Appendix A: Estimated Annual Emissions of all Substances from Domestic-Commercial Sources

Table A1: Aerosols and solvents emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Adhesives and Sealant Products					
1,1,1-TRICHLOROETHANE	25,895	64,010	403,999	19,071	512,974
1,2-EPOXYBUTANE	8.39	21	131	6.18	166
1,4-DIOXANE	1.32	3.26	21	0.97	26
2-METHYLHEXANE	109	270	1,702	80	2,161
2-METHYLNAPHTHALENE	8.39	21	131	6.18	166
2-METHYLPROPANE; ISOBUTANE	126	311	1,964	93	2,494
2-NITROPROPANE	0.26	0.63	4.00	0.19	5.08
3-METHYLHEXANE	134	332	2,095	99	2,660
ACENAPHTHENE	8.39	21	131	6.18	166
ACETONE	9,877	24,414	154,092	7,274	195,657
ACRYLIC ACID	4.77×10^{-4}	1.18×10^{-3}	7.44×10^{-3}	3.51×10^{-4}	9.44×10^{-3}
ALIPHATICS	453	1,120	7,070	334	8,977
AROMATIC 100	9,080	22,444	141,655	6,687	179,865
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	8.39	21	131	6.18	166
CYCLOHEXANE	117	290	1,833	87	2,327
CYCLOHEXANONE	646	1,597	10,081	476	12,800
DIBENZOFURAN	0.98	2.41	15	0.72	19
DICHLOROMETHANE {METHYLENE CHLORIDE}	1,062	2,626	16,575	782	21,046
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	17	41	262	12	332
DIMETHYL ETHER	386	954	6,022	284	7,647
DIMETHYL FORMAMIDE	2.77×10^{-2}	6.85×10^{-2}	0.43	2.04×10^{-2}	0.55
D-LIMONENE	17	41	262	12	332
ETHYL ACETATE	906	2,240	14,139	667	17,953
ETHYL ALCOHOL	755	1,867	11,783	556	14,961
ETHYLBENZENE	1.65	4.07	26	1.21	33
FORMALDEHYDE	3.04	7.51	47	2.24	60
FURFURYL ALCOHOL	17	41	262	12	332
GLYCOL ETHERS	15	38	242	11	307
HEXACHLOROETHANE	8.39	21	131	6.18	166
ISOBUTYL ACETATE	17	41	262	12	332
ISOMERS OF XYLENE	1,368	3,381	21,340	1,007	27,096
ISOPROPYL ACETATE	17	41	262	12	332
ISOPROPYL ALCOHOL	2,308	5,704	36,003	1,700	45,714
KEROSENE/DIESEL/FUEL OIL	84	207	1,309	62	1,662
LACTOL SPIRITS	59	145	916	43	1,164
METHYL ALCOHOL	92	228	1,440	68	1,829
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	5,329	13,172	83,134	3,924	105,559

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHYL ISOBUTYL KETONE	176	436	2,749	130	3,491
METHYLNAPHTHALENES	50	124	786	37	997
MINERAL SPIRITS	3,197	7,903	49,880	2,355	63,335
NAPHTHA	2,593	6,410	40,454	1,910	51,366
NAPHTHOL	8.39	21	131	6.18	166
NAPTHALENE	17	41	262	12	332
N-BUTANE	8.39	21	131	6.18	166
N-BUTYL ACETATE	210	519	3,273	155	4,156
N-BUTYL ALCOHOL	17	41	262	12	332
N-HEPTANE	3,206	7,924	50,011	2,361	63,501
N-HEXANE	11,010	27,215	171,766	8,108	218,099
N-PENTANE	92	228	1,440	68	1,829
N-PROPYL ALCOHOL	25	62	393	19	499
PERCHLOROETHYLENE	92	228	1,440	68	1,829
PETROLEUM ETHER	5,152	12,736	80,385	3,795	102,068
POLYCYCLIC AROMATIC HYDROCARBONS	84	207	1,309	62	1,662
PROPANE	101	249	1,571	74	1,995
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	8.39	21	131	6.18	166
STODDARD SOLVENT	294	726	4,582	216	5,818
TETRAHYDRO-2-FURANMETHANOL	159	394	2,487	117	3,158
TETRAHYDROFURAN	2,173	5,372	33,908	1,601	43,055
TOLUENE	11,756	29,061	183,418	8,658	232,894
TOTAL VOLATILE ORGANIC COMPOUNDS	83,915	207,429	1,309,195	61,800	1,662,339
TRICHLOROETHYLENE	8.39	21	131	6.18	166
TRIETHYLENE TETRAMINE	8.39	21	131	6.18	166
TURPENTINE	34	83	524	25	665
VINYL ACETATE	5.98×10^{-3}	1.48×10^{-2}	9.33×10^{-2}	4.40×10^{-3}	0.12
Coatings and Related Products					
1,1,1-TRICHLOROETHANE	931	2,300	14,518	685	18,434
1,2,4-TRIMETHYLBENZENE	19	48	301	14	382
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXANOL}	135	333	2,105	99	2,673
2,6-DIMETHYL-4-HEPTANONE (DIISOBUTYL KETONE)	39	95	601	28	764
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	96	238	1,503	71	1,909
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	19	48	301	14	382
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	366	905	5,713	270	7,254
2-METHYLPROPANE; ISOBUTANE	4,895	12,101	76,373	3,605	96,974

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	58	143	902	43	1,145
ACETONE	40,704	100,616	635,038	29,977	806,335
ACETOPHENONE (PHENYL METHYL KETONE)	1.03	2.55	16	0.76	20
ALIPHATICS	1,850	4,573	28,865	1,363	36,652
AROMATIC 100	1,330	3,287	20,747	979	26,343
BENZYL ALCOHOL	289	715	4,510	213	5,727
BIACETYL	58	143	902	43	1,145
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	1,060	2,620	16,537	781	20,998
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	19	48	301	14	382
CARBON TETRACHLORIDE	4.96×10^{-5}	1.23×10^{-4}	7.74×10^{-4}	3.65×10^{-5}	9.83×10^{-4}
CHLOROBENZENE	1.83	4.52	29	1.35	36
CHLOROFORM (TRICHLOROMETHANE)	540	1,334	8,419	397	10,690
CYCLOHEXANE	19	48	301	14	382
CYCLOHEXANONE	135	333	2,105	99	2,673
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	58	143	902	43	1,145
DICHLOROMETHANE {METHYLENE CHLORIDE}	2,384	5,892	37,191	1,756	47,222
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	77	191	1,203	57	1,527
DIMETHYL ETHER	366	905	5,713	270	7,254
D-LIMONENE	251	619	3,909	185	4,963
ETHANOLAMINE	39	95	601	28	764
ETHYL ACETATE	270	667	4,210	199	5,345
ETHYL ALCOHOL	3,276	8,099	51,116	2,413	64,904
ETHYL ETHER	597	1,477	9,321	440	11,835
ETHYL-3-ETHOXYPROPIONATE	540	1,334	8,419	397	10,690
ETHYLBENZENE	405	1,000	6,314	298	8,018
FORMALDEHYDE	482	1,191	7,517	355	9,545
FORMIC ACID	19	48	301	14	382
GAMMA- BUTYROLACTONE	116	286	1,804	85	2,291
GLYCOL ETHERS	271	670	4,229	200	5,369
ISOBUTYL ACETATE	347	858	5,412	255	6,872
ISOBUTYL ALCOHOL	39	95	601	28	764
ISOMERS OF DECANE (C10 PARAFFINS)	135	333	2,105	99	2,673
ISOMERS OF XYLENE	13,626	33,681	212,582	10,035	269,924
ISOPROPYL ACETATE	251	619	3,909	185	4,963
ISOPROPYL ALCOHOL	5,840	14,435	91,106	4,301	115,682
KEROSENE/DIESEL/FUEL OIL	520	1,286	8,118	383	10,308
LACTOL SPIRITS	154	381	2,405	114	3,054
METHOXYPROPANOL ACETATE	39	95	601	28	764

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHYL ACETATE	347	858	5,412	255	6,872
METHYL ALCOHOL	8,750	21,629	136,509	6,444	173,331
METHYL AMYL KETONE	19	48	301	14	382
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	3,893	9,623	60,738	2,867	77,121
METHYL ISOAMYL KETONE	39	95	601	28	764
METHYL ISOBUTYL KETONE	964	2,382	15,034	710	19,089
METHYL PROPYL KETONE (2-PENTANONE)	19	48	301	14	382
MINERAL SPIRITS	16,401	40,542	255,880	12,079	324,901
NAPHTHA	1,889	4,669	29,467	1,391	37,415
NAPHTHOL	328	810	5,112	241	6,490
NAPTHALENE	0.70	1.72	11	0.51	14
N-BUTANE	289	715	4,510	213	5,727
N-BUTYL ACETATE	1,233	3,049	19,244	908	24,434
N-BUTYL ALCOHOL	135	333	2,105	99	2,673
N-HEPTANE	1,021	2,525	15,936	752	20,235
N-HEXANE	1,445	3,573	22,551	1,065	28,634
N-PROPYL ALCOHOL	193	476	3,007	142	3,818
O-CHLOROTOLUENE	39	95	601	28	764
PARAFFINS (C16-C34)	19	48	301	14	382
PERCHLOROETHYLENE	77	191	1,203	57	1,527
PETROLEUM ETHER	2,929	7,241	45,704	2,157	58,032
PINE OIL	231	572	3,608	170	4,581
POLYCYCLIC AROMATIC HYDROCARBONS	0.70	1.72	11	0.51	14
PROPANE	8,268	20,438	128,992	6,089	163,787
PROPYL ACETATE	39	95	601	28	764
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	173	429	2,706	128	3,436
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	116	286	1,804	85	2,291
PROPYLENE GLYCOL PHENYL ETHER (2-PHENOXY-1-PROPANOL}	19	48	301	14	382
SEC-BUTYL ALCOHOL	19	48	301	14	382
STODDARD SOLVENT	251	619	3,909	185	4,963
TOLUENE	25,767	63,695	402,011	18,977	510,449
TOTAL VOLATILE ORGANIC COMPOUNDS	192,726	476,399	3,006,810	141,936	3,817,872
TRICHLOROETHYLENE	231	572	3,608	170	4,581
TRIETHYLAMINE	289	715	4,510	213	5,727
TRIMETHYLBENZENES	19	48	301	14	382
TURPENTINE	694	1,715	10,825	511	13,744
XYLENOL	58	143	902	43	1,145

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Household Cleaning Products					
1,1,1-TRICHLOROETHANE	3,449	8,525	53,804	2,540	68,317
1,2-DICHLOROETHANE	4.26×10^{-3}	1.05×10^{-2}	6.65×10^{-2}	3.14×10^{-3}	8.44×10^{-2}
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	11	28	175	8.26	222
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	11	28	175	8.26	222
2-METHYLPROPANE; ISOBUTANE	4,467	11,041	69,685	3,289	88,482
ACETONE	11	28	175	8.26	222
ALIPHATICS	920	2,275	14,357	678	18,230
AROMATIC 100	7,990	19,751	124,662	5,885	158,289
BUTYL	45	111	700	33	889
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	4,949	12,234	77,213	3,645	98,041
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	202	499	3,152	149	4,002
DI(PROPYLENE GLYCOL) METHYL ETHER	11	28	175	8.26	222
DICHLOROMETHANE {METHYLENE CHLORIDE}	289	715	4,512	213	5,729
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	281	694	4,377	207	5,558
D-LIMONENE	774	1,914	12,081	570	15,340
ETHANOLAMINE	314	777	4,902	231	6,225
ETHYL ACETATE	11	28	175	8.26	222
ETHYL ALCOHOL	18,046	44,607	281,540	13,290	357,483
ETHYLBENZENE	0.31	0.77	4.83	0.23	6.14
FLUORIDE COMPOUNDS	1.06×10^{-2}	2.62×10^{-2}	0.17	7.80×10^{-3}	0.21
FORMALDEHYDE	0.82	2.02	13	0.60	16
GLYCOL ETHERS	643	1,588	10,024	473	12,728
HYDROCHLORIC ACID	0.21	0.52	3.30	0.16	4.19
ISOMERS OF XYLENE	180	444	2,801	132	3,557
ISOPROPYL ALCOHOL	3,692	9,127	57,604	2,719	73,142
KEROSENE/DIESEL/FUEL OIL	146	361	2,276	107	2,890
METHYL ALCOHOL	90	222	1,401	66	1,779
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	281	694	4,377	207	5,558
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	22	55	350	17	445
METHYL ISOBUTYL KETONE	45	111	700	33	889
MINERAL OIL	11	28	175	8.26	222
MINERAL SPIRITS	12,277	30,348	191,545	9,042	243,213
MORPHOLINE (TETRAHYDRO-1,4-OXAZIN)	11	28	175	8.26	222
NAPHTHA	786	1,942	12,256	579	15,562

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
NAPHTHOL	22	55	350	17	445
NAPTHALENE	6.68×10^{-2}	0.17	1.04	4.92×10^{-2}	1.32
N-BUTANE	404	999	6,303	298	8,003
N-HEPTANE	123	305	1,926	91	2,445
N-HEXANE	90	222	1,401	66	1,779
N-PROPYL ALCOHOL	11	28	175	8.26	222
O-DICHLOROBENZENE	34	83	525	25	667
OIL OF ORANGE	224	555	3,502	165	4,446
PARAFFINS (C16-C34)	887	2,192	13,832	653	17,563
PARAFFINS/OLEFINS (C12-C16)	22	55	350	17	445
P-DICHLOROBENZENE	3,995	9,876	62,331	2,942	79,144
PERCHLOROETHYLENE	954	2,358	14,882	703	18,897
PETROLEUM ETHER	56	139	875	41	1,112
PINE OIL	4,534	11,207	70,735	3,339	89,815
POLYCYCLIC AROMATIC HYDROCARBONS	6.68×10^{-2}	0.17	1.04	4.92×10^{-2}	1.32
PROPANE	1,549	3,828	24,162	1,141	30,680
PROPYLENE GLYCOL	56	139	875	41	1,112
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	79	194	1,226	58	1,556
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	34	83	525	25	667
STODDARD SOLVENT	976	2,413	15,233	719	19,341
TERPENE ALCOHOL	11	28	175	8.26	222
TETRAHYDRO-2-FURANMETHANOL	11	28	175	8.26	222
TOLUENE	56	139	875	41	1,112
TOTAL VOLATILE ORGANIC COMPOUNDS	112,225	277,408	1,750,873	82,650	2,223,155
TRICHLOROETHYLENE	5.25	13	82	3.87	104
TURPENTINE	67	166	1,051	50	1,334
XYLENOL	11	28	175	8.26	222
Miscellaneous Products					
1,1,1-TRICHLOROETHANE	30	74	464	22	590
2-METHYLPROPANE; ISOBUTANE	1,859	4,596	29,009	1,369	36,834
3-METHOXY-1-PROPANOL	0.89	2.20	14	0.66	18
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	0.89	2.20	14	0.66	18
ACETONE	343	849	5,357	253	6,801
ALIPHATICS	1.78	4.41	28	1.31	35
AROMATIC 100	8.03	20	125	5.91	159
BUTOXY PROPANOL	2.68	6.61	42	1.97	53
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	9.81	24	153	7.22	194
CAMPHOR	1.78	4.41	28	1.31	35

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CORN OIL	1.78	4.41	28	1.31	35
DICHLOROMETHANE {METHYLENE CHLORIDE}	2.88	7.12	45	2.12	57
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0.89	2.20	14	0.66	18
DIMETHYL FORMAMIDE	0.90	2.22	14	0.66	18
D-LIMONENE	476	1,177	7,430	351	9,434
ETHANOLAMINE	0.89	2.20	14	0.66	18
ETHYL ALCOHOL	1,433	3,542	22,358	1,055	28,389
GLYCOL ETHERS	29	72	457	22	580
ISOBUTYL ALCOHOL	1.78	4.41	28	1.31	35
ISOMERS OF XYLENE	21	53	334	16	424
ISOPROPYL ALCOHOL	150	370	2,337	110	2,968
KEROSENE/DIESEL/FUEL OIL	21	51	320	15	406
METHYL ALCOHOL	873	2,158	13,621	643	17,295
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0.89	2.20	14	0.66	18
MINERAL SPIRITS	550	1,360	8,584	405	10,900
NAPHTHA	0.89	2.20	14	0.66	18
N-BUTANE	200	494	3,117	147	3,957
N-BUTYL ALCOHOL	2.68	6.61	42	1.97	53
N-HEPTANE	614	1,519	9,586	453	12,172
PERCHLOROETHYLENE	128	317	2,003	95	2,544
PETROLEUM ETHER	228	564	3,562	168	4,523
PINE OIL	0.89	2.20	14	0.66	18
POLYETHYLENE GLYCOL	1.78	4.41	28	1.31	35
PROPANE	391	966	6,094	288	7,738
PROPYLENE GLYCOL	7.13	18	111	5.25	141
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	8.92	22	139	6.57	177
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	25	62	390	18	495
TOLUENE	0.30	0.74	4.64	0.22	5.90
TOTAL VOLATILE ORGANIC COMPOUNDS	8,918	22,044	139,132	6,568	176,661
TURPENTINE	14	35	223	11	283
Motor Vehicle Aftermarket Products					
1,1,1-TRICHLOROETHANE	9,233	22,822	144,043	6,800	182,897
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	18	44	278	13	353
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	18	44	278	13	353
2-METHYLPENTANE	89	220	1,390	66	1,765
2-METHYLPROPANE; ISOBUTANE	2,726	6,738	42,528	2,008	54,000

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	36	88	556	26	706
ACETONE	1,621	4,008	25,294	1,194	32,117
ALIPHATICS	11,046	27,305	172,336	8,135	218,822
AROMATIC 100	2,566	6,342	40,026	1,889	50,823
BENZENE	0.57	1.41	8.91	0.42	11
BUTOXY PROPANOL	36	88	556	26	706
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	1,407	3,479	21,959	1,037	27,882
CHLOROFORM (TRICHLOROMETHANE)	4.36	11	68	3.21	86
CHLOROTOLUENE	303	749	4,725	223	6,000
CYCLOHEXANONE	18	44	278	13	353
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	53	132	834	39	1,059
DICHLOROMETHANE {METHYLENE CHLORIDE}	584	1,445	9,118	430	11,578
DIETHANOLAMINE	18	44	278	13	353
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	5,933	14,665	92,561	4,369	117,529
DIMETHYL FORMAMIDE	3.36×10^{-3}	8.32×10^{-3}	5.25×10^{-2}	2.48×10^{-3}	6.66×10^{-2}
D-LIMONENE	285	705	4,447	210	5,647
ETHYL ACETATE	36	88	556	26	706
ETHYL ALCOHOL	606	1,497	9,451	446	12,000
ETHYL ETHER	1,532	3,787	23,905	1,128	30,353
ETHYLBENZENE	18	44	278	13	353
FLUORIDE COMPOUNDS	1.71	4.22	27	1.26	34
GLYCOL ETHERS	3,255	8,046	50,783	2,397	64,481
HEXACHLOROETHANE	125	308	1,946	92	2,471
ISOBUTYL ACETATE	178	440	2,780	131	3,529
ISOMERS OF XYLENE	2,334	5,769	36,413	1,719	46,235
ISOPROPYL ALCOHOL	3,011	7,443	46,975	2,217	59,647
KEROSENE/DIESEL/FUEL OIL	14,467	35,761	225,705	10,654	286,587
LACTOL SPIRITS	18	44	278	13	353
METHYL ALCOHOL	60,397	149,296	942,289	44,481	1,196,464
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	552	1,365	8,617	407	10,941
METHYL ISOBUTYL KETONE	125	308	1,946	92	2,471
METHYL T-BUTYL ETHER (MTBE)	2.86	7.06	45	2.10	57
METHYLNAPHTHALENES	18	44	278	13	353
MINERAL SPIRITS	2,334	5,769	36,413	1,719	46,235
NAPHTHA	1,443	3,567	22,515	1,063	28,588
NAPHTHOL	143	352	2,224	105	2,824
NAPTHALENE	0.27	0.68	4.27	0.20	5.42
N-BUTANE	36	88	556	26	706
N-BUTYL ACETATE	18	44	278	13	353

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-HEPTANE	2,797	6,914	43,640	2,060	55,411
N-HEXANE	517	1,277	8,061	381	10,235
N-PROPYL ALCOHOL	18	44	278	13	353
O-CHLOROTOLUENE	53	132	834	39	1,059
PERCHLOROETHYLENE	3,385	8,368	52,813	2,493	67,058
PETROLEUM ETHER	2,138	5,285	33,355	1,575	42,353
POLYCYCLIC AROMATIC HYDROCARBONS	18	45	282	13	358
POLYETHYLENE GLYCOL	53	132	834	39	1,059
PROPANE	3,225	7,971	50,311	2,375	63,882
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	36	88	556	26	706
STODDARD SOLVENT	27,491	67,954	428,894	20,246	544,585
TETRAETHYLENE GLYCOL	18	44	278	13	353
TOLUENE	4,543	11,230	70,880	3,346	89,999
TOTAL VOLATILE ORGANIC COMPOUNDS	178,163	440,402	2,779,614	131,211	3,529,391
TRICHLOROETHYLENE	36	88	556	26	706
TRIETHYLENE GLYCOL MONOBUTYL ETHER	36	88	556	26	706
TRIMETHYLBENZENES	18	44	278	13	353
TURPENTINE	53	132	834	39	1,059
XYLENOL	71	176	1,112	52	1,412
Personal Care Products					
1,1,1-TRICHLOROETHANE	90	223	1,406	66	1,786
1,2-DICHLOROETHANE	0.56	1.38	8.72	0.41	11
2-METHYLPROPANE; ISOBUTANE	41,988	103,790	655,071	30,923	831,771
ACETAMIDE	1.67×10^{-2}	4.13×10^{-2}	0.26	1.23×10^{-2}	0.33
ACETIC ACID	504	1,246	7,867	371	9,989
ACETONE	6,417	15,863	100,120	4,726	127,127
ALIPHATICS	183	453	2,861	135	3,632
AROMATIC 100	46	113	715	34	908
BENZYL ALCOHOL	46	113	715	34	908
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	229	567	3,576	169	4,540
CAMPHOR	92	227	1,430	68	1,816
COAL TAR	229	567	3,576	169	4,540
DIMETHYL ETHER	917	2,266	14,303	675	18,161
DIMETHYL FORMAMIDE	3.28	8.11	51	2.42	65
D-LIMONENE	1,329	3,286	20,739	979	26,333
ETHANOLAMINE	46	113	715	34	908
ETHYL ACETATE	2,888	7,138	45,054	2,127	57,207
ETHYL ALCOHOL	279,567	691,062	4,361,658	205,891	5,538,178
ETHYL ETHER	46	113	715	34	908

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
GLYCOL ETHERS	1.84	4.55	29	1.35	36
ISOPROPYL ALCOHOL	36,487	90,193	569,254	26,872	722,805
METHYL ALCOHOL	6.86×10^{-2}	0.17	1.07	5.05×10^{-2}	1.36
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	2.12	5.23	33	1.56	42
METHYL SALICYLATE (AN ESTER)	183	453	2,861	135	3,632
MINERAL OIL	138	340	2,145	101	2,724
MINERAL SPIRITS	2,842	7,025	44,339	2,093	56,299
NAPHTHA	275	680	4,291	203	5,448
N-BUTANE	8,159	20,169	127,295	6,009	161,632
N-BUTYL ACETATE	1,008	2,493	15,733	743	19,977
PARAFFINS (C16-C34)	1,329	3,286	20,739	979	26,333
PROPANE	12,010	29,687	187,367	8,845	237,908
SILICONE	92	227	1,430	68	1,816
TOLUENE	596	1,473	9,297	439	11,805
TOTAL VOLATILE ORGANIC COMPOUNDS	458,382	1,133,074	7,151,431	337,582	9,080,468
TRIETHANOLAMINE	92	227	1,430	68	1,816
WITCH HAZEL	1,100	2,719	17,163	810	21,793
Pesticide and Herbicide Products					
1,1,1-TRICHLOROETHANE	7,248	17,917	113,082	5,338	143,585
1-HEXANOL (N-HEXANOL)	145	358	2,260	107	2,870
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	24	60	377	18	478
2-ETHYL-1-HEXANOL	169	418	2,637	124	3,349
2-METHYLPROPANE; ISOBUTANE	4,492	11,103	70,075	3,308	88,977
ACETIC ACID	145	358	2,260	107	2,870
ALIPHATICS	1,280	3,164	19,968	943	25,354
AMYL ACETATE	24	60	377	18	478
AROMATIC 100	4,395	10,864	68,568	3,237	87,063
BENZYLAMINE HYDROCHLORIDE	24	60	377	18	478
BIPHENYLOL {2-PHENYLPHENOL}	24	60	377	18	478
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	676	1,671	10,549	498	13,394
CARBARYL	72	179	1,130	53	1,435
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	48	119	753	36	957
CHLOROBENZENE	19,294	47,694	301,020	14,210	382,218
CHLOROPICRIN	1,497	3,701	23,358	1,103	29,659
CHLOROTOLUENE	8,959	22,146	139,773	6,598	177,475
CIS-1,3-DICHLOROPROPENE	9,852	24,354	153,712	7,256	195,175
COPPER NAPHTHENATE	72	179	1,130	53	1,435
CREOSOTE	869	2,149	13,563	640	17,221
CYCLOHEXANONE	869	2,149	13,563	640	17,221

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
DIAZINON	169	418	2,637	124	3,349
DICHLOROMETHANE {METHYLENE CHLORIDE}	82	204	1,286	61	1,632
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	24	60	377	18	478
DIMETHYL ETHER	652	1,612	10,172	480	12,916
DIMETHYLAMINE	1,739	4,298	27,126	1,280	34,443
DIMETHYLCARBAMODITHIOIC ACID, POTASSIUM SALT	24	60	377	18	478
D-LIMONENE	169	418	2,637	124	3,349
ETHANOLAMINE	169	418	2,637	124	3,349
ETHYL ALCOHOL	23,593	58,319	368,081	17,375	467,368
ETHYLBENZENE	145	358	2,260	107	2,870
ETHYLENE	193	478	3,014	142	3,827
ETHYLENE GLYCOL PROPYL ETHER {2-PROPOXYETHANOL}	24	60	377	18	478
ETHYLENE OXIDE	2,367	5,850	36,921	1,743	46,880
FORMALDEHYDE	97	239	1,507	71	1,913
FREON	24	60	377	18	478
GLUTARALDEHYDE (A DIALDEHYDE)	724	1,791	11,302	534	14,351
GLYCOL ETHERS	684	1,690	10,666	504	13,543
ISOMERS OF XYLENE	16,855	41,665	262,969	12,413	333,902
ISOPHORONE {3,5,5-TRIMETHYL-2-CYCLOHEXENONE}	121	298	1,884	89	2,392
ISOPROPYL ALCOHOL	9,635	23,817	150,322	7,096	190,870
KEROSENE/DIESEL/FUEL OIL	4,661	11,520	72,712	3,432	92,325
MALATHION	24	60	377	18	478
MESITYL OXIDE (2-METHYL-2-PENTEN-4-ONE)	24	60	377	18	478
METHYL ALCOHOL	145	358	2,260	107	2,870
METHYL BROMIDE	28,929	71,511	451,342	21,306	573,087
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	2.43	6.01	38	1.79	48
METHYL ISOAMYL KETONE	48	119	753	36	957
METHYL ISOBUTYL KETONE	11	27	170	8.03	216
METHYL ISOTHIOCYANATE	24	60	377	18	478
MINERAL SPIRITS	16,904	41,784	263,722	12,449	334,859
NAPTHALENE	5,506	13,610	85,898	4,055	109,068
N-BUTANE	2,125	5,253	33,154	1,565	42,097
N-BUTYL ALCOHOL	145	358	2,260	107	2,870
NITROMETHANE	724	1,791	11,302	534	14,351
PARAFFINS (C16-C34)	121	298	1,884	89	2,392
PARAFFINS/OLEFINS (C12-C16)	1,232	3,044	19,214	907	24,397
PARAFORMALDEHYDE	217	537	3,391	160	4,305
P-DICHLOROBENZENE	4,298	10,625	67,061	3,166	85,150

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
PENTACHLORONITROBENZENE	24	60	377	18	478
PERCHLOROETHYLENE	24	60	377	18	478
PEROXYACETIC ACID	72	179	1,130	53	1,435
PINE OIL	4,854	11,998	75,726	3,575	96,152
POLYCYCLIC AROMATIC HYDROCARBONS	4,505	11,135	70,279	3,318	89,236
PROPANE	3,260	8,058	50,861	2,401	64,580
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	338	836	5,274	249	6,697
STODDARD SOLVENT	24	60	377	18	478
TENNECO 500-100	2,367	5,850	36,921	1,743	46,880
TETRAHYDRO-2-FURANMETHANOL	48	119	753	36	957
TOTAL VOLATILE ORGANIC COMPOUNDS	241,481	596,917	3,767,460	177,842	4,783,700
TRANS-1,3-DICHLOROPROPENE	8,862	21,907	138,266	6,527	175,562
TRIETHYLAMINE	48	119	753	36	957

Table A2: Barbecues emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Briquettes					
1,1,1-TRICHLOROETHANE	1.21×10^{-3}	2.87×10^{-3}	1.75×10^{-2}	8.73×10^{-4}	2.25×10^{-2}
1,2-DICHLOROETHANE	2.42×10^{-3}	5.75×10^{-3}	3.50×10^{-2}	1.75×10^{-3}	4.49×10^{-2}
1-BUTENE	45	106	649	32	833
2,4-DINITROTOLUENE	1.69×10^{-5}	4.02×10^{-5}	2.45×10^{-4}	1.22×10^{-5}	3.15×10^{-4}
2-CHLOROACETOPHENONE	4.23×10^{-4}	1.01×10^{-3}	6.13×10^{-3}	3.06×10^{-4}	7.86×10^{-3}
2-METHYL-BUTANE	9.12	22	132	6.59	170
2-METHYLPROPANE; ISOBUTANE	22	52	320	16	410
5-METHYLCHRYSENE	1.33×10^{-6}	3.16×10^{-6}	1.93×10^{-5}	9.61×10^{-7}	2.47×10^{-5}
ACENAPHTHENE	3.08×10^{-5}	7.33×10^{-5}	4.47×10^{-4}	2.23×10^{-5}	5.73×10^{-4}
ACENAPHTHYLENE	1.51×10^{-5}	3.59×10^{-5}	2.19×10^{-4}	1.09×10^{-5}	2.81×10^{-4}
ACETALDEHYDE	3.44×10^{-2}	8.19×10^{-2}	0.50	2.49×10^{-2}	0.64
ACETOPHENONE (PHENYL METHYL KETONE)	9.06×10^{-4}	2.15×10^{-3}	1.31×10^{-2}	6.55×10^{-4}	1.69×10^{-2}
ACETYLENE	113	270	1,644	82	2,109
ACROLEIN (2-PROPENAL)	1.75×10^{-2}	4.17×10^{-2}	0.25	1.27×10^{-2}	0.33
AMMONIA (TOTAL)	121	287	1,752	87	2,247
ANTHRACENE	1.27×10^{-5}	3.02×10^{-5}	1.84×10^{-4}	9.17×10^{-6}	2.36×10^{-4}
ANTIMONY & COMPOUNDS	1.09×10^{-3}	2.59×10^{-3}	1.58×10^{-2}	7.86×10^{-4}	2.02×10^{-2}
ARSENIC & COMPOUNDS	2.48×10^{-2}	5.89×10^{-2}	0.36	1.79×10^{-2}	0.46
BENZENE	7.86×10^{-2}	0.19	1.14	5.68×10^{-2}	1.46
BENZO(A)ANTHRACENE	4.83×10^{-6}	1.15×10^{-5}	7.01×10^{-5}	3.49×10^{-6}	8.99×10^{-5}
BENZO(A)PYRENE	2.30×10^{-6}	5.46×10^{-6}	3.33×10^{-5}	1.66×10^{-6}	4.27×10^{-5}
BENZO(B)FLUORANTHENE	6.65×10^{-6}	1.58×10^{-5}	9.63×10^{-5}	4.80×10^{-6}	1.24×10^{-4}
BENZO(G,H,I)PERYLENE	1.63×10^{-6}	3.88×10^{-6}	2.36×10^{-5}	1.18×10^{-6}	3.03×10^{-5}
BENZYL CHLORIDE	4.23×10^{-2}	0.10	0.61	3.06×10^{-2}	0.79
BERYLLIUM & COMPOUNDS	1.27×10^{-3}	3.02×10^{-3}	1.84×10^{-2}	9.17×10^{-4}	2.36×10^{-2}
BIPHENYL {PHENYL BENZENE}	1.03×10^{-4}	2.44×10^{-4}	1.49×10^{-3}	7.42×10^{-5}	1.91×10^{-3}
BORON & COMPOUNDS	1.09	2.59	16	0.79	20
BROMOFORM	2.36×10^{-3}	5.60×10^{-3}	3.42×10^{-2}	1.70×10^{-3}	4.38×10^{-2}
CADMIUM & COMPOUNDS	3.08×10^{-3}	7.33×10^{-3}	4.47×10^{-2}	2.23×10^{-3}	5.73×10^{-2}
CARBON DIOXIDE	290,210	689,808	4,205,939	209,703	5,395,659
CARBON DISULFIDE	7.86×10^{-3}	1.87×10^{-2}	0.11	5.68×10^{-3}	0.15
CARBON MONOXIDE	16,618	39,501	240,845	12,008	308,972
CHLOROBENZENE	1.33×10^{-3}	3.16×10^{-3}	1.93×10^{-2}	9.61×10^{-4}	2.47×10^{-2}
CHLOROETHANE (ETHYL CHLORIDE)	2.54×10^{-3}	6.03×10^{-3}	3.68×10^{-2}	1.83×10^{-3}	4.72×10^{-2}
CHLOROFORM (TRICHLOROMETHANE)	3.57×10^{-3}	8.47×10^{-3}	5.17×10^{-2}	2.58×10^{-3}	6.63×10^{-2}
CHROMIUM (III) COMPOUNDS	1.09×10^{-2}	2.60×10^{-2}	0.16	7.90×10^{-3}	0.20
CHROMIUM (VI) COMPOUNDS	4.77×10^{-3}	1.13×10^{-2}	6.92×10^{-2}	3.45×10^{-3}	8.88×10^{-2}
CHRYSENE	6.04×10^{-6}	1.44×10^{-5}	8.76×10^{-5}	4.37×10^{-6}	1.12×10^{-4}
COBALT & COMPOUNDS	6.04×10^{-3}	1.44×10^{-2}	8.76×10^{-2}	4.37×10^{-3}	0.11
COPPER & COMPOUNDS	0.55	1.30	7.90	0.39	10

