6	0	-161	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-3,349	15	0	-3,458	1	1	92
Selenium	lb	1	0	0	0	1	0	0
Chromium	lb	-155	6	0	-161	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-52	3	0	-55	0	0	0

Table C-17. Compost Scenario Los Angeles 2003

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	989,839	628,944	70,791	289,370	733
Air Emissions						
Total Particulate Matter	lb	51,478	13,995	31,517	5,819	146
Nitrogen Oxides	lb	1,423,125	1,031,159	324,545	66,410	1,011
Sulfur Oxides	lb	159,610	102,968	44,441	11,915	287
Carbon Monoxide	lb	351,714	172,742	153,263	24,712	997
Carbon Dioxide Biomass	lb	519,865,553	25,057	519,640,722	199,747	28
Carbon Dioxide Fossil	lb	43,172,443	26,414,691	11,905,234	4,734,636	117,882
Green House Equivalents	MTCE	5,977	3,648	1,633	680	16
Hydrocarbons (non CH4)	lb	168,900	106,221	46,169	16,103	407
Lead	lb	1	1	0	0	0
Ammonia	lb	5,699	1	5,691	8	0
Methane	lb	31,396	16,233	3,243	11,901	19
Hydrochloric Acid	lb	196	104	82	10	0
Total Solid Waste	lb	786,539	539,843	219,909	26,172	616
Water Emissions						
Dissolved Solids	lb	613,821	138,438	468,577	6,644	161
Suspended Solids	lb	233,546	3,181	230,015	346	4
BOD	lb	147,303	516	146,678	108	1
COD	lb	1,470,824	3,458	1,466,731	630	4
Oil	lb	114,864	3,221	211	111,428	4
Sulfuric Acid	lb	40	28	11	1	0
Iron	lb	6,864	79	6,782	4	0
Ammonia	lb	48,298	56	48,232	10	0
Copper	lb	40	0	40	0	0
Cadmium	lb	107	5	101	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	17,810	14	17,795	1	0
Selenium	lb	0	0	0	0	0
Chromium	lb	19	5	14	0	0
Lead	lb	183	0	183	0	0
Zinc	lb	137	3	135	0	0

Table C-18. Compost Scenario Los Angeles 2005

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,139,248	711,737	80,296	326,454	20,761
Air Emissions						
Total Particulate Matter	lb	62,243	15,837	35,750	6,530	4,126
Nitrogen Oxides	lb	1,638,571	1,166,875	368,132	74,912	28,652
Sulfur Oxides	lb	188,498	116,522	50,407	13,438	8,131
Carbon Monoxide	lb	425,294	195,478	173,847	27,724	28,245
Carbon Dioxide Biomass	lb	589,685,497	28,355	589,654,452	1,890	800
Carbon Dioxide Fossil	lb	52,076,284	29,891,482	13,503,828	5,341,227	3,339,747
Green House Equivalents	MTCE	7,169	4,129	1,852	731	457
Hydrocarbons (non CH4)	lb	202,141	120,077	52,369	18,167	11,528
Lead	lb	1	1	0	0	0
Ammonia	lb	6,466	1	6,451	9	5
Methane	lb	23,661	18,370	3,678	1,082	531
Hydrochloric Acid	lb	223	118	93	10	3
Total Solid Waste	lb	907,027	610,906	249,384	29,294	17,443
Water Emissions						
Dissolved Solids	lb	699,744	156,662	531,023	7,495	4,564
Suspended Solids	lb	264,758	3,599	260,665	391	104
BOD	lb	166,900	584	166,222	76	17
COD	lb	1,666,779	3,913	1,662,169	582	114
Oil	lb	129,699	3,645	240	125,709	106
Sulfuric Acid	lb	46	32	12	1	1
Iron	lb	7,781	89	7,686	4	2
Ammonia	lb	54,734	63	54,659	10	2
Copper	lb	45	0	45	0	0
Cadmium	lb	121	6	115	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	20,183	16	20,166	1	0
Selenium	lb	0	0	0	0	0
Chromium	lb	22	6	16	0	0
Lead	lb	208	0	208	0	0
Zinc	lb	156	3	153	0	0

Table C-19. Compost Scenario Los Angeles 2007

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,448,012	904,634	102,059	414,932	26,388
Air Emissions						
Total Particulate Matter	lb	79,113	20,130	45,439	8,300	5,244
Nitrogen Oxides	lb	2,082,664	1,483,126	467,905	95,215	36,418
Sulfur Oxides	lb	239,586	148,102	64,068	17,080	10,335
Carbon Monoxide	lb	540,559	248,457	220,965	35,238	35,900
Carbon Dioxide Biomass	lb	749,506,042	36,040	749,466,738	2,247	1,017
Carbon Dioxide Fossil	lb	66,190,266	37,992,784	17,163,730	6,788,843	4,244,909
Green House Equivalents	MTCE	9,112	5,248	2,354	930	581
Hydrocarbons (non CH4)	lb	256,927	152,621	66,563	23,091	14,653
Lead	lb	1	1	0	0	0
Ammonia	lb	8,218	1	8,200	11	7
Methane	lb	30,066	23,349	4,675	1,367	675
Hydrochloric Acid	lb	284	149	118	12	4
Total Solid Waste	lb	1,152,853	776,476	316,973	37,234	22,171
Water Emissions						
Dissolved Solids	lb	889,393	199,121	674,944	9,527	5,801
Suspended Solids	lb	336,515	4,575	331,312	497	132
BOD	lb	212,134	743	211,273	97	22
COD	lb	2,118,521	4,973	2,112,662	740	145
Oil	lb	164,851	4,632	305	159,780	135
Sulfuric Acid	lb	59	40	15	2	1
Iron	lb	9,890	113	9,769	5	3
Ammonia	lb	69,568	80	69,473	13	2
Copper	lb	57	0	57	0	0
Cadmium	lb	154	7	146	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	25,653	20	25,632	1	1
Selenium	lb	0	0	0	0	0
Chromium	lb	28	7	20	0	0
Lead	lb	264	0	264	0	0
Zinc	lb	198	4	194	0	0

Table C-20. Compost Scenario Los Angeles 2010

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,583,230	989,109	111,589	453,679	28,852
Air Emissions						
Total Particulate Matter	lb	86,501	22,009	49,682	9,075	5,734
Nitrogen Oxides	lb	2,277,147	1,621,623	511,599	104,106	39,819
Sulfur Oxides	lb	261,959	161,932	70,051	18,675	11,300
Carbon Monoxide	lb	591,037	271,658	241,599	38,529	39,252
Carbon Dioxide Biomass	lb	819,496,570	39,406	819,453,649	2,403	1,112
Carbon Dioxide Fossil	lb	72,371,230	41,540,604	18,766,518	7,422,800	4,641,308
Green House Equivalents	MTCE	9,963	5,738	2,574	1,016	635
Hydrocarbons (non CH4)	lb	280,919	166,873	72,778	25,247	16,021
Lead	lb	2	1	0	0	0
Ammonia	lb	8,986	1	8,966	12	7
Methane	lb	32,871	25,529	5,111	1,493	738
Hydrochloric Acid	lb	310	163	129	13	5
Total Solid Waste	lb	1,260,509	848,984	346,573	40,710	24,241
Water Emissions						
Dissolved Solids	lb	972,446	217,715	737,972	10,416	6,343
Suspended Solids	lb	367,939	5,002	362,250	543	144
BOD	lb	231,943	812	231,002	106	24
COD	lb	2,316,353	5,438	2,309,947	809	159
Oil	lb	180,246	5,065	333	174,700	148
Sulfuric Acid	lb	64	44	17	2	1
Iron	lb	10,814	124	10,681	6	3
Ammonia	lb	76,065	87	75,961	14	3
Copper	lb	63	0	63	0	0
Cadmium	lb	168	8	159	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	28,049	22	28,025	1	1
Selenium	lb	0	0	0	0	0
Chromium	lb	31	8	22	0	0
Lead	lb	289	0	289	0	0
Zinc	lb	216	4	212	0	0

Table C-21. Recycling Scenario, 35% Separation Efficiency, Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,028,240	434,162	224,749	-2,335,598	582,795	65,653
Air Emissions							
Total Particulate Matter	lb	-181,110	10,234	64,589	-415,197	146,217	13,048
Nitrogen Oxides	lb	579,018	790,189	267,042	-924,918	356,098	90,608
Sulfur Oxides	lb	-726,425	71,057	417,397	-1,342,225	101,632	25,714
Carbon Monoxide	lb	3,148,672	130,833	81,542	-1,241,796	4,088,775	89,318
Carbon Dioxide Biomass	lb	5,749,696,454	17,259	615,143	132,670,838	5,616,390,685	2,530
Carbon Dioxide Fossil	lb	-56,180,202	19,482,524	63,821,202	-161,911,832	11,866,620	10,561,285
Green House Equivalents	MTCE	823,563	2,689	9,033	-22,637	833,033	1,445
Hydrocarbons (non CH4)	lb	-660,772	151,350	75,743	-957,267	32,947	36,455
Lead	lb	-44	1	2	-47	0	0
Ammonia	lb	-3,209	0	248	-3,502	28	17
Methane	lb	290,268,554	11,199	115,282	-194,823	290,335,216	1,680
Hydrochloric Acid	lb	44,863	72	3,389	-12,685	54,078	10
Total Solid Waste	lb	-9,295,582	372,125	8,699,559	-21,714,410	3,291,985	55,160
Water Emissions							
Dissolved Solids	lb	-158,031	95,556	228,824	-521,633	24,789	14,433
Suspended Solids	lb	104,789	2,194	32,771	66,687	2,809	328
BOD	lb	796,619	356	270	147,972	647,967	54
COD	lb	1,725,787	2,387	3,382	-83,438	1,803,096	361
Oil	lb	216,764	2,223	4,105	-2,321	212,422	336
Sulfuric Acid	lb	-396	19	419	-863	26	3
Iron	lb	8,458	54	2,492	5,755	149	8
Ammonia	lb	18,918	38	31	-1,832	20,675	6
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-9	4	10	-25	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	102	10	209	-264	146	1
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-9	4	10	-25	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	106	2	4	100	0	0

Table C-22. Recycling Scenario, 35% Separation Efficiency, Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,057,821	490,571	252,961	-2,532,562	657,759	73,450
Air Emissions							
Total Particulate Matter	lb	-183,414	11,563	72,609	-449,658	167,475	14,597
Nitrogen Oxides	lb	700,684	892,858	300,483	-997,932	403,907	101,368
Sulfur Oxides	lb	-764,311	80,290	468,973	-1,457,497	115,157	28,767
Carbon Monoxide	lb	3,625,531	147,832	91,931	-1,366,071	4,651,915	99,925
Carbon Dioxide Biomass	lb	6,544,881,280	19,501	690,993	146,352,361	6,397,815,594	2,830
Carbon Dioxide Fossil	lb	-53,846,615	22,013,881	71,781,907	-172,843,919	13,386,022	11,815,494
Green House Equivalents	MTCE	942,142	3,038	10,159	-24,177	951,505	1,617
Hydrocarbons (non CH4)	lb	-677,650	171,015	85,319	-1,011,953	37,183	40,785
Lead	lb	-48	1	2	-52	0	0
Ammonia	lb	-3,528	0	279	-3,857	31	19
Methane	lb	331,566,205	12,654	129,506	-212,077	331,634,242	1,879
Hydrochloric Acid	lb	51,935	81	3,807	-13,494	61,530	12
Total Solid Waste	lb	-9,563,096	420,475	9,772,408	-23,523,428	3,705,738	61,711
Water Emissions							
Dissolved Solids	lb	-159,038	107,972	257,143	-568,244	27,944	16,147
Suspended Solids	lb	117,677	2,479	36,814	74,855	3,164	367
BOD	lb	893,356	403	303	163,213	729,377	60
COD	lb	1,944,160	2,697	3,801	-92,377	2,029,635	404
Oil	lb	244,897	2,512	4,613	-2,385	239,781	376
Sulfuric Acid	lb	-444	22	470	-968	30	3
Iron	lb	9,432	61	2,799	6,394	168	9
Ammonia	lb	21,362	43	35	-1,996	23,273	6
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-9	4	12	-27	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	127	11	235	-285	165	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-9	4	12	-28	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	117	2	4	110	0	0

Table C-23. Recycling Scenario, 35% Separation Efficiency, Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,259,296	622,053	319,231	-3,128,746	835,909	92,257
Air Emissions							
Total Particulate Matter	lb	-222,631	14,663	91,494	-559,985	212,862	18,335
Nitrogen Oxides	lb	943,692	1,132,163	379,077	-1,208,221	513,349	127,324
Sulfur Oxides	lb	-944,080	101,809	590,561	-1,818,945	146,362	36,134
Carbon Monoxide	lb	4,596,445	187,454	116,250	-1,745,470	5,912,699	125,512
Carbon Dioxide Biomass	lb	8,318,712,221	24,728	869,895	186,017,860	8,131,796,183	3,555
Carbon Dioxide Fossil	lb	-56,850,848	27,914,038	90,508,480	-207,126,373	17,012,030	14,840,977
Green House Equivalents	MTCE	1,199,062	3,852	12,809	-29,019	1,209,389	2,031
Hydrocarbons (non CH4)	lb	-708,295	216,852	107,777	-1,131,407	47,254	51,228
Lead	lb	-62	1	3	-66	0	0
Ammonia	lb	-4,496	1	351	-4,910	40	23
Methane	lb	421,427,226	16,046	163,051	-270,298	421,516,068	2,360
Hydrochloric Acid	lb	66,359	102	4,792	-16,756	78,206	15
Total Solid Waste	lb	-13,334,538	533,169	12,302,768	-30,958,070	4,710,082	77,512
Water Emissions							
Dissolved Solids	lb	-210,946	136,910	323,881	-727,533	35,514	20,281
Suspended Solids	lb	150,568	3,143	46,347	96,596	4,021	460
BOD	lb	1,135,832	511	382	207,805	927,058	76
COD	lb	2,470,240	3,420	4,790	-118,198	2,579,721	507
Oil	lb	311,225	3,185	5,811	-2,966	304,722	472
Sulfuric Acid	lb	-569	28	592	-1,230	38	4
Iron	lb	11,962	78	3,524	8,135	213	11
Ammonia	lb	27,227	55	44	-2,461	29,580	8
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-13	5	14	-35	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	167	14	296	-354	209	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-12	5	14	-35	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	149	3	5	140	1	0

Table C-24. Recycling Scenario, 35% Separation Efficiency, Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,347,528	679,633	348,253	-3,389,834	913,927	100,494
Air Emissions							
Total Particulate Matter	lb	-239,805	16,020	99,765	-608,301	232,739	19,972
Nitrogen Oxides	lb	1,050,114	1,236,962	413,497	-1,300,313	561,277	138,691
Sulfur Oxides	lb	-1,022,806	111,233	643,808	-1,977,235	160,028	39,359
Carbon Monoxide	lb	5,021,639	204,806	126,901	-1,911,621	6,464,837	136,717
Carbon Dioxide Biomass	lb	9,095,529,512	27,017	948,242	203,388,650	8,891,161,731	3,872
Carbon Dioxide Fossil	lb	-58,166,498	30,497,905	98,709,445	-222,139,756	18,599,976	16,165,933
Green House Equivalents	MTCE	1,311,575	4,209	13,969	-31,139	1,322,324	2,212
Hydrocarbons (non CH4)	lb	-721,715	236,926	117,612	-1,183,719	51,665	55,802
Lead	lb	-67	1	3	-72	0	0
Ammonia	lb	-4,919	1	383	-5,371	43	25
Methane	lb	460,780,241	17,531	177,741	-295,795	460,878,193	2,571
Hydrochloric Acid	lb	72,676	112	5,224	-18,184	85,509	16
Total Solid Waste	lb	-14,986,173	582,521	13,410,894	-34,213,937	5,149,917	84,432
Water Emissions							
Dissolved Solids	lb	-233,678	149,583	353,108	-797,291	38,830	22,092
Suspended Solids	lb	164,972	3,434	50,522	106,118	4,397	502
BOD	lb	1,242,019	558	417	227,333	1,013,628	83
COD	lb	2,700,627	3,736	5,223	-129,506	2,820,621	552
Oil	lb	340,272	3,480	6,336	-3,220	333,161	514
Sulfuric Acid	lb	-623	30	645	-1,344	41	4
Iron	lb	13,069	85	3,842	8,897	233	12
Ammonia	lb	29,796	60	48	-2,664	32,342	9
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-14	6	16	-38	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	184	15	323	-385	229	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-13	6	16	-39	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	162	3	6	153	1	0

Table C-25. Recycling Scenario, 55% Separation Efficiency, Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,179,300	434,162	230,892	-3,480,031	562,947	72,730
Air Emissions							
Total Particulate Matter	lb	-393,328	10,234	66,899	-628,117	143,201	14,454
Nitrogen Oxides	lb	184,104	790,189	274,840	-1,326,565	345,266	100,375
Sulfur Oxides	lb	-1,406,587	71,057	433,891	-2,038,426	98,405	28,486
Carbon Monoxide	lb	2,315,659	130,833	82,827	-1,970,701	3,973,754	98,946
Carbon Dioxide Biomass	lb	5,674,716,517	17,259	640,441	208,482,873	5,465,573,142	2,803
Carbon Dioxide Fossil	lb	-119,431,720	19,482,524	65,879,965	-227,945,460	11,451,483	11,699,769
Green House Equivalents	MTCE	794,708	2,689	9,327	-31,965	813,056	1,601
Hydrocarbons (non CH4)	lb	-876,926	151,350	77,389	-1,177,872	31,822	40,385
Lead	lb	-71	1	2	-74	0	0
Ammonia	lb	-5,217	0	257	-5,520	27	18
Methane	lb	283,204,246	11,199	119,966	-307,717	283,378,938	1,861
Hydrochloric Acid	lb	37,069	72	3,528	-19,101	52,559	11
Total Solid Waste	lb	-23,701,526	372,125	9,056,410	-36,355,757	3,164,591	61,106
Water Emissions							
Dissolved Solids	lb	-457,816	95,556	237,589	-830,841	23,891	15,989
Suspended Solids	lb	147,230	2,194	34,110	107,860	2,703	363
BOD	lb	856,819	356	278	233,280	622,844	60
COD	lb	1,606,710	2,387	3,504	-132,769	1,733,189	400
Oil	lb	208,588	2,223	4,258	-3,509	205,244	372
Sulfuric Acid	lb	-871	19	436	-1,354	25	3
Iron	lb	11,861	54	2,595	9,059	143	9
Ammonia	lb	17,232	38	32	-2,718	19,873	6
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-24	4	11	-40	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-28	10	218	-398	141	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-23	4	11	-40	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	163	2	4	157	0	0

Table C-26. Recycling Scenario, 55% Separation Efficiency, Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,322,135	490,571	259,761	-3,789,546	635,797	81,282
Air Emissions							
Total Particulate Matter	lb	-415,239	11,563	75,166	-682,269	164,147	16,154
Nitrogen Oxides	lb	264,792	892,858	309,114	-1,441,302	391,945	112,177
Sulfur Oxides	lb	-1,508,619	80,290	487,228	-2,219,568	111,596	31,835
Carbon Monoxide	lb	2,710,844	147,832	93,353	-2,165,990	4,525,069	110,580
Carbon Dioxide Biomass	lb	6,462,225,621	19,501	718,994	229,982,409	6,231,501,584	3,132
Carbon Dioxide Fossil	lb	-123,047,468	22,013,881	74,060,633	-245,124,455	12,927,027	13,075,445
Green House Equivalents	MTCE	910,403	3,038	10,485	-34,385	929,476	1,789
Hydrocarbons (non CH4)	lb	-924,577	171,015	87,142	-1,263,807	35,939	45,134
Lead	lb	-78	1	2	-81	0	0
Ammonia	lb	-5,737	0	289	-6,078	30	21
Methane	lb	323,777,796	12,654	134,690	-334,830	323,963,202	2,080
Hydrochloric Acid	lb	43,537	81	3,961	-20,371	59,854	13
Total Solid Waste	lb	-24,977,100	420,475	10,167,386	-39,198,499	3,565,248	68,291
Water Emissions							
Dissolved Solids	lb	-484,450	107,972	266,844	-904,086	26,951	17,869
Suspended Solids	lb	164,921	2,479	38,295	120,694	3,047	406
BOD	lb	959,685	403	313	257,230	701,672	67
COD	lb	1,812,809	2,697	3,937	-146,817	1,952,545	447
Oil	lb	235,939	2,512	4,783	-3,610	231,837	416
Sulfuric Acid	lb	-977	22	489	-1,520	28	4
Iron	lb	13,210	61	2,913	10,064	162	10
Ammonia	lb	19,500	43	36	-2,976	22,389	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-25	4	12	-43	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-15	11	245	-431	158	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-25	4	12	-44	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	180	2	4	173	0	0

Table C-27. Recycling Scenario, 55% Separation Efficiency, Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,866,272	622,053	327,874	-4,726,407	807,996	102,212
Air Emissions							
Total Particulate Matter	lb	-517,286	14,663	94,744	-855,640	208,633	20,313
Nitrogen Oxides	lb	389,663	1,132,163	390,048	-1,771,756	498,145	141,063
Sulfur Oxides	lb	-1,890,116	101,809	613,764	-2,787,558	141,836	40,033
Carbon Monoxide	lb	3,433,853	187,454	118,058	-2,762,189	5,751,474	139,055
Carbon Dioxide Biomass	lb	8,213,654,646	24,728	905,485	292,313,907	7,920,406,587	3,939
Carbon Dioxide Fossil	lb	-144,806,997	27,914,038	93,404,802	-298,996,882	16,428,636	16,442,408
Green House Equivalents	MTCE	1,158,720	3,852	13,223	-41,993	1,181,388	2,250
Hydrocarbons (non CH4)	lb	-1,022,146	216,852	110,093	-1,451,520	45,673	56,756
Lead	lb	-99	1	3	-103	0	0
Ammonia	lb	-7,304	1	364	-7,733	38	26
Methane	lb	411,527,948	16,046	169,639	-426,321	411,765,968	2,615
Hydrochloric Acid	lb	55,686	102	4,989	-25,497	76,076	16
Total Solid Waste	lb	-32,926,152	533,169	12,804,795	-50,881,508	4,531,515	85,876
Water Emissions							
Dissolved Solids	lb	-624,554	136,910	336,211	-1,154,398	34,253	22,470
Suspended Solids	lb	210,616	3,143	48,230	154,860	3,873	510
BOD	lb	1,220,137	511	394	327,303	891,844	84
COD	lb	2,303,289	3,420	4,962	-187,392	2,481,738	562
Oil	lb	299,838	3,185	6,027	-4,522	294,625	523
Sulfuric Acid	lb	-1,246	28	616	-1,930	36	4
Iron	lb	16,764	78	3,669	12,800	205	12
Ammonia	lb	24,861	55	46	-3,706	28,457	9
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-33	5	15	-55	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-14	14	308	-539	201	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-32	5	15	-56	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	228	3	5	220	1	0

Table C-28. Recycling Scenario, 55% Separation Efficiency, Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,104,567	679,633	357,703	-5,136,688	883,407	111,378
Air Emissions							
Total Particulate Matter	lb	-561,976	16,020	103,319	-931,565	228,115	22,135
Nitrogen Oxides	lb	444,347	1,236,962	425,491	-1,916,473	544,653	153,713
Sulfur Oxides	lb	-2,057,185	111,233	669,178	-3,036,298	155,080	43,623
Carbon Monoxide	lb	3,750,481	204,806	128,877	-3,023,284	6,288,557	151,525
Carbon Dioxide Biomass	lb	8,980,661,422	27,017	987,156	319,610,863	8,660,032,094	4,292
Carbon Dioxide Fossil	lb	-154,336,191	30,497,905	101,876,233	-322,589,341	17,962,103	17,916,909
Green House Equivalents	MTCE	1,267,466	4,209	14,422	-45,325	1,291,709	2,451
Hydrocarbons (non CH4)	lb	-1,064,874	236,926	120,145	-1,533,726	49,936	61,846
Lead	lb	-108	1	3	-113	0	0
Ammonia	lb	-7,990	1	397	-8,458	42	28
Methane	lb	449,956,545	17,531	184,945	-466,388	450,217,607	2,850
Hydrochloric Acid	lb	61,006	112	5,438	-27,742	83,180	18
Total Solid Waste	lb	-36,407,296	582,521	13,959,801	-55,997,871	4,954,675	93,577
Water Emissions							
Dissolved Solids	lb	-685,909	149,583	366,589	-1,264,018	37,451	24,485
Suspended Solids	lb	230,627	3,434	52,581	169,822	4,235	556
BOD	lb	1,334,197	558	430	357,991	975,127	91
COD	lb	2,518,086	3,736	5,411	-205,162	2,713,488	612
Oil	lb	327,822	3,480	6,572	-4,922	322,122	570
Sulfuric Acid	lb	-1,364	30	672	-2,110	40	5
Iron	lb	18,320	85	3,999	13,998	224	13
Ammonia	lb	27,208	60	50	-4,025	31,114	10
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-36	6	16	-61	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-13	15	336	-587	220	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-36	6	16	-62	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	250	3	6	240	1	0

Table C-29. Recycling Scenario, 75% Separation Efficiency, Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,327,631	434,162	239,766	-4,624,464	543,099	79,807
Air Emissions							
Total Particulate Matter	lb	-604,520	10,234	70,236	-841,036	140,185	15,861
Nitrogen Oxides	lb	-207,345	790,189	286,104	-1,728,213	334,434	110,142
Sulfur Oxides	lb	-2,079,418	71,057	457,714	-2,734,627	95,179	31,257
Carbon Monoxide	lb	1,483,217	130,833	84,683	-2,699,606	3,858,732	108,574
Carbon Dioxide Biomass	lb	5,599,747,823	17,259	676,983	284,294,907	5,314,755,599	3,075
Carbon Dioxide Fossil	lb	-181,768,233	19,482,524	68,853,733	-293,979,089	11,036,346	12,838,254
Green House Equivalents	MTCE	765,984	2,689	9,752	-41,293	793,079	1,757
Hydrocarbons (non CH4)	lb	-1,092,348	151,350	79,767	-1,398,478	30,698	44,315
Lead	lb	-97	1	2	-100	0	0
Ammonia	lb	-7,221	0	271	-7,538	26	20
Methane	lb	276,142,019	11,199	126,730	-420,611	276,422,659	2,042
Hydrochloric Acid	lb	29,337	72	3,730	-25,516	51,039	13
Total Solid Waste	lb	-37,948,870	372,125	9,571,861	-50,997,104	3,037,197	67,052
Water Emissions							
Dissolved Solids	lb	-753,707	95,556	250,249	-1,140,049	22,993	17,545
Suspended Solids	lb	190,265	2,194	36,043	149,033	2,597	398
BOD	lb	917,022	356	290	318,588	597,721	66
COD	lb	1,487,688	2,387	3,681	-182,101	1,663,282	439
Oil	lb	200,480	2,223	4,480	-4,697	198,066	408
Sulfuric Acid	lb	-1,338	19	460	-1,845	24	3
Iron	lb	15,308	54	2,743	12,364	138	10
Ammonia	lb	15,547	38	34	-3,604	19,072	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-38	4	11	-55	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-155	10	230	-532	135	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-38	4	11	-56	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	220	2	4	213	0	0

Table C-30. Recycling Scenario, 75% Separation Efficiency, Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,583,426	490,571	269,582	-5,046,530	613,836	89,114
Air Emissions							
Total Particulate Matter	lb	-645,927	11,563	78,860	-914,881	160,820	17,710
Nitrogen Oxides	lb	-167,263	892,858	321,581	-1,884,672	379,983	122,987
Sulfur Oxides	lb	-2,244,814	80,290	513,598	-2,981,639	108,035	34,903
Carbon Monoxide	lb	1,796,789	147,832	95,407	-2,965,909	4,398,223	121,236
Carbon Dioxide Biomass	lb	6,379,582,407	19,501	759,441	313,612,457	6,065,187,573	3,434
Carbon Dioxide Fossil	lb	-191,235,554	22,013,881	77,352,126	-317,404,990	12,468,033	14,335,395
Green House Equivalents	MTCE	878,808	3,038	10,955	-44,593	907,446	1,961
Hydrocarbons (non CH4)	lb	-1,170,695	171,015	89,774	-1,515,661	34,695	49,483
Lead	lb	-107	1	2	-110	0	0
Ammonia	lb	-7,942	0	304	-8,298	29	23
Methane	lb	315,991,690	12,654	142,178	-457,583	316,292,161	2,280
Hydrochloric Acid	lb	35,209	81	4,184	-27,249	58,178	14
Total Solid Waste	lb	-40,215,558	420,475	10,737,909	-54,873,570	3,424,757	74,872
Water Emissions							
Dissolved Solids	lb	-805,551	107,972	280,857	-1,239,929	25,959	19,590
Suspended Solids	lb	212,823	2,479	40,435	166,534	2,931	445
BOD	lb	1,026,017	403	326	351,247	673,968	73
COD	lb	1,681,518	2,697	4,133	-201,257	1,875,455	490
Oil	lb	227,056	2,512	5,028	-4,834	223,894	456
Sulfuric Acid	lb	-1,501	22	517	-2,071	27	4
Iron	lb	17,039	61	3,077	13,734	155	11
Ammonia	lb	17,639	43	38	-3,955	21,505	8
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-41	4	13	-60	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-153	11	258	-577	152	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-41	4	13	-61	2	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	243	2	4	236	0	0

Table C-31. Recycling Scenario, 75% Separation Efficiency, Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-4,469,407	622,053	340,357	-6,324,067	780,082	112,167
Air Emissions							
Total Particulate Matter	lb	-810,497	14,663	99,439	-1,151,295	204,405	22,292
Nitrogen Oxides	lb	-159,491	1,132,163	405,894	-2,335,292	482,941	154,802
Sulfur Oxides	lb	-2,825,839	101,809	647,280	-3,756,170	137,310	43,932
Carbon Monoxide	lb	2,272,063	187,454	120,669	-3,778,908	5,590,250	152,599
Carbon Dioxide Biomass	lb	8,108,612,889	24,728	956,894	398,609,954	7,709,016,991	4,322
Carbon Dioxide Fossil	lb	-231,475,893	27,914,038	97,588,379	-390,867,391	15,845,242	18,043,839
Green House Equivalents	MTCE	1,118,562	3,852	13,821	-54,968	1,153,388	2,469
Hydrocarbons (non CH4)	lb	-1,334,968	216,852	113,439	-1,771,634	44,092	62,284
Lead	lb	-136	1	3	-140	0	0
Ammonia	lb	-10,107	1	383	-10,556	37	28
Methane	lb	401,631,597	16,046	179,156	-582,344	402,015,869	2,870
Hydrochloric Acid	lb	45,100	102	5,272	-34,239	73,946	18
Total Solid Waste	lb	-52,294,643	533,169	13,529,946	-70,804,946	4,352,948	94,240
Water Emissions							
Dissolved Solids	lb	-1,032,681	136,910	354,022	-1,581,263	32,992	24,658
Suspended Solids	lb	271,501	3,143	50,950	213,123	3,725	560
BOD	lb	1,304,447	511	412	446,802	856,631	92
COD	lb	2,136,415	3,420	5,211	-256,587	2,383,754	616
Oil	lb	288,548	3,185	6,339	-6,079	284,528	574
Sulfuric Acid	lb	-1,913	28	651	-2,631	35	5
Iron	lb	21,630	78	3,877	17,464	197	13
Ammonia	lb	22,495	55	48	-4,951	27,333	10
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-53	5	16	-76	1	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-189	14	325	-725	193	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-53	5	16	-77	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	308	3	6	299	1	0

Table C-32. Recycling Scenario, 75% Separation Efficiency, Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-4,857,407	679,633	371,352	-6,883,541	852,887	122,263
Air Emissions							
Total Particulate Matter	lb	-882,568	16,020	108,452	-1,254,829	223,491	24,298
Nitrogen Oxides	lb	-156,088	1,236,962	442,818	-2,532,633	528,030	168,735
Sulfur Oxides	lb	-3,080,289	111,233	705,824	-4,095,362	150,131	47,886
Carbon Monoxide	lb	2,480,202	204,806	131,732	-4,134,946	6,112,277	166,333
Carbon Dioxide Biomass	lb	8,865,810,627	27,017	1,043,365	435,833,076	8,428,902,458	4,711
Carbon Dioxide Fossil	lb	-249,098,424	30,497,905	106,450,481	-423,038,925	17,324,230	19,667,886
Green House Equivalents	MTCE	1,223,558	4,209	15,075	-59,511	1,261,094	2,691
Hydrocarbons (non CH4)	lb	-1,406,908	236,926	123,802	-1,883,732	48,207	67,890
Lead	lb	-149	1	3	-153	0	0
Ammonia	lb	-11,054	1	418	-11,544	40	31
Methane	lb	439,136,051	17,531	195,351	-636,980	439,557,022	3,128
Hydrochloric Acid	lb	49,431	112	5,748	-37,300	80,851	19
Total Solid Waste	lb	-57,584,461	582,521	14,752,668	-77,781,805	4,759,433	102,723
Water Emissions							
Dissolved Solids	lb	-1,132,149	149,583	386,063	-1,730,744	36,072	26,878
Suspended Solids	lb	297,198	3,434	55,555	233,526	4,072	610
BOD	lb	1,426,381	558	449	488,648	936,625	100
COD	lb	2,335,628	3,736	5,683	-280,818	2,606,354	672
Oil	lb	315,478	3,480	6,913	-6,624	311,082	626
Sulfuric Acid	lb	-2,093	30	710	-2,876	38	5
Iron	lb	23,641	85	4,227	19,098	216	15
Ammonia	lb	24,622	60	52	-5,387	29,886	11
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-58	6	17	-84	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-205	15	355	-789	211	3
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-58	6	17	-85	3	1
Lead	lb	0	0	0	0	0	0
Zinc	lb	337	3	6	327	1	1

Table C-33. CT Scenario Los Angeles 2003

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-5,349,457	-6,136,190	-140,082	-11,625,729
Air Emissions					
Total Particulate Matter	lb	-687,030	64,372	1,668	-620,990
Nitrogen Oxides	lb	-1,313,451	-6,283	16,422	-1,303,312
Sulfur Oxides	lb	-3,974,638	1,204,636	8,183	-2,761,819
Carbon Monoxide	lb	-427,786	484,836	12,568	69,618
Carbon Dioxide Biomass	lb	1,800,791,733	746,618,187	31,656	2,547,441,575
Carbon Dioxide Fossil	lb	-249,908,565	-221,131,692	16,604,870	-454,435,387
Green House Equivalents	MTCE	-34,653	-12,721	2,164	-45,210
Hydrocarbons (non CH4)	lb	-345,128	-4,170	-52,111	-401,409
Lead	lb	206,185	-1	0	206,184
Ammonia	lb	660,905	-547	11	660,369
Methane	lb	-1,054,586	-57,589	-35,018	-1,147,193
Hydrochloric Acid	lb	-38,084	-12,153	145	-50,093
Total Solid Waste	lb	-98,055,278	-32,861,017	375,452	-130,540,843
Water Emissions					
Dissolved Solids	lb	-2,196,079	-542,271	11,697	-2,726,653
Suspended Solids	lb	-342,751	-124,829	1,360	-466,221
BOD	lb	-2,016	10,707	-22	8,669
COD	lb	-23,778	-4,432	-1,052	-29,262
Oil	lb	-18,693	-14,341	-288	-33,321
Sulfuric Acid	lb	-4,297	-946	21	-5,222
Iron	lb	-15,162	-6,596	15	-21,743
Ammonia	lb	-686	472,942	-706	471,549
Copper	lb	175	-3	-1	171
Cadmium	lb	-96	-23	0	-119
Arsenic	lb	26	-1	0	25
Mercury	lb	1	0	0	1
Phosphate	lb	-2,124	-492	10	-2,605
Selenium	lb	0	0	0	0
Chromium	lb	-22	-36	-1	-60
Lead	lb	231	-8	0	223
Zinc	lb	466	-31	-3	432

Table C-34. CT Scenario Los Angeles 2005

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-6,648,642	-6,111,910	-140,082	-12,900,635
Air Emissions					
Total Particulate Matter	lb	-852,322	68,526	1,668	-782,128
Nitrogen Oxides	lb	-1,616,022	-4,623	16,422	-1,604,224
Sulfur Oxides	lb	-4,976,052	1,212,336	8,183	-3,755,533
Carbon Monoxide	lb	-534,707	491,651	12,568	-30,488
Carbon Dioxide Biomass	lb	2,219,079,610	746,617,408	31,656	2,965,728,674
Carbon Dioxide Fossil	lb	-105,469,393	-220,065,280	16,604,868	-308,929,805
Green House Equivalents	MTCE	-18,146	-12,570	2,164	-28,553
Hydrocarbons (non CH4)	lb	-430,469	-4,393	-52,111	-486,972
Lead	lb	257,732	-1	0	257,730
Ammonia	lb	826,135	-544	11	825,602
Methane	lb	-1,315,195	-55,500	-35,018	-1,405,713
Hydrochloric Acid	lb	-47,350	-11,979	145	-59,184
Total Solid Waste	lb	-121,952,535	-32,445,065	375,452	-154,022,148
Water Emissions					
Dissolved Solids	lb	-2,738,821	-537,829	11,697	-3,264,952
Suspended Solids	lb	-427,578	-124,249	1,360	-550,467
BOD	lb	-2,511	10,711	-22	8,178
COD	lb	-29,588	-4,331	-1,052	-34,971
Oil	lb	-23,417	-14,327	-288	-38,032
Sulfuric Acid	lb	-5,365	-941	21	-6,285
Iron	lb	-18,918	-6,572	15	-25,475
Ammonia	lb	-841	472,951	-706	471,405
Copper	lb	219	-3	-1	215
Cadmium	lb	-120	-23	0	-142
Arsenic	lb	33	-1	0	31
Mercury	lb	1	0	0	1
Phosphate	lb	-2,652	-490	10	-3,132
Selenium	lb	0	0	0	0
Chromium	lb	-27	-36	-1	-64
Lead	lb	289	-8	0	280
Zinc	lb	583	-31	-3	548

Table C-35. CT Scenario Los Angeles 2007

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-6,648,643	-10,186,525	-140,082	-16,975,250
Air Emissions					
Total Particulate Matter	lb	-852,322	114,209	1,668	-736,445
Nitrogen Oxides	lb	-1,616,023	-7,715	16,422	-1,607,315
Sulfur Oxides	lb	-4,976,052	2,020,559	8,183	-2,947,310
Carbon Monoxide	lb	-534,707	819,417	12,568	297,277
Carbon Dioxide Biomass	lb	2,219,079,610	1,244,362,347	31,656	3,463,473,613
Carbon Dioxide Fossil	lb	-105,469,411	-366,775,734	16,604,868	-455,640,277
Green House Equivalents	MTCE	-18,146	-20,950	2,164	-36,933
Hydrocarbons (non CH4)	lb	-430,469	-7,321	-52,111	-489,901
Lead	lb	257,732	-2	0	257,729
Ammonia	lb	826,135	-907	11	825,239
Methane	lb	-1,315,195	-92,501	-35,018	-1,442,713
Hydrochloric Acid	lb	-47,350	-19,964	145	-67,169
Total Solid Waste	lb	-121,952,535	-54,075,109	375,452	-175,652,193
Water Emissions					
Dissolved Solids	lb	-2,738,821	-896,383	11,697	-3,623,506
Suspended Solids	lb	-427,578	-207,082	1,360	-633,300
BOD	lb	-2,511	17,852	-22	15,319
COD	lb	-29,588	-7,219	-1,052	-37,859
Oil	lb	-23,417	-23,878	-288	-47,583
Sulfuric Acid	lb	-5,365	-1,569	21	-6,912
Iron	lb	-18,918	-10,953	15	-29,856
Ammonia	lb	-841	788,252	-706	786,705
Copper	lb	219	-5	-1	213
Cadmium	lb	-120	-38	0	-157
Arsenic	lb	33	-2	0	31
Mercury	lb	1	0	0	1
Phosphate	lb	-2,652	-816	10	-3,458
Selenium	lb	0	0	0	0
Chromium	lb	-27	-60	-1	-89
Lead	lb	289	-13	0	275
Zinc	lb	583	-52	-3	528

Table C-36. CT Scenario Los Angeles 2010

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-7,978,372	-10,186,525	-140,082	-18,304,980
Air Emissions					
Total Particulate Matter	lb	-1,022,786	114,209	1,668	-906,909
Nitrogen Oxides	lb	-1,939,230	-7,715	16,422	-1,930,523
Sulfur Oxides	lb	-5,971,263	2,020,559	8,183	-3,942,521
Carbon Monoxide	lb	-641,649	819,417	12,568	190,336
Carbon Dioxide Biomass	lb	2,662,895,532	1,244,362,347	31,656	3,907,289,535
Carbon Dioxide Fossil	lb	-126,563,372	-366,775,738	16,604,868	-476,734,241
Green House Equivalents	MTCE	-21,776	-20,950	2,164	-40,562
Hydrocarbons (non CH4)	lb	-516,562	-7,321	-52,111	-575,994
Lead	lb	309,278	-2	0	309,276
Ammonia	lb	991,362	-907	11	990,466
Methane	lb	-1,578,234	-92,501	-35,018	-1,705,752
Hydrochloric Acid	lb	-56,820	-19,964	145	-76,639
Total Solid Waste	lb	-146,343,037	-54,075,109	375,452	-200,042,695
Water Emissions					
Dissolved Solids	lb	-3,286,585	-896,383	11,697	-4,171,271
Suspended Solids	lb	-513,093	-207,082	1,360	-718,815
BOD	lb	-3,014	17,852	-22	14,816
COD	lb	-35,506	-7,219	-1,052	-43,776
Oil	lb	-28,101	-23,878	-288	-52,267
Sulfuric Acid	lb	-6,438	-1,569	21	-7,985
Iron	lb	-22,702	-10,953	15	-33,640
Ammonia	lb	-1,009	788,252	-706	786,537
Copper	lb	263	-5	-1	257
Cadmium	lb	-144	-38	0	-181
Arsenic	lb	40	-2	0	37
Mercury	lb	1	0	0	1
Phosphate	lb	-3,182	-816	10	-3,989
Selenium	lb	1	0	0	0
Chromium	lb	-32	-60	-1	-94
Lead	lb	346	-13	0	333
Zinc	lb	700	-52	-3	644

Table C-37. Acid Hydrolysis Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,136,190	197,520	98,953	-5,541,674	15,087	9,908	3,424	-919,408
Air Emissions									
Total Particulate Matter	lb	64,372	4,656	28,145	153,510	302	615	680	-123,536
Nitrogen Oxides	lb	-6,283	359,493	117,306	-414,371	3,462	6,696	4,725	-83,595
Sulfur Oxides	lb	1,204,636	32,327	181,046	1,184,005	621	1,138	1,341	-195,843
Carbon Monoxide	lb	484,836	59,522	36,408	574,801	1,283	2,270	4,658	-194,105
Carbon Dioxide Biomass	lb	746,618,187	7,852	266,287	746,341,683	2,352	113	132	-231
Carbon Dioxide Fossil	lb	-221,131,692	8,863,488	27,930,843	-224,761,869	246,852	478,319	550,727	-34,440,053
Green House Equivalents	MTCE	-12,721	1,223	3,952	-13,215	34	65	75	-4,857
Hydrocarbons (non CH4)	lb	-4,170	68,856	33,576	-24,311	840	1,712	1,901	-86,743
Lead	lb	-1	0	1	-7	0	0	0	5
Ammonia	lb	-547	0	108	-597	0	1	1	-60
Methane	lb	-57,589	5,095	49,935	-57,030	160	85	88	-55,922
Hydrochloric Acid	lb	-12,153	33	1,467	-9,915	0	1	1	-3,740
Total Solid Waste	lb	-32,861,017	169,297	3,766,415	-27,357,932	1,356	3,434	2,876	-9,446,464
Water Emissions									
Dissolved Solids	lb	-542,271	43,473	99,401	-583,703	346	643	753	-103,184
Suspended Solids	lb	-124,829	998	14,191	-123,750	18	26	17	-16,329
BOD	lb	10,707	162	118	10,666	4	5	3	-251
COD	lb	-4,432	1,086	1,473	-8,427	28	3,390	19	-2,001
Oil	lb	-14,341	1,011	1,785	-27,883	5,810	6,779	18	-1,860
Sulfuric Acid	lb	-946	9	181	-1,026	0	0	0	-110
Iron	lb	-6,596	25	1,079	-7,118	0	1	0	-583
Ammonia	lb	472,942	17	14	473,340	0	12	0	-442
Copper	lb	-3	0	0	-3	0	0	0	0
Cadmium	lb	-23	2	4	-25	0	0	0	-4
Arsenic	lb	-1	0	0	-1	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-492	4	91	-551	0	0	0	-36
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-36	2	4	-38	0	0	0	-4
Lead	lb	-8	0	0	-8	0	0	0	0
Zinc	lb	-31	1	2	-32	0	0	0	-2

Table C-38. Acid Hydrolysis Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,111,910	197,233	98,721	-5,541,674	14,938	9,899	3,362	-894,390
Air Emissions									
Total Particulate Matter	lb	68,526	4,649	28,071	153,510	299	614	668	-119,286
Nitrogen Oxides	lb	-4,623	358,970	117,024	-414,371	3,428	6,689	4,640	-81,004
Sulfur Oxides	lb	1,212,336	32,280	180,546	1,184,005	615	1,137	1,317	-187,563
Carbon Monoxide	lb	491,651	59,435	36,337	574,801	1,270	2,268	4,574	-187,034
Carbon Dioxide Biomass	lb	746,617,408	7,840	265,535	746,341,683	2,333	113	130	-225
Carbon Dioxide Fossil	lb	-220,065,280	8,850,607	27,860,602	-224,761,869	244,414	477,872	540,880	-33,277,785
Green House Equivalents	MTCE	-12,570	1,221	3,942	-13,215	34	65	74	-4,692
Hydrocarbons (non CH4)	lb	-4,393	68,756	33,503	-24,311	831	1,710	1,867	-86,749
Lead	lb	-1	0	1	-7	0	0	0	5
Ammonia	lb	-544	0	107	-597	0	1	1	-57
Methane	lb	-55,500	5,088	49,795	-57,030	158	85	86	-53,682
Hydrochloric Acid	lb	-11,979	32	1,463	-9,915	0	1	1	-3,561
Total Solid Waste	lb	-32,445,065	169,051	3,755,803	-27,357,932	1,342	3,431	2,825	-9,019,585
Water Emissions									
Dissolved Solids	lb	-537,829	43,410	99,131	-583,703	343	643	739	-98,391
Suspended Solids	lb	-124,249	997	14,151	-123,750	18	26	17	-15,707
BOD	lb	10,711	162	118	10,666	4	5	3	-246
COD	lb	-4,331	1,084	1,469	-8,427	28	3,386	18	-1,890
Oil	lb	-14,327	1,010	1,780	-27,883	5,752	6,773	17	-1,776
Sulfuric Acid	lb	-941	9	181	-1,026	0	0	0	-105
Iron	lb	-6,572	25	1,076	-7,118	0	1	0	-556
Ammonia	lb	472,951	17	14	473,340	0	12	0	-433
Copper	lb	-3	0	0	-3	0	0	0	0
Cadmium	lb	-23	2	4	-25	0	0	0	-4
Arsenic	lb	-1	0	0	-1	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-490	4	90	-551	0	0	0	-34
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-36	2	4	-38	0	0	0	-4
Lead	lb	-8	0	0	-8	0	0	0	0
Zinc	lb	-31	1	2	-32	0	0	0	-1

Table C-39. Acid Hydrolysis Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-10,186,525	328,715	164,535	-9,236,123	24,897	16,497	5,604	-1,490,650
Air Emissions									
Total Particulate Matter	lb	114,209	7,748	46,785	255,851	498	1,023	1,114	-198,810
Nitrogen Oxides	lb	-7,715	598,275	195,040	-690,618	5,713	11,149	7,734	-135,007
Sulfur Oxides	lb	2,020,559	53,799	300,909	1,973,341	1,025	1,896	2,195	-312,606
Carbon Monoxide	lb	819,417	99,057	60,561	958,002	2,117	3,779	7,624	-311,724
Carbon Dioxide Biomass	lb	1,244,362,347	13,067	442,559	1,243,902,805	3,888	188	216	-376
Carbon Dioxide Fossil	lb	-366,775,734	14,750,756	46,434,336	-374,603,115	407,347	796,442	901,460	-55,462,961
Green House Equivalents	MTCE	-20,950	2,036	6,570	-22,025	56	109	123	-7,819
Hydrocarbons (non CH4)	lb	-7,321	114,592	55,839	-40,519	1,386	2,851	3,112	-144,582
Lead	lb	-2	0	1	-12	0	0	0	8
Ammonia	lb	-907	0	179	-995	1	1	1	-95
Methane	lb	-92,501	8,479	82,992	-95,049	264	141	143	-89,471
Hydrochloric Acid	lb	-19,964	54	2,438	-16,524	1	1	1	-5,935
Total Solid Waste	lb	-54,075,109	281,745	6,259,671	-45,596,553	2,237	5,718	4,708	-15,032,636
Water Emissions									
Dissolved Solids	lb	-896,383	72,348	165,218	-972,839	572	1,071	1,232	-163,984
Suspended Solids	lb	-207,082	1,661	23,585	-206,250	30	43	28	-26,179
BOD	lb	17,852	270	196	17,777	6	8	5	-410
COD	lb	-7,219	1,807	2,448	-14,045	46	5,644	31	-3,150
Oil	lb	-23,878	1,683	2,967	-46,472	9,587	11,287	29	-2,959
Sulfuric Acid	lb	-1,569	15	301	-1,711	0	0	0	-174
Iron	lb	-10,953	41	1,793	-11,863	0	1	1	-926
Ammonia	lb	788,252	29	23	788,900	1	21	0	-721
Copper	lb	-5	0	0	-5	0	0	0	0
Cadmium	lb	-38	3	7	-41	0	0	0	-7
Arsenic	lb	-2	0	0	-2	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-816	7	151	-918	0	0	0	-57
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-60	3	7	-64	0	0	0	-7
Lead	lb	-13	0	0	-13	0	0	0	0
Zinc	lb	-52	1	3	-54	0	0	0	-2