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CUMENE (1-METHYLETHYLBENZENE)	3.20×10^{-4}	7.61×10^{-4}	4.64×10^{-3}	2.31×10^{-4}	5.95×10^{-3}
DI(2-ETHYLHEXYL)PHTHALATE	4.41×10^{-3}	1.05×10^{-2}	6.39×10^{-2}	3.19×10^{-3}	8.20×10^{-2}
DIBROMOETHANE	7.25×10^{-5}	1.72×10^{-4}	1.05×10^{-3}	5.24×10^{-5}	1.35×10^{-3}
DICHLOROMETHANE {METHYLENE CHLORIDE}	1.75×10^{-2}	4.17×10^{-2}	0.25	1.27×10^{-2}	0.33
DIMETHYL SULFATE	2.90×10^{-3}	6.89×10^{-3}	4.20×10^{-2}	2.10×10^{-3}	5.39×10^{-2}
ETHANE	131	311	1,898	95	2,435
ETHYLBENZENE	5.68×10^{-3}	1.35×10^{-2}	8.23×10^{-2}	4.10×10^{-3}	0.11
FLUORANTHENE	4.29×10^{-5}	1.02×10^{-4}	6.22×10^{-4}	3.10×10^{-5}	7.98×10^{-4}
FLUORENE	5.50×10^{-5}	1.31×10^{-4}	7.97×10^{-4}	3.97×10^{-5}	1.02×10^{-3}
FLUORIDE COMPOUNDS	9.06	22	131	6.55	169
FORMALDEHYDE	1.45×10^{-2}	3.45×10^{-2}	0.21	1.05×10^{-2}	0.27
HYDROCHLORIC ACID	73	172	1,051	52	1,348
HYDROGEN CYANIDE	0.15	0.36	2.19	0.11	2.81
INDENO(1,2,3-CD)PYRENE	3.69×10^{-6}	8.76×10^{-6}	5.34×10^{-5}	2.66×10^{-6}	6.85×10^{-5}
ISOMERS OF XYLENE	2.24×10^{-3}	5.31×10^{-3}	3.24×10^{-2}	1.62×10^{-3}	4.16×10^{-2}
ISOPHORONE {3,5,5-TRIMETHYL-2-CYCLOHEXENONE}	3.50×10^{-2}	8.33×10^{-2}	0.51	2.53×10^{-2}	0.65
LEAD & COMPOUNDS	2.54×10^{-2}	6.03×10^{-2}	0.37	1.83×10^{-2}	0.47
MAGNESIUM OXIDE FUME	0.66	1.58	9.63	0.48	12
MANGANESE & COMPOUNDS	2.96×10^{-2}	7.04×10^{-2}	0.43	2.14×10^{-2}	0.55
MERCURY & COMPOUNDS	5.02×10^{-3}	1.19×10^{-2}	7.27×10^{-2}	3.62×10^{-3}	9.33×10^{-2}
METHANE	302	718	4,379	218	5,618
METHYL BROMIDE	9.67×10^{-3}	2.30×10^{-2}	0.14	6.99×10^{-3}	0.18
METHYL CHLORIDE	3.20×10^{-2}	7.61×10^{-2}	0.46	2.31×10^{-2}	0.60
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	2.36×10^{-2}	5.60×10^{-2}	0.34	1.70×10^{-2}	0.44
METHYL METHACRYLATE	1.21×10^{-3}	2.87×10^{-3}	1.75×10^{-2}	8.73×10^{-4}	2.25×10^{-2}
METHYL T-BUTYL ETHER (MTBE)	2.12×10^{-3}	5.03×10^{-3}	3.07×10^{-2}	1.53×10^{-3}	3.93×10^{-2}
METHYLCYCLOPENTANE	21	51	309	15	396
MONOMETHYL HYDRAZINE	1.03×10^{-2}	2.44×10^{-2}	0.15	7.42×10^{-3}	0.19
NAPTHALENE	7.86×10^{-4}	1.87×10^{-3}	1.14×10^{-2}	5.68×10^{-4}	1.46×10^{-2}
N-BUTANE	47	111	680	34	872
N-HEXANE	4.05×10^{-3}	9.62×10^{-3}	5.87×10^{-2}	2.93×10^{-3}	7.53×10^{-2}
NICKEL & COMPOUNDS	1.69×10^{-2}	4.02×10^{-2}	0.25	1.22×10^{-2}	0.31
NITRIC OXIDE	341	810	4,938	246	6,335
NITROGEN DIOXIDE	27	65	398	20	511
NITROUS OXIDE	2.42	5.75	35	1.75	45
N-PENTANE	8.68	21	126	6.27	161
OXIDES OF NITROGEN	550	1,307	7,970	397	10,224
PARTICULATE MATTER ≤ 10 µm	377	896	5,465	272	7,011
PARTICULATE MATTER ≤ 2.5 µm	232	552	3,363	168	4,314
PERCHLOROETHYLENE	2.60×10^{-3}	6.18×10^{-3}	3.77×10^{-2}	1.88×10^{-3}	4.83×10^{-2}
PHENANTHRENE	1.63×10^{-4}	3.88×10^{-4}	2.36×10^{-3}	1.18×10^{-4}	3.03×10^{-3}
PHENOL (CARBOLIC ACID)	9.67×10^{-4}	2.30×10^{-3}	1.40×10^{-2}	6.99×10^{-4}	1.80×10^{-2}

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
PHOSPHORUS	0.95	2.27	14	0.69	18
POLYCHLORINATED DIOXINS AND FURANS	2.12×10^{-7}	5.03×10^{-7}	3.07×10^{-6}	1.53×10^{-7}	3.93×10^{-6}
POLYCYCLIC AROMATIC HYDROCARBONS	1.25×10^{-3}	2.98×10^{-3}	1.82×10^{-2}	9.06×10^{-4}	2.33×10^{-2}
PROPANE	38	91	554	28	711
PROPIONALDEHYDE	2.30×10^{-2}	5.46×10^{-2}	0.33	1.66×10^{-2}	0.43
PROPYLENE	5.66	13	82	4.09	105
PYRENE	1.99×10^{-5}	4.74×10^{-5}	2.89×10^{-4}	1.44×10^{-5}	3.71×10^{-4}
SELENIUM & COMPOUNDS	7.86×10^{-2}	0.19	1.14	5.68×10^{-2}	1.46
STYRENE (ETHENYLBENZENE)	1.51×10^{-3}	3.59×10^{-3}	2.19×10^{-2}	1.09×10^{-3}	2.81×10^{-2}
SULFUR DIOXIDE	562	1,336	8,145	406	10,449
TIN & COMPOUNDS	0.95	2.27	14	0.69	18
TOLUENE	1.45×10^{-2}	3.45×10^{-2}	0.21	1.05×10^{-2}	0.27
TOTAL SUSPENDED PARTICULATE	909	2,160	13,172	657	16,898
TOTAL VOLATILE ORGANIC COMPOUNDS	604	1,436	8,758	437	11,235
VANADIUM & COMPOUNDS	0.27	0.65	3.95	0.20	5.07
VINYL ACETATE	4.59×10^{-4}	1.09×10^{-3}	6.66×10^{-3}	3.32×10^{-4}	8.54×10^{-3}
ZINC & COMPOUNDS	2.73	6.48	40	1.97	51
LPG and Butane					
2-METHYLNAPHTHALENE	6.87×10^{-4}	1.63×10^{-3}	9.95×10^{-3}	4.96×10^{-4}	1.28×10^{-2}
3-METHYLCHOLANTHRENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
7,12-DIMETHYLBENZANTHRACENE	2.29×10^{-4}	5.44×10^{-4}	3.32×10^{-3}	1.65×10^{-4}	4.26×10^{-3}
ACENAPHTHENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
ACENAPHTHYLENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
ACETALDEHYDE	3.81×10^{-4}	9.05×10^{-4}	5.52×10^{-3}	2.75×10^{-4}	7.08×10^{-3}
AMMONIA (TOTAL)	572	1,360	8,294	414	10,640
ANTHRACENE	3.43×10^{-5}	8.16×10^{-5}	4.98×10^{-4}	2.48×10^{-5}	6.38×10^{-4}
ARSENIC & COMPOUNDS	5.72×10^{-3}	1.36×10^{-2}	8.29×10^{-2}	4.14×10^{-3}	0.11
BENZENE	6.01×10^{-2}	0.14	0.87	4.34×10^{-2}	1.12
BENZO(A)ANTHRACENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
BENZO(A)PYRENE	1.72×10^{-5}	4.08×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.19×10^{-4}
BENZO(B)FLUORANTHENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
BENZO(G,H,I)PERYLENE	1.72×10^{-5}	4.08×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.19×10^{-4}
BENZO(K)FLUORANTHENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
BERYLLIUM & COMPOUNDS	1.72×10^{-4}	4.08×10^{-4}	2.49×10^{-3}	1.24×10^{-4}	3.19×10^{-3}
CADMIUM & COMPOUNDS	3.15×10^{-2}	7.48×10^{-2}	0.46	2.27×10^{-2}	0.59
CARBON DIOXIDE	4,019,349	9,553,703	58,251,417	2,904,341	74,728,810
CARBON MONOXIDE	2,412	5,732	34,951	1,743	44,837
CHROMIUM (III) COMPOUNDS	3.32×10^{-2}	7.90×10^{-2}	0.48	2.40×10^{-2}	0.62
CHROMIUM (VI) COMPOUNDS	6.83×10^{-3}	1.62×10^{-2}	9.90×10^{-2}	4.94×10^{-3}	0.13
CHRYSENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
COBALT & COMPOUNDS	2.40×10^{-3}	5.71×10^{-3}	3.48×10^{-2}	1.74×10^{-3}	4.47×10^{-2}
COPPER & COMPOUNDS	2.43×10^{-2}	5.78×10^{-2}	0.35	1.76×10^{-2}	0.45

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
DIBENZO(A,H)ANTHRACENE	1.72×10^{-5}	4.08×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.19×10^{-4}
DICHLOROBENZENES	3.43×10^{-2}	8.16×10^{-2}	0.50	2.48×10^{-2}	0.64
ETHANE	89	211	1,286	64	1,649
FLUORANTHENE	8.58×10^{-5}	2.04×10^{-4}	1.24×10^{-3}	6.20×10^{-5}	1.60×10^{-3}
FLUORENE	8.01×10^{-5}	1.90×10^{-4}	1.16×10^{-3}	5.79×10^{-5}	1.49×10^{-3}
FORMALDEHYDE	2.15	5.10	31	1.55	40
INDENO(1,2,3-CD)PYRENE	2.58×10^{-5}	6.12×10^{-5}	3.73×10^{-4}	1.86×10^{-5}	4.79×10^{-4}
LEAD & COMPOUNDS	1.43×10^{-2}	3.40×10^{-2}	0.21	1.03×10^{-2}	0.27
MANGANESE & COMPOUNDS	1.09×10^{-2}	2.58×10^{-2}	0.16	7.86×10^{-3}	0.20
MERCURY & COMPOUNDS	7.44×10^{-3}	1.77×10^{-2}	0.11	5.38×10^{-3}	0.14
METHANE	64	153	932	46	1,196
MOLYBDENUM	3.15×10^{-2}	7.48×10^{-2}	0.46	2.27×10^{-2}	0.59
NAPTHALENE	1.75×10^{-2}	4.15×10^{-2}	0.25	1.26×10^{-2}	0.32
N-BUTANE	60	143	871	43	1,117
N-HEXANE	52	122	746	37	958
NICKEL & COMPOUNDS	6.01×10^{-2}	0.14	0.87	4.34×10^{-2}	1.12
NITRIC OXIDE	2,590	6,156	37,534	1,871	48,151
NITROGEN DIOXIDE	209	497	3,029	151	3,886
NITROUS OXIDE	289	688	4,194	209	5,380
N-PENTANE	74	177	1,078	54	1,383
OXIDES OF NITROGEN	4,180	9,936	60,581	3,021	77,718
PARTICULATE MATTER ≤ 10 µm	225	535	3,262	163	4,185
PARTICULATE MATTER ≤ 2.5 µm	225	535	3,262	163	4,185
PHENANTHRENE	4.86×10^{-4}	1.16×10^{-3}	7.05×10^{-3}	3.51×10^{-4}	9.04×10^{-3}
POLYCHLORINATED DIOXINS AND FURANS	8.89×10^{-8}	2.11×10^{-7}	1.29×10^{-6}	6.43×10^{-8}	1.65×10^{-6}
POLYCYCLIC AROMATIC HYDROCARBONS	2.0×10^{-2}	4.75×10^{-2}	0.29	1.44×10^{-2}	0.37
PROPANE	46	109	663	33	851
PYRENE	1.43×10^{-4}	3.40×10^{-4}	2.07×10^{-3}	1.03×10^{-4}	2.66×10^{-3}
SELENIUM & COMPOUNDS	3.43×10^{-4}	8.16×10^{-4}	4.98×10^{-3}	2.48×10^{-4}	6.38×10^{-3}
SULFUR DIOXIDE	35	84	511	25	655
TOLUENE	9.73×10^{-2}	0.23	1.41	7.03×10^{-2}	1.81
TOTAL SUSPENDED PARTICULATE	225	535	3,262	163	4,185
TOTAL VOLATILE ORGANIC COMPOUNDS	157	374	2,281	114	2,926
VANADIUM & COMPOUNDS	6.58×10^{-2}	0.16	0.95	4.76×10^{-2}	1.22
ZINC & COMPOUNDS	0.83	1.97	12	0.60	15
Natural Gas					
2-METHYLNAPHTHALENE	1.36×10^{-4}	3.23×10^{-4}	1.97×10^{-3}	9.82×10^{-5}	2.53×10^{-3}
3-METHYLCHOLANTHRENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
7,12-DIMETHYLBENZANTHRACENE	4.53×10^{-5}	1.08×10^{-4}	6.57×10^{-4}	3.27×10^{-5}	8.42×10^{-4}
ACENAPHTHENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
ACENAPHTHYLENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
ACETALDEHYDE	7.53×10^{-5}	1.79×10^{-4}	1.09×10^{-3}	5.44×10^{-5}	1.40×10^{-3}

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
AMMONIA (TOTAL)	113	269	1,641	82	2,106
ANTHRACENE	6.80×10^{-6}	1.62×10^{-5}	9.85×10^{-5}	4.91×10^{-6}	1.26×10^{-4}
ARSENIC & COMPOUNDS	1.13×10^{-3}	2.69×10^{-3}	1.64×10^{-2}	8.18×10^{-4}	2.11×10^{-2}
BENZENE	1.19×10^{-2}	2.83×10^{-2}	0.17	8.59×10^{-3}	0.22
BENZO(A)ANTHRACENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
BENZO(A)PYRENE	3.40×10^{-6}	8.08×10^{-6}	4.92×10^{-5}	2.46×10^{-6}	6.32×10^{-5}
BENZO(B)FLUORANTHENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
BENZO(G,H,I)PERYLENE	3.40×10^{-6}	8.08×10^{-6}	4.92×10^{-5}	2.46×10^{-6}	6.32×10^{-5}
BENZO(K)FLUORANTHENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
BERYLLIUM & COMPOUNDS	3.40×10^{-5}	8.08×10^{-5}	4.92×10^{-4}	2.46×10^{-5}	6.32×10^{-4}
CADMIUM & COMPOUNDS	6.23×10^{-3}	1.48×10^{-2}	9.03×10^{-2}	4.50×10^{-3}	0.12
CARBON DIOXIDE	679,521	1,615,173	9,848,128	491,015	12,633,837
CARBON MONOXIDE	227	538	3,283	164	4,211
CHROMIUM (III) COMPOUNDS	6.58×10^{-3}	1.56×10^{-2}	9.53×10^{-2}	4.75×10^{-3}	0.12
CHROMIUM (VI) COMPOUNDS	1.35×10^{-3}	3.21×10^{-3}	1.96×10^{-2}	9.77×10^{-4}	2.51×10^{-2}
CHRYSENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
COBALT & COMPOUNDS	4.76×10^{-4}	1.13×10^{-3}	6.89×10^{-3}	3.44×10^{-4}	8.84×10^{-3}
COPPER & COMPOUNDS	4.81×10^{-3}	1.14×10^{-2}	6.98×10^{-2}	3.48×10^{-3}	8.95×10^{-2}
DIBENZO(A,H)ANTHRACENE	3.40×10^{-6}	8.08×10^{-6}	4.92×10^{-5}	2.46×10^{-6}	6.32×10^{-5}
DICHLOROBENZENES	6.80×10^{-3}	1.62×10^{-2}	9.85×10^{-2}	4.91×10^{-3}	0.13
ETHANE	18	42	254	13	326
FLUORANTHENE	1.70×10^{-5}	4.04×10^{-5}	2.46×10^{-4}	1.23×10^{-5}	3.16×10^{-4}
FLUORENE	1.59×10^{-5}	3.77×10^{-5}	2.30×10^{-4}	1.15×10^{-5}	2.95×10^{-4}
FORMALDEHYDE	0.42	1.01	6.16	0.31	7.90
INDENO(1,2,3-CD)PYRENE	5.10×10^{-6}	1.21×10^{-5}	7.39×10^{-5}	3.68×10^{-6}	9.48×10^{-5}
LEAD & COMPOUNDS	2.83×10^{-3}	6.73×10^{-3}	4.10×10^{-2}	2.05×10^{-3}	5.26×10^{-2}
MANGANESE & COMPOUNDS	2.15×10^{-3}	5.11×10^{-3}	3.12×10^{-2}	1.55×10^{-3}	4.0×10^{-2}
MERCURY & COMPOUNDS	1.47×10^{-3}	3.50×10^{-3}	2.13×10^{-2}	1.06×10^{-3}	2.74×10^{-2}
METHANE	13	31	189	9.41	242
MOLYBDENUM	6.23×10^{-3}	1.48×10^{-2}	9.03×10^{-2}	4.50×10^{-3}	0.12
NAPTHALENE	3.45×10^{-3}	8.21×10^{-3}	5.01×10^{-2}	2.50×10^{-3}	6.42×10^{-2}
N-BUTANE	12	28	172	8.59	221
N-HEXANE	10	24	148	7.37	190
NICKEL & COMPOUNDS	1.19×10^{-2}	2.83×10^{-2}	0.17	8.59×10^{-3}	0.22
NITRIC OXIDE	330	784	4,780	238	6,132
NITROGEN DIOXIDE	27	63	386	19	495
NITROUS OXIDE	12	30	181	9.00	232
N-PENTANE	15	35	213	11	274
OXIDES OF NITROGEN	532	1,265	7,714	385	9,897
PARTICULATE MATTER ≤ 10 µm	43	102	624	31	800
PARTICULATE MATTER ≤ 2.5 µm	43	102	624	31	800
PHENANTHRENE	9.63×10^{-5}	2.29×10^{-4}	1.40×10^{-3}	6.96×10^{-5}	1.79×10^{-3}
POLYCHLORINATED DIOXINS AND FURANS	1.76×10^{-8}	4.18×10^{-8}	2.55×10^{-7}	1.27×10^{-8}	3.27×10^{-7}
POLYCYCLIC AROMATIC	3.95×10^{-3}	9.40×10^{-3}	5.73×10^{-2}	2.86×10^{-3}	7.35×10^{-2}

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
HYDROCARBONS					
PROPANE	9.06	22	131	6.55	168
PYRENE	2.83×10^{-5}	6.73×10^{-5}	4.10×10^{-4}	2.05×10^{-5}	5.26×10^{-4}
SELENIUM & COMPOUNDS	6.80×10^{-5}	1.62×10^{-4}	9.85×10^{-4}	4.91×10^{-5}	1.26×10^{-3}
SULFUR DIOXIDE	3.40	8.08	49	2.46	63
TOLUENE	1.93×10^{-2}	4.58×10^{-2}	0.28	1.39×10^{-2}	0.36
TOTAL SUSPENDED PARTICULATE	43	102	624	31	800
TOTAL VOLATILE ORGANIC COMPOUNDS	31	74	451	23	579
VANADIUM & COMPOUNDS	1.30×10^{-2}	3.10×10^{-2}	0.19	9.41×10^{-3}	0.24
ZINC & COMPOUNDS	0.16	0.39	2.38	0.12	3.05
Wood					
1,3-BUTADIENE	67	160	976	49	1,252
1-BUTENE	52	124	757	38	971
1-PENTENE	4.95	12	72	3.58	92
2-FURFURAL	64	152	926	46	1,188
2-METHYL-1-BUTENE	7.95	19	115	5.74	148
2-METHYL-2-BUTENE	7.72	18	112	5.57	143
2-METHYL-2-PENTENE	3.97	9.44	58	2.87	74
2-METHYL-2-PROPENAL (METHACROLEIN)	13	31	192	9.57	246
2-METHYL-BUTANE	3.22	7.66	47	2.33	60
2-METHYLHEXANE	1.50	3.56	22	1.08	28
2-METHYLPENTANE	4.95	12	72	3.58	92
2-METHYLPROPENE (ISOBUTENE)	23	55	335	17	429
3-METHYL-1-BUTENE	3.97	9.44	58	2.87	74
ACENAPHTHENE	0.35	0.82	5.01	0.25	6.43
ACENAPHTHYLENE	7.33	17	106	5.30	136
ACETALDEHYDE	981	2,332	14,218	709	18,240
ACETONE	431	1,025	6,250	312	8,018
ACETOPHENONE (PHENYL METHYL KETONE)	2.25	5.34	33	1.62	42
ACETYLENE	404	961	5,858	292	7,515
ACROLEIN (2-PROPENAL)	36	86	526	26	674
AMMONIA (TOTAL)	62	148	902	45	1,157
ANTHRACENE	0.48	1.15	7.01	0.35	9.00
ANTIMONY & COMPOUNDS	2.13×10^{-4}	5.07×10^{-4}	3.09×10^{-3}	1.54×10^{-4}	3.96×10^{-3}
ARSENIC & COMPOUNDS	1.11×10^{-2}	2.64×10^{-2}	0.16	8.01×10^{-3}	0.21
BENZALDEHYDE	28	67	409	20	525
BENZENE	221	524	3,196	159	4,100
BENZO(A)ANTHRACENE	0.69	1.64	10	0.50	13
BENZO(A)PYRENE	0.14	0.33	2.00	9.99×10^{-2}	2.57
BENZO(B)FLUORANTHENE	0.21	0.49	3.01	0.15	3.86
BENZO(E)PYRENE	0.41	0.99	6.01	0.30	7.71
BENZO(G,H,I)PERYLENE	0.14	0.33	2.00	9.99×10^{-2}	2.57

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
BENZO(K)FLUORANTHENE	6.91×10^{-2}	0.16	1.00	5.0×10^{-2}	1.29
BIACETYL	51	122	743	37	953
BROMINE AND COMPOUNDS	6.74×10^{-2}	0.16	0.98	4.87×10^{-2}	1.25
BUTYRALDEHYDE	55	131	801	40	1,028
CADMIUM & COMPOUNDS	0.24	0.58	3.54	0.18	4.54
CARBON DIOXIDE	117,525	279,348	1,703,256	84,922	2,185,050
CARBON MONOXIDE	8,731	20,754	126,542	6,309	162,336
CATECHOL	180	427	2,603	130	3,340
CHLORINE	15	36	220	11	283
CHROMIUM (III) COMPOUNDS	3.25×10^{-2}	7.73×10^{-2}	0.47	2.35×10^{-2}	0.60
CHROMIUM (VI) COMPOUNDS	6.69×10^{-3}	1.59×10^{-2}	9.70×10^{-2}	4.84×10^{-3}	0.12
CHRYSENE	0.41	0.99	6.01	0.30	7.71
CIS-2-BUTENE	20	48	295	15	379
CIS-2-PENTENE	5.99	14	87	4.33	111
COBALT & COMPOUNDS	2.15×10^{-2}	5.12×10^{-2}	0.31	1.56×10^{-2}	0.40
COPPER & COMPOUNDS	0.21	0.50	3.07	0.15	3.94
CRESOLS	219	520	3,171	158	4,068
CROTONALDEHYDE	159	378	2,303	115	2,954
CYCLOPENTENE	4.49	11	65	3.25	83
DIMETHYLBENZALDEHYDE	6.91	16	100	4.99	128
DOCOSANE	4.89×10^{-2}	0.12	0.71	3.54×10^{-2}	0.91
EICOSANE	0.10	0.24	1.46	7.28×10^{-2}	1.87
ETHANE	246	586	3,571	178	4,582
ETHYLBENZENE	13	31	191	9.53	245
ETHYLENE	645	1,533	9,345	466	11,989
FLUORANTHENE	0.69	1.64	10	0.50	13
FLUORENE	0.83	1.97	12	0.60	15
FORMALDEHYDE	671	1,594	9,721	485	12,471
GLYOXAL	386	917	5,591	279	7,172
HENEICOSANE	6.39×10^{-2}	0.15	0.93	4.62×10^{-2}	1.19
HEPTANAL	241	573	3,496	174	4,485
HEXANAL (HEXANALDEHYDE)	241	572	3,488	174	4,474
HYDROQUINONE	9.90	24	144	7.16	184
ISOMERS OF XYLENE	45	107	652	32	836
ISOPRENE	24	56	342	17	439
LEAD & COMPOUNDS	0.12	0.29	1.75	8.74×10^{-2}	2.25
MAGNESIUM OXIDE FUME	1.34	3.19	19	0.97	25
MANGANESE & COMPOUNDS	0.11	0.25	1.55	7.73×10^{-2}	1.99
MERCURY & COMPOUNDS	1.54×10^{-2}	3.65×10^{-2}	0.22	1.11×10^{-2}	0.29
METHANE	2,372	5,638	34,378	1,714	44,102
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	124	294	1,794	89	2,301
METHYL GLYOXAL	543	1,291	7,869	392	10,094
METHYLBENZALDEHYDE ISOMERS	6.91	16	100	4.99	128
METHYLCYCLOHEXANE	4.95	12	72	3.58	92

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
MOLYBDENUM	2.90×10^{-2}	6.89×10^{-2}	0.42	2.10×10^{-2}	0.54
NAPTHALENE	9.96	24	144	7.19	185
N-BUTANE	15	35	216	11	277
N-HEPTADECANOIC ACID	4.72×10^{-2}	0.11	0.68	3.41×10^{-2}	0.88
N-HEPTANE	17	40	241	12	309
NICKEL & COMPOUNDS	0.21	0.49	3.01	0.15	3.86
NITRIC OXIDE	56	132	807	40	1,035
NITROGEN DIOXIDE	4.49	11	65	3.25	84
NITROUS OXIDE	10	25	150	7.49	193
N-NONANE	2.25	5.34	33	1.62	42
N-OCTANE	0.98	2.33	14	0.71	18
NONADECANE	0.20	0.47	2.90	0.14	3.71
N-PENTANAL (N-VALERALDEHYDE)	18	44	267	13	343
N-PENTANE	2.71	6.43	39	1.96	50
N-TETRADECANOIC ACID	0.21	0.49	2.98	0.15	3.82
O-CRESOL (2-METHYL-BENZENOL)	52	123	748	37	959
OCTADECANE	0.20	0.49	2.97	0.15	3.81
OXIDES OF NITROGEN	90	214	1,302	65	1,671
PALMITIC ACID {N-HEXADECANOIC ACID}	1.15	2.74	17	0.83	21
PARTICULATE MATTER ≤ 10 µm	1,196	2,843	17,333	864	22,236
PARTICULATE MATTER ≤ 2.5 µm	1,151	2,737	16,686	832	21,406
PHENANTHRENE	2.70	6.41	39	1.95	50
PHENOL (CARBOLIC ACID)	302	718	4,381	218	5,620
PHOSPHORUS	0.16	0.37	2.25	0.11	2.88
POLYCHLORINATED DIOXINS AND FURANS	2.83×10^{-7}	6.73×10^{-7}	4.11×10^{-6}	2.05×10^{-7}	5.27×10^{-6}
POLYCYCLIC AROMATIC HYDROCARBONS	25	60	366	18	469
PROPANE	97	231	1,410	70	1,809
PROPIONALDEHYDE	147	349	2,128	106	2,730
PROPYLENE	247	587	3,580	178	4,592
PYRENE	0.83	1.97	12	0.60	15
SELENIUM & COMPOUNDS	1.92×10^{-3}	4.56×10^{-3}	2.78×10^{-2}	1.39×10^{-3}	3.57×10^{-2}
SULFUR DIOXIDE	14	33	200	9.99	257
TIN & COMPOUNDS	0.11	0.25	1.53	7.61×10^{-2}	1.96
TOLUENE	91	216	1,318	66	1,691
TOTAL SUSPENDED PARTICULATE	1,279	3,041	18,540	924	23,784
TOTAL VOLATILE ORGANIC COMPOUNDS	7,916	18,815	114,719	5,720	147,170
TRANS-2-BUTENE	38	91	555	28	712
TRANS-2-HEXENE	4.95	12	72	3.58	92
TRANS-2-PENTENE	9.21	22	134	6.66	171
VANADIUM & COMPOUNDS	4.90×10^{-2}	0.12	0.71	3.54×10^{-2}	0.91
XYLENOL	63	151	918	46	1,177
ZINC & COMPOUNDS	1.00	2.38	14	0.72	19

Table A3: Cutback bitumen emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Cutback Bitumen					
BUTYLBENZENE ISOMERS	882	2,084	12,318	501	15,785
C10 ALKYL CYCLOHEXANES	484	1,143	6,755	275	8,656
C8 ALKYL CYCLOHEXANES	323	762	4,503	183	5,771
C9 ALKYL BENZENES	275	650	3,840	156	4,921
C9 ALKYL CYCLOHEXANES	930	2,196	12,979	528	16,633
ETHYLBENZENE	218	515	3,046	124	3,903
ISOMERS OF DECANE (C10 PARAFFINS)	759	1,792	10,595	431	13,577
ISOMERS OF NONANE (C9 PARAFFIN)	190	448	2,649	108	3,394
ISOMERS OF XYLENE	1,157	2,733	16,158	658	20,706
METHYLCYCLOHEXANE	199	471	2,782	113	3,564
N-DECANE	1,176	2,779	16,425	668	21,048
N-NONANE	986	2,330	13,773	561	17,651
N-OCTANE	531	1,255	7,416	302	9,504
N-UNDECANE	199	471	2,782	113	3,564
TOLUENE	607	1,434	8,476	345	10,862
TOTAL VOLATILE ORGANIC COMPOUNDS	9,419	22,248	131,514	5,352	168,534
TRIMETHYLBENZENES	503	1,187	7,019	286	8,995