Table C-40. Acid Hydrolysis Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-10,186,525	328,715	164,535	-9,236,123	24,897	16,497	5,604	-1,490,650
Air Emissions									
Total Particulate Matter	lb	114,209	7,748	46,785	255,851	498	1,023	1,114	-198,810
Nitrogen Oxides	lb	-7,715	598,275	195,040	-690,618	5,713	11,149	7,734	-135,007
Sulfur Oxides	lb	2,020,559	53,799	300,909	1,973,341	1,025	1,896	2,195	-312,606
Carbon Monoxide	lb	819,417	99,057	60,561	958,002	2,117	3,779	7,624	-311,724
Carbon Dioxide Biomass	lb	1,244,362,347	13,067	442,559	1,243,902,805	3,888	188	216	-376
Carbon Dioxide Fossil	lb	-366,775,738	14,750,756	46,434,336	-374,603,115	407,347	796,438	901,460	-55,462,961
Green House Equivalents	MTCE	-20,950	2,036	6,570	-22,025	56	109	123	-7,819
Hydrocarbons (non CH4)	lb	-7,321	114,592	55,839	-40,519	1,386	2,851	3,112	-144,582
Lead	lb	-2	0	1	-12	0	0	0	8
Ammonia	lb	-907	0	179	-995	1	1	1	-95
Methane	lb	-92,501	8,479	82,992	-95,049	264	141	143	-89,471
Hydrochloric Acid	lb	-19,964	54	2,438	-16,524	1	1	1	-5,935
Total Solid Waste	lb	-54,075,109	281,745	6,259,671	-45,596,553	2,237	5,718	4,708	-15,032,636
Water Emissions									
Dissolved Solids	lb	-896,383	72,348	165,218	-972,839	572	1,071	1,232	-163,984
Suspended Solids	lb	-207,082	1,661	23,585	-206,250	30	43	28	-26,179
BOD	lb	17,852	270	196	17,777	6	8	5	-410
COD	lb	-7,219	1,807	2,448	-14,045	46	5,644	31	-3,150
Oil	lb	-23,878	1,683	2,967	-46,472	9,587	11,287	29	-2,959
Sulfuric Acid	lb	-1,569	15	301	-1,711	0	0	0	-174
Iron	lb	-10,953	41	1,793	-11,863	0	1	1	-926
Ammonia	lb	788,252	29	23	788,900	1	21	0	-721
Copper	lb	-5	0	0	-5	0	0	0	0
Cadmium	lb	-38	3	7	-41	0	0	0	-7
Arsenic	lb	-2	0	0	-2	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-816	7	151	-918	0	0	0	-57
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-60	3	7	-64	0	0	0	-7
Lead	lb	-13	0	0	-13	0	0	0	0
Zinc	lb	-52	1	3	-54	0	0	0	-2

Table C-41. Acid Hydrolysis Details Los Angeles 2003

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	34,478	38,398	18,269		4,504,286	1,128,532	-5,541,674
Air Emissions								
Total Particulate Matter	lb	143,120	250,326	579		102,311	138,205	153,510
Nitrogen Oxides	lb	66,463	5,995	3,118	722,557	746,015	466,489	-414,371
Sulfur Oxides	lb	1,620,421	1,526	1,114	973,474	425,877	986,653	1,184,005
Carbon Monoxide	lb	2,051	2,892	56	722,557	75,892	76,861	574,801
Carbon Dioxide Biomass	lb	0	0	0	747,855,065	0	1,513,382	746,341,683
Carbon Dioxide Fossil	lb	1,351,608	18,205,402	2,338,380	0	123,499,617	123,157,642	-224,761,869
Green House Equivalents	MTCE	184	2,505	373	1,019	17,296	0	-13,215
Hydrocarbons (non CH4)	lb	109,887	2,212	52		37,983	98,480	-24,311
Lead	lb	0	0	1	0	3	6	-7
Ammonia	lb	0	0	1		33	565	-597
Methane	lb	0	8,037	18,930	355,791	159,623	280,165	-57,030
Hydrochloric Acid	lb	102	2	14		1,686	8,347	-9,915
Total Solid Waste	lb	625,598	2,078	7,406		6,648,307	21,344,707	-27,357,932
Water Emissions								
Dissolved Solids	lb	4,137	8	1		63,545	524,304	-583,703
Suspended Solids	lb	48,271	2,140	78		94,167	80,072	-123,750
BOD	lb	15,798	3	1		4,623	512	10,666
COD	lb	46	43	1		1,191	7,326	-8,427
Oil	lb	56	94	1		18,850	9,184	-27,883
Sulfuric Acid	lb	0	0	0		0	1,026	-1,026
Iron	lb	0	21	1	0	1,001	6,138	-7,118
Ammonia	lb	0	8	1	473,414	22	61	473,340
Copper	lb	0	0	0	0	3	0	-3
Cadmium	lb	0	0	0	0	1	24	-25
Arsenic	lb	0	0	0	0	1	0	-1
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		38	513	-551
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	0	0	0	15	24	-38
Lead	lb	0	0	1	0	9	0	-8
Zinc	lb	0	1	0	0	25	8	-32

Table C-42. Acid Hydrolysis Details Los Angeles 2005

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	34,478	38,398	18,269		4,504,286	1,128,532	-5,541,674
Air Emissions								
Total Particulate Matter	lb	143,120	250,326	579		102,311	138,205	153,510
Nitrogen Oxides	lb	66,463	5,995	3,118	722,557	746,015	466,489	-414,371
Sulfur Oxides	lb	1,620,421	1,526	1,114	973,474	425,877	986,653	1,184,005
Carbon Monoxide	lb	2,051	2,892	56	722,557	75,892	76,861	574,801
Carbon Dioxide Biomass	lb	0	0	0	747,855,065	0	1,513,382	746,341,683
Carbon Dioxide Fossil	lb	1,351,608	18,205,402	2,338,380	0	123,499,617	123,157,642	-224,761,869
Green House Equivalents	MTCE	184	2,505	373	1,019	17,296	0	-13,215
Hydrocarbons (non CH4)	lb	109,887	2,212	52		37,983	98,480	-24,311
Lead	lb	0	0	1	0	3	6	-7
Ammonia	lb	0	0	1		33	565	-597
Methane	lb	0	8,037	18,930	355,791	159,623	280,165	-57,030
Hydrochloric Acid	lb	102	2	14		1,686	8,347	-9,915
Total Solid Waste	lb	625,598	2,078	7,406		6,648,307	21,344,707	-27,357,932
Water Emissions								
Dissolved Solids	lb	4,137	8	1		63,545	524,304	-583,703
Suspended Solids	lb	48,271	2,140	78		94,167	80,072	-123,750
BOD	lb	15,798	3	1		4,623	512	10,666
COD	lb	46	43	1		1,191	7,326	-8,427
Oil	lb	56	94	1		18,850	9,184	-27,883
Sulfuric Acid	lb	0	0	0		0	1,026	-1,026
Iron	lb	0	21	1	0	1,001	6,138	-7,118
Ammonia	lb	0	8	1	473,414	22	61	473,340
Copper	lb	0	0	0	0	3	0	-3
Cadmium	lb	0	0	0	0	1	24	-25
Arsenic	lb	0	0	0	0	1	0	-1
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		38	513	-551
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	0	0	0	15	24	-38
Lead	lb	0	0	1	0	9	0	-8
Zinc	lb	0	1	0	0	25	8	-32

Table C-43. Acid Hydrolysis Details Los Angeles 2007

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	57,463	63,996	30,448		7,507,143	1,880,887	-9,236,123
Air Emissions								
Total Particulate Matter	lb	238,534	417,211	965		170,518	230,341	255,851
Nitrogen Oxides	lb	110,772	9,992	5,196	1,204,262	1,243,359	777,481	-690,618
Sulfur Oxides	lb	2,700,702	2,543	1,856	1,622,457	709,796	1,644,422	1,973,341
Carbon Monoxide	lb	3,418	4,820	93	1,204,262	126,487	128,102	958,002
Carbon Dioxide Biomass	lb	0	0	0	1,246,425,108	0	2,522,303	1,243,902,805
Carbon Dioxide Fossil	lb	2,252,681	30,342,337	3,897,300	0	205,832,696	205,262,736	-374,603,115
Green House Equivalents	MTCE	307	4,176	622	1,698	28,827	0	-22,025
Hydrocarbons (non CH4)	lb	183,145	3,686	87		63,304	164,133	-40,519
Lead	lb	0	0	1	0	4	9	-12
Ammonia	lb	0	0	2		55	942	-995
Methane	lb	0	13,396	31,550	592,986	266,039	466,941	-95,049
Hydrochloric Acid	lb	171	4	24		2,810	13,912	-16,524
Total Solid Waste	lb	1,042,663	3,464	12,344		11,080,512	35,574,512	-45,596,553
Water Emissions								
Dissolved Solids	lb	6,895	13	1		105,909	873,839	-972,839
Suspended Solids	lb	80,452	3,566	130		156,945	133,453	-206,250
BOD	lb	26,329	5	1		7,705	853	17,777
COD	lb	77	72	1		1,985	12,210	-14,045
Oil	lb	94	157	1		31,417	15,307	-46,472
Sulfuric Acid	lb	0	0	0		0	1,711	-1,711
Iron	lb	0	35	1	0	1,669	10,230	-11,863
Ammonia	lb	0	13	1	789,023	36	101	788,900
Copper	lb	0	0	0	0	5	0	-5
Cadmium	lb	0	0	0	0	1	40	-41
Arsenic	lb	0	0	0	0	2	0	-2
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		63	855	-918
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	1	0	0	25	40	-64
Lead	lb	0	0	1	0	15	0	-13
Zinc	lb	0	1	0	0	42	14	-54

Table C-44. Acid Hydrolysis Details Los Angeles 2010

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	57,463	63,996	30,448		7,507,143	1,880,887	-9,236,123
Air Emissions								
Total Particulate Matter	lb	238,534	417,211	965		170,518	230,341	255,851
Nitrogen Oxides	lb	110,772	9,992	5,196	1,204,262	1,243,359	777,481	-690,618
Sulfur Oxides	lb	2,700,702	2,543	1,856	1,622,457	709,796	1,644,422	1,973,341
Carbon Monoxide	lb	3,418	4,820	93	1,204,262	126,487	128,102	958,002
Carbon Dioxide Biomass	lb	0	0	0	1,246,425,108	0	2,522,303	1,243,902,805
Carbon Dioxide Fossil	lb	2,252,681	30,342,337	3,897,300	0	205,832,696	205,262,736	-374,603,115
Green House Equivalents	MTCE	307	4,176	622	1,698	28,827	0	-22,025
Hydrocarbons (non CH4)	lb	183,145	3,686	87		63,304	164,133	-40,519
Lead	lb	0	0	1	0	4	9	-12
Ammonia	lb	0	0	2		55	942	-995
Methane	lb	0	13,396	31,550	592,986	266,039	466,941	-95,049
Hydrochloric Acid	lb	171	4	24		2,810	13,912	-16,524
Total Solid Waste	lb	1,042,663	3,464	12,344		11,080,512	35,574,512	-45,596,553
Water Emissions								
Dissolved Solids	lb	6,895	13	1		105,909	873,839	-972,839
Suspended Solids	lb	80,452	3,566	130		156,945	133,453	-206,250
BOD	lb	26,329	5	1		7,705	853	17,777
COD	lb	77	72	1		1,985	12,210	-14,045
Oil	lb	94	157	1		31,417	15,307	-46,472
Sulfuric Acid	lb	0	0	0		0	1,711	-1,711
Iron	lb	0	35	1	0	1,669	10,230	-11,863
Ammonia	lb	0	13	1	789,023	36	101	788,900
Copper	lb	0	0	0	0	5	0	-5
Cadmium	lb	0	0	0	0	1	40	-41
Arsenic	lb	0	0	0	0	2	0	-2
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		63	855	-918
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	1	0	0	25	40	-64
Lead	lb	0	0	1	0	15	0	-13
Zinc	lb	0	1	0	0	42	14	-54

Table C-45. Gasification Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste			
						Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-5,349,457	231,214	115,533	-4,687,518	13,535	20,826	3,356	-1,046,404
Air Emissions									
Total Particulate Matter	lb	-687,030	5,450	32,833	-586,752	271	1,292	667	-140,791
Nitrogen Oxides	lb	-1,313,451	420,818	136,936	-1,815,075	3,106	14,074	4,632	-77,942
Sulfur Oxides	lb	-3,974,638	37,842	211,123	-4,009,725	557	2,393	1,315	-218,143
Carbon Monoxide	lb	-427,786	69,676	42,556	-320,256	1,151	4,771	4,566	-230,249
Carbon Dioxide Biomass	lb	1,800,791,733	9,191	310,473	1,800,469,964	1,984	237	129	-246
Carbon Dioxide Fossil	lb	-249,908,565	10,375,496	32,594,732	-258,487,469	221,450	1,005,408	539,932	-36,158,113
Green House Equivalents	MTCE	-34,653	1,432	4,611	-35,819	31	138	74	-5,119
Hydrocarbons (non CH4)	lb	-345,128	80,602	39,223	-420,858	753	3,599	1,864	-50,311
Lead	lb	206,185	0	1	206,178	0	0	0	6
Ammonia	lb	660,905	0	126	660,850	0	2	1	-73
Methane	lb	-1,054,586	5,964	58,224	-1,053,467	137	178	86	-65,708
Hydrochloric Acid	lb	-38,084	38	1,710	-35,596	0	1	9	-4,247
Total Solid Waste	lb	-98,055,278	198,176	4,391,445	-91,247,673	1,216	7,218	2,820	-11,408,480
Water Emissions									
Dissolved Solids	lb	-2,196,079	50,889	115,929	-2,242,763	311	1,352	738	-122,534
Suspended Solids	lb	-342,751	1,168	16,546	-341,919	16	54	17	-18,634
BOD	lb	-2,016	190	138	-2,185	3	10	3	-175
COD	lb	-23,778	1,271	1,718	-31,334	25	7,125	18	-2,601
Oil	lb	-18,693	1,184	2,082	-39,281	5,212	14,249	17	-2,156
Sulfuric Acid	lb	-4,297	10	211	-4,391	0	0	0	-128
Iron	lb	-15,162	29	1,258	-15,770	0	2	0	-681
Ammonia	lb	-686	20	16	-256	0	25	0	-492
Copper	lb	175	0	0	175	0	0	0	0
Cadmium	lb	-96	2	5	-98	0	0	0	-5
Arsenic	lb	26	0	0	26	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,124	5	106	-2,195	0	0	0	-40
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-22	2	5	-24	0	0	0	-5
Lead	lb	231	0	0	231	0	0	0	0
Zinc	lb	466	1	2	465	0	0	0	-2

Table C-46. Gasification Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste			
						Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,648,642	287,911	143,726	-5,859,397	16,542	26,008	4,077	-1,267,509
Air Emissions									
Total Particulate Matter	lb	-852,322	6,786	40,833	-733,440	331	1,613	810	-169,255
Nitrogen Oxides	lb	-1,616,022	524,011	170,340	-2,244,540	3,796	17,576	5,627	-92,832
Sulfur Oxides	lb	-4,976,052	47,121	262,524	-5,031,343	681	2,989	1,597	-259,621
Carbon Monoxide	lb	-534,707	86,761	52,963	-410,447	1,407	5,958	5,547	-276,896
Carbon Dioxide Biomass	lb	2,219,079,610	11,445	386,039	2,218,679,547	2,424	296	157	-297
Carbon Dioxide Fossil	lb	-105,469,393	12,919,742	40,541,379	-117,840,619	270,643	1,255,583	655,888	-43,272,009
Green House Equivalents	MTCE	-18,146	1,783	5,736	-19,838	37	172	90	-6,126
Hydrocarbons (non CH4)	lb	-430,469	100,368	48,804	-526,073	921	4,494	2,264	-61,247
Lead	lb	257,732	0	1	257,723	0	0	0	7
Ammonia	lb	826,135	0	156	826,062	0	2	1	-86
Methane	lb	-1,315,195	7,427	72,396	-1,316,834	168	223	104	-78,678
Hydrochloric Acid	lb	-47,350	47	2,127	-44,496	1	2	1	-5,031
Total Solid Waste	lb	-121,952,535	246,772	5,460,294	-114,059,591	1,486	9,014	3,426	-13,613,936
Water Emissions									
Dissolved Solids	lb	-2,738,821	63,368	144,160	-2,803,454	380	1,688	896	-145,858
Suspended Solids	lb	-427,578	1,455	20,574	-427,399	20	68	20	-22,315
BOD	lb	-2,511	236	171	-2,731	4	13	3	-208
COD	lb	-29,588	1,583	2,137	-39,167	31	8,897	22	-3,090
Oil	lb	-23,417	1,474	2,589	-49,101	6,370	17,794	21	-2,564
Sulfuric Acid	lb	-5,365	13	263	-5,488	0	0	0	-152
Iron	lb	-18,918	36	1,564	-19,713	0	2	0	-808
Ammonia	lb	-841	25	20	-320	1	33	0	-599
Copper	lb	219	0	0	219	0	0	0	0
Cadmium	lb	-120	2	6	-123	0	0	0	-6
Arsenic	lb	33	0	0	33	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,652	6	131	-2,743	0	0	0	-47
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-27	2	6	-29	0	0	0	-6
Lead	lb	289	0	0	289	0	0	0	0
Zinc	lb	583	1	2	582	0	0	0	-2

Table C-47. Gasification Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste			
						Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,648,643	287,911	143,726	-5,859,397	16,542	26,008	4,077	-1,267,509
Air Emissions									
Total Particulate Matter	lb	-852,322	6,786	40,833	-733,440	331	1,613	810	-169,255
Nitrogen Oxides	lb	-1,616,023	524,011	170,340	-2,244,540	3,796	17,576	5,627	-92,832
Sulfur Oxides	lb	-4,976,052	47,121	262,524	-5,031,343	681	2,989	1,597	-259,621
Carbon Monoxide	lb	-534,707	86,761	52,963	-410,447	1,407	5,958	5,547	-276,896
Carbon Dioxide Biomass	lb	2,219,079,610	11,445	386,039	2,218,679,547	2,424	296	157	-297
Carbon Dioxide Fossil	lb	-105,469,411	12,919,742	40,541,379	-117,840,619	270,643	1,255,566	655,888	-43,272,009
Green House Equivalents	MTCE	-18,146	1,783	5,736	-19,838	37	172	90	-6,126
Hydrocarbons (non CH4)	lb	-430,469	100,368	48,804	-526,073	921	4,494	2,264	-61,247
Lead	lb	257,732	0	1	257,723	0	0	0	7
Ammonia	lb	826,135	0	156	826,062	0	2	1	-86
Methane	lb	-1,315,195	7,427	72,396	-1,316,834	168	223	104	-78,678
Hydrochloric Acid	lb	-47,350	47	2,127	-44,496	1	2	1	-5,031
Total Solid Waste	lb	-121,952,535	246,772	5,460,294	-114,059,591	1,486	9,014	3,426	-13,613,936
Water Emissions									
Dissolved Solids	lb	-2,738,821	63,368	144,160	-2,803,454	380	1,688	896	-145,858
Suspended Solids	lb	-427,578	1,455	20,574	-427,399	20	68	20	-22,315
BOD	lb	-2,511	236	171	-2,731	4	13	3	-208
COD	lb	-29,588	1,583	2,137	-39,167	31	8,897	22	-3,090
Oil	lb	-23,417	1,474	2,589	-49,101	6,370	17,794	21	-2,564
Sulfuric Acid	lb	-5,365	13	263	-5,488	0	0	0	-152
Iron	lb	-18,918	36	1,564	-19,713	0	2	0	-808
Ammonia	lb	-841	25	20	-320	1	33	0	-599
Copper	lb	219	0	0	219	0	0	0	0
Cadmium	lb	-120	2	6	-123	0	0	0	-6
Arsenic	lb	33	0	0	33	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,652	6	131	-2,743	0	0	0	-47
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-27	2	6	-29	0	0	0	-6
Lead	lb	289	0	0	289	0	0	0	0
Zinc	lb	583	1	2	582	0	0	0	-2

Table C-48. Gasification Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste			
						Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-7,978,372	345,491	172,471	-7,031,276	19,850	31,209	4,893	-1,521,010
Air Emissions									
Total Particulate Matter	lb	-1,022,786	8,144	48,999	-880,128	397	1,936	972	-203,106
Nitrogen Oxides	lb	-1,939,230	628,810	204,408	-2,693,449	4,555	21,091	6,752	-111,398
Sulfur Oxides	lb	-5,971,263	56,545	315,028	-6,037,611	817	3,586	1,916	-311,545
Carbon Monoxide	lb	-641,649	104,113	63,556	-492,536	1,688	7,150	6,656	-332,275
Carbon Dioxide Biomass	lb	2,662,895,532	13,734	463,246	2,662,415,456	2,908	355	189	-356
Carbon Dioxide Fossil	lb	-126,563,372	15,503,602	48,649,628	-141,408,743	324,778	1,506,671	787,069	-51,926,378
Green House Equivalents	MTCE	-21,776	2,140	6,883	-23,806	45	206	108	-7,351
Hydrocarbons (non CH4)	lb	-516,562	120,441	58,565	-631,287	1,105	5,393	2,717	-73,496
Lead	lb	309,278	0	1	309,267	0	0	0	9
Ammonia	lb	991,362	0	187	991,274	1	2	1	-104
Methane	lb	-1,578,234	8,912	86,876	-1,580,201	201	267	125	-94,414
Hydrochloric Acid	lb	-56,820	57	2,552	-53,395	1	2	1	-6,037
Total Solid Waste	lb	-146,343,037	296,125	6,552,349	-136,871,509	1,784	10,817	4,111	-16,336,713
Water Emissions									
Dissolved Solids	lb	-3,286,585	76,040	172,992	-3,364,145	456	2,026	1,076	-175,030
Suspended Solids	lb	-513,093	1,746	24,689	-512,879	24	82	24	-26,778
BOD	lb	-3,014	284	206	-3,277	5	15	4	-250
COD	lb	-35,506	1,899	2,564	-47,001	37	10,677	27	-3,708
Oil	lb	-28,101	1,769	3,107	-58,922	7,644	21,353	25	-3,077
Sulfuric Acid	lb	-6,438	15	315	-6,586	0	0	0	-183
Iron	lb	-22,702	43	1,877	-23,655	0	3	1	-970
Ammonia	lb	-1,009	31	24	-384	1	39	0	-719
Copper	lb	263	0	0	263	0	0	0	0
Cadmium	lb	-144	3	8	-147	0	0	0	-7
Arsenic	lb	40	0	0	40	0	0	0	0
Mercury	lb	1	0	0	2	0	0	0	0
Phosphate	lb	-3,182	8	158	-3,292	0	0	0	-56
Selenium	lb	1	0	0	0	0	0	0	0
Chromium	lb	-32	3	8	-35	0	0	0	-7
Lead	lb	346	0	0	346	0	0	0	0
Zinc	lb	700	1	3	698	0	0	0	-3

Table C-49. Gasification Details Los Angeles 2003

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity	
		Ammonia		Production	
Energy Consumption	MBTU	139,907		4,827,425	-4,687,518
Air Emissions					
Total Particulate Matter	lb	4,434		591,187	-586,752
Nitrogen Oxides	lb	23,877	175,948	1,995,458	-1,815,075
Sulfur Oxides	lb	8,528	186,918	4,220,520	-4,009,725
Carbon Monoxide	lb	426	0	328,784	-320,256
Carbon Dioxide Biomass	lb	0	1,806,943,200	6,473,662	1,800,469,964
Carbon Dioxide Fossil	lb	17,907,985	268,333,244	526,820,713	-258,487,469
Green House Equivalents	MTCE	2,857	36,587	75,264	-35,819
Hydrocarbons (non CH4)	lb	401	0	421,259	-420,858
Lead	lb	4	206,198	24	206,178
Ammonia	lb	9	663,259	2,418	660,850
Methane	lb	144,969	0	1,198,437	-1,053,467
Hydrochloric Acid	lb	111		35,707	-35,596
Total Solid Waste	lb	56,720		91,304,393	-91,247,673
Water Emissions					
Dissolved Solids	lb	4		2,242,767	-2,242,763
Suspended Solids	lb	597		342,516	-341,919
BOD	lb	4		2,189	-2,185
COD	lb	4		31,338	-31,334
Oil	lb	4		39,285	-39,281
Sulfuric Acid	lb	0		4,391	-4,391
Iron	lb	4	10,482	26,256	-15,770
Ammonia	lb	4	0	260	-256
Copper	lb	0	175	0	175
Cadmium	lb	0	4	102	-98
Arsenic	lb	0	26	0	26
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,195	-2,195
Selenium	lb	0	0	0	0
Chromium	lb	0	78	102	-24
Lead	lb	4	227	0	231
Zinc	lb	0	500	35	465

Table C-50. Gasification Details Los Angeles 2005

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity	
		Ammonia		Production	
Energy Consumption	MBTU	174,884		6,034,281	-5,859,397
Air Emissions					
Total Particulate Matter	lb	5,543		738,983	-733,440
Nitrogen Oxides	lb	29,847	219,935	2,494,322	-2,244,540
Sulfur Oxides	lb	10,660	233,648	5,275,651	-5,031,343
Carbon Monoxide	lb	533	0	410,980	-410,447
Carbon Dioxide Biomass	lb	0	2,226,771,625	8,092,078	2,218,679,547
Carbon Dioxide Fossil	lb	22,384,981	518,300,292	658,525,892	-117,840,619
Green House Equivalents	MTCE	3,571	70,670	94,079	-19,838
Hydrocarbons (non CH4)	lb	501	0	526,574	-526,073
Lead	lb	5	257,747	30	257,723
Ammonia	lb	11	829,073	3,022	826,062
Methane	lb	181,212	0	1,498,046	-1,316,834
Hydrochloric Acid	lb	139		44,634	-44,496
Total Solid Waste	lb	70,900		114,130,492	-114,059,591
Water Emissions					
Dissolved Solids	lb	5		2,803,459	-2,803,454
Suspended Solids	lb	746		428,145	-427,399
BOD	lb	5		2,737	-2,731
COD	lb	5		39,173	-39,167
Oil	lb	5		49,107	-49,101
Sulfuric Acid	lb	0		5,488	-5,488
Iron	lb	5	13,102	32,820	-19,713
Ammonia	lb	5	0	325	-320
Copper	lb	0	219	0	219
Cadmium	lb	0	5	127	-123
Arsenic	lb	0	33	0	33
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,743	-2,743
Selenium	lb	0	0	0	0
Chromium	lb	0	98	127	-29
Lead	lb	5	283	0	289
Zinc	lb	0	625	44	582

Table C-51. Gasification Details Los Angeles 2007

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity	
		Ammonia		Production	
Energy Consumption	MBTU	174,884		6,034,281	-5,859,397
Air Emissions					
Total Particulate Matter	lb	5,543		738,983	-733,440
Nitrogen Oxides	lb	29,847	219,935	2,494,322	-2,244,540
Sulfur Oxides	lb	10,660	233,648	5,275,651	-5,031,343
Carbon Monoxide	lb	533	0	410,980	-410,447
Carbon Dioxide Biomass	lb	0	2,226,771,625	8,092,078	2,218,679,547
Carbon Dioxide Fossil	lb	22,384,981	518,300,292	658,525,892	-117,840,619
Green House Equivalents	MTCE	3,571	70,670	94,079	-19,838
Hydrocarbons (non CH4)	lb	501	0	526,574	-526,073
Lead	lb	5	257,747	30	257,723
Ammonia	lb	11	829,073	3,022	826,062
Methane	lb	181,212	0	1,498,046	-1,316,834
Hydrochloric Acid	lb	139		44,634	-44,496
Total Solid Waste	lb	70,900		114,130,492	-114,059,591
Water Emissions					
Dissolved Solids	lb	5		2,803,459	-2,803,454
Suspended Solids	lb	746		428,145	-427,399
BOD	lb	5		2,737	-2,731
COD	lb	5		39,173	-39,167
Oil	lb	5		49,107	-49,101
Sulfuric Acid	lb	0		5,488	-5,488
Iron	lb	5	13,102	32,820	-19,713
Ammonia	lb	5	0	325	-320
Copper	lb	0	219	0	219
Cadmium	lb	0	5	127	-123
Arsenic	lb	0	33	0	33
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,743	-2,743
Selenium	lb	0	0	0	0
Chromium	lb	0	98	127	-29
Lead	lb	5	283	0	289
Zinc	lb	0	625	44	582

Table C-52. Gasification Details Los Angeles 2010

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity	
		Ammonia		Production	
Energy Consumption	MBTU	209,860		7,241,137	-7,031,276
Air Emissions					
Total Particulate Matter	lb	6,652		886,780	-880,128
Nitrogen Oxides	lb	35,816	263,922	2,993,186	-2,693,449
Sulfur Oxides	lb	12,791	280,378	6,330,781	-6,037,611
Carbon Monoxide	lb	640	0	493,176	-492,536
Carbon Dioxide Biomass	lb	0	2,672,125,950	9,710,493	2,662,415,456
Carbon Dioxide Fossil	lb	26,861,977	621,960,350	790,231,070	-141,408,743
Green House Equivalents	MTCE	4,285	84,804	112,895	-23,806
Hydrocarbons (non CH4)	lb	601	0	631,889	-631,287
Lead	lb	6	309,296	36	309,267
Ammonia	lb	13	994,888	3,627	991,274
Methane	lb	217,454	0	1,797,655	-1,580,201
Hydrochloric Acid	lb	166		53,561	-53,395
Total Solid Waste	lb	85,081		136,956,590	-136,871,509
Water Emissions					
Dissolved Solids	lb	6		3,364,151	-3,364,145
Suspended Solids	lb	895		513,775	-512,879
BOD	lb	6		3,284	-3,277
COD	lb	6		47,007	-47,001
Oil	lb	6		58,928	-58,922
Sulfuric Acid	lb	0		6,586	-6,586
Iron	lb	6	15,723	39,385	-23,655
Ammonia	lb	6	0	391	-384
Copper	lb	0	263	0	263
Cadmium	lb	0	5	152	-147
Arsenic	lb	0	40	0	40
Mercury	lb	0	2	0	2
Phosphate	lb	0		3,292	-3,292
Selenium	lb	0	0	0	0
Chromium	lb	0	117	152	-35
Lead	lb	6	340	0	346
Zinc	lb	0	750	52	698

Table C-53. Catalytic Cracking Los Angeles 2003

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,870	243,540	2,687,040	13,659,810	7,247	2,221	5,012
Green House								
Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-3	0	0	-4	0	0	0

Table C-54. Catalytic Cracking Los Angeles 2005

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,868	243,540	2,687,040	13,659,810	7,247	2,219	5,012
Green House								
Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-3	0	0	-4	0	0	0

Table C-55. Catalytic Cracking Los Angeles 2007

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,868	243,540	2,687,040	13,659,810	7,247	2,219	5,012
Green House								
Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-3	0	0	-4	0	0	0

Table C-56. Catalytic Cracking Los Angeles 2010

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,868	243,540	2,687,040	13,659,810	7,247	2,219	5,012
Green House								
Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-3	0	0	-4	0	0	0

Table C-57. Catalytic Cracking Details Los Angeles 2003

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Table C-58. Catalytic Cracking Details Los Angeles 2005

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Table C-59. Catalytic Cracking Details Los Angeles 2007

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Table C-59. Catalytic Cracking Details Los Angeles 2010

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Landfill Venting Scenario San Francisco 2003

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,138,198	443,115	9,564	639,743	45,776
Air Emissions						
Total Particulate Matter	lb	92,552	10,445	4,112	68,898	9,097
Nitrogen Oxides	lb	1,101,638	806,484	54,224	177,754	63,176
Sulfur Oxides	lb	153,448	72,523	6,378	56,618	17,929
Carbon Monoxide	lb	763,781	133,531	13,613	554,361	62,277
Carbon Dioxide Biomass	lb	5,669,614,953	17,615	540	5,669,595,035	1,764
Carbon Dioxide Fossil	lb	41,785,977	19,884,290	1,544,821	12,993,048	7,363,818
Green House Equivalents	MTCE	3,974,150	2,744	211	3,970,187	1,008
Hydrocarbons (non CH4)	lb	222,820	154,471	6,771	36,159	25,418
Lead	lb	1	1	0	0	0
Ammonia	lb	45	0	2	30	12
Methane	lb	1,385,808,674	11,430	274	1,385,795,798	1,171
Hydrochloric Acid	lb	6,990	73	2	6,907	7
Total Solid Waste	lb	3,996,321	379,799	10,417	3,567,645	38,460
Water Emissions						
Dissolved Solids	lb	136,778	97,527	2,139	27,049	10,063
Suspended Solids	lb	5,577	2,239	56	3,054	228
BOD	lb	702,491	364	8	702,082	38
COD	lb	1,956,429	2,436	53	1,953,689	252
Oil	lb	235,901	2,269	49	233,349	234
Sulfuric Acid	lb	51	20	1	29	2
Iron	lb	224	55	2	162	5
Ammonia	lb	22,446	39	1	22,402	4
Copper	lb	0	0	0	0	0
Cadmium	lb	5	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	170	10	0	158	1
Selenium	lb	0	0	0	0	0
Chromium	lb	6	4	0	2	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	0	0

Landfill Venting Scenario San Francisco 2005

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,289,688	502,726	10,851	724,177	51,935
Air Emissions						
Total Particulate Matter	lb	106,753	11,850	4,665	79,917	10,321
Nitrogen Oxides	lb	1,246,892	914,980	61,519	198,718	71,675
Sulfur Oxides	lb	171,551	82,279	7,236	61,695	20,341
Carbon Monoxide	lb	824,640	151,495	15,444	587,047	70,655
Carbon Dioxide Biomass	lb	5,967,153,262	19,984	612	5,967,130,664	2,001
Carbon Dioxide Fossil	lb	47,175,865	22,559,291	1,752,649	14,509,434	8,354,491
Green House Equivalents	MTCE	4,183,683	3,113	240	4,179,187	1,143
Hydrocarbons (non CH4)	lb	252,660	175,252	7,682	40,888	28,838
Lead	lb	1	1	0	0	0
Ammonia	lb	49	0	3	33	13
Methane	lb	1,458,722,147	12,968	311	1,458,707,539	1,329
Hydrochloric Acid	lb	7,355	83	3	7,261	8
Total Solid Waste	lb	4,249,058	430,892	11,818	3,762,713	43,634
Water Emissions						
Dissolved Solids	lb	154,141	110,647	2,427	29,650	11,417
Suspended Solids	lb	6,140	2,540	64	3,277	259
BOD	lb	740,058	413	9	739,594	43
COD	lb	2,061,240	2,764	60	2,058,131	285
Oil	lb	268,064	2,574	56	265,168	266
Sulfuric Acid	lb	55	22	1	30	2
Iron	lb	242	63	2	171	6
Ammonia	lb	23,650	44	1	23,600	5
Copper	lb	0	0	0	0	0
Cadmium	lb	6	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	180	11	0	167	1
Selenium	lb	0	0	0	0	0
Chromium	lb	7	4	0	3	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	1	0

Landfill Venting Scenario San Francisco 2007

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,634,365	637,188	13,753	917,598	65,826
Air Emissions						
Total Particulate Matter	lb	135,492	15,019	5,913	101,478	13,082
Nitrogen Oxides	lb	1,580,432	1,159,710	77,974	251,901	90,847
Sulfur Oxides	lb	217,518	104,286	9,172	78,279	25,782
Carbon Monoxide	lb	1,046,722	192,015	19,575	745,579	89,553
Carbon Dioxide Biomass	lb	7,580,653,750	25,329	776	7,580,625,109	2,537
Carbon Dioxide Fossil	lb	59,797,352	28,593,212	2,221,445	18,393,556	10,589,139
Green House Equivalents	MTCE	5,314,920	3,946	304	5,309,221	1,449
Hydrocarbons (non CH4)	lb	320,227	222,129	9,737	51,810	36,552
Lead	lb	1	1	0	0	0
Ammonia	lb	63	1	4	42	17
Methane	lb	1,853,156,252	16,436	394	1,853,137,737	1,684
Hydrochloric Acid	lb	9,344	105	4	9,225	10
Total Solid Waste	lb	5,396,351	546,141	14,979	4,779,925	55,306
Water Emissions						
Dissolved Solids	lb	195,400	140,241	3,076	37,612	14,471
Suspended Solids	lb	7,789	3,219	81	4,160	329
BOD	lb	940,166	523	11	939,577	54
COD	lb	2,618,579	3,503	76	2,614,639	362
Oil	lb	339,617	3,263	71	335,947	337
Sulfuric Acid	lb	70	28	1	38	3
Iron	lb	307	80	3	217	8
Ammonia	lb	30,045	56	1	29,981	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	5	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	228	14	0	212	1
Selenium	lb	0	0	0	0	0
Chromium	lb	9	5	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Landfill Venting Scenario San Francisco 2010

Parameter	Units	Total	Collection	Transfer	Landfill - Venting	Transportation
Energy Consumption	MBTU	1,785,903	696,305	15,029	1,002,636	71,933
Air Emissions						
Total Particulate Matter	lb	148,128	16,413	6,461	110,958	14,296
Nitrogen Oxides	lb	1,727,074	1,267,306	85,208	275,284	99,275
Sulfur Oxides	lb	237,728	113,961	10,023	85,570	28,174
Carbon Monoxide	lb	1,144,361	209,830	21,391	815,278	97,862
Carbon Dioxide Biomass	lb	8,290,035,430	27,679	848	8,290,004,131	2,772
Carbon Dioxide Fossil	lb	65,346,428	31,246,048	2,427,552	20,101,226	11,571,603
Green House Equivalents	MTCE	5,812,272	4,312	332	5,806,045	1,583
Hydrocarbons (non CH4)	lb	349,933	242,738	10,641	56,612	39,943
Lead	lb	1	1	0	0	0
Ammonia	lb	69	1	4	46	18
Methane	lb	2,026,570,719	17,961	431	2,026,550,487	1,840
Hydrochloric Acid	lb	10,218	115	4	10,088	11
Total Solid Waste	lb	5,900,763	596,811	16,369	5,227,146	60,437
Water Emissions						
Dissolved Solids	lb	213,540	153,252	3,361	41,113	15,814
Suspended Solids	lb	8,514	3,518	89	4,548	359
BOD	lb	1,028,144	572	12	1,027,501	59
COD	lb	2,863,616	3,828	83	2,859,310	395
Oil	lb	371,076	3,565	78	367,065	368
Sulfuric Acid	lb	77	31	1	42	3
Iron	lb	336	87	3	237	9
Ammonia	lb	32,856	62	1	32,787	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	6	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	250	16	0	232	2
Selenium	lb	0	0	0	0	0
Chromium	lb	10	6	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Landfill Flaring Scenario San Francisco 2003

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,138,198	443,115	9,564	639,743	45,776
Air Emissions						
Total Particulate Matter	lb	171,713	10,445	4,112	148,059	9,097
Nitrogen Oxides	lb	1,294,595	806,484	54,224	370,711	63,176
Sulfur Oxides	lb	202,924	72,523	6,378	106,094	17,929
Carbon Monoxide	lb	4,326,059	133,531	13,613	4,116,639	62,276
Carbon Dioxide Biomass	lb	5,922,646,983	17,615	540	5,922,627,065	1,764
Carbon Dioxide Fossil	lb	41,785,965	19,884,290	1,544,818	12,993,048	7,363,808
Green House Equivalents	MTCE	1,068,065	2,744	211	1,064,102	1,008
Hydrocarbons (non CH4)	lb	222,820	154,471	6,771	36,159	25,418
Lead	lb	1	1	0	0	0
Ammonia	lb	45	0	2	30	12
Methane	lb	370,985,278	11,430	274	370,972,402	1,171
Hydrochloric Acid	lb	54,487	73	2	54,404	7
Total Solid Waste	lb	3,996,320	379,799	10,416	3,567,645	38,460
Water Emissions						
Dissolved Solids	lb	136,778	97,527	2,139	27,049	10,063
Suspended Solids	lb	5,577	2,239	56	3,054	228
BOD	lb	702,491	364	8	702,082	38
COD	lb	1,956,429	2,436	53	1,953,689	252
Oil	lb	235,901	2,269	49	233,349	234
Sulfuric Acid	lb	51	20	1	29	2
Iron	lb	224	55	2	162	5
Ammonia	lb	22,446	39	1	22,402	4
Copper	lb	0	0	0	0	0
Cadmium	lb	5	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	170	10	0	158	1
Selenium	lb	0	0	0	0	0
Chromium	lb	6	4	0	2	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	0	0

Landfill Flaring Scenario San Francisco 2005

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,289,688	502,726	10,851	724,177	51,935
Air Emissions						
Total Particulate Matter	lb	190,080	11,850	4,665	163,244	10,321
Nitrogen Oxides	lb	1,450,001	914,980	61,519	401,828	71,675
Sulfur Oxides	lb	223,631	82,279	7,236	113,774	20,341
Carbon Monoxide	lb	4,574,359	151,495	15,444	4,336,766	70,655
Carbon Dioxide Biomass	lb	6,233,499,494	19,984	612	6,233,476,896	2,001
Carbon Dioxide Fossil	lb	47,175,853	22,559,291	1,752,647	14,509,434	8,354,481
Green House Equivalents	MTCE	1,124,683	3,113	240	1,120,187	1,143
Hydrocarbons (non CH4)	lb	252,660	175,252	7,682	40,888	28,838
Lead	lb	1	1	0	0	0
Ammonia	lb	49	0	3	33	13
Methane	lb	390,500,123	12,968	311	390,485,515	1,329
Hydrochloric Acid	lb	57,351	83	3	57,258	8
Total Solid Waste	lb	4,249,057	430,892	11,818	3,762,713	43,634
Water Emissions						
Dissolved Solids	lb	154,140	110,647	2,426	29,650	11,417
Suspended Solids	lb	6,140	2,540	64	3,277	259
BOD	lb	740,058	413	9	739,594	43
COD	lb	2,061,240	2,764	60	2,058,131	285
Oil	lb	268,064	2,574	56	265,168	266
Sulfuric Acid	lb	55	22	1	30	2
Iron	lb	242	63	2	171	6
Ammonia	lb	23,650	44	1	23,600	5
Copper	lb	0	0	0	0	0
Cadmium	lb	6	4	0	1	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	180	11	0	167	1
Selenium	lb	0	0	0	0	0
Chromium	lb	7	4	0	3	0
Lead	lb	0	0	0	0	0
Zinc	lb	3	2	0	1	0

Landfill Flaring Scenario San Francisco 2007

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,634,365	637,188	13,753	917,598	65,826
Air Emissions						
Total Particulate Matter	lb	241,351	15,019	5,913	207,337	13,082
Nitrogen Oxides	lb	1,838,461	1,159,710	77,974	509,931	90,847
Sulfur Oxides	lb	283,680	104,286	9,172	144,440	25,782
Carbon Monoxide	lb	5,810,355	192,015	19,575	5,509,211	89,553
Carbon Dioxide Biomass	lb	7,919,019,216	25,329	776	7,918,990,574	2,537
Carbon Dioxide Fossil	lb	59,797,339	28,593,212	2,221,443	18,393,556	10,589,128
Green House Equivalents	MTCE	1,428,776	3,946	304	1,423,077	1,449
Hydrocarbons (non CH4)	lb	320,227	222,129	9,737	51,810	36,552
Lead	lb	1	1	0	0	0
Ammonia	lb	63	1	4	42	17
Methane	lb	496,090,151	16,436	394	496,071,636	1,684
Hydrochloric Acid	lb	72,859	105	4	72,740	10
Total Solid Waste	lb	5,396,351	546,141	14,979	4,779,925	55,305
Water Emissions						
Dissolved Solids	lb	195,400	140,241	3,076	37,612	14,471
Suspended Solids	lb	7,789	3,219	81	4,160	329
BOD	lb	940,166	523	11	939,577	54
COD	lb	2,618,579	3,503	76	2,614,639	362
Oil	lb	339,617	3,263	71	335,947	337
Sulfuric Acid	lb	70	28	1	38	3
Iron	lb	307	80	3	217	8
Ammonia	lb	30,045	56	1	29,981	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	5	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	228	14	0	212	1
Selenium	lb	0	0	0	0	0
Chromium	lb	9	5	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Landfill Flaring Scenario San Francisco 2010

Parameter	Units	Total	Collection	Transfer	Landfill - Flaring	Transportation
Energy Consumption	MBTU	1,785,903	696,305	15,029	1,002,636	71,933
Air Emissions						
Total Particulate Matter	lb	263,892	16,413	6,461	226,722	14,296
Nitrogen Oxides	lb	2,009,249	1,267,306	85,208	557,460	99,275
Sulfur Oxides	lb	310,080	113,961	10,023	157,922	28,174
Carbon Monoxide	lb	6,353,764	209,830	21,391	6,024,681	97,862
Carbon Dioxide Biomass	lb	8,660,064,428	27,679	848	8,660,033,129	2,772
Carbon Dioxide Fossil	lb	65,346,415	31,246,048	2,427,550	20,101,226	11,571,592
Green House Equivalents	MTCE	1,562,471	4,312	332	1,556,244	1,583
Hydrocarbons (non CH4)	lb	349,933	242,738	10,641	56,612	39,943
Lead	lb	1	1	0	0	0
Ammonia	lb	69	1	4	46	18
Methane	lb	542,513,212	17,961	431	542,492,979	1,840
Hydrochloric Acid	lb	79,677	115	4	79,547	11
Total Solid Waste	lb	5,900,763	596,811	16,369	5,227,146	60,437
Water Emissions						
Dissolved Solids	lb	213,540	153,252	3,361	41,113	15,814
Suspended Solids	lb	8,514	3,518	89	4,548	359
BOD	lb	1,028,144	572	12	1,027,501	59
COD	lb	2,863,616	3,828	83	2,859,310	395
Oil	lb	371,076	3,565	78	367,065	368
Sulfuric Acid	lb	77	31	1	42	3
Iron	lb	336	87	3	237	9
Ammonia	lb	32,856	62	1	32,787	6
Copper	lb	0	0	0	0	0
Cadmium	lb	8	6	0	2	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	250	16	0	232	2
Selenium	lb	0	0	0	0	0
Chromium	lb	10	6	0	3	1
Lead	lb	0	0	0	0	0
Zinc	lb	4	3	0	1	0

Landfill ER Scenario San Francisco 2003

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	337,173	443,115	9,564	-161,281	45,776
Air Emissions						
Total Particulate Matter	lb	22,719	10,445	4,112	-935	9,097
Nitrogen Oxides	lb	1,285,161	806,484	54,224	361,277	63,176
Sulfur Oxides	lb	-1,920,395	72,523	6,378	-2,017,225	17,929
Carbon Monoxide	lb	2,824,796	133,531	13,613	2,615,375	62,277
Carbon Dioxide Biomass	lb	5,919,390,121	17,615	540	5,919,370,203	1,764
Carbon Dioxide Fossil	lb	-223,254,480	19,884,290	1,544,821	-252,047,409	7,363,818
Green House Equivalents	MTCE	1,030,197	2,744	211	1,026,233	1,008
Hydrocarbons (non CH4)	lb	10,887	154,471	6,771	-175,774	25,418
Lead	lb	-9	1	0	-10	0
Ammonia	lb	-1,172	0	2	-1,186	12
Methane	lb	370,382,351	11,430	274	370,369,475	1,171
Hydrochloric Acid	lb	34,049	73	2	33,966	7
Total Solid Waste	lb	-41,943,836	379,799	10,417	-42,372,511	38,460
Water Emissions						
Dissolved Solids	lb	-991,545	97,527	2,139	-1,101,274	10,063
Suspended Solids	lb	-166,741	2,239	56	-169,264	228
BOD	lb	701,390	364	8	700,980	38
COD	lb	1,940,663	2,436	53	1,937,923	252
Oil	lb	216,137	2,269	49	213,585	234
Sulfuric Acid	lb	-2,158	20	1	-2,180	2
Iron	lb	-12,985	55	2	-13,048	5
Ammonia	lb	22,315	39	1	22,271	4
Copper	lb	0	0	0	0	0
Cadmium	lb	-46	4	0	-50	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-934	10	0	-946	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-45	4	0	-49	0
Lead	lb	0	0	0	0	0
Zinc	lb	-15	2	0	-17	0

Landfill ER Scenario San Francisco 2005

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	446,515	502,726	10,851	-118,996	51,935
Air Emissions						
Total Particulate Matter	lb	33,246	11,850	4,665	6,410	10,321
Nitrogen Oxides	lb	1,440,071	914,980	61,519	391,897	71,675
Sulfur Oxides	lb	-2,011,415	82,279	7,236	-2,121,271	20,341
Carbon Monoxide	lb	2,994,102	151,495	15,444	2,756,508	70,655
Carbon Dioxide Biomass	lb	6,230,071,260	19,984	612	6,230,048,662	2,001
Carbon Dioxide Fossil	lb	-231,810,660	22,559,291	1,752,649	-264,477,092	8,354,491
Green House Equivalents	MTCE	1,084,822	3,113	240	1,080,326	1,143
Hydrocarbons (non CH4)	lb	29,576	175,252	7,682	-182,197	28,838
Lead	lb	-10	1	0	-10	0
Ammonia	lb	-1,231	0	3	-1,247	13
Methane	lb	389,865,471	12,968	311	389,850,864	1,329
Hydrochloric Acid	lb	35,838	83	3	35,744	8
Total Solid Waste	lb	-44,108,407	430,892	11,818	-44,594,752	43,634
Water Emissions						
Dissolved Solids	lb	-1,033,554	110,647	2,427	-1,158,044	11,417
Suspended Solids	lb	-175,245	2,540	64	-178,108	259
BOD	lb	738,899	413	9	738,434	43
COD	lb	2,044,644	2,764	60	2,041,535	285
Oil	lb	247,260	2,574	56	244,364	266
Sulfuric Acid	lb	-2,270	22	1	-2,295	2
Iron	lb	-13,662	63	2	-13,734	6
Ammonia	lb	23,512	44	1	23,462	5
Copper	lb	0	0	0	0	0
Cadmium	lb	-48	4	0	-53	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-982	11	0	-995	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-47	4	0	-51	0
Lead	lb	0	0	0	0	0
Zinc	lb	-16	2	0	-18	0