Table A4: Gaseous fuel combustion by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
LPG Combustion - Domestic					
2-METHYLNAPHTHALENE	6.88×10^{-4}	1.64×10^{-3}	9.97×10^{-3}	4.97×10^{-4}	1.28×10^{-2}
3-METHYLCHOLANTHRENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
7,12-DIMETHYLBENZANTHRACENE	2.29×10^{-4}	5.45×10^{-4}	3.32×10^{-3}	1.66×10^{-4}	4.26×10^{-3}
ACENAPHTHENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
ACENAPHTHYLENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
ACETALDEHYDE	3.81×10^{-4}	9.06×10^{-4}	5.53×10^{-3}	2.76×10^{-4}	7.09×10^{-3}
AMMONIA (TOTAL)	573	1,363	8,310	414	10,661
ANTHRACENE	3.44×10^{-5}	8.18×10^{-5}	4.99×10^{-4}	2.49×10^{-5}	6.40×10^{-4}
ARSENIC & COMPOUNDS	5.73×10^{-3}	1.36×10^{-2}	8.31×10^{-2}	4.14×10^{-3}	0.11
BENZENE	6.02×10^{-2}	0.14	0.87	4.35×10^{-2}	1.12
BENZO(A)ANTHRACENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
BENZO(A)PYRENE	1.72×10^{-5}	4.09×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.20×10^{-4}
BENZO(B)FLUORANTHENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
BENZO(G,H,I)PERYLENE	1.72×10^{-5}	4.09×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.20×10^{-4}
BENZO(K)FLUORANTHENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
BERYLLIUM & COMPOUNDS	1.72×10^{-4}	4.09×10^{-4}	2.49×10^{-3}	1.24×10^{-4}	3.20×10^{-3}
CADMIUM & COMPOUNDS	3.15×10^{-2}	7.50×10^{-2}	0.46	2.28×10^{-2}	0.59
CARBON DIOXIDE	4,027,357	9,572,737	58,367,472	2,910,127	74,877,693
CARBON MONOXIDE	2,416	5,744	35,020	1,746	44,927
CHROMIUM (III) COMPOUNDS	3.33×10^{-2}	7.91×10^{-2}	0.48	2.41×10^{-2}	0.62
CHROMIUM (VI) COMPOUNDS	6.85×10^{-3}	1.63×10^{-2}	9.92×10^{-2}	4.95×10^{-3}	0.13
CHRYSENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
COBALT & COMPOUNDS	2.41×10^{-3}	5.72×10^{-3}	3.49×10^{-2}	1.74×10^{-3}	4.48×10^{-2}
COPPER & COMPOUNDS	2.44×10^{-2}	5.79×10^{-2}	0.35	1.76×10^{-2}	0.45
DIBENZO(A,H)ANTHRACENE	1.72×10^{-5}	4.09×10^{-5}	2.49×10^{-4}	1.24×10^{-5}	3.20×10^{-4}
DICHLOROBENZENES	3.44×10^{-2}	8.18×10^{-2}	0.50	2.49×10^{-2}	0.64
ETHANE	89	211	1,288	64	1,652
FLUORANTHENE	8.60×10^{-5}	2.04×10^{-4}	1.25×10^{-3}	6.21×10^{-5}	1.60×10^{-3}
FLUORENE	8.03×10^{-5}	1.91×10^{-4}	1.16×10^{-3}	5.80×10^{-5}	1.49×10^{-3}
FORMALDEHYDE	2.15	5.11	31	1.55	40
INDENO(1,2,3-CD)PYRENE	2.58×10^{-5}	6.13×10^{-5}	3.74×10^{-4}	1.86×10^{-5}	4.80×10^{-4}
LEAD & COMPOUNDS	1.43×10^{-2}	3.41×10^{-2}	0.21	1.04×10^{-2}	0.27
MANGANESE & COMPOUNDS	1.09×10^{-2}	2.59×10^{-2}	0.16	7.87×10^{-3}	0.20
MERCURY & COMPOUNDS	7.45×10^{-3}	1.77×10^{-2}	0.11	5.39×10^{-3}	0.14
METHANE	64	153	934	47	1,198
MOLYBDENUM	3.15×10^{-2}	7.50×10^{-2}	0.46	2.28×10^{-2}	0.59
NAPTHALENE	1.75×10^{-2}	4.16×10^{-2}	0.25	1.26×10^{-2}	0.33
N-BUTANE	60	143	873	44	1,119
N-HEXANE	52	123	748	37	959
NICKEL & COMPOUNDS	6.02×10^{-2}	0.14	0.87	4.35×10^{-2}	1.12

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
NITRIC OXIDE	2,595	6,168	37,609	1,875	48,247
NITROGEN DIOXIDE	209	498	3,035	151	3,894
NITROUS OXIDE	290	689	4,202	210	5,391
N-PENTANE	75	177	1,080	54	1,386
OXIDES OF NITROGEN	4,188	9,956	60,702	3,027	77,873
PARTICULATE MATTER ≤ 10 µm	226	536	3,269	163	4,193
PARTICULATE MATTER ≤ 2.5 µm	226	536	3,269	163	4,193
PHENANTHRENE	4.87×10^{-4}	1.16×10^{-3}	7.06×10^{-3}	3.52×10^{-4}	9.06×10^{-3}
POLYCHLORINATED DIOXINS AND FURANS	8.91×10^{-8}	2.12×10^{-7}	1.29×10^{-6}	6.44×10^{-8}	1.66×10^{-6}
POLYCYCLIC AROMATIC HYDROCARBONS	2.0×10^{-2}	4.76×10^{-2}	0.29	1.45×10^{-2}	0.37
PROPANE	46	109	665	33	853
PYRENE	1.43×10^{-4}	3.41×10^{-4}	2.08×10^{-3}	1.04×10^{-4}	2.67×10^{-3}
SELENIUM & COMPOUNDS	3.44×10^{-4}	8.18×10^{-4}	4.99×10^{-3}	2.49×10^{-4}	6.40×10^{-3}
SULFUR DIOXIDE	35	84	512	26	657
TOLUENE	9.75×10^{-2}	0.23	1.41	7.04×10^{-2}	1.81
TOTAL SUSPENDED PARTICULATE	226	536	3,269	163	4,193
TOTAL VOLATILE ORGANIC COMPOUNDS	158	375	2,285	114	2,932
VANADIUM & COMPOUNDS	6.59×10^{-2}	0.16	0.96	4.76×10^{-2}	1.23
ZINC & COMPOUNDS	0.83	1.98	12	0.60	15
Natural Gas Combustion - Domestic					
2-METHYLNAPHTHALENE	1.05×10^{-2}	2.50×10^{-2}	0.15	7.59×10^{-3}	0.20
3-METHYLCHOLANTHRENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
7,12-DIMETHYLBENZANTHRACENE	3.50×10^{-3}	8.32×10^{-3}	5.07×10^{-2}	2.53×10^{-3}	6.51×10^{-2}
ACENAPHTHENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
ACENAPHTHYLENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
ACETALDEHYDE	5.82×10^{-3}	1.38×10^{-2}	8.44×10^{-2}	4.21×10^{-3}	0.11
AMMONIA (TOTAL)	8,752	20,803	126,844	6,324	162,724
ANTHRACENE	5.25×10^{-4}	1.25×10^{-3}	7.61×10^{-3}	3.79×10^{-4}	9.76×10^{-3}
ARSENIC & COMPOUNDS	8.75×10^{-2}	0.21	1.27	6.32×10^{-2}	1.63
BENZENE	0.92	2.18	13	0.66	17
BENZO(A)ANTHRACENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
BENZO(A)PYRENE	2.63×10^{-4}	6.24×10^{-4}	3.81×10^{-3}	1.90×10^{-4}	4.88×10^{-3}
BENZO(B)FLUORANTHENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
BENZO(G,H,I)PERYLENE	2.63×10^{-4}	6.24×10^{-4}	3.81×10^{-3}	1.90×10^{-4}	4.88×10^{-3}
BENZO(K)FLUORANTHENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
BERYLLIUM & COMPOUNDS	2.63×10^{-3}	6.24×10^{-3}	3.81×10^{-2}	1.90×10^{-3}	4.88×10^{-2}
CADMIUM & COMPOUNDS	0.48	1.14	6.98	0.35	8.95
CARBON DIOXIDE	52,513,390	124,820,533	761,063,345	37,945,638	976,342,906

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CARBON MONOXIDE	17,504	41,607	253,688	12,649	325,448
CHROMIUM (III) COMPOUNDS	0.51	1.21	7.36	0.37	9.45
CHROMIUM (VI) COMPOUNDS	0.10	0.25	1.51	7.55×10^{-2}	1.94
CHRYSENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
COBALT & COMPOUNDS	3.68×10^{-2}	8.74×10^{-2}	0.53	2.66×10^{-2}	0.68
COPPER & COMPOUNDS	0.37	0.88	5.39	0.27	6.92
DIBENZO(A,H)ANTHRACENE	2.63×10^{-4}	6.24×10^{-4}	3.81×10^{-3}	1.90×10^{-4}	4.88×10^{-3}
DICHLOROBENZENES	0.53	1.25	7.61	0.38	9.76
ETHANE	1,357	3,225	19,661	980	25,222
FLUORANTHENE	1.31×10^{-3}	3.12×10^{-3}	1.90×10^{-2}	9.49×10^{-4}	2.44×10^{-2}
FLUORENE	1.23×10^{-3}	2.91×10^{-3}	1.78×10^{-2}	8.85×10^{-4}	2.28×10^{-2}
FORMALDEHYDE	33	78	476	24	610
INDENO(1,2,3-CD)PYRENE	3.94×10^{-4}	9.36×10^{-4}	5.71×10^{-3}	2.85×10^{-4}	7.32×10^{-3}
LEAD & COMPOUNDS	0.22	0.52	3.17	0.16	4.07
MANGANESE & COMPOUNDS	0.17	0.40	2.41	0.12	3.09
MERCURY & COMPOUNDS	0.11	0.27	1.65	8.22×10^{-2}	2.12
METHANE	1,007	2,392	14,587	727	18,713
MOLYBDENUM	0.48	1.14	6.98	0.35	8.95
NAPTHALENE	0.27	0.63	3.87	0.19	4.96
N-BUTANE	919	2,184	13,319	664	17,086
N-HEXANE	788	1,872	11,416	569	14,645
NICKEL & COMPOUNDS	0.92	2.18	13	0.66	17
NITRIC OXIDE	25,486	60,579	369,364	18,416	473,845
NITROGEN DIOXIDE	2,057	4,889	29,808	1,486	38,240
NITROUS OXIDE	963	2,288	13,953	696	17,900
N-PENTANE	1,138	2,704	16,490	822	21,154
OXIDES OF NITROGEN	41,135	97,776	596,166	29,724	764,802
PARTICULATE MATTER ≤ 10 µm	3,326	7,905	48,201	2,403	61,835
PARTICULATE MATTER ≤ 2.5 µm	3,326	7,905	48,201	2,403	61,835
PHENANTHRENE	7.44×10^{-3}	1.77×10^{-2}	0.11	5.38×10^{-3}	0.14
POLYCHLORINATED DIOXINS AND FURANS	1.36×10^{-6}	3.23×10^{-6}	1.97×10^{-5}	9.83×10^{-7}	2.53×10^{-5}
POLYCYCLIC AROMATIC HYDROCARBONS	0.31	0.73	4.43	0.22	5.68
PROPANE	700	1,664	10,148	506	13,018
PYRENE	2.19×10^{-3}	5.20×10^{-3}	3.17×10^{-2}	1.58×10^{-3}	4.07×10^{-2}
SELENIUM & COMPOUNDS	5.25×10^{-3}	1.25×10^{-2}	7.61×10^{-2}	3.79×10^{-3}	9.76×10^{-2}
SULFUR DIOXIDE	263	624	3,805	190	4,882
TOLUENE	1.49	3.54	22	1.08	28
TOTAL SUSPENDED PARTICULATE	3,326	7,905	48,201	2,403	61,835
TOTAL VOLATILE ORGANIC COMPOUNDS	2,407	5,721	34,882	1,739	44,749
VANADIUM & COMPOUNDS	1.01	2.39	15	0.73	19

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
ZINC & COMPOUNDS	13	30	184	9.17	236
Natural Gas Combustion – Unaccounted Commercial Business Equipment					
2-METHYLNAPHTHALENE	1.58×10^{-2}	3.76×10^{-2}	0.23	1.14×10^{-2}	0.29
3-METHYLCHOLANTHRENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
7,12-DIMETHYLBENZANTHRACENE	5.28×10^{-3}	1.25×10^{-2}	7.65×10^{-2}	3.81×10^{-3}	9.81×10^{-2}
ACENAPHTHENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
ACENAPHTHYLENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
ACETALDEHYDE	8.77×10^{-3}	2.09×10^{-2}	0.13	6.34×10^{-3}	0.16
AMMONIA (TOTAL)	13,195	31,365	191,238	9,535	245,332
ANTHRACENE	7.92×10^{-4}	1.88×10^{-3}	1.15×10^{-2}	5.72×10^{-4}	1.47×10^{-2}
ARSENIC & COMPOUNDS	0.13	0.31	1.91	9.53×10^{-2}	2.45
BENZENE	1.39	3.29	20	1.00	26
BENZO(A)ANTHRACENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
BENZO(A)PYRENE	3.96×10^{-4}	9.41×10^{-4}	5.74×10^{-3}	2.86×10^{-4}	7.36×10^{-3}
BENZO(B)FLUORANTHENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
BENZO(G,H,I)PERYLENE	3.96×10^{-4}	9.41×10^{-4}	5.74×10^{-3}	2.86×10^{-4}	7.36×10^{-3}
BENZO(K)FLUORANTHENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
BERYLLIUM & COMPOUNDS	3.96×10^{-3}	9.41×10^{-3}	5.74×10^{-2}	2.86×10^{-3}	7.36×10^{-2}
CADMIUM & COMPOUNDS	0.73	1.73	11	0.52	13
CARBON DIOXIDE	79,172,388	188,187,043	1,147,425,481	57,209,156	1,471,994,067
CARBON MONOXIDE	26,391	62,729	382,475	19,070	490,665
CHROMIUM (III) COMPOUNDS	0.77	1.82	11	0.55	14
CHROMIUM (VI) COMPOUNDS	0.16	0.37	2.28	0.11	2.93
CHRYSENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
COBALT & COMPOUNDS	5.54×10^{-2}	0.13	0.80	4.0×10^{-2}	1.03
COPPER & COMPOUNDS	0.56	1.33	8.13	0.41	10
DIBENZO(A,H)ANTHRACENE	3.96×10^{-4}	9.41×10^{-4}	5.74×10^{-3}	2.86×10^{-4}	7.36×10^{-3}
DICHLOROBENZENES	0.79	1.88	11	0.57	15
ETHANE	2,045	4,861	29,642	1,478	38,027
FLUORANTHENE	1.98×10^{-3}	4.70×10^{-3}	2.87×10^{-2}	1.43×10^{-3}	3.68×10^{-2}
FLUORENE	1.85×10^{-3}	4.39×10^{-3}	2.68×10^{-2}	1.33×10^{-3}	3.43×10^{-2}
FORMALDEHYDE	49	118	717	36	920
INDENO(1,2,3-CD)PYRENE	5.94×10^{-4}	1.41×10^{-3}	8.61×10^{-3}	4.29×10^{-4}	1.10×10^{-2}
LEAD & COMPOUNDS	0.33	0.78	4.78	0.24	6.13
MANGANESE & COMPOUNDS	0.25	0.60	3.63	0.18	4.66
MERCURY & COMPOUNDS	0.17	0.41	2.49	0.12	3.19
METHANE	1,517	3,607	21,992	1,097	28,213
MOLYBDENUM	0.73	1.73	11	0.52	13
NAPTHALENE	0.40	0.96	5.83	0.29	7.48
N-BUTANE	1,386	3,293	20,080	1,001	25,760
N-HEXANE	1,188	2,823	17,211	858	22,080
NICKEL & COMPOUNDS	1.39	3.29	20	1.00	26
NITRIC OXIDE	38,424	91,332	556,876	27,765	714,397

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
NITROGEN DIOXIDE	3,101	7,371	44,941	2,241	57,653
NITROUS OXIDE	1,451	3,450	21,036	1,049	26,987
N-PENTANE	1,715	4,077	24,861	1,240	31,893
OXIDES OF NITROGEN	62,018	147,413	898,817	44,814	1,153,062
PARTICULATE MATTER ≤ 10 µm	5,014	11,919	72,670	3,623	93,226
PARTICULATE MATTER ≤ 2.5 µm	5,014	11,919	72,670	3,623	93,226
PHENANTHRENE	1.12×10^{-2}	2.67×10^{-2}	0.16	8.10×10^{-3}	0.21
POLYCHLORINATED DIOXINS AND FURANS	2.05×10^{-6}	4.87×10^{-6}	2.97×10^{-5}	1.48×10^{-6}	3.81×10^{-5}
POLYCYCLIC AROMATIC HYDROCARBONS	0.46	1.09	6.68	0.33	8.56
PROPANE	1,056	2,509	15,299	763	19,627
PYRENE	3.30×10^{-3}	7.84×10^{-3}	4.78×10^{-2}	2.38×10^{-3}	6.13×10^{-2}
SELENIUM & COMPOUNDS	7.92×10^{-3}	1.88×10^{-2}	0.11	5.72×10^{-3}	0.15
SULFUR DIOXIDE	396	941	5,737	286	7,360
TOLUENE	2.24	5.33	33	1.62	42
TOTAL SUSPENDED PARTICULATE	5,014	11,919	72,670	3,623	93,226
TOTAL VOLATILE ORGANIC COMPOUNDS	3,629	8,625	52,590	2,622	67,466
VANADIUM & COMPOUNDS	1.52	3.61	22	1.10	28
ZINC & COMPOUNDS	19	45	277	14	356

Table A5: Graphic arts emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Graphic Arts					
1-NONENE	18	43	274	13	348
1-OCTANOL	105	260	1,642	78	2,085
2,2,4,4-TETRAMETHYL-3-PENTANONE	667	1,648	10,400	491	13,205
2,4,5-TRIMETHYLHEPTANE	6,196	15,316	96,664	4,563	122,739
2,4-DIMETHYL-1-PENTENE	456	1,127	7,116	336	9,035
2,4-DIMETHYLOCTANE	6,829	16,881	106,544	5,029	135,284
2-METHYLDECANE	4,407	10,893	68,749	3,245	87,293
2-METHYLNONANE	4,389	10,849	68,475	3,232	86,946
2-METHYLOCTANE	1,563	3,864	24,385	1,151	30,963
2-METHYLPENTANE	18	43	274	13	348
4-PROPYL-3-HEPTENE	579	1,431	9,032	426	11,468
A-PINENE	105	260	1,642	78	2,085
BENZOTHIAZOLE	53	130	821	39	1,043
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	175	434	2,737	129	3,475
BUTYLBENZENE ISOMERS	3,933	9,722	61,360	2,896	77,911
BUTYLCYCLOHEXANE	1,774	4,384	27,669	1,306	35,133
C10 ALKYLPHENOLS	403	997	6,295	297	7,993
C10 INTERNAL ALKENES	2,265	5,598	35,332	1,668	44,863
C11 ALKYLPHENOLS	175	434	2,737	129	3,475
C11 DIALKYL BENZENES	105	260	1,642	78	2,085
C11 INTERNAL ALKENES	1,035	2,558	16,147	762	20,503
C12 INTERNAL ALKENES	123	304	1,916	90	2,433
C8H14	105	260	1,642	78	2,085
CHLOROBENZENE	281	694	4,379	207	5,560
DIETHYLCYCLOHEXANE	474	1,171	7,389	349	9,383
DIETHYLMETHYLCYCLOHEXANES	579	1,431	9,032	426	11,468
DIMETHYLBENZYLALCOHOL	158	390	2,463	116	3,128
DIMETHYLBUTYLCYCLOHEXANE	53	130	821	39	1,043
DIMETHYLDECANE	298	737	4,653	220	5,908
DIMETHYLETHYLCYCLOHEXANE	1,000	2,472	15,600	736	19,808
DIMETHYLHEPTANES	579	1,431	9,032	426	11,468
DIMETHYLNONANES	2,616	6,465	40,806	1,926	51,813
DIMETHYLUNDECANES	246	607	3,832	181	4,865
DIMETHYOCTYNE DIOL	105	260	1,642	78	2,085
ETHYL ALCOHOL	35,119	86,811	547,911	25,864	695,705
ETHYL PROPYLCYCLOHEXANES	526	1,301	8,210	388	10,425
ETHYLBENZENE	368	911	5,747	271	7,298
ETHYLCYCLOHEXANE	614	1,518	9,579	452	12,163
ETHYLHEXANE	351	867	5,474	258	6,950

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
ETHYLMETHYLCYCLOHEXANES	4,494	11,109	70,117	3,310	89,031
ETHYLMETHYLHEXANE	105	260	1,642	78	2,085
ETHYLOCTANE	228	564	3,558	168	4,518
INDENE	351	867	5,474	258	6,950
ISOMERS OF C10H18	70	173	1,095	52	1,390
ISOMERS OF C11H20	228	564	3,558	168	4,518
ISOMERS OF DECANE (C10 PARAFFINS)	12,657	31,286	197,462	9,321	250,725
ISOMERS OF DODECANE (C12 PARAFFINS)	1,175	2,905	18,337	866	23,283
ISOMERS OF TRIDECANE (C13 PARAFFINS)	53	130	821	39	1,043
ISOMERS OF UNDECANE (C11 PARAFFINS)	8,338	20,610	130,081	6,140	165,169
ISOMERS OF XYLENE	4,038	9,982	63,002	2,974	79,996
ISOPROPYL ALCOHOL	35,109	86,785	547,747	25,856	695,497
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	2,230	5,511	34,785	1,642	44,168
ISOPROPYLMETHYLCYCLOHEXANE	456	1,127	7,116	336	9,035
METHYL PROPYLCYCLOHEXANES	6,303	15,580	98,334	4,642	124,859
METHYLCYCLOHEXANE	18	43	274	13	348
METHYLDECALINS	579	1,431	9,032	426	11,468
METHYLDECENES	702	1,734	10,947	517	13,900
METHYLUNDECANE	965	2,385	15,053	711	19,113
NAPTHALENE	368	911	5,747	271	7,298
N-NONANE	7,338	18,138	114,481	5,404	145,362
NONADIENE	175	434	2,737	129	3,475
N-PROPYLBENZENE	1,035	2,558	16,147	762	20,503
O-ETHYLTOLUENE	403	997	6,295	297	7,993
PENTYLIDENECYCLOHEXANE	175	434	2,737	129	3,475
POLYCYCLIC AROMATIC HYDROCARBONS	368	911	5,747	271	7,298
PROPENYLCYCLOHEXANE	807	1,995	12,589	594	15,985
T-BUTYLBENZENE	333	824	5,200	245	6,603
T-DECAHYDRONAPHTHALENE (TRANS-DECALIN)	632	1,561	9,853	465	12,510
TETRAMETHYLCYCLOPENTANE	579	1,431	9,032	426	11,468
TETRAMETHYLTHIOUREA	53	130	821	39	1,043
TOLUENE	526	1,301	8,210	388	10,425
TOTAL VOLATILE ORGANIC COMPOUNDS	175,421	433,622	2,736,820	129,191	3,475,054
TRANS-1,3-DIMETHYLCYCLOHEXANE	491	1,214	7,663	362	9,730
TRIMETHYLBENZENES	2,352	5,815	36,701	1,732	46,600
TRIMETHYLCYCLOHEXANES	2,124	5,251	33,143	1,565	42,083

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
TRIMETHYLCYCLOHEXANOL	175	434	2,737	129	3,475
TRIMETHYLCYCLOPENTANONE	158	390	2,463	116	3,128
TRIMETHYLDECANE	18	43	274	13	348
TRIMETHYLHEXENE	368	911	5,747	271	7,298
TRIMETHYLOCTANES	368	911	5,747	271	7,298

Table A6: Lawn mowing and garden equipment (domestic) emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Exhaust - Petrol 2 Stroke					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	266	667	3,183	176	4,292
(2-METHYLPROPYL)BENZENE	133	334	1,591	88	2,146
1,2,3-TRIMETHYLBENZENE	532	1,335	6,365	351	8,583
1,2,4-TRIMETHYLBENZENE	10,571	26,532	126,506	6,981	170,591
1,2-PROPADIENE	499	1,252	5,967	329	8,047
1,3,5-TRIMETHYLBENZENE	3,989	10,012	47,738	2,634	64,374
1,3-BUTADIENE	706	1,773	8,454	467	11,400
1-BUTENE	1,429	3,588	17,106	944	23,067
1-PENTENE	1,031	2,587	12,332	681	16,630
2,2,4-TRIMETHYLPENTANE	12,257	30,763	146,679	8,094	197,793
2,2-DIMETHYLBUTANE	1,995	5,006	23,869	1,317	32,187
2,3,4-TRIMETHYLPENTANE	3,557	8,928	42,567	2,349	57,400
2,3-DIMETHYL-1-BUTENE	997	2,503	11,935	659	16,094
2,3-DIMETHYLHEXANE	997	2,503	11,935	659	16,094
2,3-DIMETHYLPENTANE	2,394	6,007	28,643	1,581	38,625
2,4-DIMETHYLHEXANE	2,094	5,256	25,063	1,383	33,796
2,4-DIMETHYLPENTANE	2,028	5,090	24,267	1,339	32,724
2-METHYL-BUTANE	16,289	40,883	194,931	10,757	262,861
2-METHYLHEPTANE	1,795	4,506	21,482	1,185	28,968
2-METHYLHEXANE	5,419	13,600	64,844	3,578	87,441
2-METHYLPENTANE	9,474	23,779	113,378	6,257	152,889
2-METHYLPROPANE; ISOBUTANE	1,064	2,670	12,730	703	17,166
2-METHYLPROPENE (ISOBUTENE)	1,463	3,671	17,504	966	23,604
3-METHYLHEXANE	5,419	13,600	64,844	3,578	87,441
3-METHYLPENTANE	6,050	15,185	72,403	3,996	97,634
ACENAPHTHENE	2.25×10^{-2}	5.64×10^{-2}	0.27	1.48×10^{-2}	0.36
ACENAPHTHYLENE	0.84	2.12	10	0.56	14
ACETALDEHYDE	548	1,375	6,557	362	8,842
ACETONE	299	751	3,580	198	4,828
ACETYLENE	8,078	20,275	96,670	5,335	130,358
ACROLEIN (2-PROPENAL)	99	248	1,182	65	1,594
ALKENE KETONE	33	83	398	22	536
AMMONIA (TOTAL)	28	71	340	19	458
ANTHRACENE	0.75	1.89	9.01	0.50	12
BENZALDEHYDE	33	83	398	22	536
BENZENE	8,283	20,790	99,125	5,470	133,668
BENZO(A)ANTHRACENE	0.38	0.96	4.57	0.25	6.17
BENZO(A)PYRENE	0.33	0.82	3.90	0.22	5.26
BENZO(B)FLUORANTHENE	0.18	0.45	2.15	0.12	2.90
BENZO(G,H,I)PERYLENE	1.30	3.27	16	0.86	21

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
BENZO(K)FLUORANTHENE	0.16	0.39	1.88	0.10	2.54
BROMINE AND COMPOUNDS	5.79	15	69	3.83	93
BUTYLBENZENE ISOMERS	1,064	2,670	12,730	703	17,166
C6 ALDEHYDES	66	167	796	44	1,073
C9 MONOSUBSTITUTED BENZENES	1,662	4,172	19,891	1,098	26,823
CARBON DIOXIDE	1,255,649	3,151,489	15,026,256	829,210	20,262,604
CARBON MONOXIDE	763,956	1,917,414	9,142,204	504,504	12,328,079
CHLORINE	811	2,035	9,705	536	13,087
CHROMIUM (III) COMPOUNDS	1.80×10^{-2}	4.52×10^{-2}	0.22	1.19×10^{-2}	0.29
CHROMIUM (VI) COMPOUNDS	9.27×10^{-3}	2.33×10^{-2}	0.11	6.12×10^{-3}	0.15
CHRYSENE	0.24	0.59	2.82	0.16	3.81
CIS-2-BUTENE	565	1,418	6,763	373	9,120
CIS-2-PENTENE	1,662	4,172	19,891	1,098	26,823
COBALT & COMPOUNDS	5.79	15	69	3.83	93
COPPER & COMPOUNDS	5.79	15	69	3.83	93
CUMENE (1-METHYLETHYLBENZENE)	465	1,168	5,569	307	7,510
CYCLOHEXANE	199	501	2,387	132	3,219
CYCLOPENTANE	2,094	5,256	25,063	1,383	33,796
DIBENZO(A,H)ANTHRACENE	1.12×10^{-2}	2.82×10^{-2}	0.13	7.42×10^{-3}	0.18
DIETHYLBENZENES	864	2,169	10,343	571	13,948
ETHANE	698	1,752	8,354	461	11,265
ETHYL ALCOHOL	133	334	1,591	88	2,146
ETHYLBENZENE	7,888	19,798	94,397	5,209	127,292
ETHYLENE	4,089	10,263	48,932	2,700	65,984
ETHYLHEXANE	2,626	6,591	31,428	1,734	42,380
FLUORANTHENE	3.00	7.53	36	1.98	48
FLUORENE	2.69	6.74	32	1.77	43
FORMALDEHYDE	836	2,097	10,000	552	13,485
INDAN	366	918	4,376	241	5,901
INDENO(1,2,3-CD)PYRENE	0.39	0.99	4.71	0.26	6.35
ISOMERS OF XYLENE	35,391	88,826	423,520	23,372	571,108
LEAD & COMPOUNDS	4.85	12	58	3.21	78
MANGANESE & COMPOUNDS	9.13×10^{-3}	2.29×10^{-2}	0.11	6.03×10^{-3}	0.15
METHANE	2,866	7,193	34,295	1,893	46,246
METHYL ALCOHOL	332	834	3,978	220	5,365
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	66	167	796	44	1,073
METHYL N-BUTYL KETONE	33	83	398	22	536
METHYLCYCLOHEXANE	1,031	2,587	12,332	681	16,630
METHYLCYCLOPENTANE	7,613	19,107	91,101	5,027	122,847
M-ETHYLTOLUENE	8,710	21,860	104,229	5,752	140,550
NAPTHALENE	4.50×10^{-2}	0.11	0.54	2.97×10^{-2}	0.73
N-BUTANE	3,790	9,512	45,351	2,503	61,155
N-DECANE	1,529	3,838	18,300	1,010	24,677

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-HEPTANE	2,360	5,924	28,245	1,559	38,088
N-HEXANE	4,660	11,695	55,760	3,077	75,191
NICKEL & COMPOUNDS	1.99×10^{-2}	4.99×10^{-2}	0.24	1.31×10^{-2}	0.32
NITRIC OXIDE	1,193	2,994	14,276	788	19,251
NITROGEN DIOXIDE	96	242	1,152	64	1,554
NITROUS OXIDE	56	142	675	37	910
N-NONANE	1,695	4,255	20,289	1,120	27,359
N-OCTANE	2,028	5,090	24,267	1,339	32,724
N-PENTANE	5,784	14,518	69,221	3,820	93,343
N-PROPYLBENZENE	2,360	5,924	28,245	1,559	38,088
N-UNDECANE	100	250	1,193	66	1,609
O-ETHYLTOLUENE	3,457	8,677	41,373	2,283	55,791
OXIDES OF NITROGEN	1,925	4,833	23,042	1,272	31,072
PARTICULATE MATTER ≤ 10 µm	11,238	28,206	134,487	7,422	181,352
PARTICULATE MATTER ≤ 2.5 µm	10,339	25,950	123,728	6,828	166,844
PHENANTHRENE	2.34	5.87	28	1.54	38
PHOSPHORUS	1.26	3.17	15	0.83	20
POLYCHLORINATED DIOXINS AND FURANS	3.20×10^{-9}	8.02×10^{-9}	3.82×10^{-8}	2.11×10^{-9}	5.16×10^{-8}
POLYCYCLIC AROMATIC HYDROCARBONS	16	41	194	11	262
PROPANE	1,629	4,088	19,493	1,076	26,286
PROPIONALDEHYDE	81	204	972	54	1,311
PROPYLENE	3,590	9,011	42,964	2,371	57,937
PYRENE	3.57	8.97	43	2.36	58
STYRENE (ETHENYLBENZENE)	426	1,070	5,103	282	6,882
SULFUR DIOXIDE	106	265	1,265	70	1,705
TOLUENE	32,199	80,816	385,329	21,264	519,608
TOTAL SUSPENDED PARTICULATE	11,586	29,079	138,646	7,651	186,961
TOTAL VOLATILE ORGANIC COMPOUNDS	329,248	826,363	3,940,089	217,430	5,313,130
TRANS-2-BUTENE	565	1,418	6,763	373	9,120
TRANS-2-PENTENE	964	2,420	11,537	637	15,557
ZINC & COMPOUNDS	5.79	15	69	3.83	93
Exhaust - Petrol 4 Stroke					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	41	103	490	27	660
(2-METHYLPROPYL)BENZENE	27	68	326	18	440
1,2,3-TRIMETHYLBENZENE	587	1,472	7,019	387	9,465
1,2,4-TRIMETHYLBENZENE	3,710	9,312	44,397	2,450	59,869
1,2-DIETHYLBENZENE (ORTHO)	164	411	1,959	108	2,641
1,2-PROPADIENE	1,105	2,773	13,221	730	17,829
1,3,5-TRIMETHYLBENZENE	1,064	2,670	12,732	703	17,168
1,3-BUTADIENE	1,162	2,916	13,902	767	18,747

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
1-BUTENE	1,050	2,636	12,568	694	16,948
1-PENTENE	286	719	3,428	189	4,622
2,2,4-TRIMETHYLPENTANE	1,796	4,509	21,497	1,186	28,988
2,2-DIMETHYLBUTANE	436	1,095	5,223	288	7,043
2,3,4-TRIMETHYLPENTANE	477	1,198	5,713	315	7,704
2,3-DIMETHYL-1-BUTENE	259	650	3,101	171	4,182
2,3-DIMETHYLHEXANE	150	377	1,795	99	2,421
2,3-DIMETHYLPENTANE	436	1,095	5,223	288	7,043
2,4-DIMETHYLHEXANE	341	856	4,081	225	5,503
2,4-DIMETHYLPENTANE	382	959	4,570	252	6,163
2-METHYL-BUTANE	3,274	8,216	39,174	2,162	52,825
2-METHYLHEPTANE	436	1,095	5,223	288	7,043
2-METHYLHEXANE	955	2,396	11,426	631	15,407
2-METHYLPENTANE	1,923	4,827	23,015	1,270	31,035
2-METHYLPROPANE; ISOBUTANE	341	856	4,081	225	5,503
2-METHYLPROPENE (ISOBUTENE)	1,500	3,766	17,955	991	24,212
3-METHYLHEXANE	1,023	2,568	12,242	676	16,508
3-METHYLPENTANE	1,200	3,013	14,364	793	19,369
ACENAPHTHENE	0.94	2.37	11	0.62	15
ACENAPHTHYLENE	5.33	13	64	3.52	86
ACETALDEHYDE	500	1,256	5,987	330	8,074
ACETONE	464	1,164	5,550	306	7,484
ACETYLENE	10,298	25,846	123,235	6,801	166,180
ACROLEIN (2-PROPENAL)	85	214	1,022	56	1,378
ALKENE KETONE	41	103	490	27	660
AMMONIA (TOTAL)	55	139	662	37	892
ANTHRACENE	1.10	2.76	13	0.73	18
BENZALDEHYDE	123	308	1,469	81	1,981
BENZENE	6,401	16,067	76,606	4,227	103,302
BENZO(A)ANTHRACENE	0.13	0.32	1.55	8.55×10^{-2}	2.09
BENZO(A)PYRENE	0.13	0.32	1.55	8.55×10^{-2}	2.09
BENZO(B)FLUORANTHENE	0.16	0.39	1.86	0.10	2.51
BENZO(G,H,I)PERYLENE	0.34	0.84	4.03	0.22	5.43
BENZO(K)FLUORANTHENE	0.16	0.39	1.86	0.10	2.51
B-METHYLSTYRENE	218	548	2,612	144	3,522
BROMINE AND COMPOUNDS	0.67	1.67	7.98	0.44	11
BUTYLBENZENE ISOMERS	491	1,232	5,876	324	7,924
BUTYRALDEHYDE	14	34	163	9.01	220
C10 MONOSUBSTITUTED BENZENES	327	822	3,917	216	5,283
C6 ALDEHYDES	164	411	1,959	108	2,641
C9 MONOSUBSTITUTED BENZENES	1,255	3,149	15,017	829	20,250
CARBON DIOXIDE	3,993,257	10,022,470	47,787,000	2,637,083	64,439,809
CARBON MONOXIDE	1,404,582	3,525,289	16,808,529	927,564	22,665,964
CHLORINE	93	234	1,118	62	1,507