Landfill ER Scenario San Francisco 2007

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	563,200	637,188	13,753	-153,567	65,826
Air Emissions						
Total Particulate Matter	lb	42,109	15,019	5,913	8,095	13,082
Nitrogen Oxides	lb	1,825,846	1,159,710	77,974	497,316	90,847
Sulfur Oxides	lb	-2,555,716	104,286	9,172	-2,694,955	25,782
Carbon Monoxide	lb	3,802,800	192,015	19,575	3,501,657	89,553
Carbon Dioxide Biomass	lb	7,914,663,998	25,329	776	7,914,635,356	2,537
Carbon Dioxide Fossil	lb	-294,626,306	28,593,212	2,221,445	-336,030,101	10,589,139
Green House Equivalents	MTCE	1,378,137	3,946	304	1,372,438	1,449
Hydrocarbons (non CH4)	lb	36,821	222,129	9,737	-231,596	36,552
Lead	lb	-12	1	0	-13	0
Ammonia	lb	-1,564	1	4	-1,585	17
Methane	lb	495,283,891	16,436	394	495,265,376	1,684
Hydrochloric Acid	lb	45,528	105	4	45,409	10
Total Solid Waste	lb	-56,036,830	546,141	14,979	-56,653,256	55,306
Water Emissions						
Dissolved Solids	lb	-1,313,443	140,241	3,076	-1,471,231	14,471
Suspended Solids	lb	-222,642	3,219	81	-226,271	329
BOD	lb	938,693	523	11	938,104	54
COD	lb	2,597,496	3,503	76	2,593,556	362
Oil	lb	313,188	3,263	71	309,517	337
Sulfuric Acid	lb	-2,884	28	1	-2,916	3
Iron	lb	-17,357	80	3	-17,447	8
Ammonia	lb	29,869	56	1	29,806	6
Copper	lb	0	0	0	0	0
Cadmium	lb	-61	5	0	-67	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-1,248	14	0	-1,264	1
Selenium	lb	0	0	0	0	0
Chromium	lb	-59	5	0	-65	1
Lead	lb	0	0	0	0	0
Zinc	lb	-20	3	0	-23	0

Landfill ER Scenario San Francisco 2010

Parameter	Units	Total	Collection	Transfer	Landfill - ER	Transportation
Energy Consumption	MBTU	614,501	696,305	15,029	-168,766	71,933
Air Emissions						
Total Particulate Matter	lb	46,006	16,413	6,461	8,836	14,296
Nitrogen Oxides	lb	1,995,453	1,267,306	85,208	543,663	99,275
Sulfur Oxides	lb	-2,795,020	113,961	10,023	-2,947,178	28,174
Carbon Monoxide	lb	4,158,347	209,830	21,391	3,829,264	97,862
Carbon Dioxide Biomass	lb	8,655,301,658	27,679	848	8,655,270,359	2,772
Carbon Dioxide Fossil	lb	-322,243,454	31,246,048	2,427,552	-367,488,656	11,571,603
Green House Equivalents	MTCE	1,507,093	4,312	332	1,500,866	1,583
Hydrocarbons (non CH4)	lb	40,007	242,738	10,641	-253,314	39,943
Lead	lb	-14	1	0	-15	0
Ammonia	lb	-1,710	1	4	-1,733	18
Methane	lb	541,631,504	17,961	431	541,611,271	1,840
Hydrochloric Acid	lb	49,789	115	4	49,659	11
Total Solid Waste	lb	-61,281,206	596,811	16,369	-61,954,823	60,437
Water Emissions						
Dissolved Solids	lb	-1,436,498	153,252	3,361	-1,608,925	15,814
Suspended Solids	lb	-243,480	3,518	89	-247,446	359
BOD	lb	1,026,533	572	12	1,025,890	59
COD	lb	2,840,560	3,828	83	2,836,254	395
Oil	lb	342,173	3,565	78	338,162	368
Sulfuric Acid	lb	-3,153	31	1	-3,188	3
Iron	lb	-18,981	87	3	-19,080	9
Ammonia	lb	32,664	62	1	32,595	6
Copper	lb	0	0	0	0	0
Cadmium	lb	-67	6	0	-73	1
Arsenic	lb	1	0	0	1	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	-1,365	16	0	-1,383	2
Selenium	lb	0	0	0	0	0
Chromium	lb	-65	6	0	-71	1
Lead	lb	0	0	0	0	0
Zinc	lb	-22	3	0	-25	0

WTE Scenario San Francisco 2003

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-5,904,822	443,115	9,371	-4,399,911	49,494	21,836	-2,028,725
Air Emissions								
Total Particulate Matter	lb	-483,380	10,445	4,029	-387,127	3,071	4,340	-118,137
Nitrogen Oxides	lb	401,485	806,484	53,128	-501,954	33,447	30,136	-19,756
Sulfur Oxides	lb	-3,710,457	72,523	6,249	-3,761,475	5,687	8,552	-41,993
Carbon Monoxide	lb	554,692	133,531	13,337	656,360	11,343	29,707	-289,585
					1,660,995,941			
Carbon Dioxide Biomass	lb	1,661,021,637	17,615	529		6,712	841	0
Carbon Dioxide Fossil	lb	-249,696,536	19,884,290	1,513,606	-252,674,079	2,389,357	3,512,678	-24,322,387
Green House								
Equivalents	MTCE	-37,680	2,744	207	-38,065	328	481	-3,375
Hydrocarbons (non CH4)	lb	-378,988	154,471	6,635	-445,374	8,552	12,125	-115,397
Lead	lb	57	1	0	40	0	0	16
Ammonia	lb	-2,574	0	2	-2,586	4	6	0
Methane	lb	-1,267,848	11,430	269	-1,260,590	737	559	-20,252
Hydrochloric Acid	lb	288,665	73	2	288,156	3	3	427
Total Solid Waste	lb	-101,743,119	379,799	10,206	-96,172,415	17,158	18,346	-5,996,213
Water Emissions								
Dissolved Solids	lb	-2,286,827	97,527	2,096	-2,380,643	3,213	4,800	-13,819
Suspended Solids	lb	-368,780	2,239	55	-366,051	129	109	-5,262
BOD	lb	-1,907	364	8	-2,322	25	18	0
COD	lb	-13,711	2,436	52	-33,252	16,934	120	0
Oil	lb	-5,525	2,269	48	-41,695	33,863	112	-122
Sulfuric Acid	lb	-4,604	20	1	-4,626	1	1	0
Iron	lb	-27,643	55	2	-27,707	4	3	0
Ammonia	lb	-1,378	39	1	-278	58	2	-1,200
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-104	4	0	-108	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-2,239	10	0	-2,312	0	0	63
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-104	4	0	-108	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-35	2	0	-37	0	0	0

WTE Scenario San Francisco 2005

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,272,629	502,726	9,371	-4,738,251	60,768	26,149	-2,133,390
Air Emissions								
Total Particulate Matter	lb	-515,356	11,850	4,029	-415,969	3,770	5,197	-124,232
Nitrogen Oxides	lb	469,291	914,980	53,128	-555,196	41,066	36,088	-20,775
Sulfur Oxides	lb	-3,994,203	82,279	6,249	-4,055,796	6,983	10,242	-44,160
Carbon Monoxide	lb	607,643	151,495	13,337	697,839	13,922	35,575	-304,525
Carbon Dioxide Biomass	lb	1,743,853,861	19,984	529	1,743,830,299	2,042	1,008	0
Carbon Dioxide Fossil	lb	-240,185,960	22,559,291	1,513,606	-245,821,774	2,933,661	4,206,474	-25,577,217
Green House								
Equivalents	MTCE	-36,658	3,113	207	-37,407	402	576	-3,549
Hydrocarbons (non CH4)	lb	-394,024	175,252	6,635	-479,581	10,500	14,520	-121,351
Lead	lb	67	1	0	49	0	0	17
Ammonia	lb	-2,772	0	2	-2,786	5	7	0
Methane	lb	-1,363,843	12,968	269	-1,357,038	586	669	-21,297
Hydrochloric Acid	lb	307,845	83	2	307,303	4	4	449
Total Solid Waste	lb	-109,359,037	430,892	10,206	-103,537,600	21,063	21,970	-6,305,567
Water Emissions								
Dissolved Solids	lb	-2,456,133	110,647	2,096	-2,564,037	3,946	5,748	-14,532
Suspended Solids	lb	-397,041	2,540	55	-394,393	159	130	-5,533
BOD	lb	-2,028	413	8	-2,501	30	21	0
COD	lb	-12,065	2,764	52	-35,813	20,789	144	0
Oil	lb	-702	2,574	48	-44,907	41,577	134	-128
Sulfuric Acid	lb	-4,956	22	1	-4,980	1	1	0
Iron	lb	-29,759	63	2	-29,832	5	3	0
Ammonia	lb	-1,452	44	1	-299	62	2	-1,262
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-112	4	0	-116	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-2,411	11	0	-2,489	0	1	66
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-112	4	0	-116	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-38	2	0	-40	0	0	0

WTE Scenario San Francisco 2007

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-7,886,364	637,188	9,371	-5,933,045	77,167	33,209	-2,710,253
Air Emissions								
Total Particulate Matter	lb	-647,036	15,019	4,029	-519,647	4,787	6,600	-157,824
Nitrogen Oxides	lb	592,628	1,159,710	53,128	-691,798	52,148	45,832	-26,392
Sulfur Oxides	lb	-5,000,391	104,286	6,249	-5,076,700	8,867	13,007	-56,101
Carbon Monoxide	lb	757,298	192,015	13,337	875,955	17,678	45,180	-386,868
Carbon Dioxide Biomass	lb	2,215,520,838	25,329	529	2,215,491,934	1,767	1,280	0
Carbon Dioxide Fossil	lb	-322,003,377	28,593,212	1,513,606	-328,684,553	3,725,353	5,342,230	-32,493,224
Green House								
Equivalents	MTCE	-48,800	3,946	207	-49,686	510	731	-4,508
Hydrocarbons (non CH4)	lb	-494,126	222,129	6,635	-600,499	13,334	18,440	-154,164
Lead	lb	86	1	0	63	0	0	22
Ammonia	lb	-3,472	1	2	-3,489	6	8	0
Methane	lb	-1,707,878	16,436	269	-1,699,080	703	850	-27,056
Hydrochloric Acid	lb	386,156	105	2	385,469	4	5	570
Total Solid Waste	lb	-137,036,048	546,141	10,206	-129,636,469	26,746	27,902	-8,010,574
Water Emissions								
Dissolved Solids	lb	-3,074,496	140,241	2,096	-3,210,682	5,010	7,301	-18,461
Suspended Solids	lb	-497,288	3,219	55	-493,901	202	166	-7,029
BOD	lb	-2,535	523	8	-3,131	38	27	0
COD	lb	-14,709	3,503	52	-44,845	26,399	183	0
Oil	lb	-117	3,263	48	-56,232	52,797	170	-163
Sulfuric Acid	lb	-6,205	28	1	-6,236	1	1	0
Iron	lb	-37,261	80	2	-37,352	6	4	0
Ammonia	lb	-1,840	56	1	-375	78	3	-1,604
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-140	5	0	-145	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-3,018	14	0	-3,117	1	1	84
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-140	5	0	-146	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-47	3	0	-50	0	0	0

WTE Scenario San Francisco 2010

Parameter	Units	Total	Collection	Transfer	WTE	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-8,595,844	696,305	9,371	-6,458,339	84,377	36,313	-2,963,872
Air Emissions								
Total Particulate Matter	lb	-704,929	16,413	4,029	-565,229	5,235	7,217	-172,593
Nitrogen Oxides	lb	646,855	1,267,306	53,128	-751,855	57,021	50,116	-28,862
Sulfur Oxides	lb	-5,442,763	113,961	6,249	-5,525,542	9,696	14,223	-61,350
Carbon Monoxide	lb	823,097	209,830	13,337	954,264	19,333	49,403	-423,070
Carbon Dioxide Biomass	lb	2,422,893,789	27,679	529	2,422,858,715	5,467	1,399	0
Carbon Dioxide Fossil	lb	-357,974,510	31,246,048	1,513,606	-365,115,305	4,073,431	5,841,566	-35,533,857
Green House								
Equivalents	MTCE	-54,138	4,312	207	-55,085	558	799	-4,930
Hydrocarbons (non CH4)	lb	-538,135	242,738	6,635	-653,661	14,580	20,164	-168,590
Lead	lb	94	1	0	69	0	0	24
Ammonia	lb	-3,780	1	2	-3,798	6	9	0
Methane	lb	-1,858,937	17,961	269	-1,849,460	951	929	-29,587
Hydrochloric Acid	lb	420,586	115	2	419,834	5	6	624
Total Solid Waste	lb	-149,204,287	596,811	10,206	-141,110,878	29,247	30,510	-8,760,183
Water Emissions								
Dissolved Solids	lb	-3,346,361	153,252	2,096	-3,494,981	5,479	7,983	-20,189
Suspended Solids	lb	-541,361	3,518	55	-537,649	220	181	-7,687
BOD	lb	-2,757	572	8	-3,408	42	30	0
COD	lb	-15,870	3,828	52	-48,816	28,867	200	0
Oil	lb	140	3,565	48	-61,212	57,730	186	-178
Sulfuric Acid	lb	-6,754	31	1	-6,788	1	2	0
Iron	lb	-40,559	87	2	-40,659	6	4	0
Ammonia	lb	-2,011	62	1	-408	85	3	-1,754
Copper	lb	0	0	0	0	0	0	0
Cadmium	lb	-152	6	0	-158	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	-3,284	16	0	-3,393	1	1	91
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-152	6	0	-158	0	0	0
Lead	lb	0	0	0	0	0	0	0
Zinc	lb	-51	3	0	-54	0	0	0

Compost Scenario San Francisco 2003

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,030,916	642,112	71,548	298,784	18,472
Air Emissions						
Total Particulate Matter	lb	55,792	14,288	31,856	5,977	3,671
Nitrogen Oxides	lb	1,474,820	1,052,726	328,038	68,562	25,493
Sulfur Oxides	lb	169,570	105,124	44,913	12,299	7,235
Carbon Monoxide	lb	381,774	176,355	154,914	25,374	25,131
Carbon Dioxide Biomass	lb	525,460,292	25,581	525,432,221	1,778	712
Carbon Dioxide Fossil	lb	46,860,093	26,967,377	12,032,672	4,888,511	2,971,533
Green House Equivalents	MTCE	6,451	3,725	1,650	669	407
Hydrocarbons (non CH4)	lb	182,423	108,874	46,665	16,627	10,257
Lead	lb	1	1	0	0	0
Ammonia	lb	5,756	1	5,743	8	5
Methane	lb	21,314	16,573	3,276	992	473
Hydrochloric Acid	lb	200	106	83	9	3
Total Solid Waste	lb	815,613	551,145	222,137	26,811	15,520
Water Emissions						
Dissolved Solids	lb	624,747	141,337	472,490	6,860	4,061
Suspended Solids	lb	235,624	3,247	231,927	358	92
BOD	lb	148,508	527	147,896	70	15
COD	lb	1,483,077	3,530	1,478,912	533	102
Oil	lb	118,650	3,288	213	115,054	95
Sulfuric Acid	lb	41	29	11	1	1
Iron	lb	6,925	80	6,838	4	2
Ammonia	lb	48,700	57	48,633	9	2
Copper	lb	40	0	40	0	0
Cadmium	lb	108	5	102	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	17,958	14	17,943	1	0
Selenium	lb	0	0	0	0	0
Chromium	lb	20	5	14	0	0
Lead	lb	185	0	185	0	0
Zinc	lb	139	3	136	0	0

Compost Scenario San Francisco 2005

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,185,670	729,563	77,061	359,231	19,815
Air Emissions						
Total Particulate Matter	lb	61,672	16,234	34,315	7,186	3,938
Nitrogen Oxides	lb	1,659,244	1,196,099	353,366	82,433	27,346
Sulfur Oxides	lb	190,358	119,441	48,369	14,787	7,761
Carbon Monoxide	lb	424,715	200,373	166,877	30,508	26,957
Carbon Dioxide Biomass	lb	564,262,890	29,065	564,231,039	2,022	764
Carbon Dioxide Fossil	lb	52,665,558	30,640,126	12,960,424	5,877,502	3,187,506
Green House Equivalents	MTCE	7,251	4,232	1,777	805	436
Hydrocarbons (non CH4)	lb	207,540	126,278	50,268	19,991	11,003
Lead	lb	1	1	0	0	0
Ammonia	lb	6,177	1	6,162	9	5
Methane	lb	24,050	18,830	3,526	1,187	507
Hydrochloric Acid	lb	223	121	89	11	3
Total Solid Waste	lb	914,120	626,208	239,029	32,235	16,648
Water Emissions						
Dissolved Solids	lb	680,063	160,586	506,872	8,249	4,356
Suspended Solids	lb	253,004	3,689	248,786	430	99
BOD	lb	159,344	599	158,645	84	16
COD	lb	1,591,162	4,011	1,586,401	641	109
Oil	lb	142,398	3,736	230	138,331	101
Sulfuric Acid	lb	47	32	12	2	1
Iron	lb	7,434	91	7,335	5	2
Ammonia	lb	52,245	65	52,168	11	2
Copper	lb	43	0	43	0	0
Cadmium	lb	116	6	110	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	19,264	16	19,247	1	0
Selenium	lb	0	0	0	0	0
Chromium	lb	21	6	15	0	0
Lead	lb	198	0	198	0	0
Zinc	lb	149	3	146	0	0

Compost Scenario San Francisco 2007

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,506,270	926,832	97,898	456,366	25,173
Air Emissions						
Total Particulate Matter	lb	78,348	20,624	43,593	9,129	5,003
Nitrogen Oxides	lb	2,107,896	1,519,517	448,915	104,723	34,741
Sulfur Oxides	lb	241,830	151,737	61,448	18,786	9,859
Carbon Monoxide	lb	539,556	254,553	212,000	38,757	34,246
Carbon Dioxide Biomass	lb	716,837,777	36,924	716,797,468	2,414	970
Carbon Dioxide Fossil	lb	66,906,074	38,925,030	16,464,885	7,466,761	4,049,398
Green House Equivalents	MTCE	9,211	5,376	2,258	1,022	554
Hydrocarbons (non CH4)	lb	263,658	160,424	63,861	25,397	13,978
Lead	lb	1	1	0	0	0
Ammonia	lb	7,848	1	7,828	12	6
Methane	lb	30,546	23,922	4,479	1,501	644
Hydrochloric Acid	lb	283	153	113	13	4
Total Solid Waste	lb	1,161,293	795,530	303,662	40,952	21,149
Water Emissions						
Dissolved Solids	lb	863,949	204,007	643,928	10,480	5,534
Suspended Solids	lb	321,416	4,687	316,057	546	126
BOD	lb	202,430	761	201,542	106	21
COD	lb	2,021,407	5,095	2,015,359	814	138
Oil	lb	180,902	4,746	292	175,735	129
Sulfuric Acid	lb	59	41	15	2	1
Iron	lb	9,444	116	9,319	6	3
Ammonia	lb	66,371	82	66,273	14	2
Copper	lb	55	0	55	0	0
Cadmium	lb	147	8	139	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	24,474	21	24,451	1	1
Selenium	lb	0	0	0	0	0
Chromium	lb	27	8	19	0	0
Lead	lb	252	0	252	0	0
Zinc	lb	189	4	185	0	0

Compost Scenario San Francisco 2010

Parameter	Units	Total	Collection	Compost	Landfill	Transportation
Energy Consumption	MBTU	1,647,222	1,013,562	107,059	499,072	27,528
Air Emissions						
Total Particulate Matter	lb	85,680	22,553	47,672	9,983	5,471
Nitrogen Oxides	lb	2,305,147	1,661,709	490,924	114,523	37,992
Sulfur Oxides	lb	264,460	165,936	67,199	20,543	10,782
Carbon Monoxide	lb	590,046	278,373	231,838	42,384	37,451
Carbon Dioxide Biomass	lb	783,917,911	40,380	783,873,884	2,586	1,061
Carbon Dioxide Fossil	lb	73,166,971	42,567,520	18,005,634	8,165,485	4,428,332
Green House Equivalents	MTCE	10,073	5,880	2,469	1,118	606
Hydrocarbons (non CH4)	lb	288,331	175,436	69,836	27,773	15,286
Lead	lb	2	1	0	0	0
Ammonia	lb	8,582	1	8,561	13	7
Methane	lb	33,402	26,160	4,898	1,639	704
Hydrochloric Acid	lb	310	167	124	15	4
Total Solid Waste	lb	1,269,964	869,973	332,078	44,784	23,129
Water Emissions						
Dissolved Solids	lb	944,796	223,098	704,186	11,461	6,052
Suspended Solids	lb	351,493	5,126	345,633	597	137
BOD	lb	221,373	832	220,402	116	23
COD	lb	2,210,566	5,572	2,203,952	890	151
Oil	lb	197,830	5,190	319	192,180	141
Sulfuric Acid	lb	65	45	16	2	1
Iron	lb	10,328	127	10,191	6	3
Ammonia	lb	72,582	90	72,475	15	2
Copper	lb	60	0	60	0	0
Cadmium	lb	161	8	152	0	0
Arsenic	lb	0	0	0	0	0
Mercury	lb	0	0	0	0	0
Phosphate	lb	26,764	23	26,739	1	1
Selenium	lb	0	0	0	0	0
Chromium	lb	30	8	21	0	0
Lead	lb	276	0	275	0	0
Zinc	lb	207	4	202	0	0

Recycling Scenario, 35% Separation Efficiency, San Francisco 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,061,506	443,115	229,317	-2,396,584	595,641	67,005
Air Emissions							
Total Particulate Matter	lb	-189,018	10,445	65,896	-426,033	147,358	13,316
Nitrogen Oxides	lb	590,466	806,484	272,465	-942,177	361,221	92,474
Sulfur Oxides	lb	-743,885	72,523	425,827	-1,371,488	103,010	26,243
Carbon Monoxide	lb	3,162,991	133,531	83,210	-1,273,999	4,129,092	91,157
Carbon Dioxide Biomass	lb	5,804,538,890	17,615	627,555	135,560,396	5,668,330,742	2,582
Carbon Dioxide Fossil	lb	-56,971,703	19,884,290	65,115,094	-164,859,633	12,109,754	10,778,792
Green House Equivalents	MTCE	830,208	2,744	9,216	-23,054	839,827	1,475
Hydrocarbons (non CH4)	lb	-667,171	154,471	77,287	-969,804	33,669	37,206
Lead	lb	-45	1	2	-48	0	0
Ammonia	lb	-3,284	0	253	-3,582	28	17
Methane	lb	292,626,902	11,430	117,609	-200,180	292,696,329	1,714
Hydrochloric Acid	lb	45,220	73	3,457	-12,925	54,605	11
Total Solid Waste	lb	-9,656,127	379,799	8,875,107	-22,306,263	3,338,934	56,296
Water Emissions							
Dissolved Solids	lb	-162,860	97,527	233,448	-533,811	25,245	14,730
Suspended Solids	lb	106,690	2,239	33,433	67,830	2,854	334
BOD	lb	808,929	364	275	151,107	657,128	55
COD	lb	1,748,818	2,436	3,450	-86,029	1,828,593	368
Oil	lb	221,636	2,269	4,188	-2,362	217,199	343
Sulfuric Acid	lb	-418	20	427	-894	27	3
Iron	lb	8,647	55	2,542	5,890	151	8
Ammonia	lb	19,168	39	32	-1,877	20,967	6
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-9	4	10	-25	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	104	10	213	-270	148	1
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-9	4	10	-26	2	1
Lead	lb	0	0	0	0	0	0