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CHROMIUM (III) COMPOUNDS	3.51×10^{-2}	8.80×10^{-2}	0.42	2.32×10^{-2}	0.57
CHROMIUM (VI) COMPOUNDS	1.81×10^{-2}	4.54×10^{-2}	0.22	1.19×10^{-2}	0.29
CHRYSENE	0.13	0.32	1.55	8.55×10^{-2}	2.09
CIS-2-BUTENE	191	479	2,285	126	3,081
CIS-2-PENTENE	341	856	4,081	225	5,503
COBALT & COMPOUNDS	0.67	1.67	7.98	0.44	11
COPPER & COMPOUNDS	0.67	1.67	7.98	0.44	11
CUMENE (1-METHYLETHYLBENZENE)	95	240	1,143	63	1,541
CYCLOHEXANE	55	137	653	36	880
CYCLOHEXANONE	27	68	326	18	440
CYCLOPENTANE	259	650	3,101	171	4,182
DIETHYLBENZENES	273	685	3,265	180	4,402
ETHANE	1,132	2,841	13,548	748	18,269
ETHYL ALCOHOL	27	68	326	18	440
ETHYLBENZENE	2,419	6,071	28,945	1,597	39,032
ETHYLENE	9,793	24,580	117,196	6,467	158,036
ETHYLHEXANE	436	1,095	5,223	288	7,043
FLUORANTHENE	1.18	2.96	14	0.78	19
FLUORENE	1.95	4.90	23	1.29	32
FORMALDEHYDE	2,093	5,252	25,041	1,382	33,767
INDAN	382	959	4,570	252	6,163
INDENO(1,2,3-CD)PYRENE	0.10	0.26	1.24	6.84×10^{-2}	1.67
ISOMERS OF XYLENE	8,272	20,762	98,994	5,463	133,491
LEAD & COMPOUNDS	9.46	24	113	6.25	153
MANGANESE & COMPOUNDS	1.78×10^{-2}	4.46×10^{-2}	0.21	1.17×10^{-2}	0.29
METHANE	13,077	32,822	156,496	8,636	211,032
METHYL ALCOHOL	191	479	2,285	126	3,081
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	82	205	979	54	1,321
METHYL N-BUTYL KETONE	273	685	3,265	180	4,402
METHYLCYCLOHEXANE	518	1,301	6,203	342	8,364
METHYLCYCLOPENTANE	1,487	3,731	17,792	982	23,992
M-ETHYLTOLUENE	1,950	4,895	23,341	1,288	31,475
NAPTHALENE	117	295	1,405	78	1,895
N-BUTANE	832	2,088	9,957	549	13,426
N-DECANE	300	753	3,591	198	4,842
N-HEPTANE	709	1,780	8,488	468	11,446
N-HEXANE	1,211	3,038	14,487	799	19,535
NICKEL & COMPOUNDS	3.87×10^{-2}	9.72×10^{-2}	0.46	2.56×10^{-2}	0.62
NITRIC OXIDE	4,595	11,533	54,991	3,035	74,155
NITROGEN DIOXIDE	371	931	4,438	245	5,984
NITROUS OXIDE	110	276	1,315	73	1,774
N-NONANE	559	1,404	6,692	369	9,024
N-OCTANE	436	1,095	5,223	288	7,043

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-PENTANE	1,405	3,526	16,812	928	22,671
N-PROPYLBENZENE	477	1,198	5,713	315	7,704
N-UNDECANE	273	685	3,265	180	4,402
O-ETHYLTOLUENE	873	2,191	10,446	576	14,087
OXIDES OF NITROGEN	7,417	18,615	88,758	4,898	119,688
PARTICULATE MATTER ≤ 10 µm	1,294	3,248	15,487	855	20,884
PARTICULATE MATTER ≤ 2.5 µm	1,191	2,988	14,248	786	19,214
PHENANTHRENE	3.29	8.25	39	2.17	53
PHOSPHORUS	2.46	6.17	29	1.62	40
POLYCHLORINATED DIOXINS AND FURANS	6.23×10^{-9}	1.56×10^{-8}	7.45×10^{-8}	4.11×10^{-9}	1.0×10^{-7}
POLYCYCLIC AROMATIC HYDROCARBONS	134	336	1,603	88	2,162
PROPANE	941	2,362	11,263	622	15,187
PROPIONALDEHYDE	229	576	2,746	152	3,703
PROPYLENE	4,542	11,400	54,354	2,999	73,295
PYRENE	1.60	4.03	19	1.06	26
STYRENE (ETHENYLBENZENE)	93	232	1,107	61	1,493
SULFUR DIOXIDE	344	862	4,112	227	5,545
TOLUENE	8,766	22,000	104,897	5,789	141,452
TOTAL SUSPENDED PARTICULATE	1,334	3,349	15,966	881	21,530
TOTAL VOLATILE ORGANIC COMPOUNDS	122,012	306,232	1,460,108	80,575	1,968,926
TRANS-2-BUTENE	273	685	3,265	180	4,402
TRANS-2-PENTENE	464	1,164	5,550	306	7,484
ZINC & COMPOUNDS	0.67	1.67	7.98	0.44	11
Evaporative					
1,2,4-TRIMETHYLBENZENE	53	134	640	35	863
1,4-PENTADIENE	178	447	2,132	118	2,875
1-BUTENE	820	2,057	9,808	541	13,226
1-PENTENE	980	2,459	11,727	647	15,813
2,2,3,TRIMETHYLHEXANE	18	45	213	12	288
2,2,3-TRIMETHYLBUTANE	36	89	426	24	575
2,2,4-TRIMETHYLPENTANE	873	2,191	10,447	577	14,088
2,2-DIMETHYLBUTANE	267	671	3,198	176	4,313
2,2-DIMETHYLHEXANE	36	89	426	24	575
2,2-DIMETHYLPENTANE	89	224	1,066	59	1,438
2,3,3-TRIMETHYLPENTANE	89	224	1,066	59	1,438
2,3,4-TRIMETHYLPENTANE	89	224	1,066	59	1,438
2,3-DIMETHYLBUTANE	1,443	3,622	17,270	953	23,289
2,3-DIMETHYLHEXANE	143	358	1,706	94	2,300
2,3-DIMETHYLPENTANE	321	805	3,838	212	5,175
2,4-DIMETHYLHEXANE	249	626	2,985	165	4,025
2,4-DIMETHYLPENTANE	285	715	3,411	188	4,600

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
2,5-DIMETHYLHEXANE	125	313	1,492	82	2,013
2-METHYL-1-BUTENE	2,013	5,053	24,093	1,330	32,489
2-METHYL-2-BUTENE	7,893	19,810	94,453	5,212	127,368
2-METHYLHEPTANE	267	671	3,198	176	4,313
2-METHYLHEXANE	909	2,281	10,874	600	14,663
2-METHYLNONANE	18	45	213	12	288
2-METHYLOCTANE	18	45	213	12	288
2-METHYLPENTANE	8,516	21,375	101,916	5,624	137,431
2-METHYLPROPANE; ISOBUTANE	5,434	13,639	65,030	3,589	87,691
3,3-DIMETHYLPENTANE	107	268	1,279	71	1,725
3-ETHYLPENTANE	178	447	2,132	118	2,875
3-METHYL-1-BUTENE	53	134	640	35	863
3-METHYLHEPTANE	249	626	2,985	165	4,025
3-METHYLHEXANE	1,122	2,817	13,432	741	18,113
3-METHYLOCTANE	36	89	426	24	575
3-METHYLPENTANE	4,169	10,464	49,892	2,753	67,278
4-METHYLHEPTANE	143	358	1,706	94	2,300
4-METHYLOCTANE	18	45	213	12	288
BENZENE	1,390	3,488	16,631	918	22,426
CIS-1,3-DIMETHYLCYCLOPENTANE	392	984	4,691	259	6,325
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	249	626	2,985	165	4,025
CIS-1-2-DIMETHYLCYCLOPENTANE	249	626	2,985	165	4,025
CIS-2-BUTENE	535	1,342	6,396	353	8,625
CIS-2-PENTENE	2,886	7,244	34,540	1,906	46,577
CYCLOHEXANE	89	224	1,066	59	1,438
CYCLOPENTENE	53	134	640	35	863
ETHYLBENZENE	178	447	2,132	118	2,875
ETHYLCYCLOPENTANE	53	134	640	35	863
ISOMERS OF PENTANE	88,282	221,575	1,056,468	58,300	1,424,626
ISOMERS OF XYLENE	980	2,459	11,727	647	15,813
METHANE	841	2,111	10,066	555	13,574
METHYLCYCLOPENTANE	517	1,297	6,183	341	8,338
M-ETHYLTOLUENE	107	268	1,279	71	1,725
N-BUTANE	23,750	59,608	284,212	15,684	383,255
N-DECANE	18	45	213	12	288
N-HEPTANE	695	1,744	8,315	459	11,213
N-HEXANE	392	984	4,691	259	6,325
N-NONANE	18	45	213	12	288
N-PROPYLBENZENE	36	89	426	24	575
P-ETHYLTOLUENE	53	134	640	35	863
TOLUENE	3,385	8,496	40,510	2,236	54,627
TOTAL VOLATILE ORGANIC COMPOUNDS	178,168	447,175	2,132,125	117,659	2,875,128

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	18	45	213	12	288
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	53	134	640	35	863
TRANS-1,3-DIMETHYLCYCLOPENTANE	125	313	1,492	82	2,013
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	71	179	853	47	1,150
TRANS-1-2-DIMETHYLCYCLOPENTANE	89	224	1,066	59	1,438
TRANS-2-BUTENE	5,042	12,655	60,339	3,330	81,366
TRANS-2-ETHYLMETHYLCYCLOPENTANE	53	134	640	35	863
TRANS-2-PENTENE	5,238	13,147	62,684	3,459	84,529

Table A7: Lawn mowing and garden equipment (public open space) emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Exhaust - Petrol 2 Stroke					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	154	352	2,411	114	3,031
(2-METHYLPROPYL)BENZENE	77	176	1,205	57	1,516
1,2,3-TRIMETHYLBENZENE	308	705	4,822	228	6,063
1,2,4-TRIMETHYLBENZENE	6,118	14,005	95,836	4,540	120,499
1,2-PROPADIENE	289	661	4,521	214	5,684
1,3,5-TRIMETHYLBENZENE	2,309	5,285	36,165	1,713	45,472
1,3-BUTADIENE	409	936	6,404	303	8,052
1-BUTENE	827	1,894	12,959	614	16,294
1-PENTENE	596	1,365	9,343	443	11,747
2,2,4-TRIMETHYLPENTANE	7,094	16,238	111,118	5,264	139,714
2,2-DIMETHYLBUTANE	1,154	2,642	18,082	857	22,736
2,3,4-TRIMETHYLPENTANE	2,059	4,712	32,247	1,528	40,545
2,3-DIMETHYL-1-BUTENE	577	1,321	9,041	428	11,368
2,3-DIMETHYLHEXANE	577	1,321	9,041	428	11,368
2,3-DIMETHYLPENTANE	1,385	3,171	21,699	1,028	27,283
2,4-DIMETHYLHEXANE	1,212	2,775	18,986	899	23,873
2,4-DIMETHYLPENTANE	1,174	2,686	18,384	871	23,115
2-METHYL-BUTANE	9,427	21,580	147,672	6,996	185,675
2-METHYLHEPTANE	1,039	2,378	16,274	771	20,462
2-METHYLHEXANE	3,136	7,179	49,124	2,327	61,765
2-METHYLPENTANE	5,483	12,552	85,891	4,069	107,995
2-METHYLPROPANE; ISOBUTANE	616	1,409	9,644	457	12,126
2-METHYLPROPENE (ISOBUTENE)	847	1,938	13,260	628	16,673
3-METHYLHEXANE	3,136	7,179	49,124	2,327	61,765
3-METHYLPENTANE	3,502	8,015	54,850	2,598	68,965
ACENAPHTHENE	1.20×10^{-2}	2.75×10^{-2}	0.19	8.90×10^{-3}	0.24
ACENAPHTHYLENE	0.45	1.03	7.04	0.33	8.86
ACETALDEHYDE	317	726	4,967	235	6,245
ACETONE	173	396	2,712	128	3,410
ACETYLENE	4,675	10,702	73,233	3,469	92,080
ACROLEIN (2-PROPENAL)	57	131	895	42	1,126
ALKENE KETONE	19	44	301	14	379
AMMONIA (TOTAL)	15	34	233	11	293
ANTHRACENE	0.40	0.92	6.29	0.30	7.91
BENZALDEHYDE	19	44	301	14	379
BENZENE	4,794	10,974	75,093	3,558	94,418
BENZO(A)ANTHRACENE	0.20	0.47	3.19	0.15	4.02
BENZO(A)PYRENE	0.17	0.40	2.72	0.13	3.42
BENZO(B)FLUORANTHENE	9.59×10^{-2}	0.22	1.50	7.12×10^{-2}	1.89
BENZO(G,H,I)PERYLENE	0.70	1.59	11	0.52	14

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
BENZO(K)FLUORANTHENE	8.40×10^{-2}	0.19	1.32	6.23×10^{-2}	1.65
BROMINE AND COMPOUNDS	3.09	7.08	48	2.29	61
BUTYLBENZENE ISOMERS	616	1,409	9,644	457	12,126
C6 ALDEHYDES	38	88	603	29	758
C9 MONOSUBSTITUTED BENZENES	962	2,202	15,069	714	18,946
CARBON DIOXIDE	600,877	1,375,451	9,412,314	445,907	11,834,548
CARBON MONOXIDE	431,147	986,928	6,753,622	319,952	8,491,649
CHLORINE	433	991	6,778	321	8,523
CHROMIUM (III) COMPOUNDS	9.43×10^{-3}	2.16×10^{-2}	0.15	7.0×10^{-3}	0.19
CHROMIUM (VI) COMPOUNDS	4.86×10^{-3}	1.11×10^{-2}	7.61×10^{-2}	3.60×10^{-3}	9.57×10^{-2}
CHRYSENE	0.13	0.29	1.97	9.34×10^{-2}	2.48
CIS-2-BUTENE	327	749	5,123	243	6,442
CIS-2-PENTENE	962	2,202	15,069	714	18,946
COBALT & COMPOUNDS	3.09	7.08	48	2.29	61
COPPER & COMPOUNDS	3.09	7.08	48	2.29	61
CUMENE (1-METHYLETHYLBENZENE)	269	617	4,219	200	5,305
CYCLOHEXANE	115	264	1,808	86	2,274
CYCLOPENTANE	1,212	2,775	18,986	899	23,873
DIBENZO(A,H)ANTHRACENE	6.0×10^{-3}	1.37×10^{-2}	9.39×10^{-2}	4.45×10^{-3}	0.12
DIETHYLBENZENES	500	1,145	7,836	371	9,852
ETHANE	404	925	6,329	300	7,958
ETHYL ALCOHOL	77	176	1,205	57	1,516
ETHYLBENZENE	4,565	10,450	71,511	3,388	89,914
ETHYLENE	2,366	5,417	37,069	1,756	46,608
ETHYLHEXANE	1,520	3,479	23,808	1,128	29,935
FLUORANTHENE	1.60	3.66	25	1.19	32
FLUORENE	1.43	3.28	22	1.06	28
FORMALDEHYDE	484	1,107	7,576	359	9,525
INDAN	212	484	3,315	157	4,168
INDENO(1,2,3-CD)PYRENE	0.21	0.48	3.29	0.16	4.13
ISOMERS OF XYLENE	20,482	46,886	320,842	15,200	403,410
LEAD & COMPOUNDS	2.54	5.82	40	1.89	50
MANGANESE & COMPOUNDS	4.78×10^{-3}	1.09×10^{-2}	7.49×10^{-2}	3.55×10^{-3}	9.42×10^{-2}
METHANE	1,659	3,797	25,980	1,231	32,666
METHYL ALCOHOL	192	440	3,014	143	3,789
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	38	88	603	29	758
METHYL N-BUTYL KETONE	19	44	301	14	379
METHYLCYCLOHEXANE	596	1,365	9,343	443	11,747
METHYLCYCLOPENTANE	4,406	10,085	69,014	3,270	86,775
M-ETHYLTOLUENE	5,041	11,539	78,959	3,741	99,280
NAPTHALENE	2.40×10^{-2}	5.49×10^{-2}	0.38	1.78×10^{-2}	0.47
N-BUTANE	2,193	5,021	34,356	1,628	43,198
N-DECANE	885	2,026	13,863	657	17,431

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-HEPTANE	1,366	3,127	21,397	1,014	26,904
N-HEXANE	2,697	6,173	42,242	2,001	53,112
NICKEL & COMPOUNDS	1.04×10^{-2}	2.38×10^{-2}	0.16	7.72×10^{-3}	0.20
NITRIC OXIDE	581	1,331	9,106	431	11,450
NITROGEN DIOXIDE	47	107	735	35	924
NITROUS OXIDE	30	68	463	22	582
N-NONANE	981	2,246	15,370	728	19,325
N-OCTANE	1,174	2,686	18,384	871	23,115
N-PENTANE	3,348	7,663	52,439	2,484	65,934
N-PROPYLBENZENE	1,366	3,127	21,397	1,014	26,904
N-UNDECANE	58	132	904	43	1,137
O-ETHYLTOLUENE	2,001	4,580	31,343	1,485	39,409
OXIDES OF NITROGEN	938	2,148	14,698	696	18,481
PARTICULATE MATTER ≤ 10 µm	5,996	13,726	93,930	4,450	118,103
PARTICULATE MATTER ≤ 2.5 µm	5,517	12,628	86,416	4,094	108,655
PHENANTHRENE	1.25	2.86	20	0.93	25
PHOSPHORUS	0.66	1.51	10	0.49	13
POLYCHLORINATED DIOXINS AND FURANS	1.67×10^{-9}	3.83×10^{-9}	2.62×10^{-8}	1.24×10^{-9}	3.30×10^{-8}
POLYCYCLIC AROMATIC HYDROCARBONS	8.67	20	136	6.43	171
PROPANE	943	2,158	14,767	700	18,568
PROPIONALDEHYDE	47	108	737	35	926
PROPYLENE	2,078	4,756	32,548	1,542	40,924
PYRENE	1.91	4.36	30	1.42	38
STYRENE (ETHENYLBENZENE)	247	565	3,866	183	4,861
SULFUR DIOXIDE	50	115	788	37	991
TOLUENE	18,635	42,658	291,910	13,829	367,032
TOTAL SUSPENDED PARTICULATE	6,182	14,151	96,835	4,588	121,756
TOTAL VOLATILE ORGANIC COMPOUNDS	190,551	436,186	2,984,854	141,407	3,752,998
TRANS-2-BUTENE	327	749	5,123	243	6,442
TRANS-2-PENTENE	558	1,277	8,740	414	10,989
ZINC & COMPOUNDS	3.09	7.08	48	2.29	61
Exhaust - Petrol 4 Stroke					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	10	24	162	7.66	203
(2-METHYLPROPYL)BENZENE	6.88	16	108	5.10	135
1,2,3-TRIMETHYLBENZENE	148	339	2,317	110	2,913
1,2,4-TRIMETHYLBENZENE	935	2,141	14,654	694	18,425
1,2-DIETHYLBENZENE (ORTHO)	41	94	646	31	813
1,2-PROPADIENE	279	638	4,364	207	5,487
1,3,5-TRIMETHYLBENZENE	268	614	4,202	199	5,284
1,3-BUTADIENE	293	671	4,588	217	5,769

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
1-BUTENE	265	606	4,148	197	5,216
1-PENTENE	72	165	1,131	54	1,423
2,2,4-TRIMETHYLPENTANE	453	1,037	7,095	336	8,921
2,2-DIMETHYLBUTANE	110	252	1,724	82	2,168
2,3,4-TRIMETHYLPENTANE	120	276	1,886	89	2,371
2,3-DIMETHYL-1-BUTENE	65	150	1,024	48	1,287
2,3-DIMETHYLHEXANE	38	87	593	28	745
2,3-DIMETHYLPENTANE	110	252	1,724	82	2,168
2,4-DIMETHYLHEXANE	86	197	1,347	64	1,693
2,4-DIMETHYLPENTANE	96	220	1,508	71	1,897
2-METHYL-BUTANE	825	1,889	12,930	613	16,257
2-METHYLHEPTANE	110	252	1,724	82	2,168
2-METHYLHEXANE	241	551	3,771	179	4,742
2-METHYLPENTANE	485	1,110	7,596	360	9,551
2-METHYLPROPANE; ISOBUTANE	86	197	1,347	64	1,693
2-METHYLPROPENE (ISOBUTENE)	378	866	5,926	281	7,451
3-METHYLHEXANE	258	590	4,041	191	5,080
3-METHYLPENTANE	303	693	4,741	225	5,961
ACENAPHTHENE	0.33	0.75	5.16	0.24	6.49
ACENAPHTHYLENE	1.86	4.26	29	1.38	37
ACETALDEHYDE	126	289	1,976	94	2,485
ACETONE	117	268	1,832	87	2,303
ACETYLENE	2,597	5,944	40,675	1,927	51,143
ACROLEIN (2-PROPENAL)	22	49	337	16	424
ALKENE KETONE	10	24	162	7.66	203
AMMONIA (TOTAL)	14	31	214	10	269
ANTHRACENE	0.38	0.88	6.01	0.28	7.55
BENZALDEHYDE	31	71	485	23	610
BENZENE	1,614	3,695	25,285	1,198	31,792
BENZO(A)ANTHRACENE	4.51×10^{-2}	0.10	0.71	3.35×10^{-2}	0.89
BENZO(A)PYRENE	4.51×10^{-2}	0.10	0.71	3.35×10^{-2}	0.89
BENZO(B)FLUORANTHENE	5.41×10^{-2}	0.12	0.85	4.02×10^{-2}	1.07
BENZO(G,H,I)PERYLENE	0.12	0.27	1.84	8.71×10^{-2}	2.31
BENZO(K)FLUORANTHENE	5.41×10^{-2}	0.12	0.85	4.02×10^{-2}	1.07
B-METHYLSTYRENE	55	126	862	41	1,084
BROMINE AND COMPOUNDS	0.23	0.53	3.64	0.17	4.58
BUTYLBENZENE ISOMERS	124	283	1,939	92	2,439
BUTYRALDEHYDE	3.44	7.87	54	2.55	68
C10 MONOSUBSTITUTED BENZENES	83	189	1,293	61	1,626
C6 ALDEHYDES	41	94	646	31	813
C9 MONOSUBSTITUTED BENZENES	316	724	4,956	235	6,232
CARBON DIOXIDE	985,073	2,254,903	15,430,477	731,017	19,401,470
CARBON MONOXIDE	529,459	1,211,971	8,293,609	392,909	10,427,947
CHLORINE	33	75	510	24	641

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CHROMIUM (III) COMPOUNDS	8.67×10^{-3}	1.99×10^{-2}	0.14	6.44×10^{-3}	0.17
CHROMIUM (VI) COMPOUNDS	4.47×10^{-3}	1.02×10^{-2}	7.0×10^{-2}	3.32×10^{-3}	8.80×10^{-2}
CHRYSENE	4.51×10^{-2}	0.10	0.71	3.35×10^{-2}	0.89
CIS-2-BUTENE	48	110	754	36	948
CIS-2-PENTENE	86	197	1,347	64	1,693
COBALT & COMPOUNDS	0.23	0.53	3.64	0.17	4.58
COPPER & COMPOUNDS	0.23	0.53	3.64	0.17	4.58
CUMENE (1-METHYLETHYLBENZENE)	24	55	377	18	474
CYCLOHEXANE	14	31	215	10	271
CYCLOHEXANONE	6.88	16	108	5.10	135
CYCLOPENTANE	65	150	1,024	48	1,287
DIETHYLBENZENES	69	157	1,077	51	1,355
ETHANE	285	653	4,472	212	5,622
ETHYL ALCOHOL	6.88	16	108	5.10	135
ETHYLBENZENE	610	1,396	9,554	453	12,012
ETHYLENE	2,469	5,653	38,682	1,833	48,636
ETHYLHEXANE	110	252	1,724	82	2,168
FLUORANTHENE	0.41	0.94	6.43	0.30	8.09
FLUORENE	0.68	1.56	11	0.51	13
FORMALDEHYDE	528	1,208	8,265	392	10,392
INDAN	96	220	1,508	71	1,897
INDENO(1,2,3-CD)PYRENE	3.61×10^{-2}	8.26×10^{-2}	0.57	2.68×10^{-2}	0.71
ISOMERS OF XYLENE	2,086	4,775	32,674	1,548	41,083
LEAD & COMPOUNDS	2.34	5.35	37	1.74	46
MANGANESE & COMPOUNDS	4.40×10^{-3}	1.01×10^{-2}	6.89×10^{-2}	3.26×10^{-3}	8.66×10^{-2}
METHANE	3,298	7,548	51,653	2,447	64,946
METHYL ALCOHOL	48	110	754	36	948
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	21	47	323	15	406
METHYL N-BUTYL KETONE	69	157	1,077	51	1,355
METHYLCYCLOHEXANE	131	299	2,047	97	2,574
METHYLCYCLOPENTANE	375	858	5,872	278	7,384
M-ETHYLTOLUENE	492	1,126	7,704	365	9,687
NAPTHALENE	41	94	641	30	806
N-BUTANE	210	480	3,286	156	4,132
N-DECANE	76	173	1,185	56	1,490
N-HEPTANE	179	409	2,801	133	3,522
N-HEXANE	305	699	4,782	227	6,012
NICKEL & COMPOUNDS	9.57×10^{-3}	2.19×10^{-2}	0.15	7.10×10^{-3}	0.19
NITRIC OXIDE	1,312	3,004	20,557	974	25,847
NITROGEN DIOXIDE	106	242	1,659	79	2,086
NITROUS OXIDE	27	62	426	20	535
N-NONANE	141	323	2,209	105	2,777
N-OCTANE	110	252	1,724	82	2,168

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-PENTANE	354	811	5,549	263	6,977
N-PROPYLBENZENE	120	276	1,886	89	2,371
N-UNDECANE	69	157	1,077	51	1,355
O-ETHYLTOLUENE	220	504	3,448	163	4,335
OXIDES OF NITROGEN	2,118	4,849	33,179	1,572	41,718
PARTICULATE MATTER ≤ 10 µm	451	1,033	7,068	335	8,887
PARTICULATE MATTER ≤ 2.5 µm	415	950	6,503	308	8,176
PHENANTHRENE	1.15	2.62	18	0.85	23
PHOSPHORUS	0.61	1.39	9.52	0.45	12
POLYCHLORINATED DIOXINS AND FURANS	1.54×10^{-9}	3.52×10^{-9}	2.41×10^{-8}	1.14×10^{-9}	3.03×10^{-8}
POLYCYCLIC AROMATIC HYDROCARBONS	47	107	732	35	920
PROPANE	237	543	3,717	176	4,674
PROPIONALDEHYDE	58	132	906	43	1,140
PROPYLENE	1,145	2,622	17,940	850	22,557
PYRENE	0.56	1.28	8.76	0.42	11
STYRENE (ETHENYLBENZENE)	23	53	366	17	460
SULFUR DIOXIDE	85	194	1,328	63	1,669
TOLUENE	2,210	5,059	34,622	1,640	43,532
TOTAL SUSPENDED PARTICULATE	465	1,065	7,287	345	9,162
TOTAL VOLATILE ORGANIC COMPOUNDS	30,766	70,425	481,924	22,831	605,946
TRANS-2-BUTENE	69	157	1,077	51	1,355
TRANS-2-PENTENE	117	268	1,832	87	2,303
ZINC & COMPOUNDS	0.23	0.53	3.64	0.17	4.58
Exhaust - Diesel					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.72	1.65	11	0.53	14
(2-METHYLPROPYL)BENZENE	1.78	4.07	28	1.32	35
1,2,3-TRIMETHYLBENZENE	1.70	3.88	27	1.26	33
1,2,4-TRIMETHYLBENZENE	7.49	17	117	5.56	147
1,2-DIETHYLBENZENE (ORTHO)	1.21	2.78	19	0.90	24
1,2-PROPADIENE	6.58	15	103	4.88	130
1,3,5-TRIMETHYLBENZENE	2.74	6.27	43	2.03	54
1,3-BUTADIENE	2.59	5.92	41	1.92	51
1-BUTENE	9.41	22	147	6.98	185
1-PENTENE	4.58	10	72	3.40	90
2,2,4-TRIMETHYLPENTANE	1.00	2.29	16	0.74	20
2,2-DIMETHYLBUTANE	0.86	1.97	13	0.64	17
2,3,4-TRIMETHYLPENTANE	0.21	0.49	3.32	0.16	4.17
2,3-DIMETHYL-1-BUTENE	0.40	0.91	6.20	0.29	7.79
2,3-DIMETHYLHEXANE	0.16	0.36	2.43	0.12	3.06
2,3-DIMETHYLPENTANE	1.03	2.36	16	0.77	20

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
2,4-DIMETHYLHEXANE	0.51	1.16	7.97	0.38	10
2,4-DIMETHYLPENTANE	0.27	0.61	4.20	0.20	5.29
2-METHYL-BUTANE	8.50	19	133	6.31	167
2-METHYLHEPTANE	0.81	1.84	13	0.60	16
2-METHYLHEXANE	1.62	3.72	25	1.21	32
2-METHYLPENTANE	5.54	13	87	4.11	109
2-METHYLPROPANE; ISOBUTANE	17	40	270	13	340
2-METHYLPROPENE (ISOBUTENE)	13	30	204	9.66	257
3,3-DIMETHYL-1-BUTENE	40	91	624	30	785
3-METHYLHEXANE	4.92	11	77	3.65	97
3-METHYLPENTANE	1.62	3.72	25	1.21	32
ACENAPHTHENE	9.10×10^{-2}	0.21	1.43	6.75×10^{-2}	1.79
ACENAPHTHYLENE	7.64×10^{-2}	0.17	1.20	5.67×10^{-2}	1.51
ACETALDEHYDE	74	169	1,156	55	1,453
ACETONE	106	243	1,661	79	2,089
ACETYLENE	60	138	941	45	1,184
ACROLEIN (2-PROPENAL)	4.21	9.64	66	3.13	83
ALKENE KETONE	25	57	387	18	487
AMMONIA (TOTAL)	3.71	8.50	58	2.76	73
ANTHRACENE	3.91×10^{-4}	8.96×10^{-4}	6.13×10^{-3}	2.90×10^{-4}	7.71×10^{-3}
ANTIMONY & COMPOUNDS	0.13	0.30	2.04	9.68×10^{-2}	2.57
ARSENIC & COMPOUNDS	3.75×10^{-3}	8.59×10^{-3}	5.88×10^{-2}	2.79×10^{-3}	7.39×10^{-2}
BENZALDEHYDE	9.87	23	155	7.33	194
BENZENE	28	65	443	21	557
BENZO(A)ANTHRACENE	6.46×10^{-3}	1.48×10^{-2}	0.10	4.80×10^{-3}	0.13
BENZO(A)PYRENE	3.19×10^{-4}	7.29×10^{-4}	4.99×10^{-3}	2.36×10^{-4}	6.27×10^{-3}
BENZO(B)FLUORANTHENE	4.46×10^{-4}	1.02×10^{-3}	6.99×10^{-3}	3.31×10^{-4}	8.78×10^{-3}
BENZO(G,H,I)PERYLENE	1.73×10^{-4}	3.96×10^{-4}	2.71×10^{-3}	1.28×10^{-4}	3.41×10^{-3}
BENZO(K)FLUORANTHENE	3.19×10^{-4}	7.29×10^{-4}	4.99×10^{-3}	2.36×10^{-4}	6.27×10^{-3}
B-METHYLSTYRENE	0.66	1.52	10	0.49	13
BROMINE AND COMPOUNDS	1.03×10^{-2}	2.36×10^{-2}	0.16	7.66×10^{-3}	0.20
BUTYLBENZENE ISOMERS	1.79	4.11	28	1.33	35
BUTYRALDEHYDE	26	60	413	20	520
C10 MONOSUBSTITUTED BENZENES	1.12	2.55	17	0.83	22
C5 ALDEHYDE	1.55	3.56	24	1.15	31
C6 ALDEHYDES	54	123	841	40	1,057
C9 MONOSUBSTITUTED BENZENES	7.02	16	110	5.21	138
CADMIUM & COMPOUNDS	6.29×10^{-2}	0.14	0.98	4.67×10^{-2}	1.24
CARBON DIOXIDE	455,445	1,042,546	7,134,223	337,983	8,970,196
CARBON MONOXIDE	4,529	10,366	70,938	3,361	89,194
CHLORINE	0.26	0.59	4.03	0.19	5.06
CHROMIUM (III) COMPOUNDS	1.53×10^{-5}	3.51×10^{-5}	2.40×10^{-4}	1.14×10^{-5}	3.02×10^{-4}
CHROMIUM (VI) COMPOUNDS	7.89×10^{-6}	1.81×10^{-5}	1.24×10^{-4}	5.86×10^{-6}	1.55×10^{-4}
CHRYSENE	1.73×10^{-3}	3.96×10^{-3}	2.71×10^{-2}	1.28×10^{-3}	3.41×10^{-2}