Zinc

lb

108

2

4

102

0

0

Recycling Scenario, 35% Separation Efficiency, San Francisco 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,093,750	502,726	258,986	-2,606,635	675,897	75,277
Air Emissions							
Total Particulate Matter	lb	-213,410	11,850	74,316	-476,731	162,194	14,960
Nitrogen Oxides	lb	676,718	914,980	307,620	-1,040,526	390,755	103,889
Sulfur Oxides	lb	-838,440	82,279	479,941	-1,540,342	110,199	29,483
Carbon Monoxide	lb	3,243,832	151,495	94,158	-1,442,093	4,337,862	102,410
Carbon Dioxide Biomass	lb	6,099,609,662	19,984	707,114	148,851,443	5,950,028,220	2,901
Carbon Dioxide Fossil	lb	-58,828,551	22,559,291	73,479,119	-180,516,162	13,539,802	12,109,399
Green House Equivalents	MTCE	871,932	3,113	10,399	-25,261	882,024	1,657
Hydrocarbons (non CH4)	lb	-696,325	175,252	87,368	-1,038,906	38,161	41,799
Lead	lb	-51	1	2	-54	0	0
Ammonia	lb	-3,694	0	285	-4,029	31	19
Methane	lb	307,285,633	12,968	132,530	-225,343	307,363,552	1,926
Hydrochloric Acid	lb	46,593	83	3,895	-14,707	57,310	12
Total Solid Waste	lb	-11,834,755	430,892	10,000,443	-25,838,008	3,508,673	63,246
Water Emissions							
Dissolved Solids	lb	-179,954	110,647	263,169	-597,980	27,662	16,548
Suspended Solids	lb	115,238	2,540	37,673	71,593	3,056	376
BOD	lb	854,908	413	310	164,474	689,649	62
COD	lb	1,819,353	2,764	3,891	-106,861	1,919,146	414
Oil	lb	252,635	2,574	4,721	-2,547	247,501	385
Sulfuric Acid	lb	-574	22	481	-1,109	28	3
Iron	lb	9,705	63	2,865	6,609	159	9
Ammonia	lb	20,054	44	36	-2,039	22,006	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-10	4	12	-28	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	101	11	241	-308	156	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-10	4	12	-29	2	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	122	2	4	115	0	0
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Recycling Scenario, 35% Separation Efficiency, San Francisco 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,304,471	637,188	326,731	-3,221,463	858,537	94,534
Air Emissions							
Total Particulate Matter	lb	-260,646	15,019	93,620	-594,121	206,049	18,787
Nitrogen Oxides	lb	912,682	1,159,710	387,962	-1,261,843	496,387	130,467
Sulfur Oxides	lb	-1,037,835	104,286	604,212	-1,923,351	139,991	37,025
Carbon Monoxide	lb	4,109,279	192,015	119,023	-1,841,167	5,510,797	128,610
Carbon Dioxide Biomass	lb	7,748,917,664	25,329	889,960	189,100,494	7,558,898,238	3,643
Carbon Dioxide Fossil	lb	-63,172,902	28,593,212	92,621,088	-216,793,487	17,198,964	15,207,321
Green House Equivalents	MTCE	1,109,270	3,946	13,108	-30,385	1,120,520	2,081
Hydrocarbons (non CH4)	lb	-731,948	222,129	110,328	-1,165,370	48,473	52,493
Lead	lb	-64	1	3	-68	0	0
Ammonia	lb	-4,704	1	359	-5,127	39	24
Methane	lb	390,372,400	16,436	166,814	-287,017	390,473,748	2,419
Hydrochloric Acid	lb	59,539	105	4,903	-18,289	72,806	15
Total Solid Waste	lb	-16,211,680	546,141	12,586,582	-33,881,226	4,457,396	79,426
Water Emissions							
Dissolved Solids	lb	-237,397	140,241	331,380	-764,940	35,139	20,782
Suspended Solids	lb	147,392	3,219	47,417	92,402	3,882	472
BOD	lb	1,086,423	523	391	209,303	876,128	78
COD	lb	2,310,462	3,503	4,901	-136,538	2,438,077	520
Oil	lb	320,901	3,263	5,946	-3,170	314,379	484
Sulfuric Acid	lb	-735	28	606	-1,408	36	4
Iron	lb	12,303	80	3,606	8,404	203	11
Ammonia	lb	25,552	56	45	-2,515	27,957	8
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-14	5	15	-36	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	134	14	303	-383	198	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-13	5	15	-37	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	155	3	5	146	1	0
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Recycling Scenario, 35% Separation Efficiency, San Francisco 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-1,397,116	696,305	356,516	-3,491,774	938,836	103,001
Air Emissions							
Total Particulate Matter	lb	-281,414	16,413	102,107	-645,733	225,330	20,470
Nitrogen Oxides	lb	1,016,424	1,267,306	423,284	-1,359,146	542,828	142,152
Sulfur Oxides	lb	-1,125,500	113,961	658,849	-2,091,742	153,090	40,342
Carbon Monoxide	lb	4,489,776	209,830	129,955	-2,016,621	6,026,483	140,128
Carbon Dioxide Biomass	lb	8,474,042,254	27,679	970,348	206,796,144	8,266,244,114	3,969
Carbon Dioxide Fossil	lb	-65,082,913	31,246,048	101,036,928	-232,742,952	18,807,729	16,569,334
Green House Equivalents	MTCE	1,213,617	4,312	14,299	-32,637	1,225,376	2,267
Hydrocarbons (non CH4)	lb	-747,610	242,738	120,422	-1,220,971	53,007	57,194
Lead	lb	-70	1	3	-75	0	0
Ammonia	lb	-5,148	1	391	-5,609	43	26
Methane	lb	426,901,816	17,961	181,887	-314,132	427,013,464	2,635
Hydrochloric Acid	lb	65,231	115	5,346	-19,864	79,619	16
Total Solid Waste	lb	-18,136,012	596,811	13,723,588	-37,417,458	4,874,507	86,539
Water Emissions							
Dissolved Solids	lb	-262,652	153,252	361,370	-838,344	38,426	22,643
Suspended Solids	lb	161,529	3,518	51,701	101,551	4,245	514
BOD	lb	1,188,210	572	427	229,013	958,114	85
COD	lb	2,526,380	3,828	5,345	-149,586	2,666,227	566
Oil	lb	350,915	3,565	6,484	-3,444	343,782	527
Sulfuric Acid	lb	-805	31	660	-1,540	39	4
Iron	lb	13,445	87	3,931	9,193	221	12
Ammonia	lb	27,969	62	50	-2,724	30,573	9
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-15	6	16	-40	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	149	16	330	-416	216	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-15	6	16	-41	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	169	3	6	160	1	0
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Recycling Scenario, 55% Separation Efficiency, San Francisco 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,247,614	443,115	235,621	-3,575,867	575,249	74,268
Air Emissions							
Total Particulate Matter	lb	-407,401	10,445	68,267	-645,144	144,273	14,760
Nitrogen Oxides	lb	185,884	806,484	280,467	-1,353,687	350,123	102,497
Sulfur Oxides	lb	-1,440,341	72,523	442,752	-2,084,410	99,707	29,088
Carbon Monoxide	lb	2,309,273	133,531	84,529	-2,021,306	4,011,482	101,038
Carbon Dioxide Biomass	lb	5,727,827,811	17,615	653,516	213,023,607	5,514,130,212	2,862
Carbon Dioxide Fossil	lb	-121,834,911	19,884,290	67,227,739	-232,577,718	11,683,684	11,947,094
Green House Equivalents	MTCE	800,678	2,744	9,518	-32,620	819,402	1,635
Hydrocarbons (non CH4)	lb	-890,373	154,471	78,977	-1,197,574	32,514	41,239
Lead	lb	-72	1	2	-75	0	0
Ammonia	lb	-5,338	0	263	-5,647	27	19
Methane	lb	285,403,632	11,430	122,415	-316,136	285,584,023	1,900
Hydrochloric Acid	lb	37,259	73	3,600	-19,477	53,051	12
Total Solid Waste	lb	-24,393,643	379,799	9,241,297	-37,285,811	3,208,674	62,398
Water Emissions							
Dissolved Solids	lb	-469,357	97,527	242,442	-849,977	24,325	16,327
Suspended Solids	lb	149,817	2,239	34,806	109,656	2,746	371
BOD	lb	870,357	364	284	238,207	631,442	61
COD	lb	1,626,697	2,436	3,576	-136,841	1,757,118	408
Oil	lb	213,242	2,269	4,345	-3,574	209,822	380
Sulfuric Acid	lb	-909	20	445	-1,402	26	3
Iron	lb	12,129	55	2,648	9,272	145	9
Ammonia	lb	17,439	39	33	-2,788	20,148	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-24	4	11	-41	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-30	10	222	-406	143	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-24	4	11	-41	2	1
Lead	lb	0	0	0	0	0	0

Zinc

lb

167

2

4

160

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0

Recycling Scenario, 55% Separation Efficiency, San Francisco 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,400,660	502,726	266,089	-3,905,946	653,116	83,356
Air Emissions							
Total Particulate Matter	lb	-460,645	11,850	76,988	-724,812	158,764	16,566
Nitrogen Oxides	lb	216,817	914,980	316,636	-1,508,235	378,397	115,039
Sulfur Oxides	lb	-1,629,290	82,279	499,012	-2,349,752	106,524	32,647
Carbon Monoxide	lb	2,282,265	151,495	95,643	-2,285,453	4,207,179	113,402
Carbon Dioxide Biomass	lb	6,013,370,605	19,984	736,366	233,909,537	5,778,701,506	3,212
Carbon Dioxide Fossil	lb	-132,288,533	22,559,291	75,859,569	-257,180,835	13,064,395	13,409,047
Green House Equivalents	MTCE	838,929	3,113	10,740	-36,089	859,330	1,835
Hydrocarbons (non CH4)	lb	-958,482	175,252	89,272	-1,306,162	36,871	46,285
Lead	lb	-81	1	2	-84	0	0
Ammonia	lb	-6,001	0	296	-6,349	30	21
Methane	lb	299,258,883	12,968	137,945	-355,677	299,461,514	2,133
Hydrochloric Acid	lb	37,459	83	4,057	-22,278	55,584	13
Total Solid Waste	lb	-28,557,780	430,892	10,413,053	-42,835,697	3,363,938	70,034
Water Emissions							
Dissolved Solids	lb	-521,905	110,647	273,302	-950,815	26,636	18,325
Suspended Solids	lb	160,681	2,540	39,221	115,569	2,936	416
BOD	lb	921,123	413	320	259,212	661,110	68
COD	lb	1,677,411	2,764	4,032	-169,578	1,839,734	458
Oil	lb	243,293	2,574	4,899	-3,864	239,257	427
Sulfuric Acid	lb	-1,187	22	501	-1,741	27	4
Iron	lb	13,611	63	2,983	10,402	153	10
Ammonia	lb	18,141	44	37	-3,044	21,096	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-27	4	12	-45	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-53	11	250	-466	149	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-27	4	12	-46	2	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	188	2	4	181	0	0
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Recycling Scenario, 55% Separation Efficiency, San Francisco 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-2,964,766	637,188	335,755	-4,872,104	829,597	104,798
Air Emissions							
Total Particulate Matter	lb	-574,732	15,019	97,013	-909,283	201,691	20,827
Nitrogen Oxides	lb	328,424	1,159,710	399,416	-1,856,020	480,687	144,632
Sulfur Oxides	lb	-2,042,529	104,286	628,440	-2,951,623	135,323	41,045
Carbon Monoxide	lb	2,887,707	192,015	120,910	-2,912,569	5,344,777	142,573
Carbon Dioxide Biomass	lb	7,639,359,818	25,329	927,120	297,158,046	7,341,245,284	4,038
Carbon Dioxide Fossil	lb	-156,496,245	28,593,212	95,645,204	-314,188,061	16,595,010	16,858,390
Green House Equivalents	MTCE	1,067,343	3,946	13,540	-44,140	1,091,691	2,307
Hydrocarbons (non CH4)	lb	-1,064,992	222,129	112,746	-1,504,892	46,834	58,192
Lead	lb	-103	1	3	-107	0	0
Ammonia	lb	-7,636	1	373	-8,073	38	26
Methane	lb	380,175,241	16,436	173,694	-452,593	380,435,022	2,681
Hydrochloric Acid	lb	47,935	105	5,108	-27,907	70,613	17
Total Solid Waste	lb	-37,456,562	546,141	13,110,760	-55,475,039	4,273,526	88,049
Water Emissions							
Dissolved Solids	lb	-671,810	140,241	344,254	-1,213,180	33,836	23,038
Suspended Solids	lb	205,124	3,219	49,383	148,269	3,729	523
BOD	lb	1,170,543	523	404	329,658	839,872	86
COD	lb	2,130,140	3,503	5,081	-216,213	2,337,193	576
Oil	lb	309,033	3,263	6,171	-4,843	303,906	536
Sulfuric Acid	lb	-1,513	28	631	-2,211	34	5
Iron	lb	17,265	80	3,756	13,222	194	13
Ammonia	lb	23,122	56	47	-3,791	26,800	9
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-35	5	15	-58	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-62	14	315	-584	190	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-35	5	15	-59	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	238	3	5	229	1	0
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Recycling Scenario, 55% Separation Efficiency, San Francisco 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,212,777	696,305	366,384	-5,296,878	907,187	114,225
Air Emissions							
Total Particulate Matter	lb	-624,891	16,413	105,818	-990,386	220,563	22,701
Nitrogen Oxides	lb	377,493	1,267,306	435,811	-2,008,925	525,659	157,642
Sulfur Oxides	lb	-2,224,211	113,961	685,343	-3,216,238	147,985	44,738
Carbon Monoxide	lb	3,153,891	209,830	132,019	-3,188,283	5,844,927	155,398
Carbon Dioxide Biomass	lb	8,354,232,214	27,679	1,010,986	324,965,496	8,028,223,650	4,402
Carbon Dioxide Fossil	lb	-167,139,258	31,246,048	104,344,035	-339,251,506	18,147,258	18,374,907
Green House Equivalents	MTCE	1,167,766	4,312	14,771	-47,680	1,193,849	2,514
Hydrocarbons (non CH4)	lb	-1,111,819	242,738	123,067	-1,592,264	51,214	63,426
Lead	lb	-113	1	3	-117	0	0
Ammonia	lb	-8,354	1	407	-8,832	41	29
Methane	lb	415,750,428	17,961	189,410	-495,202	416,035,336	2,922
Hydrochloric Acid	lb	52,541	115	5,570	-30,382	77,221	18
Total Solid Waste	lb	-41,368,946	596,811	14,296,818	-61,031,974	4,673,430	95,969
Water Emissions							
Dissolved Solids	lb	-737,716	153,252	375,449	-1,328,530	37,001	25,111
Suspended Solids	lb	224,663	3,518	53,851	162,646	4,078	570
BOD	lb	1,280,202	572	441	360,630	918,466	94
COD	lb	2,329,184	3,828	5,542	-236,716	2,555,903	628
Oil	lb	337,936	3,565	6,731	-5,274	332,329	584
Sulfuric Acid	lb	-1,656	31	688	-2,417	38	5
Iron	lb	18,872	87	4,096	14,462	212	14
Ammonia	lb	25,312	62	51	-4,119	29,308	10
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-39	6	17	-64	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-66	16	344	-636	207	3
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-38	6	17	-65	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	261	3	6	251	1	0
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Recycling Scenario, 75% Separation Efficiency, San Francisco 2003

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,430,921	443,115	244,727	-4,755,149	554,856	81,530
Air Emissions							
Total Particulate Matter	lb	-624,730	10,445	71,691	-864,255	141,187	16,203
Nitrogen Oxides	lb	-215,142	806,484	292,025	-1,765,197	339,025	112,520
Sulfur Oxides	lb	-2,129,274	72,523	467,199	-2,797,333	96,404	31,932
Carbon Monoxide	lb	1,456,142	133,531	86,433	-2,768,613	3,893,872	110,918
Carbon Dioxide Biomass	lb	5,651,128,270	17,615	691,014	290,486,818	5,359,929,682	3,142
Carbon Dioxide Fossil	lb	-185,759,166	19,884,290	70,279,337	-300,295,804	11,257,614	13,115,397
Green House Equivalents	MTCE	771,283	2,744	9,954	-42,187	798,977	1,794
Hydrocarbons (non CH4)	lb	-1,112,825	154,471	81,417	-1,425,343	31,359	45,272
Lead	lb	-99	1	2	-102	0	0
Ammonia	lb	-7,387	0	277	-7,711	26	21
Methane	lb	278,182,499	11,430	129,357	-432,091	278,471,717	2,086
Hydrochloric Acid	lb	29,361	73	3,807	-26,029	51,497	13
Total Solid Waste	lb	-38,968,409	379,799	9,770,239	-52,265,360	3,078,414	68,500
Water Emissions							
Dissolved Solids	lb	-771,856	97,527	255,433	-1,166,144	23,404	17,923
Suspended Solids	lb	193,555	2,239	36,790	151,481	2,638	407
BOD	lb	931,788	364	296	325,306	605,755	67
COD	lb	1,504,632	2,436	3,757	-187,653	1,685,643	448
Oil	lb	204,918	2,269	4,573	-4,786	202,445	417
Sulfuric Acid	lb	-1,393	20	470	-1,911	25	4
Iron	lb	15,658	55	2,800	12,653	140	10
Ammonia	lb	15,710	39	35	-3,700	19,328	7
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-39	4	11	-56	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-159	10	235	-543	137	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-39	4	11	-57	2	1
Lead	lb	0	0	0	0	0	0

Zinc

lb

225

2

4

218

0

0

Recycling Scenario, 75% Separation Efficiency, San Francisco 2005

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-3,704,413	502,726	276,349	-5,205,258	630,335	91,435
Air Emissions							
Total Particulate Matter	lb	-706,692	11,850	80,846	-972,893	155,333	18,171
Nitrogen Oxides	lb	-239,078	914,980	329,660	-1,975,944	366,038	126,189
Sulfur Oxides	lb	-2,411,665	82,279	526,558	-3,159,163	102,850	35,811
Carbon Monoxide	lb	1,321,358	151,495	97,789	-3,128,813	4,076,495	124,393
Carbon Dioxide Biomass	lb	5,927,144,549	19,984	778,618	318,967,632	5,607,374,791	3,523
Carbon Dioxide Fossil	lb	-204,690,537	22,559,291	79,297,996	-333,845,509	12,588,989	14,708,695
Green House Equivalents	MTCE	806,077	3,113	11,231	-46,916	836,637	2,012
Hydrocarbons (non CH4)	lb	-1,219,793	175,252	92,021	-1,573,419	35,580	50,771
Lead	lb	-112	1	2	-115	0	0
Ammonia	lb	-8,304	0	312	-8,668	29	23
Methane	lb	291,234,539	12,968	145,767	-486,011	291,559,476	2,339
Hydrochloric Acid	lb	28,396	83	4,290	-29,848	53,857	14
Total Solid Waste	lb	-45,097,424	430,892	11,009,045	-59,833,385	3,219,203	76,821
Water Emissions							
Dissolved Solids	lb	-859,351	110,647	287,940	-1,303,650	25,611	20,101
Suspended Solids	lb	206,813	2,540	41,456	159,545	2,815	456
BOD	lb	987,343	413	335	353,949	632,572	75
COD	lb	1,535,533	2,764	4,237	-232,294	1,760,323	503
Oil	lb	234,030	2,574	5,155	-5,181	231,013	468
Sulfuric Acid	lb	-1,791	22	530	-2,373	26	4
Iron	lb	17,570	63	3,155	14,195	146	11
Ammonia	lb	16,228	44	39	-4,048	20,185	8
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-44	4	13	-62	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-204	11	265	-625	143	2
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-43	4	13	-63	2	1
Lead	lb	0	0	0	0	0	0

Zinc

lb

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Recycling Scenario, 75% Separation Efficiency, San Francisco 2007

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-4,621,050	637,188	348,789	-6,522,745	800,656	115,062
Air Emissions							
Total Particulate Matter	lb	-887,310	15,019	101,915	-1,224,444	197,332	22,867
Nitrogen Oxides	lb	-250,742	1,159,710	415,962	-2,450,197	464,986	158,797
Sulfur Oxides	lb	-3,036,456	104,286	663,434	-3,979,896	130,655	45,065
Carbon Monoxide	lb	1,666,973	192,015	123,636	-3,983,971	5,178,757	156,536
Carbon Dioxide Biomass	lb	7,529,818,489	25,329	980,797	405,215,599	7,123,592,330	4,434
Carbon Dioxide Fossil	lb	-248,475,536	28,593,212	100,013,373	-411,582,635	15,991,055	18,509,459
Green House Equivalents	MTCE	1,025,608	3,946	14,164	-57,895	1,062,861	2,532
Hydrocarbons (non CH4)	lb	-1,396,961	222,129	116,239	-1,844,413	45,194	63,891
Lead	lb	-142	1	3	-146	0	0
Ammonia	lb	-10,561	1	393	-11,020	36	29
Methane	lb	369,981,138	16,436	183,630	-618,169	370,396,297	2,944
Hydrochloric Acid	lb	36,422	105	5,404	-37,525	68,420	18
Total Solid Waste	lb	-58,468,477	546,141	13,867,906	-77,068,852	4,089,655	96,672
Water Emissions							
Dissolved Solids	lb	-1,100,501	140,241	362,851	-1,661,420	32,533	25,295
Suspended Solids	lb	263,729	3,219	52,223	204,136	3,576	574
BOD	lb	1,254,669	523	422	450,012	803,617	94
COD	lb	1,949,898	3,503	5,341	-295,887	2,236,309	632
Oil	lb	297,265	3,263	6,497	-6,516	293,433	589
Sulfuric Acid	lb	-2,280	28	667	-3,014	33	5
Iron	lb	22,294	80	3,974	18,041	186	14
Ammonia	lb	20,692	56	49	-5,067	25,643	10
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-56	5	16	-80	1	1
Arsenic	lb	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-254	14	334	-785	182	3
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-56	5	16	-81	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	322	3	6	313	1	0
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Recycling Scenario, 75% Separation Efficiency, San Francisco 2010

Parameter	Units	Total	Collection	MRF	Recycling	Landfill	Transportation
Energy Consumption	MBTU	-5,024,053	696,305	380,638	-7,101,983	875,538	125,449
Air Emissions							
Total Particulate Matter	lb	-966,720	16,413	111,178	-1,335,040	215,797	24,931
Nitrogen Oxides	lb	-255,871	1,267,306	453,904	-2,658,703	508,489	173,133
Sulfur Oxides	lb	-3,311,147	113,961	723,612	-4,340,735	142,880	49,134
Carbon Monoxide	lb	1,818,925	209,830	135,000	-4,359,945	5,663,370	170,668
Carbon Dioxide Biomass	lb	8,234,440,235	27,679	1,069,686	443,134,848	7,790,203,187	4,834
Carbon Dioxide Fossil	lb	-267,725,779	31,246,048	109,120,968	-445,760,060	17,486,787	20,180,479
Green House Equivalents	MTCE	1,122,126	4,312	15,454	-62,722	1,162,321	2,761
Hydrocarbons (non CH4)	lb	-1,474,853	242,738	126,887	-1,963,557	49,421	69,659
Lead	lb	-155	1	3	-160	0	0
Ammonia	lb	-11,554	1	429	-12,054	40	32
Methane	lb	404,602,383	17,961	200,277	-676,272	405,057,207	3,210
Hydrochloric Acid	lb	39,951	115	5,893	-40,900	74,823	20
Total Solid Waste	lb	-64,347,111	596,811	15,124,816	-84,646,491	4,472,353	105,400
Water Emissions							
Dissolved Solids	lb	-1,206,523	153,252	395,785	-1,818,715	35,576	27,578
Suspended Solids	lb	288,752	3,518	56,956	223,741	3,911	626
BOD	lb	1,372,199	572	460	492,247	878,818	103
COD	lb	2,132,075	3,828	5,826	-323,847	2,445,578	689
Oil	lb	325,067	3,565	7,087	-7,103	320,876	642
Sulfuric Acid	lb	-2,495	31	728	-3,295	36	5
Iron	lb	24,371	87	4,334	19,732	203	15
Ammonia	lb	22,654	62	54	-5,515	28,043	11
Copper	lb	0	0	0	0	0	0
Cadmium	lb	-61	6	18	-88	2	1
Arsenic	lb	1	0	0	0	1	0
Mercury	lb	0	0	0	0	0	0
Phosphate	lb	-275	16	364	-856	199	3
Selenium	lb	0	0	0	0	0	0
Chromium	lb	-61	6	18	-89	3	1
Lead	lb	0	0	0	0	0	0

Zinc	lb	352	3	6	342	1	1
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CT Scenario San Francisco 2003

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-5,383,246	-6,153,655	-140,082	-11,676,983
Air Emissions					
Total Particulate Matter	lb	-691,178	64,567	1,668	-624,943
Nitrogen Oxides	lb	-1,282,945	12,426	16,422	-1,254,096
Sulfur Oxides	lb	-3,989,892	1,228,618	8,183	-2,753,091
Carbon Monoxide	lb	-441,036	482,845	12,568	54,377
Carbon Dioxide Biomass	lb	1,809,099,947	746,660,493	31,656	2,555,792,096
Carbon Dioxide Fossil	lb	-240,400,548	-218,286,635	16,604,872	-442,082,311
Green House Equivalents	MTCE	-35,800	-12,315	2,164	-45,952
Hydrocarbons (non CH4)	lb	-344,535	-2,320	-52,111	-398,966
Lead	lb	206,186	-1	0	206,185
Ammonia	lb	660,907	-532	11	660,385
Methane	lb	-1,055,280	-51,300	-35,018	-1,141,598
Hydrochloric Acid	lb	-38,146	-11,986	145	-49,987
Total Solid Waste	lb	-98,270,769	-32,489,264	375,452	-130,384,581
Water Emissions					
Dissolved Solids	lb	-2,195,478	-529,045	11,697	-2,712,826
Suspended Solids	lb	-342,966	-123,052	1,360	-464,658
BOD	lb	-2,013	10,720	-22	8,685
COD	lb	-23,769	-4,244	-1,052	-29,064
Oil	lb	-18,461	-13,904	-288	-32,653
Sulfuric Acid	lb	-4,295	-919	21	-5,193
Iron	lb	-15,148	-6,437	15	-21,570
Ammonia	lb	-708	472,926	-706	471,512
Copper	lb	175	-3	-1	171
Cadmium	lb	-96	-22	0	-118
Arsenic	lb	26	-1	0	25
Mercury	lb	1	0	0	1
Phosphate	lb	-2,121	-478	10	-2,589
Selenium	lb	0	0	0	0
Chromium	lb	-22	-36	-1	-59
Lead	lb	231	-8	0	223
Zinc	lb	466	-31	-3	432