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CIS-2-BUTENE	1.33	3.04	21	0.99	26
CIS-2-PENTENE	0.42	0.97	6.64	0.31	8.35
COBALT & COMPOUNDS	5.63×10^{-3}	1.29×10^{-2}	8.82×10^{-2}	4.18×10^{-3}	0.11
COPPER & COMPOUNDS	2.81×10^{-2}	6.44×10^{-2}	0.44	2.09×10^{-2}	0.55
CUMENE (1-METHYLETHYLBENZENE)	0.21	0.49	3.32	0.16	4.17
CYCLOHEXANE	0.37	0.84	5.75	0.27	7.23
CYCLOHEXANONE	1.51	3.46	24	1.12	30
CYCLOPENTANE	0.17	0.39	2.66	0.13	3.34
DIBENZO(A,H)ANTHRACENE	2.64×10^{-6}	6.04×10^{-6}	4.13×10^{-5}	1.96×10^{-6}	5.20×10^{-5}
DIETHYLBENZENES	1.91	4.37	30	1.42	38
ETHANE	7.98	18	125	5.92	157
ETHYL ALCOHOL	0.13	0.29	1.99	9.43×10^{-2}	2.50
ETHYLBENZENE	4.31	9.86	68	3.20	85
ETHYLENE	203	465	3,181	151	4,000
ETHYLHEXANE	0.86	1.97	13	0.64	17
FLUORANTHENE	1.55×10^{-2}	3.54×10^{-2}	0.24	1.15×10^{-2}	0.30
FLUORENE	9.10×10^{-2}	0.21	1.43	6.75×10^{-2}	1.79
FORMALDEHYDE	164	376	2,573	122	3,235
INDAN	2.66	6.08	42	1.97	52
INDENO(1,2,3-CD)PYRENE	7.19×10^{-5}	1.65×10^{-4}	1.13×10^{-3}	5.34×10^{-5}	1.42×10^{-3}
ISOMERS OF XYLENE	15	34	230	11	290
LEAD & COMPOUNDS	2.81×10^{-2}	6.44×10^{-2}	0.44	2.09×10^{-2}	0.55
MANGANESE & COMPOUNDS	1.06×10^{-3}	2.43×10^{-3}	1.66×10^{-2}	7.87×10^{-4}	2.09×10^{-2}
MERCURY & COMPOUNDS	2.44×10^{-2}	5.58×10^{-2}	0.38	1.81×10^{-2}	0.48
METHANE	21	48	331	16	416
METHYL ALCOHOL	0.42	0.97	6.64	0.31	8.35
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	21	48	327	15	411
METHYL N-BUTYL KETONE	13	29	199	9.42	250
METHYLCYCLOHEXANE	0.96	2.20	15	0.71	19
METHYLCYCLOPENTANE	2.10	4.82	33	1.56	41
M-ETHYLTOLUENE	3.49	7.99	55	2.59	69
MOLYBDENUM	1.13×10^{-2}	2.58×10^{-2}	0.18	8.36×10^{-3}	0.22
NAPTHALENE	0.42	0.96	6.56	0.31	8.25
N-BUTANE	1.47	3.36	23	1.09	29
N-DECANE	7.47	17	117	5.55	147
N-HEPTANE	0.96	2.20	15	0.71	19
N-HEXANE	2.21	5.06	35	1.64	44
NICKEL & COMPOUNDS	1.57×10^{-3}	3.60×10^{-3}	2.47×10^{-2}	1.17×10^{-3}	3.10×10^{-2}
NITRIC OXIDE	4,567	10,453	71,534	3,389	89,943
NITROGEN DIOXIDE	369	844	5,773	273	7,259
NITROUS OXIDE	12	27	182	8.63	229
N-NONANE	3.25	7.44	51	2.41	64
N-OCTANE	1.98	4.53	31	1.47	39

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-PENTANE	2.47	5.66	39	1.83	49
N-PROPYLBENZENE	1.72	3.94	27	1.28	34
N-UNDECANE	3.69	8.44	58	2.74	73
O-ETHYLTOLUENE	1.95	4.46	31	1.45	38
OXIDES OF NITROGEN	7,371	16,872	115,458	5,470	145,171
PARTICULATE MATTER ≤ 10 µm	910	2,083	14,256	675	17,925
PARTICULATE MATTER ≤ 2.5 µm	883	2,021	13,829	655	17,387
PHENANTHRENE	0.24	0.54	3.71	0.18	4.66
PHOSPHORUS	0.12	0.26	1.81	8.56×10^{-2}	2.27
POLYCHLORINATED DIOXINS AND FURANS	7.74×10^{-7}	1.77×10^{-6}	1.21×10^{-5}	5.74×10^{-7}	1.52×10^{-5}
POLYCYCLIC AROMATIC HYDROCARBONS	0.94	2.16	15	0.70	19
PROPANE	2.61	5.98	41	1.94	51
PROPIONALDEHYDE	16	38	257	12	323
PROPYLENE	37	84	575	27	723
PYRENE	2.64×10^{-3}	6.04×10^{-3}	4.13×10^{-2}	1.96×10^{-3}	5.20×10^{-2}
SELENIUM & COMPOUNDS	4.69×10^{-3}	1.07×10^{-2}	7.35×10^{-2}	3.48×10^{-3}	9.24×10^{-2}
STYRENE (ETHENYLBENZENE)	0.83	1.89	13	0.61	16
SULFUR DIOXIDE	14	32	219	10	275
T-BUTYLBENZENE	8.48×10^{-2}	0.19	1.33	6.29×10^{-2}	1.67
TIN & COMPOUNDS	4.60×10^{-2}	0.11	0.72	3.41×10^{-2}	0.91
TOLUENE	21	48	326	15	410
TOTAL SUSPENDED PARTICULATE	938	2,148	14,697	696	18,479
TOTAL VOLATILE ORGANIC COMPOUNDS	1,390	3,182	21,775	1,032	27,379
TRANS-2-BUTENE	2.75	6.31	43	2.04	54
TRANS-2-PENTENE	0.57	1.29	8.85	0.42	11
VANADIUM & COMPOUNDS	1.41×10^{-2}	3.22×10^{-2}	0.22	1.04×10^{-2}	0.28
ZINC & COMPOUNDS	0.38	0.86	5.88	0.28	7.39
Evaporative					
1,2,4-TRIMETHYLBENZENE	5.67	13	89	4.21	112
1,4-PENTADIENE	19	43	296	14	372
1-BUTENE	87	199	1,363	65	1,713
1-PENTENE	104	238	1,629	77	2,049
2,2,3,TRIMETHYLHEXANE	1.89	4.33	30	1.40	37
2,2,3-TRIMETHYLBUTANE	3.78	8.66	59	2.81	74
2,2,4-TRIMETHYLPENTANE	93	212	1,452	69	1,825
2,2-DIMETHYLBUTANE	28	65	444	21	559
2,2-DIMETHYLHEXANE	3.78	8.66	59	2.81	74
2,2-DIMETHYLPENTANE	9.46	22	148	7.02	186
2,3,3-TRIMETHYLPENTANE	9.46	22	148	7.02	186
2,3,4-TRIMETHYLPENTANE	9.46	22	148	7.02	186
2,3-DIMETHYLBUTANE	153	351	2,399	114	3,017

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
2,3-DIMETHYLHEXANE	15	35	237	11	298
2,3-DIMETHYLPENTANE	34	78	533	25	670
2,4-DIMETHYLHEXANE	26	61	415	20	521
2,4-DIMETHYLPENTANE	30	69	474	22	596
2,5-DIMETHYLHEXANE	13	30	207	9.82	261
2-METHYL-1-BUTENE	214	489	3,347	159	4,209
2-METHYL-2-BUTENE	838	1,918	13,123	622	16,500
2-METHYLHEPTANE	28	65	444	21	559
2-METHYLHEXANE	96	221	1,511	72	1,900
2-METHYLNONANE	1.89	4.33	30	1.40	37
2-METHYLOCTANE	1.89	4.33	30	1.40	37
2-METHYLPENTANE	904	2,069	14,160	671	17,803
2-METHYLPROPANE; ISOBUTANE	577	1,320	9,035	428	11,360
3,3-DIMETHYLPENTANE	11	26	178	8.42	223
3-ETHYLPENTANE	19	43	296	14	372
3-METHYL-1-BUTENE	5.67	13	89	4.21	112
3-METHYLHEPTANE	26	61	415	20	521
3-METHYLHEXANE	119	273	1,866	88	2,346
3-METHYLOCTANE	3.78	8.66	59	2.81	74
3-METHYLPENTANE	443	1,013	6,932	328	8,716
4-METHYLHEPTANE	15	35	237	11	298
4-METHYLOCTANE	1.89	4.33	30	1.40	37
BENZENE	148	338	2,311	109	2,905
CIS-1,3-DIMETHYLCYCLOPENTANE	42	95	652	31	819
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	26	61	415	20	521
CIS-1-2-DIMETHYLCYCLOPENTANE	26	61	415	20	521
CIS-2-BUTENE	57	130	889	42	1,117
CIS-2-PENTENE	306	701	4,799	227	6,034
CYCLOHEXANE	9.46	22	148	7.02	186
CYCLOPENTENE	5.67	13	89	4.21	112
ETHYLBENZENE	19	43	296	14	372
ETHYLCYCLOPENTANE	5.67	13	89	4.21	112
ISOMERS OF PENTANE	9,370	21,449	146,780	6,954	184,553
ISOMERS OF XYLENE	104	238	1,629	77	2,049
METHANE	304	695	4,755	225	5,979
METHYLCYCLOPENTANE	55	126	859	41	1,080
M-ETHYLTOLUENE	11	26	178	8.42	223
N-BUTANE	2,521	5,770	39,487	1,871	49,649
N-DECANE	1.89	4.33	30	1.40	37
N-HEPTANE	74	169	1,155	55	1,453
N-HEXANE	42	95	652	31	819
N-NONANE	1.89	4.33	30	1.40	37
N-PROPYLBENZENE	3.78	8.66	59	2.81	74

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
P-ETHYLTOLUENE	5.67	13	89	4.21	112
TOLUENE	359	822	5,628	267	7,077
TOTAL VOLATILE ORGANIC COMPOUNDS	18,911	43,288	296,225	14,034	372,458
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	1.89	4.33	30	1.40	37
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	5.67	13	89	4.21	112
TRANS-1,3-DIMETHYLCYCLOPENTANE	13	30	207	9.82	261
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	7.56	17	118	5.61	149
TRANS-1-2-DIMETHYLCYCLOPENTANE	9.46	22	148	7.02	186
TRANS-2-BUTENE	535	1,225	8,383	397	10,541
TRANS-2-ETHYLMETHYLCYCLOPENTANE	5.67	13	89	4.21	112
TRANS-2-PENTENE	556	1,273	8,709	413	10,950

Table A8: Liquid fuel combustion emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
Liquid Fuel Combustion					
1,1,1-TRICHLOROETHANE	1.82×10^{-2}	4.34×10^{-2}	0.26	1.32×10^{-2}	0.34
2-METHYLPROPANE; ISOBUTANE	2.42	5.75	35	1.75	45
ACENAPHTHENE	1.74×10^{-3}	4.13×10^{-3}	2.52×10^{-2}	1.26×10^{-3}	3.23×10^{-2}
ACENAPHTHYLENE	2.09×10^{-5}	4.96×10^{-5}	3.02×10^{-4}	1.51×10^{-5}	3.88×10^{-4}
ACETALDEHYDE	0.41	0.96	5.88	0.29	7.54
AMMONIA (TOTAL)	83	197	1,200	60	1,540
ANTHRACENE	1.01×10^{-4}	2.40×10^{-4}	1.46×10^{-3}	7.29×10^{-5}	1.88×10^{-3}
ANTIMONY & COMPOUNDS	0.41	0.96	5.88	0.29	7.54
ARSENIC & COMPOUNDS	4.64×10^{-2}	0.11	0.67	3.35×10^{-2}	0.86
BENZENE	1.74×10^{-2}	4.13×10^{-2}	0.25	1.26×10^{-2}	0.32
BENZO(A)ANTHRACENE	3.36×10^{-4}	7.99×10^{-4}	4.87×10^{-3}	2.43×10^{-4}	6.25×10^{-3}
BENZO(B)FLUORANTHENE	6.38×10^{-5}	1.52×10^{-4}	9.24×10^{-4}	4.61×10^{-5}	1.19×10^{-3}
BENZO(G,H,I)PERYLENE	1.86×10^{-4}	4.41×10^{-4}	2.69×10^{-3}	1.34×10^{-4}	3.45×10^{-3}
BENZO(K)FLUORANTHENE	6.38×10^{-5}	1.52×10^{-4}	9.24×10^{-4}	4.61×10^{-5}	1.19×10^{-3}
BERYLLIUM & COMPOUNDS	3.48×10^{-2}	8.27×10^{-2}	0.50	2.51×10^{-2}	0.65
BROMINE AND COMPOUNDS	1.37×10^{-2}	3.25×10^{-2}	0.20	9.87×10^{-3}	0.25
CADMIUM & COMPOUNDS	3.48×10^{-2}	8.27×10^{-2}	0.50	2.51×10^{-2}	0.65
CARBON DIOXIDE	1,846,758	4,389,611	26,764,601	1,334,449	34,335,419
CARBON MONOXIDE	414	984	6,001	299	7,699
CHLORINE	27	64	389	19	499
CHROMIUM (III) COMPOUNDS	2.46×10^{-2}	5.84×10^{-2}	0.36	1.78×10^{-2}	0.46
CHROMIUM (VI) COMPOUNDS	1.02×10^{-2}	2.43×10^{-2}	0.15	7.38×10^{-3}	0.19
CHRYSENE	1.97×10^{-4}	4.68×10^{-4}	2.86×10^{-3}	1.42×10^{-4}	3.66×10^{-3}
COBALT & COMPOUNDS	0.47	1.11	6.74	0.34	8.65
COPPER & COMPOUNDS	6.96×10^{-2}	0.17	1.01	5.03×10^{-2}	1.29
DIBENZO(A,H)ANTHRACENE	1.39×10^{-4}	3.31×10^{-4}	2.02×10^{-3}	1.01×10^{-4}	2.59×10^{-3}
ETHYLBENZENE	4.92×10^{-3}	1.17×10^{-2}	7.12×10^{-2}	3.55×10^{-3}	9.14×10^{-2}
FLUORANTHENE	4.06×10^{-4}	9.65×10^{-4}	5.88×10^{-3}	2.93×10^{-4}	7.54×10^{-3}
FLUORENE	3.71×10^{-4}	8.82×10^{-4}	5.38×10^{-3}	2.68×10^{-4}	6.90×10^{-3}
FLUORIDE COMPOUNDS	2.88	6.85	42	2.08	54
FORMALDEHYDE	2.78	6.61	40	2.01	52
INDENO(1,2,3-CD)PYRENE	1.74×10^{-4}	4.13×10^{-4}	2.52×10^{-3}	1.26×10^{-4}	3.23×10^{-3}
ISOMERS OF HEPTANE	1.54	3.65	22	1.11	29
ISOMERS OF HEXANE	3.07	7.30	44	2.22	57
ISOMERS OF OCTANE (C8 PARAFFIN)	2.78	6.60	40	2.01	52
ISOMERS OF PENTANE	3.25	7.72	47	2.35	60
ISOMERS OF XYLENE	8.42×10^{-3}	2.0×10^{-2}	0.12	6.09×10^{-3}	0.16
LEAD & COMPOUNDS	0.10	0.25	1.51	7.54×10^{-2}	1.94
MANGANESE & COMPOUNDS	6.96×10^{-2}	0.17	1.01	5.03×10^{-2}	1.29
MERCURY & COMPOUNDS	3.48×10^{-2}	8.27×10^{-2}	0.50	2.51×10^{-2}	0.65
METHANE	147	350	2,136	107	2,741

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
MOLYBDENUM	6.08×10^{-2}	0.14	0.88	4.40×10^{-2}	1.13
NAPTHALENE	9.39×10^{-2}	0.22	1.36	6.79×10^{-2}	1.75
N-BUTANE	7.20	17	104	5.21	134
N-HEPTANE	0.18	0.42	2.57	0.13	3.29
N-HEXANE	6.38	15	92	4.61	119
NICKEL & COMPOUNDS	3.48×10^{-2}	8.27×10^{-2}	0.50	2.51×10^{-2}	0.65
NITRIC OXIDE	729	1,733	10,567	527	13,556
NITROGEN DIOXIDE	373	886	5,401	269	6,929
NITROUS OXIDE	4.14	9.84	60	2.99	77
N-PENTANE	2.78	6.60	40	2.01	52
OXIDES OF NITROGEN	1,491	3,543	21,604	1,077	27,715
PARTICULATE MATTER ≤ 10 µm	197	468	2,856	142	3,664
PARTICULATE MATTER ≤ 2.5 µm	176	419	2,556	127	3,280
PHENANTHRENE	8.70×10^{-4}	2.07×10^{-3}	1.26×10^{-2}	6.28×10^{-4}	1.62×10^{-2}
PHOSPHORUS	0.73	1.74	11	0.53	14
POLYCHLORINATED DIOXINS AND FURANS	2.60×10^{-7}	6.18×10^{-7}	3.77×10^{-6}	1.88×10^{-7}	4.83×10^{-6}
POLYCYCLIC AROMATIC HYDROCARBONS	9.89×10^{-2}	0.24	1.43	7.15×10^{-2}	1.84
PROPANE	0.71	1.68	10	0.51	13
PYRENE	3.48×10^{-4}	8.27×10^{-4}	5.04×10^{-3}	2.51×10^{-4}	6.47×10^{-3}
SELENIUM & COMPOUNDS	0.17	0.41	2.52	0.13	3.23
SULFUR DIOXIDE	588	1,398	8,521	425	10,932
SULFUR TRIOXIDE	8.28	20	120	5.98	154
TOLUENE	0.48	1.14	6.95	0.35	8.91
TOTAL SUSPENDED PARTICULATE	273	650	3,961	197	5,081
TOTAL VOLATILE ORGANIC COMPOUNDS	59	140	856	43	1,098
VANADIUM & COMPOUNDS	2.46	5.84	36	1.78	46
ZINC & COMPOUNDS	4.64×10^{-2}	0.11	0.67	3.35×10^{-2}	0.86

Table A9: Natural gas leakage emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
Natural Gas Leakage					
CARBON DIOXIDE	56,442	134,158	817,998	40,784	1,049,383
ETHANE	154,253	366,649	2,235,555	111,462	2,867,920
HYDROGEN SULFIDE	8.70	21	126	6.29	162
METHANE	910,415	2,163,990	13,194,413	657,856	16,926,675
PROPANE	5,655	13,442	81,960	4,086	105,144
TOTAL VOLATILE ORGANIC COMPOUNDS	159,909	380,091	2,317,515	115,548	2,973,063

Table A10: Portable fuel containers (domestic) emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Portable Fuel Containers (Domestic)					
1,2,4-TRIMETHYLBENZENE	38	95	454	25	613
1,4-PENTADIENE	127	318	1,514	84	2,042
1-BUTENE	582	1,461	6,967	384	9,394
1-PENTENE	696	1,747	8,330	460	11,232
2,2,3,TRIMETHYLHEXANE	13	32	151	8.36	204
2,2,3-TRIMETHYLBUTANE	25	64	303	17	408
2,2,4-TRIMETHYLPENTANE	620	1,556	7,421	410	10,007
2,2-DIMETHYLBUTANE	190	476	2,272	125	3,063
2,2-DIMETHYLHEXANE	25	64	303	17	408
2,2-DIMETHYLPENTANE	63	159	757	42	1,021
2,3,3-TRIMETHYLPENTANE	63	159	757	42	1,021
2,3,4-TRIMETHYLPENTANE	63	159	757	42	1,021
2,3-DIMETHYLBUTANE	1,025	2,573	12,267	677	16,542
2,3-DIMETHYLHEXANE	101	254	1,212	67	1,634
2,3-DIMETHYLPENTANE	228	572	2,726	150	3,676
2,4-DIMETHYLHEXANE	177	445	2,120	117	2,859
2,4-DIMETHYLPENTANE	202	508	2,423	134	3,268
2,5-DIMETHYLHEXANE	89	222	1,060	59	1,430
2-METHYL-1-BUTENE	1,430	3,589	17,114	944	23,078
2-METHYL-2-BUTENE	5,606	14,071	67,092	3,702	90,472
2-METHYLHEPTANE	190	476	2,272	125	3,063
2-METHYLHEXANE	645	1,620	7,724	426	10,416
2-METHYLNONANE	13	32	151	8.36	204
2-METHYLOCTANE	13	32	151	8.36	204
2-METHYLPENTANE	6,049	15,183	72,393	3,995	97,620
2-METHYLPROPANE; ISOBUTANE	3,860	9,688	46,192	2,549	62,289
3,3-DIMETHYLPENTANE	76	191	909	50	1,225
3-ETHYLPENTANE	127	318	1,514	84	2,042
3-METHYL-1-BUTENE	38	95	454	25	613
3-METHYLHEPTANE	177	445	2,120	117	2,859
3-METHYLHEXANE	797	2,001	9,541	527	12,866
3-METHYLOCTANE	25	64	303	17	408
3-METHYLPENTANE	2,961	7,433	35,439	1,956	47,789
4-METHYLHEPTANE	101	254	1,212	67	1,634
4-METHYLOCTANE	13	32	151	8.36	204
BENZENE	987	2,478	11,813	652	15,930
CIS-1,3-DIMETHYLCYCLOPENTANE	278	699	3,332	184	4,493
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	177	445	2,120	117	2,859
CIS-1-2-DIMETHYLCYCLOPENTANE	177	445	2,120	117	2,859
CIS-2-BUTENE	380	953	4,543	251	6,127
CIS-2-PENTENE	2,050	5,146	24,535	1,354	33,085

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CYCLOHEXANE	63	159	757	42	1,021
CYCLOPENTENE	38	95	454	25	613
ETHYLBENZENE	127	318	1,514	84	2,042
ETHYLCYCLOPENTANE	38	95	454	25	613
ISOMERS OF PENTANE	62,709	157,390	750,431	41,412	1,011,941
ISOMERS OF XYLENE	696	1,747	8,330	460	11,232
METHYLCYCLOPENTANE	367	921	4,392	242	5,923
M-ETHYLTOLUENE	76	191	909	50	1,225
N-BUTANE	16,870	42,341	201,882	11,141	272,234
N-DECANE	13	32	151	8.36	204
N-HEPTANE	494	1,239	5,907	326	7,965
N-HEXANE	278	699	3,332	184	4,493
N-NONANE	13	32	151	8.36	204
N-PROPYLBENZENE	25	64	303	17	408
P-ETHYLTOLUENE	38	95	454	25	613
TOLUENE	2,405	6,035	28,775	1,588	38,803
TOTAL VOLATILE ORGANIC COMPOUNDS	126,557	317,638	1,514,493	83,576	2,042,263
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	13	32	151	8.36	204
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	38	95	454	25	613
TRANS-1,3-DIMETHYLCYCLOPENTANE	89	222	1,060	59	1,430
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	51	127	606	33	817
TRANS-1-2-DIMETHYLCYCLOPENTANE	63	159	757	42	1,021
TRANS-2-BUTENE	3,582	8,989	42,860	2,365	57,796
TRANS-2-ETHYLMETHYLCYCLOPENTANE	38	95	454	25	613
TRANS-2-PENTENE	3,721	9,339	44,526	2,457	60,043

Table A11: Portable fuel containers (public open space) emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Portable Fuel Containers (Public Open Space)					
1,2,4-TRIMETHYLBENZENE	1.43	3.28	22	1.06	28
1,4-PENTADIENE	4.78	11	75	3.54	94
1-BUTENE	22	50	344	16	433
1-PENTENE	26	60	411	19	517
2,2,3,TRIMETHYLHEXANE	0.48	1.09	7.48	0.35	9.41
2,2,3-TRIMETHYLBUTANE	0.96	2.19	15	0.71	19
2,2,4-TRIMETHYLPENTANE	23	54	367	17	461
2,2-DIMETHYLBUTANE	7.16	16	112	5.32	141
2,2-DIMETHYLHEXANE	0.96	2.19	15	0.71	19
2,2-DIMETHYLPENTANE	2.39	5.47	37	1.77	47
2,3,3-TRIMETHYLPENTANE	2.39	5.47	37	1.77	47
2,3,4-TRIMETHYLPENTANE	2.39	5.47	37	1.77	47
2,3-DIMETHYLBUTANE	39	89	606	29	762
2,3-DIMETHYLHEXANE	3.82	8.75	60	2.84	75
2,3-DIMETHYLPENTANE	8.60	20	135	6.38	169
2,4-DIMETHYLHEXANE	6.69	15	105	4.96	132
2,4-DIMETHYLPENTANE	7.64	17	120	5.67	151
2,5-DIMETHYLHEXANE	3.34	7.65	52	2.48	66
2-METHYL-1-BUTENE	54	124	845	40	1,063
2-METHYL-2-BUTENE	212	484	3,314	157	4,167
2-METHYLHEPTANE	7.16	16	112	5.32	141
2-METHYLHEXANE	24	56	382	18	480
2-METHYLNONANE	0.48	1.09	7.48	0.35	9.41
2-METHYLOCTANE	0.48	1.09	7.48	0.35	9.41
2-METHYLPENTANE	228	523	3,576	169	4,497
2-METHYLPROPANE; ISOBUTANE	146	333	2,282	108	2,869
3,3-DIMETHYLPENTANE	2.87	6.56	45	2.13	56
3-ETHYLPENTANE	4.78	11	75	3.54	94
3-METHYL-1-BUTENE	1.43	3.28	22	1.06	28
3-METHYLHEPTANE	6.69	15	105	4.96	132
3-METHYLHEXANE	30	69	471	22	593
3-METHYLOCTANE	0.96	2.19	15	0.71	19
3-METHYLPENTANE	112	256	1,751	83	2,201
4-METHYLHEPTANE	3.82	8.75	60	2.84	75
4-METHYLOCTANE	0.48	1.09	7.48	0.35	9.41
BENZENE	37	85	584	28	734
CIS-1,3-DIMETHYLCYCLOPENTANE	11	24	165	7.80	207
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	6.69	15	105	4.96	132
CIS-1-2-DIMETHYLCYCLOPENTANE	6.69	15	105	4.96	132
CIS-2-BUTENE	14	33	224	11	282
CIS-2-PENTENE	77	177	1,212	57	1,524

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CYCLOHEXANE	2.39	5.47	37	1.77	47
CYCLOPENTENE	1.43	3.28	22	1.06	28
ETHYLBENZENE	4.78	11	75	3.54	94
ETHYLCYCLOPENTANE	1.43	3.28	22	1.06	28
ISOMERS OF PENTANE	2,367	5,417	37,072	1,756	46,612
ISOMERS OF XYLENE	26	60	411	19	517
METHYLCYCLOPENTANE	14	32	217	10	273
M-ETHYLTOLUENE	2.87	6.56	45	2.13	56
N-BUTANE	637	1,457	9,973	472	12,540
N-DECANE	0.48	1.09	7.48	0.35	9.41
N-HEPTANE	19	43	292	14	367
N-HEXANE	11	24	165	7.80	207
N-NONANE	0.48	1.09	7.48	0.35	9.41
N-PROPYLBENZENE	0.96	2.19	15	0.71	19
P-ETHYLTOLUENE	1.43	3.28	22	1.06	28
TOLUENE	91	208	1,422	67	1,787
TOTAL VOLATILE ORGANIC COMPOUNDS	4,776	10,933	74,817	3,544	94,070
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.48	1.09	7.48	0.35	9.41
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	1.43	3.28	22	1.06	28
TRANS-1,3-DIMETHYLCYCLOPENTANE	3.34	7.65	52	2.48	66
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	1.91	4.37	30	1.42	38
TRANS-1-2-DIMETHYLCYCLOPENTANE	2.39	5.47	37	1.77	47
TRANS-2-BUTENE	135	309	2,117	100	2,662
TRANS-2-ETHYLMETHYLCYCLOPENTANE	1.43	3.28	22	1.06	28
TRANS-2-PENTENE	140	321	2,200	104	2,766

Table A12: Solid fuel combustion emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Slow Combustion Heater with AS[75]					
1,3-BUTADIENE	1,586	3,980	18,976	1,047	25,588
12-METHYLBENZ(A)ANTHRACENE	7.25	18	87	4.79	117
1-BUTENE	717	1,800	8,584	474	11,575
1-METHYLPHENANTHRENE	109	273	1,301	72	1,755
1-PENTENE	68	171	814	45	1,098
2-FURFURAL	878	2,203	10,505	580	14,166
2-METHYL-1-BUTENE	109	274	1,306	72	1,761
2-METHYL-2-BUTENE	106	266	1,268	70	1,710
2-METHYL-2-PENTENE	55	137	653	36	881
2-METHYL-2-PROPENAL (METHACROLEIN)	182	457	2,177	120	2,935
2-METHYL-BUTANE	44	111	530	29	715
2-METHYLHEXANE	21	52	246	14	332
2-METHYLPENTANE	68	171	814	45	1,098
2-METHYLPROPENE (ISOBUTENE)	317	796	3,795	209	5,118
3-METHYL-1-BUTENE	55	137	653	36	881
3-METHYLCHOLANTHRENE	1.81	4.55	22	1.20	29
7,12-DIMETHYLBENZANTHRACENE	15	37	176	9.69	237
9-METHYLANTHRACENE	14	36	173	9.57	234
ACENAPHTHENE	37	92	438	24	591
ACENAPHTHYLENE	117	293	1,399	77	1,886
ACETALDEHYDE	5,727	14,373	68,529	3,782	92,410
ACETONE	5,924	14,867	70,887	3,912	95,590
ACETOPHENONE (PHENYL METHYL KETONE)	31	77	369	20	498
ACETYLENE	5,552	13,934	66,439	3,666	89,591
ACROLEIN (2-PROPENAL)	366	919	4,381	242	5,907
AMMONIA (TOTAL)	8,155	20,467	97,588	5,385	131,596
ANTHRACENE	33	83	395	22	532
ANTIMONY & COMPOUNDS	3.17×10^{-2}	7.95×10^{-2}	0.38	2.09×10^{-2}	0.51
ARSENIC & COMPOUNDS	1.65	4.13	20	1.09	27
BENZALDEHYDE	388	973	4,637	256	6,254
BENZENE	8,689	21,809	103,986	5,738	140,223
BENZO(A)ANTHRACENE	1.81	4.55	22	1.20	29
BENZO(A)PYRENE	22	55	262	14	354

[75] Appliances certified in accordance with Standards Australia, 1992a and Standards Australia, 1992b or Standards Australia, 1999a and Standards Australia 1999b).