CT Scenario San Francisco 2005

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-6,636,802	-6,101,155	-140,082	-12,878,039
Air Emissions					
Total Particulate Matter	lb	-860,049	63,654	1,668	-794,727
Nitrogen Oxides	lb	-1,600,086	4,992	16,422	-1,578,672
Sulfur Oxides	lb	-4,977,326	1,211,552	8,183	-3,757,591
Carbon Monoxide	lb	-533,681	492,571	12,568	-28,542
Carbon Dioxide Biomass	lb	2,254,110,388	746,623,462	31,656	3,000,765,506
Carbon Dioxide Fossil	lb	-291,393,512	-219,956,976	16,604,871	-494,745,617
Green House Equivalents	MTCE	-43,508	-12,563	2,164	-53,907
Hydrocarbons (non CH4)	lb	-426,676	-859	-52,111	-479,647
Lead	lb	257,732	-1	0	257,730
Ammonia	lb	826,137	-544	11	825,604
Methane	lb	-1,319,107	-58,186	-35,018	-1,412,311
Hydrochloric Acid	lb	-47,436	-12,026	145	-59,317
Total Solid Waste	lb	-8,065,991	-32,550,763	375,452	-40,241,302
Water Emissions					
Dissolved Solids	lb	-2,740,110	-538,940	11,697	-3,267,352
Suspended Solids	lb	-428,795	-125,070	1,360	-552,505
BOD	lb	-2,509	10,715	-22	8,184
COD	lb	-29,602	-4,353	-1,052	-35,007
Oil	lb	-22,580	-13,850	-288	-36,718
Sulfuric Acid	lb	-5,363	-941	21	-6,283
Iron	lb	-18,907	-6,566	15	-25,459
Ammonia	lb	-842	472,955	-706	471,407
Copper	lb	219	-3	-1	215
Cadmium	lb	-120	-23	0	-142
Arsenic	lb	33	-1	0	31
Mercury	lb	1	0	0	1
Phosphate	lb	-2,651	-490	10	-3,131
Selenium	lb	0	0	0	0
Chromium	lb	-27	-36	-1	-65
Lead	lb	289	-8	0	280
Zinc	lb	583	-31	-3	548

CT Scenario San Francisco 2007

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-6,636,802	-10,167,497	-140,082	-16,944,381
Air Emissions					
Total Particulate Matter	lb	-860,049	106,128	1,668	-752,253
Nitrogen Oxides	lb	-1,600,086	8,662	16,422	-1,575,002
Sulfur Oxides	lb	-4,977,326	2,019,328	8,183	-2,949,815
Carbon Monoxide	lb	-533,681	821,151	12,568	300,038
Carbon Dioxide Biomass	lb	2,254,110,388	1,244,372,578	31,656	3,498,514,621
Carbon Dioxide Fossil	lb	-291,393,527	-366,564,972	16,604,871	-641,353,628
Green House Equivalents	MTCE	-43,508	-20,934	2,164	-62,279
Hydrocarbons (non CH4)	lb	-426,677	-1,329	-52,111	-480,116
Lead	lb	257,732	-2	0	257,729
Ammonia	lb	826,137	-906	11	825,242
Methane	lb	-1,319,107	-96,965	-35,018	-1,451,090
Hydrochloric Acid	lb	-47,436	-20,044	145	-67,335
Total Solid Waste	lb	-122,125,582	-54,251,119	375,452	-176,001,249
Water Emissions					
Dissolved Solids	lb	-2,740,110	-898,193	11,697	-3,626,605
Suspended Solids	lb	-428,795	-208,448	1,360	-635,883
BOD	lb	-2,509	17,859	-22	15,328
COD	lb	-29,602	-7,253	-1,052	-37,906
Oil	lb	-22,580	-22,691	-288	-45,559
Sulfuric Acid	lb	-5,363	-1,568	21	-6,910
Iron	lb	-18,907	-10,944	15	-29,836
Ammonia	lb	-842	788,258	-706	786,710
Copper	lb	219	-5	-1	213
Cadmium	lb	-120	-38	0	-157
Arsenic	lb	33	-2	0	31
Mercury	lb	1	0	0	1
Phosphate	lb	-2,651	-816	10	-3,458
Selenium	lb	0	0	0	0
Chromium	lb	-27	-60	-1	-89
Lead	lb	289	-13	0	275
Zinc	lb	583	-52	-3	528

CT Scenario San Francisco 2010

Parameter	Units	Gasification	Hydrolysis	Catalytic Cracking	TOTAL
Energy Consumption	MBTU	-7,964,166	-10,167,497	-140,082	-18,271,745
Air Emissions					
Total Particulate Matter	lb	-1,032,059	106,128	1,668	-924,264
Nitrogen Oxides	lb	-1,920,105	8,662	16,422	-1,895,021
Sulfur Oxides	lb	-5,972,792	2,019,328	8,183	-3,945,281
Carbon Monoxide	lb	-640,418	821,151	12,568	193,301
Carbon Dioxide Biomass	lb	2,704,932,466	1,244,372,578	31,656	3,949,336,699
Carbon Dioxide Fossil	lb	-349,672,296	-366,564,976	16,604,871	-699,632,401
Green House Equivalents	MTCE	-52,210	-20,934	2,164	-70,980
Hydrocarbons (non CH4)	lb	-512,012	-1,329	-52,111	-565,452
Lead	lb	309,278	-2	0	309,275
Ammonia	lb	991,364	-906	11	990,469
Methane	lb	-1,582,928	-96,965	-35,018	-1,714,912
Hydrochloric Acid	lb	-56,923	-20,044	145	-76,822
Total Solid Waste	lb	-146,550,713	-54,251,119	375,452	-200,426,380
Water Emissions					
Dissolved Solids	lb	-3,288,132	-898,193	11,697	-4,174,627
Suspended Solids	lb	-514,554	-208,448	1,360	-721,643
BOD	lb	-3,011	17,859	-22	14,826
COD	lb	-35,522	-7,253	-1,052	-43,827
Oil	lb	-27,096	-22,691	-288	-50,075
Sulfuric Acid	lb	-6,436	-1,568	21	-7,982
Iron	lb	-22,689	-10,944	15	-33,618
Ammonia	lb	-1,010	788,258	-706	786,542
Copper	lb	263	-5	-1	257
Cadmium	lb	-144	-38	0	-181
Arsenic	lb	40	-2	0	37
Mercury	lb	1	0	0	1
Phosphate	lb	-3,182	-816	10	-3,988
Selenium	lb	0	0	0	0
Chromium	lb	-32	-60	-1	-94
Lead	lb	346	-13	0	333
Zinc	lb	700	-52	-3	644

Acid Hydrolysis San Francisco 2003

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,153,655	201,157	109,804	-5,541,674	15,598	9,913	3,542	-951,995
Air Emissions									
Total Particulate Matter	lb	64,567	4,741	32,059	153,510	312	615	704	-127,375
Nitrogen Oxides	lb	12,426	366,112	130,928	-414,371	3,579	6,699	4,888	-85,409
Sulfur Oxides	lb	1,228,618	32,923	208,621	1,184,005	642	1,139	1,387	-200,098
Carbon Monoxide	lb	482,845	60,618	38,967	574,801	1,326	2,271	4,818	-199,956
Carbon Dioxide Biomass	lb	746,660,493	7,996	308,372	746,341,683	2,432	113	136	-240
Carbon Dioxide Fossil	lb	-218,286,635	9,026,689	31,471,029	-224,761,869	255,206	478,550	569,750	-35,325,990
Green House Equivalents	MTCE	-12,315	1,246	4,457	-13,215	35	65	78	-4,982
Hydrocarbons (non CH4)	lb	-2,320	70,123	36,614	-24,311	868	1,713	1,967	-89,294
Lead	lb	-1	0	1	-7	0	0	0	5
Ammonia	lb	-532	0	124	-597	0	1	1	-61
Methane	lb	-51,300	5,189	57,738	-57,030	165	85	91	-57,538
Hydrochloric Acid	lb	-11,986	33	1,699	-9,915	0	1	1	-3,805
Total Solid Waste	lb	-32,489,264	172,414	4,360,250	-27,357,932	1,402	3,436	2,976	-9,671,809
Water Emissions									
Dissolved Solids	lb	-529,045	44,273	114,113	-583,703	358	644	779	-105,508
Suspended Solids	lb	-123,052	1,016	16,420	-123,750	19	26	18	-16,801
BOD	lb	10,720	165	133	10,666	4	5	3	-256
COD	lb	-4,244	1,106	1,680	-8,427	29	3,391	19	-2,042
Oil	lb	-13,904	1,030	2,043	-27,883	6,006	6,782	18	-1,901
Sulfuric Acid	lb	-919	9	210	-1,026	0	0	0	-112
Iron	lb	-6,437	25	1,249	-7,118	0	1	0	-595
Ammonia	lb	472,926	18	15	473,340	0	12	0	-459
Copper	lb	-3	0	0	-3	0	0	0	0
Cadmium	lb	-22	2	5	-25	0	0	0	-4
Arsenic	lb	-1	0	0	-1	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-478	5	105	-551	0	0	0	-37
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-36	2	5	-38	0	0	0	-4
Lead	lb	-8	0	0	-8	0	0	0	0
Zinc	lb	-31	1	2	-32	0	0	0	-2

Acid Hydrolysis San Francisco 2005

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,101,155	201,704	100,873	-5,541,674	16,187	9,912	3,519	-891,676
Air Emissions									
Total Particulate Matter	lb	63,654	4,754	28,675	153,510	324	615	699	-124,923
Nitrogen Oxides	lb	4,992	367,107	119,567	-414,371	3,715	6,698	4,856	-82,581
Sulfur Oxides	lb	1,211,552	33,012	184,406	1,184,005	666	1,139	1,378	-193,054
Carbon Monoxide	lb	492,571	60,783	37,142	574,801	1,377	2,271	4,787	-188,590
Carbon Dioxide Biomass	lb	746,623,462	8,018	271,199	746,341,683	2,575	113	136	-261
Carbon Dioxide Fossil	lb	-219,956,976	9,051,232	28,463,232	-224,761,869	264,848	478,510	566,071	-34,019,001
Green House Equivalents	MTCE	-12,563	1,249	4,027	-13,215	37	65	77	-4,804
Hydrocarbons (non CH4)	lb	-859	70,314	34,240	-24,311	901	1,713	1,954	-85,669
Lead	lb	-1	0	1	-7	0	0	0	5
Ammonia	lb	-544	0	110	-597	0	1	1	-58
Methane	lb	-58,186	5,203	50,858	-57,030	174	85	90	-57,566
Hydrochloric Acid	lb	-12,026	33	1,494	-9,915	1	1	1	-3,641
Total Solid Waste	lb	-32,550,763	172,883	3,835,926	-27,357,932	1,455	3,435	2,957	-9,209,487
Water Emissions									
Dissolved Solids	lb	-538,940	44,394	101,255	-583,703	372	644	774	-102,674
Suspended Solids	lb	-125,070	1,019	14,453	-123,750	19	26	18	-16,855
BOD	lb	10,715	166	120	10,666	4	5	3	-249
COD	lb	-4,353	1,109	1,501	-8,427	30	3,391	19	-1,976
Oil	lb	-13,850	1,033	1,818	-27,883	6,233	6,782	18	-1,851
Sulfuric Acid	lb	-941	9	185	-1,026	0	0	0	-108
Iron	lb	-6,566	25	1,099	-7,118	0	1	0	-574
Ammonia	lb	472,955	18	14	473,340	1	10	0	-428
Copper	lb	-3	0	0	-3	0	0	0	0
Cadmium	lb	-23	2	5	-25	0	0	0	-4
Arsenic	lb	-1	0	0	-1	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-490	5	92	-551	0	0	0	-36
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-36	2	5	-38	0	0	0	-4
Lead	lb	-8	0	0	-8	0	0	0	0
Zinc	lb	-31	1	2	-32	0	0	0	-2

Acid Hydrolysis San Francisco 2007

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-10,167,497	336,167	168,121	-9,236,123	27,997	16,519	5,949	-1,486,128
Air Emissions									
Total Particulate Matter	lb	106,128	7,924	47,791	255,851	560	1,025	1,182	-208,206
Nitrogen Oxides	lb	8,662	611,838	199,278	-690,618	6,425	11,164	8,210	-137,635
Sulfur Oxides	lb	2,019,328	55,019	307,344	1,973,341	1,153	1,898	2,330	-321,757
Carbon Monoxide	lb	821,151	101,303	61,904	958,002	2,381	3,784	8,094	-314,317
Carbon Dioxide Biomass	lb	1,244,372,578	13,363	451,999	1,243,902,805	4,429	188	229	-436
Carbon Dioxide Fossil	lb	-366,564,972	15,085,159	47,438,765	-374,603,115	458,077	797,507	957,007	-56,698,373
Green House Equivalents	MTCE	-20,934	2,082	6,712	-22,025	63	109	131	-8,006
Hydrocarbons (non CH4)	lb	-1,329	117,190	57,066	-40,519	1,558	2,855	3,303	-142,783
Lead	lb	-2	0	1	-12	0	0	0	8
Ammonia	lb	-906	0	183	-995	1	1	2	-97
Methane	lb	-96,965	8,671	84,763	-95,049	300	141	152	-95,944
Hydrochloric Acid	lb	-20,044	55	2,490	-16,524	1	1	1	-6,068
Total Solid Waste	lb	-54,251,119	288,132	6,393,216	-45,596,553	2,516	5,726	4,998	-15,349,154
Water Emissions									
Dissolved Solids	lb	-898,193	73,988	168,758	-972,839	643	1,073	1,308	-171,123
Suspended Solids	lb	-208,448	1,699	24,089	-206,250	34	43	30	-28,092
BOD	lb	17,859	276	200	17,777	7	8	5	-415
COD	lb	-7,253	1,848	2,501	-14,045	52	5,651	33	-3,293
Oil	lb	-22,691	1,721	3,031	-46,472	10,781	11,303	30	-3,085
Sulfuric Acid	lb	-1,568	15	308	-1,711	0	0	0	-180
Iron	lb	-10,944	42	1,831	-11,863	0	1	1	-956
Ammonia	lb	788,258	30	23	788,900	1	17	1	-713
Copper	lb	-5	0	0	-5	0	0	0	0
Cadmium	lb	-38	3	8	-41	0	0	0	-7
Arsenic	lb	-2	0	0	-2	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-816	8	154	-918	0	0	0	-60
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-60	3	8	-64	0	0	0	-7
Lead	lb	-13	0	0	-13	0	0	0	0
Zinc	lb	-52	1	3	-54	0	0	0	-3

Acid Hydrolysis San Francisco 2010

Parameter	Units	Total	Collection	MRF	Acid Hydrolysis	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-10,167,497	336,167	168,121	-9,236,123	27,997	16,519	5,949	-1,486,128
Air Emissions									
Total Particulate Matter	lb	106,128	7,924	47,791	255,851	560	1,025	1,182	-208,206
Nitrogen Oxides	lb	8,662	611,838	199,278	-690,618	6,425	11,164	8,210	-137,635
Sulfur Oxides	lb	2,019,328	55,019	307,344	1,973,341	1,153	1,898	2,330	-321,757
Carbon Monoxide	lb	821,151	101,303	61,904	958,002	2,381	3,784	8,094	-314,317
Carbon Dioxide Biomass	lb	1,244,372,578	13,363	451,999	1,243,902,805	4,429	188	229	-436
Carbon Dioxide Fossil	lb	-366,564,976	15,085,159	47,438,765	-374,603,115	458,077	797,504	957,007	-56,698,373
Green House Equivalents	MTCE	-20,934	2,082	6,712	-22,025	63	109	131	-8,006
Hydrocarbons (non CH4)	lb	-1,329	117,190	57,066	-40,519	1,558	2,855	3,303	-142,783
Lead	lb	-2	0	1	-12	0	0	0	8
Ammonia	lb	-906	0	183	-995	1	1	2	-97
Methane	lb	-96,965	8,671	84,763	-95,049	300	141	152	-95,944
Hydrochloric Acid	lb	-20,044	55	2,490	-16,524	1	1	1	-6,068
Total Solid Waste	lb	-54,251,119	288,132	6,393,216	-45,596,553	2,516	5,726	4,998	-15,349,154
Water Emissions									
Dissolved Solids	lb	-898,193	73,988	168,758	-972,839	643	1,073	1,308	-171,123
Suspended Solids	lb	-208,448	1,699	24,089	-206,250	34	43	30	-28,092
BOD	lb	17,859	276	200	17,777	7	8	5	-415
COD	lb	-7,253	1,848	2,501	-14,045	52	5,651	33	-3,293
Oil	lb	-22,691	1,721	3,031	-46,472	10,781	11,302	30	-3,085
Sulfuric Acid	lb	-1,568	15	308	-1,711	0	0	0	-180
Iron	lb	-10,944	42	1,831	-11,863	0	1	1	-956
Ammonia	lb	788,258	30	23	788,900	1	17	1	-713
Copper	lb	-5	0	0	-5	0	0	0	0
Cadmium	lb	-38	3	8	-41	0	0	0	-7
Arsenic	lb	-2	0	0	-2	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0	0
Phosphate	lb	-816	8	154	-918	0	0	0	-60
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-60	3	8	-64	0	0	0	-7
Lead	lb	-13	0	0	-13	0	0	0	0
Zinc	lb	-52	1	3	-54	0	0	0	-3

Acid Hydrolysis Details San Francisco 2003

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	34,478	38,398	18,269		4,504,286	1,128,532	-5,541,674
Air Emissions								
Total Particulate Matter	lb	143,120	250,326	579		102,311	138,205	153,510
Nitrogen Oxides	lb	66,463	5,995	3,118	722,557	746,015	466,489	-414,371
Sulfur Oxides	lb	1,620,421	1,526	1,114	973,474	425,877	986,653	1,184,005
Carbon Monoxide	lb	2,051	2,892	56	722,557	75,892	76,861	574,801
Carbon Dioxide Biomass	lb	0	0	0	747,855,065	0	1,513,382	746,341,683
Carbon Dioxide Fossil	lb	1,351,608	18,205,402	2,338,380	0	123,499,617	123,157,642	-224,761,869
Green House Equivalents	MTCE	184	2,505	373	1,019	17,296	0	-13,215
Hydrocarbons (non CH4)	lb	109,887	2,212	52		37,983	98,480	-24,311
Lead	lb	0	0	1	0	3	6	-7
Ammonia	lb	0	0	1		33	565	-597
Methane	lb	0	8,037	18,930	355,791	159,623	280,165	-57,030
Hydrochloric Acid	lb	102	2	14		1,686	8,347	-9,915
Total Solid Waste	lb	625,598	2,078	7,406		6,648,307	21,344,707	-27,357,932
Water Emissions								
Dissolved Solids	lb	4,137	8	1		63,545	524,304	-583,703
Suspended Solids	lb	48,271	2,140	78		94,167	80,072	-123,750
BOD	lb	15,798	3	1		4,623	512	10,666
COD	lb	46	43	1		1,191	7,326	-8,427
Oil	lb	56	94	1		18,850	9,184	-27,883
Sulfuric Acid	lb	0	0	0		0	1,026	-1,026
Iron	lb	0	21	1	0	1,001	6,138	-7,118
Ammonia	lb	0	8	1	473,414	22	61	473,340
Copper	lb	0	0	0	0	3	0	-3
Cadmium	lb	0	0	0	0	1	24	-25
Arsenic	lb	0	0	0	0	1	0	-1
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		38	513	-551
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	0	0	0	15	24	-38
Lead	lb	0	0	1	0	9	0	-8
Zinc	lb	0	1	0	0	25	8	-32

Acid Hydrolysis Details San Francisco 2005

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	34,478	38,398	18,269		4,504,286	1,128,532	-5,541,674
Air Emissions								
Total Particulate Matter	lb	143,120	250,326	579		102,311	138,205	153,510
Nitrogen Oxides	lb	66,463	5,995	3,118	722,557	746,015	466,489	-414,371
Sulfur Oxides	lb	1,620,421	1,526	1,114	973,474	425,877	986,653	1,184,005
Carbon Monoxide	lb	2,051	2,892	56	722,557	75,892	76,861	574,801
Carbon Dioxide Biomass	lb	0	0	0	747,855,065	0	1,513,382	746,341,683
Carbon Dioxide Fossil	lb	1,351,608	18,205,402	2,338,380	0	123,499,617	123,157,642	-224,761,869
Green House Equivalents	MTCE	184	2,505	373	1,019	17,296	0	-13,215
Hydrocarbons (non CH4)	lb	109,887	2,212	52		37,983	98,480	-24,311
Lead	lb	0	0	1	0	3	6	-7
Ammonia	lb	0	0	1		33	565	-597
Methane	lb	0	8,037	18,930	355,791	159,623	280,165	-57,030
Hydrochloric Acid	lb	102	2	14		1,686	8,347	-9,915
Total Solid Waste	lb	625,598	2,078	7,406		6,648,307	21,344,707	-27,357,932
Water Emissions								
Dissolved Solids	lb	4,137	8	1		63,545	524,304	-583,703
Suspended Solids	lb	48,271	2,140	78		94,167	80,072	-123,750
BOD	lb	15,798	3	1		4,623	512	10,666
COD	lb	46	43	1		1,191	7,326	-8,427
Oil	lb	56	94	1		18,850	9,184	-27,883
Sulfuric Acid	lb	0	0	0		0	1,026	-1,026
Iron	lb	0	21	1	0	1,001	6,138	-7,118
Ammonia	lb	0	8	1	473,414	22	61	473,340
Copper	lb	0	0	0	0	3	0	-3
Cadmium	lb	0	0	0	0	1	24	-25
Arsenic	lb	0	0	0	0	1	0	-1
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		38	513	-551
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	0	0	0	15	24	-38
Lead	lb	0	0	1	0	9	0	-8
Zinc	lb	0	1	0	0	25	8	-32

Acid Hydrolysis Details San Francisco 2007

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	57,463	63,996	30,448		7,507,143	1,880,887	-9,236,123
Air Emissions								
Total Particulate Matter	lb	238,534	417,211	965		170,518	230,341	255,851
Nitrogen Oxides	lb	110,772	9,992	5,196	1,204,262	1,243,359	777,481	-690,618
Sulfur Oxides	lb	2,700,702	2,543	1,856	1,622,457	709,796	1,644,422	1,973,341
Carbon Monoxide	lb	3,418	4,820	93	1,204,262	126,487	128,102	958,002
Carbon Dioxide Biomass	lb	0	0	0	1,246,425,108	0	2,522,303	1,243,902,805
Carbon Dioxide Fossil	lb	2,252,681	30,342,337	3,897,300	0	205,832,696	205,262,736	-374,603,115
Green House Equivalents	MTCE	307	4,176	622	1,698	28,827	0	-22,025
Hydrocarbons (non CH4)	lb	183,145	3,686	87		63,304	164,133	-40,519
Lead	lb	0	0	1	0	4	9	-12
Ammonia	lb	0	0	2		55	942	-995
Methane	lb	0	13,396	31,550	592,986	266,039	466,941	-95,049
Hydrochloric Acid	lb	171	4	24		2,810	13,912	-16,524
Total Solid Waste	lb	1,042,663	3,464	12,344		11,080,512	35,574,512	-45,596,553
Water Emissions								
Dissolved Solids	lb	6,895	13	1		105,909	873,839	-972,839
Suspended Solids	lb	80,452	3,566	130		156,945	133,453	-206,250
BOD	lb	26,329	5	1		7,705	853	17,777
COD	lb	77	72	1		1,985	12,210	-14,045
Oil	lb	94	157	1		31,417	15,307	-46,472
Sulfuric Acid	lb	0	0	0		0	1,711	-1,711
Iron	lb	0	35	1	0	1,669	10,230	-11,863
Ammonia	lb	0	13	1	789,023	36	101	788,900
Copper	lb	0	0	0	0	5	0	-5
Cadmium	lb	0	0	0	0	1	40	-41
Arsenic	lb	0	0	0	0	2	0	-2
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		63	855	-918
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	1	0	0	25	40	-64
Lead	lb	0	0	1	0	15	0	-13
Zinc	lb	0	1	0	0	42	14	-54

Acid Hydrolysis Details San Francisco 2010

Parameter	Units	Burdens			Offsets		Net Total	
		Input Materials			Process	MTBE Production	Electricity	
		Sulfuric Acid	Lime	Ammonia				
Energy Consumption	MBTU	57,463	63,996	30,448		7,507,143	1,880,887	-9,236,123
Air Emissions								
Total Particulate Matter	lb	238,534	417,211	965		170,518	230,341	255,851
Nitrogen Oxides	lb	110,772	9,992	5,196	1,204,262	1,243,359	777,481	-690,618
Sulfur Oxides	lb	2,700,702	2,543	1,856	1,622,457	709,796	1,644,422	1,973,341
Carbon Monoxide	lb	3,418	4,820	93	1,204,262	126,487	128,102	958,002
Carbon Dioxide Biomass	lb	0	0	0	1,246,425,108	0	2,522,303	1,243,902,805
Carbon Dioxide Fossil	lb	2,252,681	30,342,337	3,897,300	0	205,832,696	205,262,736	-374,603,115
Green House Equivalents	MTCE	307	4,176	622	1,698	28,827	0	-22,025
Hydrocarbons (non CH4)	lb	183,145	3,686	87		63,304	164,133	-40,519
Lead	lb	0	0	1	0	4	9	-12
Ammonia	lb	0	0	2		55	942	-995
Methane	lb	0	13,396	31,550	592,986	266,039	466,941	-95,049
Hydrochloric Acid	lb	171	4	24		2,810	13,912	-16,524
Total Solid Waste	lb	1,042,663	3,464	12,344		11,080,512	35,574,512	-45,596,553
Water Emissions								
Dissolved Solids	lb	6,895	13	1		105,909	873,839	-972,839
Suspended Solids	lb	80,452	3,566	130		156,945	133,453	-206,250
BOD	lb	26,329	5	1		7,705	853	17,777
COD	lb	77	72	1		1,985	12,210	-14,045
Oil	lb	94	157	1		31,417	15,307	-46,472
Sulfuric Acid	lb	0	0	0		0	1,711	-1,711
Iron	lb	0	35	1	0	1,669	10,230	-11,863
Ammonia	lb	0	13	1	789,023	36	101	788,900
Copper	lb	0	0	0	0	5	0	-5
Cadmium	lb	0	0	0	0	1	40	-41
Arsenic	lb	0	0	0	0	2	0	-2
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	0	0	0		63	855	-918
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	0	1	0	0	25	40	-64
Lead	lb	0	0	1	0	15	0	-13
Zinc	lb	0	1	0	0	42	14	-54

Gasification San Francisco 2003

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-5,383,246	236,530	118,216	-4,687,518	14,068	20,836	3,495	-1,088,875
Air Emissions									
Total Particulate Matter	lb	-691,178	5,575	33,598	-586,752	281	1,293	695	-145,868
Nitrogen Oxides	lb	-1,282,945	430,494	140,119	-1,795,632	3,228	14,081	4,823	-80,058
Sulfur Oxides	lb	-3,989,892	38,712	216,050	-4,025,074	579	2,394	1,369	-223,922
Carbon Monoxide	lb	-441,036	71,278	43,540	-328,357	1,196	4,773	4,755	-238,221
Carbon Dioxide Biomass	lb	1,809,099,947	9,402	317,723	1,808,770,643	2,063	237	135	-257
Carbon Dioxide Fossil	lb	-240,400,548	10,614,055	33,353,263	-248,880,590	230,180	1,005,892	562,209	-37,285,556
Green House Equivalents	MTCE	-35,800	1,465	4,719	-36,951	32	138	77	-5,279
Hydrocarbons (non CH4)	lb	-344,535	82,455	40,132	-420,858	783	3,600	1,941	-52,589
Lead	lb	206,186	0	1	206,178	0	0	0	6
Ammonia	lb	660,907	0	129	660,850	0	2	1	-75
Methane	lb	-1,055,280	6,101	59,583	-1,053,467	143	178	89	-67,908
Hydrochloric Acid	lb	-38,146	39	1,750	-35,596	0	1	1	-4,341
Total Solid Waste	lb	-98,270,769	202,733	4,493,990	-91,247,673	1,264	7,222	2,936	-11,731,241
Water Emissions									
Dissolved Solids	lb	-2,195,478	52,059	118,633	-2,242,763	323	1,353	768	-125,851
Suspended Solids	lb	-342,966	1,195	16,933	-341,919	17	54	17	-19,263
BOD	lb	-2,013	194	141	-2,185	4	10	3	-180
COD	lb	-23,769	1,300	1,758	-31,334	26	7,128	19	-2,667
Oil	lb	-18,461	1,211	2,131	-39,281	5,417	14,256	18	-2,213
Sulfuric Acid	lb	-4,295	11	216	-4,391	0	0	0	-131
Iron	lb	-15,148	30	1,287	-15,770	0	2	0	-697
Ammonia	lb	-708	21	16	-256	0	24	0	-514
Copper	lb	175	0	0	175	0	0	0	0
Cadmium	lb	-96	2	5	-98	0	0	0	-5
Arsenic	lb	26	0	0	26	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,121	5	108	-2,195	0	0	0	-40
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-22	2	5	-24	0	0	0	-5
Lead	lb	231	0	0	231	0	0	0	0
Zinc	lb	466	1	2	465	0	0	0	-2

Gasification San Francisco 2005

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,636,802	295,595	147,454	-5,859,397	18,691	26,043	4,364	-1,269,552
Air Emissions									
Total Particulate Matter	lb	-860,049	6,968	41,882	-733,440	374	1,616	867	-178,315
Nitrogen Oxides	lb	-1,600,086	537,994	174,750	-2,244,540	4,289	17,599	6,023	-96,202
Sulfur Oxides	lb	-4,977,326	48,379	269,241	-5,031,343	769	2,993	1,709	-269,075
Carbon Monoxide	lb	-533,681	89,077	54,354	-410,447	1,589	5,966	5,938	-280,158
Carbon Dioxide Biomass	lb	2,254,110,388	11,750	395,899	2,253,699,837	2,789	296	168	-352
Carbon Dioxide Fossil	lb	-291,393,512	13,264,519	41,587,323	-303,837,270	305,819	1,257,260	702,076	-44,673,239
Green House Equivalents	MTCE	-43,508	1,831	5,884	-45,199	42	172	96	-6,334
Hydrocarbons (non CH4)	lb	-426,676	103,046	50,078	-526,073	1,040	4,500	2,423	-61,692
Lead	lb	257,732	0	1	257,723	0	0	0	7
Ammonia	lb	826,137	0	160	826,062	0	2	1	-89
Methane	lb	-1,319,107	7,625	74,247	-1,316,834	192	223	112	-84,671
Hydrochloric Acid	lb	-47,436	49	2,181	-44,496	1	2	1	-5,172
Total Solid Waste	lb	-8,065,991	253,358	5,599,776	0	1,679	9,026	3,667	-13,933,497
Water Emissions									
Dissolved Solids	lb	-2,740,110	65,059	147,854	-2,803,454	429	1,691	959	-152,648
Suspended Solids	lb	-428,795	1,494	21,100	-427,399	22	68	22	-24,101
BOD	lb	-2,509	243	176	-2,731	5	13	4	-218
COD	lb	-29,602	1,625	2,192	-39,167	35	8,909	24	-3,219
Oil	lb	-22,580	1,514	2,655	-49,101	7,198	17,818	22	-2,686
Sulfuric Acid	lb	-5,363	13	269	-5,488	0	0	0	-158
Iron	lb	-18,907	37	1,604	-19,713	0	2	1	-838
Ammonia	lb	-842	26	20	-320	1	26	0	-595
Copper	lb	219	0	0	219	0	0	0	0
Cadmium	lb	-120	2	7	-123	0	0	0	-6
Arsenic	lb	33	0	0	33	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,651	7	135	-2,743	0	0	0	-50
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-27	2	7	-29	0	0	0	-7
Lead	lb	289	0	0	289	0	0	0	0
Zinc	lb	583	1	2	582	0	0	0	-2

Gasification San Francisco 2007

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-6,636,802	295,595	147,454	-5,859,397	18,691	26,042	4,364	-1,269,552
Air Emissions									
Total Particulate Matter	lb	-860,049	6,968	41,882	-733,440	374	1,616	867	-178,315
Nitrogen Oxides	lb	-1,600,086	537,994	174,750	-2,244,540	4,289	17,599	6,023	-96,202
Sulfur Oxides	lb	-4,977,326	48,379	269,241	-5,031,343	769	2,992	1,709	-269,075
Carbon Monoxide	lb	-533,681	89,077	54,354	-410,447	1,589	5,966	5,938	-280,158
Carbon Dioxide Biomass	lb	2,254,110,388	11,750	395,899	2,253,699,837	2,789	296	168	-352
Carbon Dioxide Fossil	lb	-291,393,527	13,264,519	41,587,323	-303,837,270	305,819	1,257,245	702,076	-44,673,239
Green House Equivalents	MTCE	-43,508	1,831	5,884	-45,199	42	172	96	-6,334
Hydrocarbons (non CH4)	lb	-426,677	103,046	50,078	-526,073	1,040	4,500	2,423	-61,692
Lead	lb	257,732	0	1	257,723	0	0	0	7
Ammonia	lb	826,137	0	160	826,062	0	2	1	-89
Methane	lb	-1,319,107	7,625	74,247	-1,316,834	192	223	112	-84,671
Hydrochloric Acid	lb	-47,436	49	2,181	-44,496	1	2	1	-5,172
Total Solid Waste	lb	-122,125,582	253,358	5,599,776	-114,059,591	1,679	9,026	3,667	-13,933,497
Water Emissions									
Dissolved Solids	lb	-2,740,110	65,059	147,854	-2,803,454	429	1,691	959	-152,648
Suspended Solids	lb	-428,795	1,494	21,100	-427,399	22	68	22	-24,101
BOD	lb	-2,509	243	176	-2,731	5	13	4	-218
COD	lb	-29,602	1,625	2,192	-39,167	35	8,909	24	-3,219
Oil	lb	-22,580	1,514	2,655	-49,101	7,198	17,818	22	-2,686
Sulfuric Acid	lb	-5,363	13	269	-5,488	0	0	0	-158
Iron	lb	-18,907	37	1,604	-19,713	0	2	1	-838
Ammonia	lb	-842	26	20	-320	1	26	0	-595
Copper	lb	219	0	0	219	0	0	0	0
Cadmium	lb	-120	2	7	-123	0	0	0	-6
Arsenic	lb	33	0	0	33	0	0	0	0
Mercury	lb	1	0	0	1	0	0	0	0
Phosphate	lb	-2,651	7	135	-2,743	0	0	0	-50
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-27	2	7	-29	0	0	0	-7
Lead	lb	289	0	0	289	0	0	0	0
Zinc	lb	583	1	2	582	0	0	0	-2

Gasification San Francisco 2010

Parameter	Units	Total	Collection	MRF	Gasification	Mixed Waste Landfill	Ash Landfill	Transportation	Remanufacturing
Energy Consumption	MBTU	-7,964,166	354,712	176,945	-7,031,276	22,430	31,251	5,237	-1,523,465
Air Emissions									
Total Particulate Matter	lb	-1,032,059	8,361	50,259	-880,128	449	1,939	1,041	-213,979
Nitrogen Oxides	lb	-1,920,105	645,591	209,700	-2,693,449	5,147	21,119	7,228	-115,442
Sulfur Oxides	lb	-5,972,792	58,054	323,090	-6,037,611	923	3,591	2,051	-322,890
Carbon Monoxide	lb	-640,418	106,892	65,225	-492,536	1,907	7,159	7,125	-336,190
Carbon Dioxide Biomass	lb	2,704,932,466	14,100	475,079	2,704,439,804	3,347	356	202	-422
Carbon Dioxide Fossil	lb	-349,672,296	15,917,355	49,904,858	-364,604,724	366,989	1,508,688	842,496	-53,607,958
Green House Equivalents	MTCE	-52,210	2,197	7,060	-54,239	51	206	115	-7,601
Hydrocarbons (non CH4)	lb	-512,012	123,655	60,094	-631,287	1,248	5,400	2,908	-74,030
Lead	lb	309,278	0	2	309,267	0	0	0	9
Ammonia	lb	991,364	0	192	991,274	1	2	1	-107
Methane	lb	-1,582,928	9,150	89,096	-1,580,201	230	267	134	-101,605
Hydrochloric Acid	lb	-56,923	58	2,617	-53,395	1	2	1	-6,207
Total Solid Waste	lb	-146,550,713	304,027	6,719,740	-136,871,509	2,015	10,831	4,400	-16,720,218
Water Emissions									
Dissolved Solids	lb	-3,288,132	78,070	177,425	-3,364,145	515	2,029	1,151	-183,177
Suspended Solids	lb	-514,554	1,792	25,320	-512,879	27	82	26	-28,922
BOD	lb	-3,011	291	211	-3,277	6	15	4	-261
COD	lb	-35,522	1,950	2,630	-47,001	41	10,691	29	-3,863
Oil	lb	-27,096	1,816	3,187	-58,922	8,637	21,382	27	-3,223
Sulfuric Acid	lb	-6,436	16	323	-6,586	0	0	0	-189
Iron	lb	-22,689	44	1,925	-23,655	0	2	1	-1,005
Ammonia	lb	-1,010	31	25	-384	1	32	0	-714
Copper	lb	263	0	0	263	0	0	0	0
Cadmium	lb	-144	3	8	-147	0	0	0	-8
Arsenic	lb	40	0	0	40	0	0	0	0
Mercury	lb	1	0	0	2	0	0	0	0
Phosphate	lb	-3,182	8	162	-3,292	0	0	0	-59
Selenium	lb	0	0	0	0	0	0	0	0
Chromium	lb	-32	3	8	-35	0	0	0	-8
Lead	lb	346	0	0	346	0	0	0	0
Zinc	lb	700	1	3	698	0	0	0	-3

Gasification Details San Francisco 2003

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity Production	
		Ammonia			
Energy Consumption	MBTU	139,907		4,827,425	-4,687,518
Air Emissions					
Total Particulate Matter	lb	4,434		591,187	-586,752
Nitrogen Oxides	lb	23,877	175,948	1,995,458	-1,795,632
Sulfur Oxides	lb	8,528	186,918	4,220,520	-4,025,074
Carbon Monoxide	lb	426	0	328,784	-328,357
Carbon Dioxide Biomass	lb	0	1,815,244,306	6,473,662	1,808,770,643
Carbon Dioxide Fossil	lb	17,907,985	260,032,138	526,820,713	-248,880,590
Green House Equivalents	MTCE	2,857	35,455	75,264	-36,951
Hydrocarbons (non CH4)	lb	401	0	421,259	-420,858
Lead	lb	4	206,198	24	206,178
Ammonia	lb	9	663,259	2,418	660,850
Methane	lb	144,969	0	1,198,437	-1,053,467
Hydrochloric Acid	lb	111		35,707	-35,596
Total Solid Waste	lb	56,720		91,304,393	-91,247,673
Water Emissions					
Dissolved Solids	lb	4		2,242,767	-2,242,763
Suspended Solids	lb	597		342,516	-341,919
BOD	lb	4		2,189	-2,185
COD	lb	4		31,338	-31,334
Oil	lb	4		39,285	-39,281
Sulfuric Acid	lb	0		4,391	-4,391
Iron	lb	4	10,482	26,256	-15,770
Ammonia	lb	4	0	260	-256
Copper	lb	0	175	0	175
Cadmium	lb	0	4	102	-98
Arsenic	lb	0	26	0	26
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,195	-2,195
Selenium	lb	0	0	0	0
Chromium	lb	0	78	102	-24
Lead	lb	4	227	0	231
Zinc	lb	0	500	35	465

Gasification Details San Francisco 2005

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity Production	
		Ammonia			
Energy Consumption	MBTU	174,884		6,034,281	-5,859,397
Air Emissions					
Total Particulate Matter	lb	5,543		738,983	-733,440
Nitrogen Oxides	lb	29,847	219,935	2,494,322	-2,244,540
Sulfur Oxides	lb	10,660	233,648	5,275,651	-5,031,343
Carbon Monoxide	lb	533	0	410,980	-410,447
Carbon Dioxide Biomass	lb	0	2,261,791,915	8,092,078	2,253,699,837
Carbon Dioxide Fossil	lb	22,384,981	332,303,641	658,525,892	-303,837,270
Green House Equivalents	MTCE	3,571	45,310	94,079	-45,199
Hydrocarbons (non CH4)	lb	501	0	526,574	-526,073
Lead	lb	5	257,747	30	257,723
Ammonia	lb	11	829,073	3,022	826,062
Methane	lb	181,212	0	1,498,046	-1,316,834
Hydrochloric Acid	lb	139		44,634	-44,496
Total Solid Waste	lb	70,900		114,130,492	
Water Emissions					
Dissolved Solids	lb	5		2,803,459	-2,803,454
Suspended Solids	lb	746		428,145	-427,399
BOD	lb	5		2,737	-2,731
COD	lb	5		39,173	-39,167
Oil	lb	5		49,107	-49,101
Sulfuric Acid	lb	0		5,488	-5,488
Iron	lb	5	13,102	32,820	-19,713
Ammonia	lb	5	0	325	-320
Copper	lb	0	219	0	219
Cadmium	lb	0	5	127	-123
Arsenic	lb	0	33	0	33
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,743	-2,743
Selenium	lb	0	0	0	0
Chromium	lb	0	98	127	-29
Lead	lb	5	283	0	289
Zinc	lb	0	625	44	582

Gasification Details San Francisco 2007

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity Production	
		Ammonia			
Energy Consumption	MBTU	174,884		6,034,281	-5,859,397
Air Emissions					
Total Particulate Matter	lb	5,543		738,983	-733,440
Nitrogen Oxides	lb	29,847	219,935	2,494,322	-2,244,540
Sulfur Oxides	lb	10,660	233,648	5,275,651	-5,031,343
Carbon Monoxide	lb	533	0	410,980	-410,447
Carbon Dioxide Biomass	lb	0	2,261,791,915	8,092,078	2,253,699,837
Carbon Dioxide Fossil	lb	22,384,981	332,303,641	658,525,892	-303,837,270
Green House Equivalents	MTCE	3,571	45,310	94,079	-45,199
Hydrocarbons (non CH4)	lb	501	0	526,574	-526,073
Lead	lb	5	257,747	30	257,723
Ammonia	lb	11	829,073	3,022	826,062
Methane	lb	181,212	0	1,498,046	-1,316,834
Hydrochloric Acid	lb	139		44,634	-44,496
Total Solid Waste	lb	70,900		114,130,492	-114,059,591
Water Emissions					
Dissolved Solids	lb	5		2,803,459	-2,803,454
Suspended Solids	lb	746		428,145	-427,399
BOD	lb	5		2,737	-2,731
COD	lb	5		39,173	-39,167
Oil	lb	5		49,107	-49,101
Sulfuric Acid	lb	0		5,488	-5,488
Iron	lb	5	13,102	32,820	-19,713
Ammonia	lb	5	0	325	-320
Copper	lb	0	219	0	219
Cadmium	lb	0	5	127	-123
Arsenic	lb	0	33	0	33
Mercury	lb	0	1	0	1
Phosphate	lb	0		2,743	-2,743
Selenium	lb	0	0	0	0
Chromium	lb	0	98	127	-29
Lead	lb	5	283	0	289
Zinc	lb	0	625	44	582

Gasification Details San Francisco 2010

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Electricity Production	
		Ammonia			
Energy Consumption	MBTU	209,860		7,241,137	-7,031,276
Air Emissions					
Total Particulate Matter	lb	6,652		886,780	-880,128
Nitrogen Oxides	lb	35,816	263,922	2,993,186	-2,693,449
Sulfur Oxides	lb	12,791	280,378	6,330,781	-6,037,611
Carbon Monoxide	lb	640	0	493,176	-492,536
Carbon Dioxide Biomass	lb	0	2,714,150,298	9,710,493	2,704,439,804
Carbon Dioxide Fossil	lb	26,861,977	398,764,369	790,231,070	-364,604,724
Green House Equivalents	MTCE	4,285	54,372	112,895	-54,239
Hydrocarbons (non CH4)	lb	601	0	631,889	-631,287
Lead	lb	6	309,296	36	309,267
Ammonia	lb	13	994,888	3,627	991,274
Methane	lb	217,454	0	1,797,655	-1,580,201
Hydrochloric Acid	lb	166		53,561	-53,395
Total Solid Waste	lb	85,081		136,956,590	-136,871,509
Water Emissions					
Dissolved Solids	lb	6		3,364,151	-3,364,145
Suspended Solids	lb	895		513,775	-512,879
BOD	lb	6		3,284	-3,277
COD	lb	6		47,007	-47,001
Oil	lb	6		58,928	-58,922
Sulfuric Acid	lb	0		6,586	-6,586
Iron	lb	6	15,723	39,385	-23,655
Ammonia	lb	6	0	391	-384
Copper	lb	0	263	0	263
Cadmium	lb	0	5	152	-147
Arsenic	lb	0	40	0	40
Mercury	lb	0	2	0	2
Phosphate	lb	0		3,292	-3,292
Selenium	lb	0	0	0	0
Chromium	lb	0	117	152	-35
Lead	lb	6	340	0	346
Zinc	lb	0	750	52	698

Catalytic Cracking San Francisco 2003

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,872	243,540	2,687,040	13,659,810	7,247	2,222	5,012
Green House Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0

Zinc

lb

-3

0

0

-4

0

0

0

Catalytic Cracking San Francisco 2005

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,871	243,540	2,687,040	13,659,810	7,247	2,222	5,012
Green House Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0

Zinc

lb

-3

0

0

-4

0

0

0

Catalytic Cracking San Francisco 2007

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,871	243,540	2,687,040	13,659,810	7,247	2,222	5,012
Green House Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0

Zinc

lb

-3

0

0

-4

0

0

0

Catalytic Cracking San Francisco 2010

Parameter	Units	Total	Collection	MRF	Mixed Waste			
					Catalytic Cracking	Landfill	Ash Landfill	Transportation
Energy Consumption	MBTU	-140,082	5,427	8,447	-154,476	443	46	31
Air Emissions								
Total Particulate Matter	lb	1,668	128	2,927	-1,405	9	3	6
Nitrogen Oxides	lb	16,422	9,878	10,494	-4,125	102	31	43
Sulfur Oxides	lb	8,183	888	20,353	-13,094	18	5	12
Carbon Monoxide	lb	12,568	1,635	2,198	8,643	38	11	42
Carbon Dioxide Biomass	lb	31,656	216	30,905	0	533	1	1
Carbon Dioxide Fossil	lb	16,604,871	243,540	2,687,040	13,659,810	7,247	2,222	5,012
Green House Equivalents	MTCE	2,164	34	383	1,745	1	0	1
Hydrocarbons (non CH4)	lb	-52,111	1,892	2,458	-56,510	25	8	17
Lead	lb	0	0	0	-1	0	0	0
Ammonia	lb	11	0	12	-1	0	0	0
Methane	lb	-35,018	140	5,739	-40,924	26	0	1
Hydrochloric Acid	lb	145	1	170	-26	0	0	0
Total Solid Waste	lb	375,452	4,652	436,215	-65,497	40	16	26
Water Emissions								
Dissolved Solids	lb	11,697	1,194	10,903	-421	10	3	7
Suspended Solids	lb	1,360	27	1,638	-306	1	0	0
BOD	lb	-22	4	11	-38	0	0	0
COD	lb	-1,052	30	155	-1,253	1	16	0
Oil	lb	-288	28	192	-710	171	31	0
Sulfuric Acid	lb	21	0	21	0	0	0	0
Iron	lb	15	1	125	-111	0	0	0
Ammonia	lb	-706	0	1	-708	0	0	0
Copper	lb	-1	0	0	-1	0	0	0
Cadmium	lb	0	0	0	-1	0	0	0
Arsenic	lb	0	0	0	0	0	0	0
Mercury	lb	0	0	0	0	0	0	0
Phosphate	lb	10	0	10	-1	0	0	0
Selenium	lb	0	0	0	0	0	0	0
Chromium	lb	-1	0	0	-2	0	0	0
Lead	lb	0	0	0	0	0	0	0

Zinc

lb

-3

0

0

-4

0

0

0

Catalytic Cracking Details San Francisco 2003

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Catalytic Cracking Details San Francisco 2005

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Catalytic Cracking Details San Francisco 2007

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4

Catalytic Cracking Details San Francisco 2010

Parameter	Units	Burdens		Offsets	Net Total
		Input Materials	Process	Diesel Production	
Ammonia					
Energy Consumption	MBTU	197		154,673	-154,476
Air Emissions					
Total Particulate Matter	lb	6		1,412	-1,405
Nitrogen Oxides	lb	34	2,185	6,344	-4,125
Sulfur Oxides	lb	12		13,106	-13,094
Carbon Monoxide	lb	1	10,189	1,547	8,643
Carbon Dioxide Biomass	lb	0		0	0
Carbon Dioxide Fossil	lb	25,202	16,154,192	2,519,585	13,659,810
Green House Equivalents	MTCE	4	2,203	461	1,745
Hydrocarbons (non CH4)	lb	1	0	56,511	-56,510
Lead	lb	0	0	1	-1
Ammonia	lb	0		1	-1
Methane	lb	204		41,128	-40,924
Hydrochloric Acid	lb	0		26	-26
Total Solid Waste	lb	80		65,577	-65,497
Water Emissions					
Dissolved Solids	lb	0		421	-421
Suspended Solids	lb	1		307	-306
BOD	lb	0		38	-38
COD	lb	0		1,253	-1,253
Oil	lb	0		710	-710
Sulfuric Acid	lb	0		0	0
Iron	lb	0	0	111	-111
Ammonia	lb	0		708	-708
Copper	lb	0	0	1	-1
Cadmium	lb	0	0	1	-1
Arsenic	lb	0	0	0	0
Mercury	lb	0	0	0	0
Phosphate	lb	0		1	-1
Selenium	lb	0	0	0	0
Chromium	lb	0	0	2	-2
Lead	lb	0	0	0	0
Zinc	lb	0	0	4	-4