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
BENZO(B)FLUORANTHENE	15	37	176	9.69	237
BENZO(E)PYRENE	7.32	18	88	4.83	118
BENZO(G,H,I)PERYLENE	73	184	876	48	1,181
BENZO(K)FLUORANTHENE	1.81	4.55	22	1.20	29
BENZO[GHI]FLUORANTHENE	102	257	1,225	68	1,652
BIACETYL	704	1,767	8,423	465	11,358
BIPHENYL {PHENYL BENZENE}	81	202	964	53	1,300
BROMINE AND COMPOUNDS	10	25	120	6.61	161
BUTYRALDEHYDE	759	1,906	9,086	501	12,252
CADMIUM & COMPOUNDS	0.18	0.45	2.17	0.12	2.92
CARBON DIOXIDE	25,149,367	63,121,093	300,960,513	16,608,235	405,839,207
CARBON MONOXIDE	1,275,779	3,202,012	15,267,149	842,504	20,587,444
CATECHOL	2,467	6,193	29,528	1,629	39,818
CHLORINE	2,257	5,664	27,004	1,490	36,415
CHROMIUM (III) COMPOUNDS	1.88×10^{-3}	4.72×10^{-3}	2.25×10^{-2}	1.24×10^{-3}	3.03×10^{-2}
CHROMIUM (VI) COMPOUNDS	3.86×10^{-4}	9.70×10^{-4}	4.62×10^{-3}	2.55×10^{-4}	6.24×10^{-3}
CHRYSENE	37	92	438	24	591
CIS-2-BUTENE	280	703	3,350	185	4,518
CIS-2-PENTENE	82	206	984	54	1,327
COBALT & COMPOUNDS	3.20	8.03	38	2.11	52
COPPER & COMPOUNDS	32	79	377	21	508
CRESOLS	4,186	10,507	50,095	2,764	67,553
CROTONALDEHYDE	2,183	5,478	26,121	1,441	35,224
CYCLOPENTENE	62	155	738	41	995
DIBENZO(A,H)ANTHRACENE	15	37	176	9.69	237
DIMETHYLBENZALDEHYDE	95	238	1,136	63	1,531
DOCOSANE	0.67	1.69	8.04	0.44	11
EICOSANE	1.38	3.47	17	0.91	22
ETHANE	3,385	8,496	40,507	2,235	54,623
ETHYLBENZENE	181	455	2,167	120	2,923
ETHYLENE	8,858	22,231	105,999	5,849	142,938
FLUORANTHENE	29	73	350	19	472
FLUORENE	51	129	614	34	828
FORMALDEHYDE	20,115	50,486	240,718	13,284	324,603
GLYOXAL	5,299	13,299	63,410	3,499	85,507
HENEICOSANE	0.88	2.20	11	0.58	14
HEPTANAL	3,314	8,317	39,655	2,188	53,474
HEXANAL (HEXANALDEHYDE)	3,306	8,297	39,560	2,183	53,346
HYDROQUINONE	136	341	1,628	90	2,195
INDENO(1,2,3-CD)PYRENE	73	184	876	48	1,181
ISOMERS OF XYLENE	618	1,550	7,392	408	9,967
ISOPRENE	324	814	3,880	214	5,233
LEAD & COMPOUNDS	18	45	215	12	290
MAGNESIUM OXIDE FUME	199	500	2,386	132	3,218

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
MANGANESE & COMPOUNDS	1.27	3.18	15	0.84	20
MERCURY & COMPOUNDS	4.71×10^{-2}	0.12	0.56	3.11×10^{-2}	0.76
METHANE	257,330	645,860	3,079,453	169,937	4,152,581
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,700	4,268	20,348	1,123	27,439
METHYL GLYOXAL	7,458	18,718	89,247	4,925	120,348
METHYLBENZALDEHYDE ISOMERS	95	238	1,136	63	1,531
METHYLCYCLOHEXANE	68	171	814	45	1,098
MOLYBDENUM	4.31	11	52	2.84	69
NAPTHALENE	527	1,324	6,311	348	8,510
N-BUTANE	205	514	2,451	135	3,305
N-HEPTADECANOIC ACID	0.65	1.63	7.76	0.43	10
N-HEPTANE	229	574	2,735	151	3,688
NICKEL & COMPOUNDS	0.18	0.45	2.17	0.12	2.92
NITRIC OXIDE	12,800	32,125	153,171	8,453	206,548
NITROGEN DIOXIDE	1,033	2,593	12,361	682	16,669
NITROUS OXIDE	2,718	6,822	32,529	1,795	43,865
N-NONANE	31	77	369	20	498
N-OCTANE	13	34	161	8.88	217
NONADECANE	2.74	6.89	33	1.81	44
N-PENTANAL (N-VALERALDEHYDE)	253	635	3,029	167	4,084
N-PENTANE	37	93	445	25	600
N-TETRADECANOIC ACID	2.82	7.09	34	1.86	46
OCTADECANE	2.82	7.07	34	1.86	45
OXIDES OF NITROGEN	20,659	51,851	247,224	13,643	333,376
PALMITIC ACID {N-HEXADECANOIC ACID}	16	40	189	10	255
PARTICULATE MATTER ≤ 10 µm	177,594	445,735	2,125,257	117,280	2,865,866
PARTICULATE MATTER ≤ 2.5 µm	170,965	429,097	2,045,929	112,903	2,758,894
PERYLENE	7.32	18	88	4.83	118
PHENANTHRENE	432	1,085	5,172	285	6,975
PHENOL (CARBOLIC ACID)	4,413	11,075	52,806	2,914	71,208
PHOSPHORUS	23	58	275	15	371
POLYCHLORINATED DIOXINS AND FURANS	7.43×10^{-5}	1.86×10^{-4}	8.89×10^{-4}	4.90×10^{-5}	1.20×10^{-3}
POLYCYCLIC AROMATIC HYDROCARBONS	1,838	4,614	21,999	1,214	29,666
PROPANE	1,337	3,355	15,994	883	21,568
PROPIONALDEHYDE	2,017	5,062	24,134	1,332	32,544
PROPYLENE	3,393	8,515	40,601	2,241	54,750
PYRENE	29	73	350	19	472
SELENIUM & COMPOUNDS	0.28	0.72	3.41	0.19	4.60
SULFUR DIOXIDE	3,624	9,097	43,373	2,393	58,487
TIN & COMPOUNDS	16	39	187	10	252
TOLUENE	1,250	3,136	14,953	825	20,164

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
TOTAL SUSPENDED PARTICULATE	189,959	476,769	2,273,229	125,446	3,065,404
TOTAL VOLATILE ORGANIC COMPOUNDS	108,731	272,899	1,301,177	71,804	1,754,612
TRANS-2-BUTENE	526	1,320	6,294	347	8,487
TRANS-2-HEXENE	68	171	814	45	1,098
TRANS-2-PENTENE	127	318	1,514	84	2,042
VANADIUM & COMPOUNDS	7.28	18	87	4.81	118
XYLENOL	870	2,183	10,411	575	14,039
ZINC & COMPOUNDS	148	373	1,777	98	2,396
Slow Combustion Heater without AS					
1,3-BUTADIENE	1,538	3,861	18,411	1,016	24,826
1-BUTENE	1,379	3,462	16,506	911	22,257
1-PENTENE	131	328	1,565	86	2,110
2-ETHYL FURAN	2,588	6,495	30,967	1,709	41,759
2-FURFURAL	1,917	4,812	22,942	1,266	30,937
2-METHYL-1-BUTENE	210	527	2,511	139	3,386
2-METHYL-2-BUTENE	204	511	2,439	135	3,288
2-METHYL-2-PENTENE	105	263	1,256	69	1,693
2-METHYL-2-PROPENAL (METHACROLEIN)	350	878	4,186	231	5,644
2-METHYL-BUTANE	85	214	1,019	56	1,374
2-METHYLHEXANE	40	99	473	26	638
2-METHYLPENTANE	131	328	1,565	86	2,110
2-METHYLPROPANE; ISOBUTANE	110	277	1,322	73	1,782
2-METHYLPROPENE (ISOBUTENE)	610	1,531	7,297	403	9,840
3-METHYL-1-BUTENE	105	263	1,256	69	1,693
ACENAPHTHENE	24	61	293	16	395
ACENAPHTHYLENE	521	1,307	6,231	344	8,403
ACETALDEHYDE	2,430	6,099	29,079	1,605	39,213
ACETONE	11,390	28,587	136,303	7,522	183,802
ACETOPHENONE (PHENYL METHYL KETONE)	59	149	710	39	957
ACETYLENE	4,434	11,128	53,060	2,928	71,550
ACROLEIN (2-PROPENAL)	359	901	4,296	237	5,793
AMMONIA (TOTAL)	6,706	16,831	80,251	4,429	108,217
ANTHRACENE	34	86	410	23	553
ANTIMONY & COMPOUNDS	2.15×10^{-2}	5.40×10^{-2}	0.26	1.42×10^{-2}	0.35
ARSENIC & COMPOUNDS	1.12	2.81	13	0.74	18
BENZALDEHYDE	745	1,870	8,917	492	12,024
BENZENE	7,645	19,188	91,486	5,049	123,367
BENZO(A)ANTHRACENE	49	123	585	32	789
BENZO(A)PYRENE	9.78	25	117	6.46	158
BENZO(B)FLUORANTHENE	15	37	176	9.72	237
BENZO(E)PYRENE	29	74	352	19	474

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
BENZO(G,H,I)PERYLENE	9.78	25	117	6.46	158
BENZO(K)FLUORANTHENE	4.89	12	59	3.23	79
BIACETYL	1,353	3,397	16,196	894	21,840
BROMINE AND COMPOUNDS	6.80	17	81	4.49	110
BUTYRALDEHYDE	1,460	3,664	17,470	964	23,558
CADMIUM & COMPOUNDS	8.68×10^{-2}	0.22	1.04	5.73×10^{-2}	1.40
CARBON DIOXIDE	9,042,881	22,696,258	108,215,450	5,971,772	145,926,361
CARBON MONOXIDE	910,447	2,285,083	10,895,243	601,244	14,692,017
CATECHOL	4,745	11,908	56,778	3,133	76,564
CHLORINE	1,534	3,850	18,355	1,013	24,751
CHROMIUM (III) COMPOUNDS	8.18×10^{-4}	2.05×10^{-3}	9.79×10^{-3}	5.40×10^{-4}	1.32×10^{-2}
CHROMIUM (VI) COMPOUNDS	1.68×10^{-4}	4.22×10^{-4}	2.01×10^{-3}	1.11×10^{-4}	2.71×10^{-3}
CHRYSENE	29	74	352	19	474
CIS-2-BUTENE	538	1,351	6,442	356	8,687
CIS-2-PENTENE	158	397	1,893	104	2,552
COBALT & COMPOUNDS	2.17	5.45	26	1.44	35
COPPER & COMPOUNDS	21	54	256	14	346
CRESOLS	631	1,584	7,553	417	10,185
CROTONALDEHYDE	4,197	10,534	50,227	2,772	67,730
CYCLOPENTENE	119	298	1,419	78	1,914
DIMETHYLBENZALDEHYDE	182	458	2,184	121	2,945
DOCOSANE	1.29	3.24	15	0.85	21
EICOSANE	2.66	6.68	32	1.76	43
ETHANE	5,799	14,554	69,393	3,829	93,576
ETHYLBENZENE	348	874	4,167	230	5,620
ETHYLENE	17,712	44,454	211,957	11,697	285,820
ETHYLFURAN	639	1,604	7,647	422	10,312
FLUORANTHENE	49	123	585	32	789
FLUORENE	59	148	703	39	948
FORMALDEHYDE	5,720	14,356	68,449	3,777	92,303
FURAN	1,349	3,386	16,145	891	21,771
GLYOXAL	10,189	25,572	121,927	6,728	164,416
HENEICOSANE	1.69	4.24	20	1.11	27
HEPTANAL	6,372	15,992	76,250	4,208	102,821
HEXANAL (HEXANALDEHYDE)	6,357	15,954	76,068	4,198	102,576
HYDROQUINONE	262	656	3,130	173	4,221
ISOMERS OF BUTENE	4,702	11,802	56,270	3,105	75,879
ISOMERS OF PENTENE	2,430	6,099	29,079	1,605	39,213
ISOMERS OF XYLENE	1,709	4,290	20,455	1,129	27,583
ISOPRENE	623	1,565	7,461	412	10,061
LEAD & COMPOUNDS	12	31	146	8.06	197
MAGNESIUM OXIDE FUME	136	340	1,622	89	2,187
MANGANESE & COMPOUNDS	0.67	1.68	8.03	0.44	11
MERCURY & COMPOUNDS	2.05×10^{-2}	5.15×10^{-2}	0.25	1.35×10^{-2}	0.33

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHANE	252,464	633,645	3,021,211	166,723	4,074,043
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,144	2,871	13,690	755	18,461
METHYL GLYOXAL	14,340	35,992	171,607	9,470	231,409
METHYLBENZALDEHYDE ISOMERS	182	458	2,184	121	2,945
METHYLCYCLOHEXANE	131	328	1,565	86	2,110
MOLYBDENUM	2.93	7.35	35	1.93	47
NAPTHALENE	706	1,772	8,450	466	11,395
N-BUTANE	221	554	2,644	146	3,565
N-HEPTADECANOIC ACID	1.25	3.13	15	0.82	20
N-HEPTANE	439	1,103	5,259	290	7,092
NICKEL & COMPOUNDS	5.52×10^{-2}	0.14	0.66	3.65×10^{-2}	0.89
NITRIC OXIDE	6,843	17,176	81,893	4,519	110,431
NITROGEN DIOXIDE	552	1,386	6,609	365	8,912
NITROUS OXIDE	1,183	2,970	14,162	782	19,097
N-NONANE	59	149	710	39	957
N-OCTANE	26	65	309	17	417
NONADECANE	5.28	13	63	3.48	85
N-PENTANAL (N-VALERALDEHYDE)	487	1,221	5,823	321	7,853
N-PENTANE	71	179	855	47	1,153
N-TETRADECANOIC ACID	5.43	14	65	3.59	88
OCTADECANE	5.41	14	65	3.58	87
OXIDES OF NITROGEN	11,045	27,722	132,178	7,294	178,239
PALMITIC ACID {N-HEXADECANOIC ACID}	30	76	364	20	491
PARTICULATE MATTER ≤ 10 µm	120,709	302,962	1,444,517	79,714	1,947,902
PARTICULATE MATTER ≤ 2.5 µm	116,204	291,653	1,390,598	76,739	1,875,194
PHENANTHRENE	191	479	2,285	126	3,081
PHENOL (CARBOLIC ACID)	1,164	2,921	13,926	768	18,779
PHOSPHORUS	16	39	187	10	252
POLYCHLORINATED DIOXINS AND FURANS	3.23×10^{-5}	8.12×10^{-5}	3.87×10^{-4}	2.14×10^{-5}	5.22×10^{-4}
POLYCYCLIC AROMATIC HYDROCARBONS	1,790	4,492	21,419	1,182	28,883
PROPANE	1,412	3,544	16,900	933	22,789
PROPIONALDEHYDE	3,878	9,733	46,405	2,561	62,576
PROPYLENE	4,907	12,316	58,725	3,241	79,189
PYRENE	59	148	703	39	948
SELENIUM & COMPOUNDS	0.19	0.49	2.32	0.13	3.13
SULFUR DIOXIDE	1,578	3,960	18,883	1,042	25,463
TIN & COMPOUNDS	11	27	127	7.02	172
TOLUENE	2,880	7,228	34,461	1,902	46,470
TOTAL SUSPENDED PARTICULATE	129,114	324,055	1,545,092	85,265	2,083,526
TOTAL VOLATILE ORGANIC COMPOUNDS	209,071	524,737	2,501,941	138,067	3,373,817

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
TRANS-2-BUTENE	1,011	2,538	12,102	668	16,319
TRANS-2-HEXENE	131	328	1,565	86	2,110
TRANS-2-PENTENE	243	611	2,912	161	3,926
VANADIUM & COMPOUNDS	4.95	12	59	3.27	80
XYLENOL	1,673	4,198	20,018	1,105	26,994
ZINC & COMPOUNDS	101	253	1,207	67	1,628
Open Fire Place					
1,3-BUTADIENE	888	2,228	10,622	586	14,324
1-BUTENE	705	1,769	8,436	466	11,376
1-PENTENE	67	168	800	44	1,079
2-FURFURAL	863	2,165	10,324	570	13,922
2-METHYL-1-BUTENE	107	269	1,284	71	1,731
2-METHYL-2-BUTENE	104	261	1,246	69	1,681
2-METHYL-2-PENTENE	54	135	642	35	865
2-METHYL-2-PROPENAL (METHACROLEIN)	179	449	2,139	118	2,885
2-METHYL-BUTANE	44	109	521	29	702
2-METHYLHEXANE	20	51	242	13	326
2-METHYLPENTANE	67	168	800	44	1,079
2-METHYLPROPENE (ISOBUTENE)	312	782	3,730	206	5,029
3-METHYL-1-BUTENE	54	135	642	35	865
ACENAPHTHENE	57	142	677	37	912
ACENAPHTHYLENE	1,199	3,008	14,344	792	19,342
ACETALDEHYDE	6,050	15,183	72,394	3,995	97,622
ACETONE	5,821	14,611	69,664	3,844	93,941
ACETOPHENONE (PHENYL METHYL KETONE)	30	76	363	20	489
ACETYLENE	5,456	13,694	65,293	3,603	88,046
ACROLEIN (2-PROPENAL)	695	1,745	8,322	459	11,222
AMMONIA (TOTAL)	10,177	25,542	121,784	6,721	164,224
ANTHRACENE	79	199	947	52	1,277
ANTIMONY & COMPOUNDS	2.38×10^{-2}	5.97×10^{-2}	0.28	1.57×10^{-2}	0.38
ARSENIC & COMPOUNDS	1.24	3.10	15	0.82	20
BENZALDEHYDE	381	956	4,557	252	6,146
BENZENE	3,878	9,734	46,413	2,561	62,588
BENZO(A)ANTHRACENE	113	284	1,353	75	1,825
BENZO(A)PYRENE	23	57	271	15	365
BENZO(B)FLUORANTHENE	34	85	406	22	547
BENZO(E)PYRENE	68	170	812	45	1,095
BENZO(G,H,I)PERYLENE	23	57	271	15	365
BENZO(K)FLUORANTHENE	11	28	135	7.47	182
BIACETYL	692	1,736	8,278	457	11,163
BROMINE AND COMPOUNDS	7.52	19	90	4.96	121
BUTYRALDEHYDE	746	1,873	8,929	493	12,040

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CADMIUM & COMPOUNDS	27	68	326	18	440
CARBON DIOXIDE	15,354,188	38,536,679	183,742,364	10,139,657	247,772,888
CARBON MONOXIDE	842,409	2,114,319	10,081,045	556,313	13,594,087
CATECHOL	2,425	6,086	29,019	1,601	39,132
CHLORINE	1,695	4,255	20,289	1,120	27,359
CHROMIUM (III) COMPOUNDS	3.63	9.11	43	2.40	59
CHROMIUM (VI) COMPOUNDS	0.75	1.87	8.93	0.49	12
CHRYSENE	68	170	812	45	1,095
CIS-2-BUTENE	275	691	3,293	182	4,440
CIS-2-PENTENE	81	203	967	53	1,304
COBALT & COMPOUNDS	2.40	6.03	29	1.59	39
COPPER & COMPOUNDS	24	59	283	16	382
CRESOLS	2,018	5,066	24,154	1,333	32,571
CROTONALDEHYDE	2,145	5,384	25,671	1,417	34,616
CYCLOPENTENE	61	152	725	40	978
DIMETHYLBENZALDEHYDE	93	234	1,116	62	1,505
DOCOSANE	0.66	1.66	7.91	0.44	11
EICOSANE	1.36	3.41	16	0.90	22
ETHANE	3,327	8,349	39,808	2,197	53,681
ETHYLBENZENE	178	447	2,130	118	2,872
ETHYLENE	8,705	21,848	104,171	5,749	140,472
FLUORANTHENE	113	284	1,353	75	1,825
FLUORENE	136	341	1,624	90	2,190
FORMALDEHYDE	10,120	25,400	121,108	6,683	163,312
GLYOXAL	5,207	13,070	62,317	3,439	84,033
HENEICOSANE	0.86	2.17	10	0.57	14
HEPTANAL	3,257	8,173	38,971	2,151	52,552
HEXANAL (HEXANALDEHYDE)	3,249	8,154	38,878	2,145	52,426
HYDROQUINONE	134	336	1,600	88	2,157
ISOMERS OF XYLENE	607	1,524	7,264	401	9,795
ISOPRENE	319	800	3,813	210	5,142
LEAD & COMPOUNDS	13	34	161	8.91	218
MAGNESIUM OXIDE FUME	150	376	1,793	99	2,417
MANGANESE & COMPOUNDS	12	30	143	7.89	193
MERCURY & COMPOUNDS	2.94×10^{-2}	7.38×10^{-2}	0.35	1.94×10^{-2}	0.47
METHANE	81,414	204,337	974,276	53,765	1,313,791
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,671	4,194	19,997	1,104	26,966
METHYL GLYOXAL	7,329	18,395	87,708	4,840	118,273
METHYLBENZALDEHYDE ISOMERS	93	234	1,116	62	1,505
METHYLCYCLOHEXANE	67	168	800	44	1,079
MOLYBDENUM	3.23	8.12	39	2.14	52
NAPTHALENE	1,628	4,087	19,486	1,075	26,276
N-BUTANE	201	505	2,409	133	3,248

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-HEPTADECANOIC ACID	0.64	1.60	7.63	0.42	10
N-HEPTANE	225	564	2,688	148	3,625
NICKEL & COMPOUNDS	23	58	278	15	374
NITRIC OXIDE	9,107	22,858	108,988	6,014	146,968
NITROGEN DIOXIDE	735	1,845	8,796	485	11,861
NITROUS OXIDE	1,696	4,257	20,297	1,120	27,371
N-NONANE	30	76	363	20	489
N-OCTANE	13	33	158	8.73	213
NONADECANE	2.70	6.77	32	1.78	44
N-PENTANAL (N-VALERALDEHYDE)	249	624	2,976	164	4,013
N-PENTANE	37	92	437	24	589
N-TETRADECANOIC ACID	2.77	6.96	33	1.83	45
OCTADECANE	2.77	6.94	33	1.83	45
OXIDES OF NITROGEN	14,700	36,894	175,911	9,707	237,212
PALMITIC ACID {N-HEXADECANOIC ACID}	16	39	186	10	251
PARTICULATE MATTER ≤ 10 µm	133,429	334,885	1,596,729	88,114	2,153,157
PARTICULATE MATTER ≤ 2.5 µm	128,448	322,385	1,537,130	84,825	2,072,788
PHENANTHRENE	441	1,107	5,277	291	7,116
PHENOL (CARBOLIC ACID)	2,669	6,698	31,935	1,762	43,063
PHOSPHORUS	17	43	207	11	279
POLYCHLORINATED DIOXINS AND FURANS	4.63×10^{-5}	1.16×10^{-4}	5.55×10^{-4}	3.06×10^{-5}	7.48×10^{-4}
POLYCYCLIC AROMATIC HYDROCARBONS	4,127	10,359	49,390	2,726	66,602
PROPANE	1,314	3,297	15,719	867	21,196
PROPIONALDEHYDE	1,982	4,974	23,717	1,309	31,983
PROPYLENE	3,334	8,369	39,901	2,202	53,806
PYRENE	136	341	1,624	90	2,190
SELENIUM & COMPOUNDS	0.21	0.54	2.56	0.14	3.45
SULFUR DIOXIDE	2,262	5,676	27,063	1,493	36,494
TIN & COMPOUNDS	12	29	141	7.76	190
TOLUENE	1,228	3,082	14,696	811	19,817
TOTAL SUSPENDED PARTICULATE	142,719	358,202	1,707,903	94,249	2,303,072
TOTAL VOLATILE ORGANIC COMPOUNDS	106,856	268,192	1,278,737	70,566	1,724,351
TRANS-2-BUTENE	517	1,297	6,185	341	8,341
TRANS-2-HEXENE	67	168	800	44	1,079
TRANS-2-PENTENE	124	312	1,488	82	2,007
VANADIUM & COMPOUNDS	5.47	14	65	3.61	88
XYLENOL	855	2,146	10,231	565	13,796
ZINC & COMPOUNDS	112	280	1,335	74	1,800
Pot Belly Stove					
1,3-BUTADIENE	535	1,343	6,406	353	8,638

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
1-BUTENE	480	1,204	5,743	317	7,744
1-PENTENE	46	114	545	30	734
2-ETHYL FURAN	900	2,260	10,775	595	14,529
2-FURFURAL	667	1,674	7,982	440	10,764
2-METHYL-1-BUTENE	73	183	874	48	1,178
2-METHYL-2-BUTENE	71	178	848	47	1,144
2-METHYL-2-PENTENE	37	92	437	24	589
2-METHYL-2-PROPENAL (METHACROLEIN)	122	305	1,456	80	1,964
2-METHYL-BUTANE	30	74	355	20	478
2-METHYLHEXANE	14	35	165	9.08	222
2-METHYLPENTANE	46	114	545	30	734
2-METHYLPROPANE; ISOBUTANE	38	96	460	25	620
2-METHYLPROPENE (ISOBUTENE)	212	533	2,539	140	3,424
3-METHYL-1-BUTENE	37	92	437	24	589
ACENAPHTHENE	8.52	21	102	5.63	138
ACENAPHTHYLENE	181	455	2,168	120	2,924
ACETALDEHYDE	845	2,122	10,118	558	13,643
ACETONE	3,963	9,946	47,424	2,617	63,951
ACETOPHENONE (PHENYL METHYL KETONE)	21	52	247	14	333
ACETYLENE	1,543	3,872	18,461	1,019	24,895
ACROLEIN (2-PROPENAL)	125	313	1,495	82	2,015
AMMONIA (TOTAL)	2,333	5,856	27,922	1,541	37,652
ANTHRACENE	12	30	143	7.88	192
ANTIMONY & COMPOUNDS	7.49×10^{-3}	1.88×10^{-2}	8.96×10^{-2}	4.94×10^{-3}	0.12
ARSENIC & COMPOUNDS	0.39	0.98	4.66	0.26	6.28
BENZALDEHYDE	259	651	3,103	171	4,184
BENZENE	2,660	6,676	31,831	1,757	42,923
BENZO(A)ANTHRACENE	17	43	204	11	275
BENZO(A)PYRENE	3.40	8.54	41	2.25	55
BENZO(B)FLUORANTHENE	5.12	13	61	3.38	83
BENZO(E)PYRENE	10	26	122	6.75	165
BENZO(G,H,I)PERYLENE	3.40	8.54	41	2.25	55
BENZO(K)FLUORANTHENE	1.70	4.27	20	1.12	27
BIACETYL	471	1,182	5,635	311	7,599
BROMINE AND COMPOUNDS	2.37	5.94	28	1.56	38
BUTYRALDEHYDE	508	1,275	6,078	335	8,197
CADMIUM & COMPOUNDS	3.02×10^{-2}	7.58×10^{-2}	0.36	1.99×10^{-2}	0.49
CARBON DIOXIDE	3,146,300	7,896,735	37,651,525	2,077,765	50,772,325
CARBON MONOXIDE	316,773	795,051	3,790,794	209,192	5,111,810
CATECHOL	1,651	4,143	19,755	1,090	26,639
CHLORINE	534	1,339	6,386	352	8,612
CHROMIUM (III) COMPOUNDS	2.85×10^{-4}	7.14×10^{-4}	3.41×10^{-3}	1.88×10^{-4}	4.59×10^{-3}

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CHROMIUM (VI) COMPOUNDS	5.85×10^{-5}	1.47×10^{-4}	7.0×10^{-4}	3.87×10^{-5}	9.45×10^{-4}
CHRYSENE	10	26	122	6.75	165
CIS-2-BUTENE	187	470	2,241	124	3,022
CIS-2-PENTENE	55	138	658	36	888
COBALT & COMPOUNDS	0.76	1.90	9.05	0.50	12
COPPER & COMPOUNDS	7.45	19	89	4.92	120
CRESOLS	220	551	2,628	145	3,544
CROTONALDEHYDE	1,460	3,665	17,475	964	23,565
CYCLOPENTENE	41	104	494	27	666
DIMETHYLBENZALDEHYDE	63	159	760	42	1,025
DOCOSANE	0.45	1.13	5.38	0.30	7.26
EICOSANE	0.93	2.32	11	0.61	15
ETHANE	2,018	5,064	24,144	1,332	32,558
ETHYLBENZENE	121	304	1,450	80	1,955
ETHYLENE	6,163	15,467	73,746	4,070	99,446
ETHYLFURAN	222	558	2,661	147	3,588
FLUORANTHENE	17	43	204	11	275
FLUORENE	20	51	245	14	330
FORMALDEHYDE	1,990	4,995	23,816	1,314	32,115
FURAN	469	1,178	5,617	310	7,575
GLYOXAL	3,545	8,897	42,422	2,341	57,205
HENEICOSANE	0.59	1.47	7.03	0.39	9.48
HEPTANAL	2,217	5,564	26,530	1,464	35,775
HEXANAL (HEXANALDEHYDE)	2,212	5,551	26,466	1,461	35,689
HYDROQUINONE	91	228	1,089	60	1,469
ISOMERS OF BUTENE	1,636	4,106	19,578	1,080	26,401
ISOMERS OF PENTENE	845	2,122	10,118	558	13,643
ISOMERS OF XYLENE	595	1,493	7,117	393	9,597
ISOPRENE	217	544	2,596	143	3,501
LEAD & COMPOUNDS	4.25	11	51	2.80	69
MAGNESIUM OXIDE FUME	47	118	564	31	761
MANGANESE & COMPOUNDS	0.23	0.59	2.79	0.15	3.77
MERCURY & COMPOUNDS	7.14×10^{-3}	1.79×10^{-2}	8.54×10^{-2}	4.71×10^{-3}	0.12
METHANE	87,840	220,465	1,051,174	58,008	1,417,486
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	398	999	4,763	263	6,423
METHYL GLYOXAL	4,989	12,523	59,708	3,295	80,514
METHYLBENZALDEHYDE ISOMERS	63	159	760	42	1,025
METHYLCYCLOHEXANE	46	114	545	30	734
MOLYBDENUM	1.02	2.56	12	0.67	16
NAPTHALENE	246	617	2,940	162	3,965
N-BUTANE	77	193	920	51	1,240
N-HEPTADECANOIC ACID	0.43	1.09	5.19	0.29	7.00
N-HEPTANE	153	384	1,830	101	2,468

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
NICKEL & COMPOUNDS	1.92×10^{-2}	4.82×10^{-2}	0.23	1.27×10^{-2}	0.31
NITRIC OXIDE	2,381	5,976	28,493	1,572	38,422
NITROGEN DIOXIDE	192	482	2,299	127	3,101
NITROUS OXIDE	412	1,033	4,927	272	6,644
N-NONANE	21	52	247	14	333
N-OCTANE	8.99	23	108	5.94	145
NONADECANE	1.84	4.61	22	1.21	30
N-PENTANAL (N-VALERALDEHYDE)	169	425	2,026	112	2,732
N-PENTANE	25	62	298	16	401
N-TETRADECANOIC ACID	1.89	4.74	23	1.25	30
OCTADECANE	1.88	4.73	23	1.24	30
OXIDES OF NITROGEN	3,843	9,645	45,989	2,538	62,015
PALMITIC ACID {N-HEXADECANOIC ACID}	11	27	127	6.99	171
PARTICULATE MATTER ≤ 10 µm	41,998	105,410	502,592	27,735	677,736
PARTICULATE MATTER ≤ 2.5 µm	40,431	101,475	483,832	26,700	652,438
PHENANTHRENE	66	167	795	44	1,072
PHENOL (CARBOLIC ACID)	405	1,016	4,845	267	6,534
PHOSPHORUS	5.44	14	65	3.59	88
POLYCHLORINATED DIOXINS AND FURANS	1.13×10^{-5}	2.82×10^{-5}	1.35×10^{-4}	7.43×10^{-6}	1.82×10^{-4}
POLYCYCLIC AROMATIC HYDROCARBONS	623	1,563	7,452	411	10,049
PROPANE	491	1,233	5,880	324	7,929
PROPIONALDEHYDE	1,349	3,386	16,146	891	21,772
PROPYLENE	1,707	4,285	20,432	1,128	27,552
PYRENE	20	51	245	14	330
SELENIUM & COMPOUNDS	6.74×10^{-2}	0.17	0.81	4.45×10^{-2}	1.09
SULFUR DIOXIDE	549	1,378	6,570	363	8,859
TIN & COMPOUNDS	3.70	9.28	44	2.44	60
TOLUENE	1,002	2,515	11,990	662	16,168
TOTAL SUSPENDED PARTICULATE	44,923	112,749	537,586	29,666	724,923
TOTAL VOLATILE ORGANIC COMPOUNDS	72,742	182,572	870,503	48,038	1,173,856
TRANS-2-BUTENE	352	883	4,211	232	5,678
TRANS-2-HEXENE	46	114	545	30	734
TRANS-2-PENTENE	85	212	1,013	56	1,366
VANADIUM & COMPOUNDS	1.72	4.32	21	1.14	28
XYLENOL	582	1,461	6,965	384	9,392
ZINC & COMPOUNDS	35	88	420	23	567

Table A13: Surface coatings emissions by source type

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Architectural and Decorative - Solvent Based					
1,1,1-TRICHLOROETHANE	886	2,106	12,844	640	16,477
1,2,4-TRIMETHYLBENZENE	343	816	4,974	248	6,381
1,3,5-TRIMETHYLBENZENE	61	146	891	44	1,143
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	5.12	12	74	3.70	95
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXANOL}	20	49	297	15	381
2,4-PENTANEDIONE	5.12	12	74	3.70	95
2-BUTOXYETHYL ACETATE (ETHYLENE GLYCOL BUTYL ETHER	20	49	297	15	381
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	5.12	12	74	3.70	95
2-METHOXY-1-PROPANOL ACETATE	20	49	297	15	381
2-METHYL-1-BUTYL ACETATE	5.12	12	74	3.70	95
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	5.12	12	74	3.70	95
ACETONE	343	816	4,974	248	6,381
AMYL ACETATE	10	24	148	7.40	190
BENZYL ALCOHOL	41	97	594	30	762
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	251	597	3,638	181	4,667
CHLORINATED PARAFFINS	169	402	2,450	122	3,143
CUMENE (1-METHYLETHYLBENZENE)	5.12	12	74	3.70	95
CYCLOHEXANONE	10	24	148	7.40	190
DECABROMODIPHENYL OXIDE	5.12	12	74	3.70	95
DI(2-ETHYLHEXYL)PHTHALATE	5.12	12	74	3.70	95
DI(PROPYLENE GLYCOL) METHYL ETHER	15	37	223	11	286
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	5.12	12	74	3.70	95
DICHLOROMETHANE {METHYLENE CHLORIDE}	569	1,352	8,241	411	10,572
DIETHYLENE GLYCOL BUTYL ETHER ACETATE {2-(2-BUTOXYETHOXY)ETHYL ACETATE}	10	24	148	7.40	190
DIGLYCIDYL RESORCINOL ETHER {DGRE}	5.12	12	74	3.70	95
DIPROPYLENE GLYCOL	20	49	297	15	381
DL-LIMONENE {DIPENTENE}	5.12	12	74	3.70	95
ETHYL ACETATE	10	24	148	7.40	190
ETHYL ALCOHOL	973	2,313	14,106	703	18,096
ETHYL-3-ETHOXYPROPIONATE	108	256	1,559	78	2,000
ETHYLBENZENE	179	426	2,598	130	3,333
ETHYLENE AMINE	190	451	2,747	137	3,524
ETHYLENE GLYCOL	5.12	12	74	3.70	95
ETHYLENE GLYCOL PROPYL ETHER {2-	31	73	445	22	571

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
PROPOXYETHANOL}					
ETHYLTOLUENES {METHYLETHYLBENZENES}	20	49	297	15	381
ISOBUTYL ACETATE	446	1,059	6,459	322	8,286
ISOBUTYL ALCOHOL	56	134	817	41	1,048
ISOBUTYL ISOBUTYRATE	82	195	1,188	59	1,524
ISOMERS OF XYLENE	2,525	6,003	36,601	1,825	46,954
ISOPHORONE DIAMINE (1-AMINO-3-AMINOMETHYL-3,5,5-TR	26	61	371	19	476
ISOPROPYL ALCOHOL	517	1,230	7,498	374	9,619
METHENE(B)4-PHENYLISOCYANATE {METHYLENEDIPHENYLDIISOCYANATE}	15	37	223	11	286
METHYL ALCOHOL	51	122	742	37	952
METHYL AMYL KETONE	328	779	4,751	237	6,095
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	5.12	12	74	3.70	95
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,281	3,044	18,560	925	23,810
METHYL ETHYL KETOXIME	31	73	445	22	571
METHYL ISOBUTYL KETONE	282	670	4,083	204	5,238
METHYL PROPYL KETONE (2-PENTANONE)	36	85	520	26	667
METHYL STYRENE (MIXED) {VINYL TOLUENE}	5.12	12	74	3.70	95
MINERAL SPIRITS	36,181	86,000	524,365	26,144	672,691
N-(TRICHLOROMETHYLTHIO)PHTHALIMIDE {FOLPET}	5.12	12	74	3.70	95
NAPTHALENE	10	24	148	7.40	190
N-BUTYL ACETATE	917	2,180	13,289	663	17,048
N-BUTYL ALCOHOL	272	645	3,935	196	5,048
N-HEPTANE	15	37	223	11	286
PARACHLOROBENZOTRIFLUORIDE {PCBTF}	20	49	297	15	381
PERCHLOROETHYLENE	5.12	12	74	3.70	95
POLYCYCLIC AROMATIC HYDROCARBONS	10	24	148	7.40	190
PROPYL ACETATE	5.12	12	74	3.70	95
PROPYLENE CARBONATE	15	37	223	11	286
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	174	414	2,524	126	3,238
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	143	341	2,079	104	2,667
PROPYLENE GLYCOL N-PROPYL ETHER	5.12	12	74	3.70	95
STYRENE (ETHENYLBENZENE)	26	61	371	19	476
TOLUENE	1,629	3,872	23,609	1,177	30,287
TOLUENE DIISOCYANATE (MIXED ISOMERS)	5.12	12	74	3.70	95
TOTAL VOLATILE ORGANIC COMPOUNDS	51,226	121,762	742,412	37,016	952,415
TRIETHYLENE TETRAMINE	46	110	668	33	857
TRIMETHYLBENZENES	102	244	1,485	74	1,905

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
Architectural and Decorative - Thinners					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	35	83	505	25	648
(2-METHYLBUTYL)CYCLOHEXANE	41	98	597	30	765
1,1,2,3-TETRAMETHYL CYCLOHEXANE	19	45	275	14	353
1,1,2-TRIMETHYLCYCLOHEXANE	22	53	321	16	412
1,1,2-TRIMETHYLCYCLOPENTANE	70	166	1,009	50	1,295
1,1,3,4-TETRAMETHYLCYCLOHEXANE	57	135	826	41	1,060
1,1,3,5-TETRAMETHYLCYCLOHEXANE	6.33	15	92	4.58	118
1,1,3-TRIMETHYLCYCLOHEXANE	206	489	2,983	149	3,826
1,1,3-TRIMETHYLCYCLOPENTANE	209	497	3,028	151	3,885
1,1,4-TRIMETHYLCYCLOHEXANE	47	113	688	34	883
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	25	60	367	18	471
1,1-DIMETHYLCYCLOHEXANE	82	196	1,193	59	1,530
1,1-DIMETHYLCYCLOPENTANE	32	75	459	23	589
1,1-METHYLETHYLCYCLOPENTANE	22	53	321	16	412
1,2,3,5-TETRAMETHYLBENZENE	92	218	1,331	66	1,707
1,2,3-TRIMETHYL-4-ETHYLBENZENE	6.33	15	92	4.58	118
1,2,3-TRIMETHYLBENZENE	199	474	2,891	144	3,709
1,2,3-TRIMETHYLCYCLOHEXANE	127	301	1,835	92	2,355
1,2,3-TRIMETHYLCYCLOPENTANE	215	512	3,120	156	4,003
1,2,4,5-TETRAMETHYLBENZENE	70	166	1,009	50	1,295
1,2,4-TRIMETHYLBENZENE	437	1,039	6,332	316	8,123
1,2,4-TRIMETHYLCYCLOPENTENE	421	1,001	6,103	304	7,829
1,2-DIETHYL-1-METHYLCYCLOHEXANE	41	98	597	30	765
1,2-DIMETHYL-4-ETHYLBENZENE	108	256	1,560	78	2,001
1,2-DIMETHYLCYCLOPENTANE	364	865	5,277	263	6,769
1,3,5-TRIMETHYLBENZENE	38	90	551	27	706
1,3-DIMETHYL-2-ETHYLBENZENE	82	196	1,193	59	1,530
1,3-DIMETHYL-4-ETHYLBENZENE	44	105	642	32	824
1,3-DIMETHYL-4-ISOPROPYLBENZENE	16	38	229	11	294
1,3-DIMETHYL-5-ETHYLBENZENE	82	196	1,193	59	1,530
1,4-DIMETHYL-2-ETHYLBENZENE	66	158	964	48	1,236
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	22	53	321	16	412
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	25	60	367	18	471
1-ETHYL-2,3-DIMETHYL CYCLOHEXANE	54	128	780	39	1,001
1-ETHYL-2,4-DIMETHYL CYCLOHEXANE	19	45	275	14	353
1-ETHYL-2-METHYLCYCLOPENTANE	54	128	780	39	1,001
1-ETHYL-3-METHYLCYCLOPENTANE	54	128	780	39	1,001
1-ETHYL-4-ISOPROPYLBENZENE	47	113	688	34	883
1-ETHYL-4-METHYLCYCLOHEXANE (CIS OR TRANS)	16	38	229	11	294
1-ISOPROPYL-2-METHYL CYCLOHEXANE	101	241	1,468	73	1,884

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
1-METHYL INDAN	130	309	1,881	94	2,413
1-METHYL-3-BUTYLBENZENE	9.50	23	138	6.86	177
1-METHYL-3-ISOPROPYL CYCLOHEXANE	111	263	1,606	80	2,060
1-METHYL-3-ISOPROPYLBENZENE	130	309	1,881	94	2,413
1-METHYL-4-ISOBUTYLBENZENE	19	45	275	14	353
1-METHYL-4-ISOPROPYLBENZENE	16	38	229	11	294
1-METHYL-4-ISOPROPYLCYCLOHEXANE	3.17	7.53	46	2.29	59
1-METHYL-4N-PROPYLBENZENE	161	384	2,340	117	3,002
2,2,3,3-TETRAMETHYLPENTANE	13	30	184	9.15	235
2,2,5-TRIMETHYLHEXANE	38	90	551	27	706
2,2-DIMETHYLHEPTANE	9.50	23	138	6.86	177
2,3,4-TRIMETHYLPENTANE	28	68	413	21	530
2,3,5-TRIMETHYLHEPTANE	6.33	15	92	4.58	118
2,3-DIMETHYLHEPTANE	9.50	23	138	6.86	177
2,3-DIMETHYLHEXANE	101	241	1,468	73	1,884
2,3-DIMETHYLOCTANE	155	369	2,248	112	2,884
2,3-DIMETHYLPENTANE	54	128	780	39	1,001
2,4-DIMETHYLHEPTANE	73	173	1,055	53	1,354
2,4-DIMETHYLHEXANE	142	339	2,065	103	2,649
2,4-DIMETHYLNONANE	19	45	275	14	353
2,4-DIMETHYLOCTANE	3.17	7.53	46	2.29	59
2,4-DIMETHYLPENTANE	25	60	367	18	471
2,5-DIMETHYLHEPTANE	139	331	2,019	101	2,590
2,5-DIMETHYLHEXANE	9.50	23	138	6.86	177
2,5-DIMETHYLNONANE	117	278	1,698	85	2,178
2,5-DIMETHYLOCTANE	6.33	15	92	4.58	118
2,6-DIMETHYLDECANE	82	196	1,193	59	1,530
2,6-DIMETHYLHEPTANE	241	572	3,487	174	4,474
2,6-DIMETHYLNONANE	443	1,054	6,424	320	8,241
2,6-DIMETHYLOCTANE	171	406	2,478	124	3,179
2,6-DIMETHYLUNDECANE	28	68	413	21	530
2,7-DIMETHYLDECANE	9.50	23	138	6.86	177
2,7-DIMETHYLOCTANE	25	60	367	18	471
2-ETHYL-1,3-DIMETHYL CYCLOHEXANE	35	83	505	25	648
2-METHYL-3-ETHYLPENTANE	28	68	413	21	530
2-METHYLDECALIN	44	105	642	32	824
2-METHYLDECANE	263	625	3,809	190	4,886
2-METHYLHEPTANE	690	1,641	10,003	499	12,833
2-METHYLHEXANE	408	971	5,919	295	7,594
2-METHYLNAPHTHALENE	13	30	184	9.15	235
2-METHYLNONANE	177	421	2,570	128	3,296
2-METHYLOCTANE	98	233	1,422	71	1,825
2-METHYLUNDECANE {ISODODECANE}	95	226	1,377	69	1,766

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
3,3,5-TRIMETHYLHEPTANE	19	45	275	14	353
3,4-DIMETHYLHEXANE	47	113	688	34	883
3,4-DIMETHYLOCTANE	35	83	505	25	648
3,5-DIMETHYLNONANE	9.50	23	138	6.86	177
3,5-DIMETHYLOCTANE	38	90	551	27	706
3,6-DIMETHYLOCTANE	41	98	597	30	765
3,7-DIMETHYLNONANE	139	331	2,019	101	2,590
3-ETHYL-2-METHYLHEPTANE	60	143	872	43	1,118
3-ETHYL-3-METHYLOCTANE	44	105	642	32	824
3-ETHYL-4-METHYLHEPTANE	6.33	15	92	4.58	118
3-ETHYLDECANE	16	38	229	11	294
3-ETHYLHEPTANE	51	120	734	37	942
3-ETHYLHEXANE	101	241	1,468	73	1,884
3-ETHYLOCTANE	35	83	505	25	648
3-METHYLDECANE	237	564	3,441	172	4,415
3-METHYLHEPTANE	437	1,039	6,332	316	8,123
3-METHYLHEXANE	47	113	688	34	883
3-METHYLNONANE	104	248	1,514	75	1,943
3-METHYLOCTANE	127	301	1,835	92	2,355
3-METHYLUNDECANE	41	98	597	30	765
3-PHENYLPENTANE	57	135	826	41	1,060
4,5-DIMETHYL DECANE	16	38	229	11	294
4,5-DIMETHYLOCTANE	60	143	872	43	1,118
4-ETHYLDECANE	51	120	734	37	942
4-METHYLDECANE	203	482	2,937	146	3,767
4-METHYLHEPTANE	190	452	2,753	137	3,532
4-METHYLINDAN	28	68	413	21	530
4-METHYLNONANE	298	707	4,313	215	5,533
4-METHYLOCTANE	142	339	2,065	103	2,649
4-METHYLUNDECANE	38	90	551	27	706
5-ISOPROPYLNONANE	35	83	505	25	648
5-METHYLDECANE	199	474	2,891	144	3,709
5-METHYLINDAN	165	391	2,386	119	3,061
5-METHYLUNDECANE	35	83	505	25	648
6-ETHYL-2-METHYLOCTANE	57	135	826	41	1,060
6-METHYLUNDECANE	57	135	826	41	1,060
ACETONE	1,102	2,619	15,968	796	20,485
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	152	361	2,203	110	2,826
BUTYLCYCLOHEXANE	184	436	2,661	133	3,414
CIS,CIS,TRANS-1,2,4-TRIMETHYL CYCLOHEXANE	89	211	1,285	64	1,648
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	28	68	413	21	530
CIS-1,2-DIMETHYLCYCLOHEXANE	32	75	459	23	589
CIS-1,3-DIMETHYLCYCLOHEXANE	779	1,851	11,288	563	14,481

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
CIS-1,3-DIMETHYLCYCLOPENTANE	130	309	1,881	94	2,413
CIS-1,4-DIMETHYLCYCLOHEXANE	51	120	734	37	942
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	218	519	3,166	158	4,062
CIS-1,TRANS-2,TRANS-4-TRIMETHYLCYCLOHEXANE	212	504	3,074	153	3,944
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	16	38	229	11	294
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	13	30	184	9.15	235
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	139	331	2,019	101	2,590
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	6.33	15	92	4.58	118
CIS-BICYCLO[3.3.0]OCTANE	16	38	229	11	294
CIS-BICYCLO[4.3.0]NONANE	47	113	688	34	883
CIS-DECALIN	19	45	275	14	353
CUMENE (1-METHYLETHYLBENZENE)	76	181	1,101	55	1,413
CYCLOHEXANE	51	120	734	37	942
DIETHYL CYCLOHEXANE	76	181	1,101	55	1,413
ETHYL ALCOHOL	750	1,784	10,875	542	13,951
ETHYL PROPYLCYCLOHEXANES	348	828	5,047	252	6,475
ETHYLBENZENE	136	324	1,973	98	2,531
ETHYLCYCLOHEXANE	320	760	4,634	231	5,945
ETHYLCYCLOPENTANE	177	421	2,570	128	3,296
HEXYLCYCLOHEXANE	6.33	15	92	4.58	118
HEXYLCYCLOPENTANE	35	83	505	25	648
INDAN	63	151	918	46	1,177
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	95	226	1,377	69	1,766
ISOMERS OF XYLENE	567	1,347	8,214	410	10,537
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	92	218	1,331	66	1,707
METHYL ALCOHOL	117	278	1,698	85	2,178
METHYL AMYL KETONE	272	647	3,946	197	5,062
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	3.17	7.53	46	2.29	59
METHYL ISOBUTYL KETONE	9.50	23	138	6.86	177
METHYL PENTYLCYCLOHEXANE	3.17	7.53	46	2.29	59
METHYL PROPYLCYCLOHEXANES	260	617	3,763	188	4,827
METHYLCYCLOHEXANE	3,103	7,375	44,968	2,242	57,688
METHYLCYCLOPENTANE	3.17	7.53	46	2.29	59
M-ETHYLTOLUENE	104	248	1,514	75	1,943
NAPTHALENE	79	188	1,147	57	1,472
N-BUTYL ACETATE	361	858	5,231	261	6,711
N-BUTYL ALCOHOL	6.33	15	92	4.58	118
N-DECANE	1,374	3,266	19,914	993	25,547
N-DODECANE	180	429	2,615	130	3,355
N-HEPTANE	1,615	3,838	23,402	1,167	30,021
N-NONANE	370	880	5,369	268	6,887

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
N-OCTANE	1,222	2,905	17,712	883	22,722
N-PROPYLBENZENE	16	38	229	11	294
N-TRIDECANE	16	38	229	11	294
N-UNDECANE	1,415	3,364	20,511	1,023	26,313
O-ETHYLTOLUENE	117	278	1,698	85	2,178
PENTYL CYCLOHEXANE	66	158	964	48	1,236
PENTYLCYCLOPENTANE	101	241	1,468	73	1,884
P-ETHYLTOLUENE	142	339	2,065	103	2,649
POLYCYCLIC AROMATIC HYDROCARBONS	92	218	1,331	66	1,707
PROPYLCYCLOHEXANE	136	324	1,973	98	2,531
PROPYLCYCLOPENTANE	25	60	367	18	471
STYRENE (ETHENYLBENZENE)	6.33	15	92	4.58	118
TOLUENE	1,314	3,123	19,043	949	24,429
TOTAL VOLATILE ORGANIC COMPOUNDS	31,661	75,256	458,856	22,878	588,651
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	66	158	964	48	1,236
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	424	1,008	6,149	307	7,888
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	199	474	2,891	144	3,709
TRANS-1,2-DIMETHYLCYCLOHEXANE	22	53	321	16	412
TRANS-1,3-DIMETHYLCYCLOHEXANE	263	625	3,809	190	4,886
TRANS-1,3-DIMETHYLCYCLOPENTANE	171	406	2,478	124	3,179
TRANS-1,4-DIMETHYLCYCLOHEXANE	269	640	3,900	194	5,004
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	41	98	597	30	765
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	73	173	1,055	53	1,354
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	6.33	15	92	4.58	118
Architectural and Decorative - Timber Finishes					
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	56	134	817	41	1,048
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	25	59	357	18	459
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	35	84	511	25	655
ACETONE	391	930	5,668	283	7,271
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	299	712	4,340	216	5,568
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	11	25	153	7.64	197
DI(PROPYLENE GLYCOL) METHYL ETHER	28	67	408	20	524
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	296	703	4,289	214	5,502
ETHYL ACETATE	1,015	2,412	14,705	733	18,865
ETHYL ALCOHOL	3,601	8,558	52,183	2,602	66,944
ETHYLENE GLYCOL	25	59	357	18	459
ISOBUTYL ALCOHOL	261	620	3,778	188	4,847
ISOMERS OF XYLENE	5,253	12,486	76,130	3,796	97,665
ISOPROPYL ALCOHOL	2,001	4,757	29,002	1,446	37,206

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	11	25	153	7.64	197
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,952	4,639	28,287	1,410	36,289
METHYL ISOBUTYL KETONE	2,561	6,088	37,120	1,851	47,621
MINERAL SPIRITS	1,117	2,655	16,186	807	20,764
N-BUTYL ACETATE	1,860	4,422	26,960	1,344	34,585
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	28	67	408	20	524
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	60	142	868	43	1,114
SEC-BUTYL ALCOHOL	3,576	8,500	51,826	2,584	66,485
TOLUENE	9,259	22,007	134,185	6,690	172,141
TOTAL VOLATILE ORGANIC COMPOUNDS	35,231	83,742	510,597	25,458	655,028
Architectural and Decorative - Water Based					
1,2,4-TRIMETHYLBENZENE	9.76	23	141	7.05	181
1-METHYL-2-PYRROLIDINONE	44	104	636	32	816
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	2,103	4,998	30,476	1,520	39,097
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXANOL}	13,661	32,472	197,989	9,871	253,994
2-AMINO-2-METHYL-1-PROPANOL	98	232	1,414	71	1,814
ACETALDEHYDE	15	35	212	11	272
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	429	1,021	6,223	310	7,983
BUTYLBENZYLPHTHALATE	34	81	495	25	635
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	20	46	283	14	363
CHLOROTHALONIL (2,4,5,6-TETRACHLORO-1,3-DICYANOBEN	9.76	23	141	7.05	181
DI(PROPYLENE GLYCOL) METHYL ETHER	171	406	2,475	123	3,175
DIBUTYL PHTHALATE	4.88	12	71	3.53	91
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	176	417	2,546	127	3,266
DIETHYLENE GLYCOL BUTYL ETHER ACETATE {2-(2-BUTOXYETHOXY)ETHYL ACETATE}	68	162	990	49	1,270
DIPROPYLENE GLYCOL	141	336	2,051	102	2,631
ETHYL ALCOHOL	4.88	12	71	3.53	91
ETHYLENE GLYCOL	7,689	18,277	111,440	5,556	142,962
ETHYLENE GLYCOL PROPYL ETHER {2-PROPOXYETHANOL}	107	255	1,556	78	1,996
FORMALDEHYDE	4.88	12	71	3.53	91
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	73	174	1,061	53	1,361
ISOMERS OF XYLENE	68	162	990	49	1,270
ISOPROPYL ALCOHOL	29	70	424	21	544
METHYL ALCOHOL	1,381	3,282	20,011	998	25,672
METHYL CARBITOL {2-(2-	468	1,113	6,788	338	8,708

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHOXYETHOXY)ETHANOL}					
METHYL METHACRYLATE	20	46	283	14	363
MINERAL SPIRITS	2,654	6,309	38,466	1,918	49,347
N,N-DIMETHYLETHANOLAMINE	4.88	12	71	3.53	91
N-BUTYL ALCOHOL	44	104	636	32	816
N-HEXANE	24	58	354	18	454
PROPYLENE GLYCOL	13,608	32,344	197,211	9,833	252,996
PROPYLENE GLYCOL BUTYL ETHER {1-BUTOXY-2-PROPANOL}	24	58	354	18	454
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	44	104	636	32	816
PROPYLENE GLYCOL N-PROPYL ETHER	24	58	354	18	454
SEC-BUTYL ALCOHOL	29	70	424	21	544
STYRENE (ETHENYLBENZENE)	117	278	1,697	85	2,177
TOLUENE	54	128	778	39	998
TOTAL VOLATILE ORGANIC COMPOUNDS	48,790	115,971	707,104	35,255	907,121
TRIETHANOLAMINE	4.88	12	71	3.53	91
TRIETHYLAMINE	9.76	23	141	7.05	181
TRIMETHYLBENZENES	15	35	212	11	272
VINYL ACETATE	20	46	283	14	363
Industrial Surface Coatings					
1,1,1-TRICHLOROETHANE	1,256	2,985	18,199	907	23,346
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	3,931	9,343	56,968	2,840	73,082
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	1,744	4,145	25,271	1,260	32,419
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	2,624	6,236	38,023	1,896	48,779
ACETONE	3,883	9,229	56,269	2,806	72,186
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	21,457	51,003	310,978	15,505	398,943
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	884	2,102	12,817	639	16,443
DI(PROPYLENE GLYCOL) METHYL ETHER	2,193	5,212	31,777	1,584	40,766
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	6,158	14,636	89,242	4,450	114,486
ETHYL ACETATE	4,716	11,210	68,349	3,408	87,683
ETHYL ALCOHOL	3,439	8,174	49,839	2,485	63,937
ETHYLENE GLYCOL	7,008	16,656	101,558	5,064	130,286
ISOBUTYL ALCOHOL	10,785	25,634	156,299	7,793	200,511
ISOMERS OF XYLENE	63,175	150,162	915,579	45,650	1,174,566
ISOPROPYL ALCOHOL	5,531	13,148	80,165	3,997	102,841
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	884	2,102	12,817	639	16,443
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	16,887	40,138	244,732	12,202	313,959
METHYL ISOBUTYL KETONE	21,663	51,492	313,962	15,654	402,771

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
MINERAL SPIRITS	54,160	128,735	784,928	39,136	1,006,959
N-BUTYL ACETATE	23,826	56,634	345,309	17,217	442,986
PROPYL ACETATE	5,692	13,530	82,494	4,113	105,829
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	2,193	5,212	31,777	1,584	40,766
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	4,382	10,415	63,502	3,166	81,464
SEC-BUTYL ALCOHOL	15,621	37,131	226,398	11,288	290,439
TOLUENE	45,895	109,088	665,141	33,163	853,287
TOTAL VOLATILE ORGANIC COMPOUNDS	360,389	856,618	5,223,023	260,413	6,700,443
Industrial Thinners					
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	82	194	1,184	59	1,519
(2-METHYLBUTYL)CYCLOHEXANE	97	230	1,400	70	1,796
1,1,2,3-TETRAMETHYL CYCLOHEXANE	45	106	646	32	829
1,1,2-TRIMETHYLCYCLOHEXANE	52	124	754	38	967
1,1,2-TRIMETHYLCYCLOPENTANE	163	388	2,369	118	3,039
1,1,3,4-TETRAMETHYLCYCLOHEXANE	134	318	1,938	97	2,486
1,1,3,5-TETRAMETHYLCYCLOHEXANE	15	35	215	11	276
1,1,3-TRIMETHYLCYCLOHEXANE	483	1,148	6,998	349	8,978
1,1,3-TRIMETHYLCYCLOPENTANE	490	1,165	7,106	354	9,116
1,1,4-TRIMETHYLCYCLOHEXANE	111	265	1,615	81	2,072
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	59	141	861	43	1,105
1,1-DIMETHYLCYCLOHEXANE	193	459	2,799	140	3,591
1,1-DIMETHYLCYCLOPENTANE	74	177	1,077	54	1,381
1,1-METHYLETHYLCYCLOPENTANE	52	124	754	38	967
1,2,3,5-TETRAMETHYLBENZENE	215	512	3,122	156	4,005
1,2,3-TRIMETHYL-4-ETHYLBENZENE	15	35	215	11	276
1,2,3-TRIMETHYLBENZENE	468	1,112	6,783	338	8,702
1,2,3-TRIMETHYLCYCLOHEXANE	297	706	4,307	215	5,525
1,2,3-TRIMETHYLCYCLOPENTANE	505	1,201	7,321	365	9,392
1,2,4,5-TETRAMETHYLBENZENE	163	388	2,369	118	3,039
1,2,4-TRIMETHYLBENZENE	1,025	2,437	14,858	741	19,060
1,2,4-TRIMETHYLCYCLOPENTENE	988	2,348	14,319	714	18,370
1,2-DIETHYL-1-METHYLCYCLOHEXANE	97	230	1,400	70	1,796
1,2-DIMETHYL-4-ETHYLBENZENE	253	600	3,661	183	4,696
1,2-DIMETHYLCYCLOPENTANE	854	2,031	12,381	617	15,884
1,3,5-TRIMETHYLBENZENE	89	212	1,292	64	1,657
1,3-DIMETHYL-2-ETHYLBENZENE	193	459	2,799	140	3,591
1,3-DIMETHYL-4-ETHYLBENZENE	104	247	1,507	75	1,934
1,3-DIMETHYL-4-ISOPROPYLBENZENE	37	88	538	27	691
1,3-DIMETHYL-5-ETHYLBENZENE	193	459	2,799	140	3,591
1,4-DIMETHYL-2-ETHYLBENZENE	156	371	2,261	113	2,901

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	52	124	754	38	967
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	59	141	861	43	1,105
1-ETHYL-2,3-DIMETHYL CYCLOHEXANE	126	300	1,830	91	2,348
1-ETHYL-2,4-DIMETHYL CYCLOHEXANE	45	106	646	32	829
1-ETHYL-2-METHYLCYCLOPENTANE	126	300	1,830	91	2,348
1-ETHYL-3-METHYLCYCLOPENTANE	126	300	1,830	91	2,348
1-ETHYL-4-ISOPROPYLBENZENE	111	265	1,615	81	2,072
1-ETHYL-4-METHYLCYCLOHEXANE (CIS OR TRANS)	37	88	538	27	691
1-ISOPROPYL-2-METHYL CYCLOHEXANE	238	565	3,445	172	4,420
1-METHYL INDAN	305	724	4,414	220	5,663
1-METHYL-3-BUTYLBENZENE	22	53	323	16	414
1-METHYL-3-ISOPROPYL CYCLOHEXANE	260	618	3,768	188	4,834
1-METHYL-3-ISOPROPYLBENZENE	305	724	4,414	220	5,663
1-METHYL-4-ISOBUTYLBENZENE	45	106	646	32	829
1-METHYL-4-ISOPROPYLBENZENE	37	88	538	27	691
1-METHYL-4-ISOPROPYLCYCLOHEXANE	7.43	18	108	5.37	138
1-METHYL-4N-PROPYLBENZENE	379	901	5,491	274	7,044
2,2,3,3-TETRAMETHYLPENTANE	30	71	431	21	552
2,2,5-TRIMETHYLHEXANE	89	212	1,292	64	1,657
2,2-DIMETHYLHEPTANE	22	53	323	16	414
2,3,4-TRIMETHYLPENTANE	67	159	969	48	1,243
2,3,5-TRIMETHYLHEPTANE	15	35	215	11	276
2,3-DIMETHYLHEPTANE	22	53	323	16	414
2,3-DIMETHYLHEXANE	238	565	3,445	172	4,420
2,3-DIMETHYLOCTANE	364	865	5,276	263	6,768
2,3-DIMETHYLPENTANE	126	300	1,830	91	2,348
2,4-DIMETHYLHEPTANE	171	406	2,476	123	3,177
2,4-DIMETHYLHEXANE	334	795	4,845	242	6,215
2,4-DIMETHYLNONANE	45	106	646	32	829
2,4-DIMETHYLOCTANE	7.43	18	108	5.37	138
2,4-DIMETHYLPENTANE	59	141	861	43	1,105
2,5-DIMETHYLHEPTANE	327	777	4,737	236	6,077
2,5-DIMETHYLHEXANE	22	53	323	16	414
2,5-DIMETHYLNONANE	275	653	3,984	199	5,110
2,5-DIMETHYLOCTANE	15	35	215	11	276
2,6-DIMETHYLDECANE	193	459	2,799	140	3,591
2,6-DIMETHYLHEPTANE	565	1,342	8,183	408	10,497
2,6-DIMETHYLNONANE	1,040	2,472	15,073	752	19,337
2,6-DIMETHYLOCTANE	401	954	5,814	290	7,458
2,6-DIMETHYLUNDECANE	67	159	969	48	1,243
2,7-DIMETHYLDECANE	22	53	323	16	414
2,7-DIMETHYLOCTANE	59	141	861	43	1,105

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
2-ETHYL-1,3-DIMETHYL CYCLOHEXANE	82	194	1,184	59	1,519
2-METHYL-3-ETHYLPENTANE	67	159	969	48	1,243
2-METHYLDECALIN	104	247	1,507	75	1,934
2-METHYLDECANE	617	1,466	8,936	446	11,464
2-METHYLHEPTANE	1,619	3,849	23,471	1,170	30,110
2-METHYLHEXANE	958	2,278	13,889	692	17,817
2-METHYLNAPHTHALENE	30	71	431	21	552
2-METHYLNONANE	416	989	6,029	301	7,735
2-METHYLOCTANE	230	547	3,338	166	4,282
2-METHYLUNDECANE {ISODODECANE}	223	530	3,230	161	4,144
3,3,5-TRIMETHYLHEPTANE	45	106	646	32	829
3,4-DIMETHYLHEXANE	111	265	1,615	81	2,072
3,4-DIMETHYLOCTANE	82	194	1,184	59	1,519
3,5-DIMETHYLNONANE	22	53	323	16	414
3,5-DIMETHYLOCTANE	89	212	1,292	64	1,657
3,6-DIMETHYLOCTANE	97	230	1,400	70	1,796
3,7-DIMETHYLNONANE	327	777	4,737	236	6,077
3-ETHYL-2-METHYLHEPTANE	141	335	2,046	102	2,624
3-ETHYL-3-METHYLOCTANE	104	247	1,507	75	1,934
3-ETHYL-4-METHYLHEPTANE	15	35	215	11	276
3-ETHYLDECANE	37	88	538	27	691
3-ETHYLHEPTANE	119	283	1,723	86	2,210
3-ETHYLHEXANE	238	565	3,445	172	4,420
3-ETHYLOCTANE	82	194	1,184	59	1,519
3-METHYLDECANE	557	1,324	8,075	403	10,359
3-METHYLHEPTANE	1,025	2,437	14,858	741	19,060
3-METHYLHEXANE	111	265	1,615	81	2,072
3-METHYLNONANE	245	583	3,553	177	4,558
3-METHYLOCTANE	297	706	4,307	215	5,525
3-METHYLUNDECANE	97	230	1,400	70	1,796
3-PHENYLPENTANE	134	318	1,938	97	2,486
4,5-DIMETHYL DECANE	37	88	538	27	691
4,5-DIMETHYLOCTANE	141	335	2,046	102	2,624
4-ETHYLDECANE	119	283	1,723	86	2,210
4-METHYLDECANE	475	1,130	6,891	344	8,840
4-METHYLHEPTANE	446	1,059	6,460	322	8,287
4-METHYLINDAN	67	159	969	48	1,243
4-METHYLNONANE	698	1,660	10,120	505	12,983
4-METHYLOCTANE	334	795	4,845	242	6,215
4-METHYLUNDECANE	89	212	1,292	64	1,657
5-ISOPROPYLNONANE	82	194	1,184	59	1,519
5-METHYLDECANE	468	1,112	6,783	338	8,702
5-METHYLINDAN	386	918	5,599	279	7,182

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
5-METHYLUNDECANE	82	194	1,184	59	1,519
6-ETHYL-2-METHYLOCTANE	134	318	1,938	97	2,486
6-METHYLUNDECANE	134	318	1,938	97	2,486
ACETONE	2,585	6,145	37,467	1,868	48,066
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	357	848	5,168	258	6,630
BUTYLCYCLOHEXANE	431	1,024	6,245	311	8,011
CIS,CIS,TRANS-1,2,4-TRIMETHYL CYCLOHEXANE	208	494	3,015	150	3,867
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	67	159	969	48	1,243
CIS-1,2-DIMETHYLCYCLOHEXANE	74	177	1,077	54	1,381
CIS-1,3-DIMETHYLCYCLOHEXANE	1,827	4,344	26,485	1,321	33,977
CIS-1,3-DIMETHYLCYCLOPENTANE	305	724	4,414	220	5,663
CIS-1,4-DIMETHYLCYCLOHEXANE	119	283	1,723	86	2,210
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	513	1,218	7,429	370	9,530
CIS-1,TRANS-2,TRANS-4-TRIMETHYLCYCLOHEXANE	498	1,183	7,214	360	9,254
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	37	88	538	27	691
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	30	71	431	21	552
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	327	777	4,737	236	6,077
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	15	35	215	11	276
CIS-BICYCLO[3.3.0]OCTANE	37	88	538	27	691
CIS-BICYCLO[4.3.0]NONANE	111	265	1,615	81	2,072
CIS-DECALIN	45	106	646	32	829
CUMENE (1-METHYLETHYLBENZENE)	178	424	2,584	129	3,315
CYCLOHEXANE	119	283	1,723	86	2,210
DIETHYL CYCLOHEXANE	178	424	2,584	129	3,315
ETHYL ALCOHOL	1,761	4,185	25,517	1,272	32,734
ETHYL PROPYLCYCLOHEXANES	817	1,942	11,843	590	15,193
ETHYLBENZENE	319	759	4,630	231	5,939
ETHYLCYCLOHEXANE	750	1,783	10,874	542	13,950
ETHYLCYCLOPENTANE	416	989	6,029	301	7,735
HEXYLCYCLOHEXANE	15	35	215	11	276
HEXYLCYCLOPENTANE	82	194	1,184	59	1,519
INDAN	149	353	2,153	107	2,762
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	223	530	3,230	161	4,144
ISOMERS OF XYLENE	1,330	3,161	19,272	961	24,723
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	215	512	3,122	156	4,005
METHYL ALCOHOL	275	653	3,984	199	5,110
METHYL AMYL KETONE	639	1,519	9,259	462	11,878
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	7.43	18	108	5.37	138
METHYL ISOBUTYL KETONE	22	53	323	16	414
METHYL PENTYLCYCLOHEXANE	7.43	18	108	5.37	138
METHYL PROPYLCYCLOHEXANES	609	1,448	8,828	440	11,326

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
METHYLCYCLOHEXANE	7,280	17,305	105,511	5,261	135,357
METHYLCYCLOPENTANE	7.43	18	108	5.37	138
M-ETHYLTOLUENE	245	583	3,553	177	4,558
NAPTHALENE	186	441	2,692	134	3,453
N-BUTYL ACETATE	847	2,013	12,274	612	15,746
N-BUTYL ALCOHOL	15	35	215	11	276
N-DECANE	3,224	7,664	46,726	2,330	59,944
N-DODECANE	423	1,006	6,137	306	7,873
N-HEPTANE	3,789	9,006	54,909	2,738	70,441
N-NONANE	869	2,066	12,597	628	16,160
N-OCTANE	2,868	6,816	41,559	2,072	53,314
N-PROPYLBENZENE	37	88	538	27	691
N-TRIDECANE	37	88	538	27	691
N-UNDECANE	3,321	7,893	48,126	2,400	61,739
O-ETHYLTOLUENE	275	653	3,984	199	5,110
PENTYL CYCLOHEXANE	156	371	2,261	113	2,901
PENTYLCYCLOPENTANE	238	565	3,445	172	4,420
P-ETHYLTOLUENE	334	795	4,845	242	6,215
POLYCYCLIC AROMATIC HYDROCARBONS	215	512	3,122	156	4,005
PROPYLCYCLOHEXANE	319	759	4,630	231	5,939
PROPYLCYCLOPENTANE	59	141	861	43	1,105
STYRENE (ETHENYLBENZENE)	15	35	215	11	276
TOLUENE	3,083	7,328	44,681	2,228	57,320
TOTAL VOLATILE ORGANIC COMPOUNDS	74,289	176,579	1,076,646	53,680	1,381,193
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	156	371	2,261	113	2,901
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	995	2,366	14,427	719	18,508
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	468	1,112	6,783	338	8,702
TRANS-1,2-DIMETHYLCYCLOHEXANE	52	124	754	38	967
TRANS-1,3-DIMETHYLCYCLOHEXANE	617	1,466	8,936	446	11,464
TRANS-1,3-DIMETHYLCYCLOPENTANE	401	954	5,814	290	7,458
TRANS-1,4-DIMETHYLCYCLOHEXANE	631	1,501	9,151	456	11,740
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	97	230	1,400	70	1,796
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	171	406	2,476	123	3,177
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	15	35	215	11	276
Industrial Timber Finishes					
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	32	77	470	23	602
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	14	34	205	10	264
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	20	48	294	15	377
ACETONE	225	534	3,258	162	4,180
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	172	409	2,495	124	3,201
CARBITOL {DEGEE} {2-(2-	6.08	14	88	4.39	113

Substance	Emissions (kg/year)				
	Newcastle	Non Urban	Sydney	Wollongong	GMR
ETHOXYETHOXY)ETHANOL}					
DI(PROPYLENE GLYCOL) METHYL ETHER	16	39	235	12	301
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	170	404	2,465	123	3,163
ETHYL ACETATE	583	1,386	8,453	421	10,844
ETHYL ALCOHOL	2,070	4,920	29,997	1,496	38,482
ETHYLENE GLYCOL	14	34	205	10	264
ISOBUTYL ALCOHOL	150	356	2,172	108	2,786
ISOMERS OF XYLENE	3,020	7,177	43,762	2,182	56,141
ISOPROPYL ALCOHOL	1,150	2,734	16,671	831	21,387
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	6.08	14	88	4.39	113
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1,122	2,667	16,260	811	20,860
METHYL ISOBUTYL KETONE	1,472	3,500	21,338	1,064	27,374
MINERAL SPIRITS	642	1,526	9,304	464	11,936
N-BUTYL ACETATE	1,069	2,542	15,497	773	19,881
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	16	39	235	12	301
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	34	82	499	25	640
SEC-BUTYL ALCOHOL	2,056	4,886	29,791	1,485	38,218
TOLUENE	5,322	12,651	77,134	3,846	98,953
TOTAL VOLATILE ORGANIC COMPOUNDS	20,252	48,138	293,509	14,634	376,533

Table A14: Estimated annual emissions of all substances from domestic-commercial sources

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	588	1,425	7,945	409	10,368
(2-METHYLBUTYL)CYCLOHEXANE	138	327	1,996	100	2,561
(2-METHYLPROPYL)BENZENE	246	598	3,259	169	4,272
1,1,1-TRICHLOROETHANE	49,017	120,961	762,358	36,069	968,405
1,1,2,3-TETRAMETHYL CYCLOHEXANE	64	151	921	46	1,182
1,1,2-TRIMETHYLCYCLOHEXANE	74	176	1,075	54	1,379
1,1,2-TRIMETHYLCYCLOPENTANE	233	554	3,378	168	4,334
1,1,3,4-TETRAMETHYLCYCLOHEXANE	191	453	2,764	138	3,546
1,1,3,5-TETRAMETHYLCYCLOHEXANE	21	50	307	15	394
1,1,3-TRIMETHYLCYCLOHEXANE	689	1,637	9,981	498	12,804
1,1,3-TRIMETHYLCYCLOPENTANE	699	1,662	10,134	505	13,001
1,1,4-TRIMETHYLCYCLOHEXANE	159	378	2,303	115	2,955
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	85	201	1,228	61	1,576
1,1-DIMETHYLCYCLOHEXANE	275	655	3,992	199	5,122
1,1-DIMETHYLCYCLOPENTANE	106	252	1,536	77	1,970
1,1-METHYLETHYLCYCLOPENTANE	74	176	1,075	54	1,379
1,2,3,5-TETRAMETHYLBENZENE	307	730	4,453	222	5,713
1,2,3-TRIMETHYL-4-ETHYLBENZENE	21	50	307	15	394
1,2,3-TRIMETHYLBENZENE	2,243	5,441	30,223	1,560	39,467
1,2,3-TRIMETHYLCYCLOHEXANE	424	1,007	6,142	306	7,879
1,2,3-TRIMETHYLCYCLOPENTANE	720	1,712	10,441	521	13,395
1,2,4,5-TETRAMETHYLBENZENE	233	554	3,378	168	4,334
1,2,4-TRIMETHYLBENZENE	23,275	56,615	309,323	16,063	405,276
1,2,4-TRIMETHYLCYCLOPENTENE	1,409	3,349	20,422	1,018	26,199
1,2-DICHLOROETHANE	0.57	1.40	8.82	0.42	11
1,2-DIETHYL-1-METHYLCYCLOHEXANE	138	327	1,996	100	2,561
1,2-DIETHYLBENZENE (ORTHO)	206	508	2,624	140	3,478
1,2-DIMETHYL-4-ETHYLBENZENE	360	856	5,221	260	6,697
1,2-DIMETHYLCYCLOPENTANE	1,218	2,896	17,658	880	22,653
1,2-EPOXYBUTANE	8.39	21	131	6.18	166
1,2-PROPADIENE	2,177	5,338	28,176	1,485	37,176
1,3,5-TRIMETHYLBENZENE	7,821	19,036	103,613	5,388	135,858
1,3-BUTADIENE	7,187	17,874	88,779	4,808	118,648
1,3-DIMETHYL-2-ETHYLBENZENE	275	655	3,992	199	5,122
1,3-DIMETHYL-4-ETHYLBENZENE	148	353	2,150	107	2,758
1,3-DIMETHYL-4-ISOPROPYLBENZENE	53	126	768	38	985
1,3-DIMETHYL-5-ETHYLBENZENE	275	655	3,992	199	5,122
1,4-DIMETHYL-2-ETHYLBENZENE	222	529	3,225	161	4,137
1,4-DIOXANE	1.32	3.26	21	0.97	26
1,4-PENTADIENE	328	819	4,018	219	5,384
12-METHYLBENZ(A)ANTHRACENE	7.25	18	87	4.79	117

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
1-BUTENE	8,470	20,979	106,085	5,699	141,233
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	74	176	1,075	54	1,379
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	85	201	1,228	61	1,576
1-ETHYL-2,3-DIMETHYL CYCLOHEXANE	180	428	2,610	130	3,349
1-ETHYL-2,4-DIMETHYL CYCLOHEXANE	64	151	921	46	1,182
1-ETHYL-2-METHYLCYCLOPENTANE	180	428	2,610	130	3,349
1-ETHYL-3-METHYLCYCLOPENTANE	180	428	2,610	130	3,349
1-ETHYL-4-ISOPROPYLBENZENE	159	378	2,303	115	2,955
1-ETHYL-4-METHYLCYCLOHEXANE (CIS OR TRANS)	53	126	768	38	985
1-HEXANOL (N-HEXANOL)	145	358	2,260	107	2,870
1-ISOPROPYL-2-METHYL CYCLOHEXANE	339	806	4,914	245	6,304
1-METHYL INDAN	434	1,033	6,296	314	8,076
1-METHYL-2-PYRROLIDINONE	44	104	636	32	816
1-METHYL-3-BUTYLBENZENE	32	76	461	23	591
1-METHYL-3-ISOPROPYL CYCLOHEXANE	371	881	5,374	268	6,894
1-METHYL-3-ISOPROPYLBENZENE	434	1,033	6,296	314	8,076
1-METHYL-4-ISOBUTYLBENZENE	64	151	921	46	1,182
1-METHYL-4-ISOPROPYLBENZENE	53	126	768	38	985
1-METHYL-4-ISOPROPYLCYCLOHEXANE	11	25	154	7.66	197
1-METHYL-4N-PROPYLBENZENE	540	1,284	7,831	390	10,046
1-METHYLPHENANTHRENE	109	273	1,301	72	1,755
1-NONENE	18	43	274	13	348
1-OCTANOL	105	260	1,642	78	2,085
1-PENTENE	4,113	10,144	52,198	2,782	69,236
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	6,170	14,668	89,460	4,459	114,756
2,2,3,3-TETRAMETHYLPENTANE	42	101	614	31	788
2,2,3,TRIMETHYLHEXANE	33	82	402	22	538
2,2,3-TRIMETHYLBUTANE	66	164	804	44	1,077
2,2,4,4-TETRAMETHYL-3-PENTANONE	667	1,648	10,400	491	13,205
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXANOL}	13,817	32,854	200,391	9,986	257,047
2,2,4-TRIMETHYLPENTANE	23,210	56,562	306,091	15,954	401,817
2,2,5-TRIMETHYLHEXANE	127	302	1,843	92	2,364
2,2-DIMETHYLBUTANE	4,189	10,226	54,939	2,873	72,227
2,2-DIMETHYLHEPTANE	32	76	461	23	591
2,2-DIMETHYLHEXANE	66	164	804	44	1,077
2,2-DIMETHYLPENTANE	164	410	2,009	109	2,692
2,3,3-TRIMETHYLPENTANE	164	410	2,009	109	2,692
2,3,4-TRIMETHYLPENTANE	6,473	15,750	85,806	4,460	112,489
2,3,5-TRIMETHYLHEPTANE	21	50	307	15	394
2,3-DIMETHYL-1-BUTENE	1,899	4,625	25,107	1,307	32,938
2,3-DIMETHYLBUTANE	2,660	6,634	32,543	1,772	43,610
2,3-DIMETHYLHEPTANE	32	76	461	23	591

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
2,3-DIMETHYLHEXANE	2,364	5,749	31,494	1,634	41,241
2,3-DIMETHYLOCTANE	519	1,234	7,524	375	9,652
2,3-DIMETHYLPENTANE	5,098	12,430	67,147	3,503	88,179
2,4,5-TRIMETHYLHEPTANE	6,196	15,316	96,664	4,563	122,739
2,4-DIMETHYL-1-PENTENE	456	1,127	7,116	336	9,035
2,4-DIMETHYLHEPTANE	244	579	3,532	176	4,531
2,4-DIMETHYLHEXANE	4,670	11,365	62,019	3,223	81,277
2,4-DIMETHYLNONANE	64	151	921	46	1,182
2,4-DIMETHYLOCTANE	6,840	16,906	106,698	5,037	135,481
2,4-DIMETHYLPENTANE	4,290	10,468	56,390	2,945	74,093
2,4-DINITROTOLUENE	1.69×10^{-5}	4.02×10^{-5}	2.45×10^{-4}	1.22×10^{-5}	3.15×10^{-4}
2,4-PENTANEDIONE	5.12	12	74	3.70	95
2,5-DIMETHYLHEPTANE	466	1,108	6,756	337	8,667
2,5-DIMETHYLHEXANE	262	649	3,273	176	4,360
2,5-DIMETHYLNONANE	392	932	5,681	283	7,288
2,5-DIMETHYLOCTANE	21	50	307	15	394
2,6-DIMETHYL-4-HEPTANONE (DIISOBUTYL KETONE)	39	95	601	28	764
2,6-DIMETHYLDECANE	275	655	3,992	199	5,122
2,6-DIMETHYLHEPTANE	805	1,914	11,670	582	14,971
2,6-DIMETHYLNONANE	1,483	3,526	21,497	1,072	27,578
2,6-DIMETHYLOCTANE	572	1,360	8,292	413	10,637
2,6-DIMETHYLUNDECANE	95	227	1,382	69	1,773
2,7-DIMETHYLDECANE	32	76	461	23	591
2,7-DIMETHYLOCTANE	85	201	1,228	61	1,576
2-AMINO-2-METHYL-1-PROPANOL	98	232	1,414	71	1,814
2-BUTOXYETHYL ACETATE (ETHYLENE GLYCOL BUTYL ETHER	20	49	297	15	381
2-CHLOROACETOPHENONE	4.23×10^{-4}	1.01×10^{-3}	6.13×10^{-3}	3.06×10^{-4}	7.86×10^{-3}
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	1,890	4,503	27,512	1,367	35,272
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	2,703	6,428	39,202	1,954	50,287
2-ETHYL FURAN	3,488	8,755	41,742	2,303	56,288
2-ETHYL-1,3-DIMETHYL CYCLOHEXANE	117	277	1,689	84	2,167
2-ETHYL-1-HEXANOL	169	418	2,637	124	3,349
2-FURFURAL	4,389	11,006	52,680	2,902	70,977
2-METHOXY-1-PROPANOL ACETATE	20	49	297	15	381
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	395	977	6,166	291	7,829
2-METHYL-1-BUTENE	4,218	10,527	51,489	2,808	69,043
2-METHYL-1-BUTYL ACETATE	5.12	12	74	3.70	95
2-METHYL-2-BUTENE	15,041	37,518	183,896	10,019	246,474
2-METHYL-2-PENTENE	254	636	3,045	168	4,102
2-METHYL-2-PROPENAL	845	2,120	10,150	559	13,674

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
(METHACROLEIN)					
2-METHYL-3-ETHYLPENTANE	95	227	1,382	69	1,773
2-METHYL-BUTANE	30,039	73,126	397,444	20,676	521,286
2-METHYLDECALIN	148	353	2,150	107	2,758
2-METHYLDECANE	5,286	12,983	81,494	3,881	103,643
2-METHYLHEPTANE	6,184	14,951	84,217	4,324	109,676
2-METHYLHEXANE	12,998	31,665	172,338	8,963	225,964
2-METHYLNAPHTHALENE	51	122	746	37	955
2-METHYLNONANE	5,015	12,341	77,476	3,683	98,515
2-METHYLOCTANE	1,924	4,726	29,547	1,410	37,608
2-METHYLPENTANE	33,492	82,486	427,470	22,707	566,155
2-METHYLPROPANE; ISOBUTANE	72,866	180,263	1,097,451	52,846	1,403,426
2-METHYLPROPENE (ISOBUTENE)	5,675	13,967	72,545	3,850	96,037
2-METHYLUNDECANE {ISODODECANE}	318	756	4,607	230	5,910
2-NITROPROPANE	0.26	0.63	4.00	0.19	5.08
3,3,5-TRIMETHYLHEPTANE	64	151	921	46	1,182
3,3-DIMETHYL-1-BUTENE	40	91	624	30	785
3,3-DIMETHYLPENTANE	197	491	2,411	131	3,230
3,4-DIMETHYLHEXANE	159	378	2,303	115	2,955
3,4-DIMETHYLOCTANE	117	277	1,689	84	2,167
3,5-DIMETHYLNONANE	32	76	461	23	591
3,5-DIMETHYLOCTANE	127	302	1,843	92	2,364
3,6-DIMETHYLOCTANE	138	327	1,996	100	2,561
3,7-DIMETHYLNONANE	466	1,108	6,756	337	8,667
3-ETHYL-2-METHYLHEPTANE	201	478	2,917	145	3,743
3-ETHYL-3-METHYLOCTANE	148	353	2,150	107	2,758
3-ETHYL-4-METHYLHEPTANE	21	50	307	15	394
3-ETHYLDECANE	53	126	768	38	985
3-ETHYLHEPTANE	170	403	2,457	122	3,152
3-ETHYLHEXANE	339	806	4,914	245	6,304
3-ETHYLOCTANE	117	277	1,689	84	2,167
3-ETHYLPENTANE	328	819	4,018	219	5,384
3-METHOXY-1-PROPANOL	0.89	2.20	14	0.66	18
3-METHYL-1-BUTENE	352	882	4,250	233	5,717
3-METHYLCHOLANTHRENE	1.81	4.55	22	1.20	29
3-METHYLDECANE	795	1,889	11,516	574	14,774
3-METHYLHEPTANE	1,922	4,622	26,815	1,363	34,721
3-METHYLHEXANE	12,203	29,817	160,037	8,368	210,425
3-METHYLNONANE	350	831	5,067	253	6,500
3-METHYLOCTANE	489	1,171	6,946	350	8,956
3-METHYLPENTANE	18,741	46,075	240,396	12,733	317,945
3-METHYLUNDECANE	138	327	1,996	100	2,561
3-PHENYLPENTANE	191	453	2,764	138	3,546
4,5-DIMETHYL DECANE	53	126	768	38	985

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
4,5-DIMETHYLOCTANE	201	478	2,917	145	3,743
4-ETHYLDECANE	170	403	2,457	122	3,152
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	99	245	1,546	73	1,964
4-METHYLDECANE	678	1,612	9,827	490	12,607
4-METHYLHEPTANE	898	2,166	12,427	634	16,126
4-METHYLINDAN	95	227	1,382	69	1,773
4-METHYLNONANE	996	2,367	14,434	720	18,517
4-METHYLOCTANE	510	1,215	7,312	366	9,403
4-METHYLUNDECANE	127	302	1,843	92	2,364
4-PROPYL-3-HEPTENE	579	1,431	9,032	426	11,468
5-ISOPROPYLNONANE	117	277	1,689	84	2,167
5-METHYLCHRYSENE	1.33×10^{-6}	3.16×10^{-6}	1.93×10^{-5}	9.61×10^{-7}	2.47×10^{-5}
5-METHYLDECANE	667	1,587	9,674	482	12,410
5-METHYLINDAN	551	1,310	7,985	398	10,243
5-METHYLUNDECANE	117	277	1,689	84	2,167
6-ETHYL-2-METHYLOCTANE	191	453	2,764	138	3,546
6-METHYLUNDECANE	191	453	2,764	138	3,546
7,12-DIMETHYLBENZANTHRACENE	15	37	176	9.70	237
9-METHYLANTHRACENE	14	36	173	9.57	234
ACENAPHTHENE	136	342	1,664	91	2,233
ACENAPHTHYLENE	2,033	5,102	24,359	1,343	32,837
ACETALDEHYDE	17,613	43,959	215,200	11,735	288,507
ACETAMIDE	1.67×10^{-2}	4.13×10^{-2}	0.26	1.23×10^{-2}	0.33
ACETIC ACID	649	1,605	10,127	478	12,859
ACETONE	96,191	237,907	1,389,545	68,599	1,792,242
ACETOPHENONE (PHENYL METHYL KETONE)	144	362	1,737	96	2,339
ACETYLENE	43,210	106,764	545,509	29,167	724,650
ACROLEIN (2-PROPENAL)	1,849	4,617	22,522	1,230	30,217
ACRYLIC ACID	4.77×10^{-4}	1.18×10^{-3}	7.44×10^{-3}	3.51×10^{-4}	9.44×10^{-3}
ALIPHATICS	15,735	38,895	245,484	11,588	311,701
ALKENE KETONE	128	310	1,737	89	2,266
AMMONIA (TOTAL)	50,959	124,773	669,232	35,115	880,079
AMYL ACETATE	34	84	525	25	669
ANTHRACENE	161	405	1,936	107	2,610
ANTIMONY & COMPOUNDS	0.62	1.48	8.95	0.45	12
A-PINENE	105	260	1,642	78	2,085
AROMATIC 100	25,414	62,821	396,499	18,717	503,451
ARSENIC & COMPOUNDS	4.71	12	57	3.13	77
BENZALDEHYDE	2,017	5,045	24,431	1,339	32,832
BENZENE	46,779	115,917	584,847	31,447	778,989
BENZO(A)ANTHRACENE	182	457	2,184	120	2,944
BENZO(A)PYRENE	59	147	702	39	946

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
BENZO(B)FLUORANTHENE	69	173	828	46	1,117
BENZO(E)PYRENE	115	289	1,380	76	1,860
BENZO(G,H,I)PERYLENE	112	280	1,339	74	1,804
BENZO(K)FLUORANTHENE	20	51	243	13	327
BENZO[GHI]FLUORANTHENE	102	257	1,225	68	1,652
BENZOTHIAZOLE	53	130	821	39	1,043
BENZYL ALCOHOL	376	925	5,819	276	7,397
BENZYL CHLORIDE	4.23×10^{-2}	0.10	0.61	3.06×10^{-2}	0.79
BENZYLAMINE HYDROCHLORIDE	24	60	377	18	478
BERYLLIUM & COMPOUNDS	4.30×10^{-2}	0.10	0.62	3.11×10^{-2}	0.80
BIACETYL	3,329	8,346	40,177	2,206	54,058
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	175	434	2,737	129	3,475
BIPHENYL {PHENYL BENZENE}	81	202	964	53	1,300
BIPHENYLOL {2-PHENYLPHENOL}	24	60	377	18	478
B-METHYLSTYRENE	274	675	3,484	185	4,619
BORON & COMPOUNDS	1.09	2.59	16	0.79	20
BROMINE AND COMPOUNDS	37	91	450	24	602
BROMOFORM	2.36×10^{-3}	5.60×10^{-3}	3.42×10^{-2}	1.70×10^{-3}	4.38×10^{-2}
BUTOXY PROPANOL	38	95	598	28	759
BUTYL	45	111	700	33	889
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	31,458	75,566	465,162	22,847	595,033
BUTYLBENZENE ISOMERS	7,111	17,405	103,895	4,975	133,386
BUTYLBENZYLPHTHALATE	34	81	495	25	635
BUTYLCYCLOHEXANE	2,388	5,845	36,575	1,750	46,558
BUTYRALDEHYDE	3,572	8,951	42,995	2,365	57,882
C10 ALKYL CYCLOHEXANES	484	1,143	6,755	275	8,656
C10 ALKYLPHENOLS	403	997	6,295	297	7,993
C10 INTERNAL ALKENES	2,265	5,598	35,332	1,668	44,863
C10 MONOSUBSTITUTED BENZENES	411	1,013	5,228	278	6,930
C11 ALKYLPHENOLS	175	434	2,737	129	3,475
C11 DIALKYL BENZENES	105	260	1,642	78	2,085
C11 INTERNAL ALKENES	1,035	2,558	16,147	762	20,503
C12 INTERNAL ALKENES	123	304	1,916	90	2,433
C5 ALDEHYDE	1.55	3.56	24	1.15	31
C6 ALDEHYDES	364	883	4,844	251	6,342
C8 ALKYL CYCLOHEXANES	323	762	4,503	183	5,771
C8H14	105	260	1,642	78	2,085
C9 ALKYL BENZENES	275	650	3,840	156	4,921
C9 ALKYL CYCLOHEXANES	930	2,196	12,979	528	16,633
C9 MONOSUBSTITUTED BENZENES	4,202	10,264	55,043	2,880	72,389
CADMIUM & COMPOUNDS	29	73	353	19	475
CAMPHOR	93	231	1,458	69	1,851

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
CARBARYL	72	179	1,130	53	1,435
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	1,190	2,854	17,547	864	22,455
CARBON DIOXIDE	202,705,977	489,339,736	2,793,807,758	142,908,762	3,628,762,233
CARBON DISULFIDE	7.86×10^{-3}	1.87×10^{-2}	0.11	5.68×10^{-3}	0.15
CARBON MONOXIDE	6,553,795	16,226,022	82,185,940	4,411,529	109,377,286
CARBON TETRACHLORIDE	4.96×10^{-5}	1.23×10^{-4}	7.74×10^{-4}	3.65×10^{-5}	9.83×10^{-4}
CATECHOL	11,467	28,758	137,683	7,584	185,492
CHLORINATED PARAFFINS	169	402	2,450	122	3,143
CHLORINE	7,431	18,543	90,758	4,948	121,681
CHLOROBENZENE	19,577	48,392	305,428	14,418	387,814
CHLOROETHANE (ETHYL CHLORIDE)	2.54×10^{-3}	6.03×10^{-3}	3.68×10^{-2}	1.83×10^{-3}	4.72×10^{-2}
CHLOROFORM (TRICHLOROMETHANE)	544	1,345	8,487	401	10,776
CHLOROPICRIN	1,497	3,701	23,358	1,103	29,659
CHLOROTHALONIL (2,4,5,6-TETRACHLORO-1,3-DICYANOBEN	9.76	23	141	7.05	181
CHLOROTOLUENE	9,262	22,894	144,498	6,821	183,475
CHROMIUM (III) COMPOUNDS	5.12	13	65	3.47	86
CHROMIUM (VI) COMPOUNDS	1.08	2.68	14	0.73	18
CHRYSENE	145	364	1,737	96	2,342
CIS,CIS,TRANS-1,2,4-TRIMETHYL CYCLOHEXANE	297	705	4,299	214	5,516
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	95	227	1,382	69	1,773
CIS-1,2-DIMETHYLCYCLOHEXANE	106	252	1,536	77	1,970
CIS-1,3-DICHLOROPROPENE	9,852	24,354	153,712	7,256	195,175
CIS-1,3-DIMETHYLCYCLOHEXANE	2,606	6,195	37,773	1,883	48,458
CIS-1,3-DIMETHYLCYCLOPENTANE	1,157	2,834	15,134	795	19,921
CIS-1,4-DIMETHYLCYCLOHEXANE	170	403	2,457	122	3,152
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	460	1,147	5,625	306	7,537
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	731	1,738	10,595	528	13,592
CIS-1,TRANS-2,TRANS-4-TRIMETHYLCYCLOHEXANE	710	1,687	10,288	513	13,198
CIS-1-2-DIMETHYLCYCLOPENTANE	460	1,147	5,625	306	7,537
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	53	126	768	38	985
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	42	101	614	31	788
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	466	1,108	6,756	337	8,667
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	21	50	307	15	394
CIS-2-BUTENE	3,419	8,480	42,621	2,296	56,815
CIS-2-PENTENE	8,754	21,654	110,069	5,898	146,376
CIS-BICYCLO[3.3.0]OCTANE	53	126	768	38	985
CIS-BICYCLO[4.3.0]NONANE	159	378	2,303	115	2,955
CIS-DECALIN	64	151	921	46	1,182
COAL TAR	229	567	3,576	169	4,540
COBALT & COMPOUNDS	19	47	240	13	318

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
COPPER & COMPOUNDS	96	239	1,162	64	1,560
COPPER NAPHTHENATE	72	179	1,130	53	1,435
CORN OIL	1.78	4.41	28	1.31	35
CREOSOTE	869	2,149	13,563	640	17,221
CRESOLS	7,274	18,228	87,601	4,817	117,920
CROTONALDEHYDE	10,144	25,439	121,797	6,709	164,089
CUMENE (1-METHYLETHYLBENZENE)	1,114	2,696	15,071	776	19,657
CYCLOHEXANE	854	2,085	11,668	597	15,204
CYCLOHEXANONE	1,714	4,236	26,633	1,260	33,843
CYCLOPENTANE	3,631	8,831	48,177	2,502	63,141
CYCLOPENTENE	385	965	4,647	255	6,252
DECABROMODIPHENYL OXIDE	5.12	12	74	3.70	95
DI(2-ETHYLHEXYL)PHTHALATE	5.13	12	74	3.70	95
DI(PROPYLENE GLYCOL) METHYL ETHER	2,434	5,787	35,293	1,759	45,274
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	6,740	16,031	97,807	4,872	125,451
DIAZINON	169	418	2,637	124	3,349
DIBENZO(A,H)ANTHRACENE	15	37	176	9.71	237
DIBENZOFURAN	0.98	2.41	15	0.72	19
DIBROMOETHANE	7.25×10^{-5}	1.72×10^{-4}	1.05×10^{-3}	5.24×10^{-5}	1.35×10^{-3}
DIBUTYL PHTHALATE	4.88	12	71	3.53	91
DICHLOROBENZENES	1.39	3.31	20	1.01	26
DICHLOROMETHANE {METHYLENE CHLORIDE}	4,974	12,241	76,968	3,655	97,837
DIETHANOLAMINE	18	44	278	13	353
DIETHYL CYCLOHEXANE	254	604	3,685	184	4,728
DIETHYLBENZENES	1,708	4,161	22,551	1,175	29,594
DIETHYLCYCLOHEXANE	474	1,171	7,389	349	9,383
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	6,508	16,070	101,339	4,790	128,708
DIETHYLENE GLYCOL BUTYL ETHER ACETATE {2-(2-BUTOXYETHOXY)ETHYL ACETATE}	79	187	1,138	57	1,460
DIETHYLMETHYLCYCLOHEXANES	579	1,431	9,032	426	11,468
DIGLYCIDYL RESORCINOL ETHER {DGRE}	5.12	12	74	3.70	95
DIMETHYL ETHER	2,321	5,737	36,210	1,709	45,978
DIMETHYL FORMAMIDE	4.21	10	66	3.10	83
DIMETHYL SULFATE	2.90×10^{-3}	6.89×10^{-3}	4.20×10^{-2}	2.10×10^{-3}	5.39×10^{-2}
DIMETHYLAMINE	1,739	4,298	27,126	1,280	34,443
DIMETHYLBENZALDEHYDE	441	1,106	5,296	292	7,134
DIMETHYLBENZYLALCOHOL	158	390	2,463	116	3,128
DIMETHYLBUTYLCYCLOHEXANE	53	130	821	39	1,043
DIMETHYLCARBAMODITHIOIC ACID, POTASSIUM SALT	24	60	377	18	478
DIMETHYLDECANE	298	737	4,653	220	5,908

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
DIMETHYLETHYLCYCLOHEXANE	1,000	2,472	15,600	736	19,808
DIMETHYLHEPTANES	579	1,431	9,032	426	11,468
DIMETHYLNONANES	2,616	6,465	40,806	1,926	51,813
DIMETHYLUNDECANES	246	607	3,832	181	4,865
DIMETHYOCTYNE DIOL	105	260	1,642	78	2,085
DIPROPYLENE GLYCOL	162	385	2,348	117	3,012
D-LIMONENE	3,301	8,160	51,505	2,431	65,398
DL-LIMONENE {DIPENTENE}	5.12	12	74	3.70	95
DOCOSANE	3.12	7.83	38	2.07	51
EICOSANE	6.43	16	77	4.25	104
ETHANE	175,283	418,748	2,499,835	125,654	3,219,520
ETHANOLAMINE	569	1,405	8,870	419	11,263
ETHYL ACETATE	10,435	25,194	155,790	7,597	199,016
ETHYL ALCOHOL	375,238	926,344	5,839,717	276,163	7,417,462
ETHYL ETHER	2,175	5,378	33,941	1,602	43,096
ETHYL PROPYLCYCLOHEXANES	1,692	4,071	25,101	1,230	32,093
ETHYL-3-ETHOXYPROPIONATE	647	1,590	9,978	475	12,690
ETHYLBENZENE	18,447	44,997	245,475	12,699	321,618
ETHYLCYCLOHEXANE	1,684	4,061	25,087	1,225	32,058
ETHYLCYCLOPENTANE	692	1,656	9,804	494	12,646
ETHYLENE	61,196	152,388	753,292	40,880	1,007,755
ETHYLENE AMINE	190	451	2,747	137	3,524
ETHYLENE GLYCOL	14,741	35,038	213,635	10,652	274,065
ETHYLENE GLYCOL PROPYL ETHER {2-PROPOXYETHANOL}	162	388	2,378	118	3,045
ETHYLENE OXIDE	2,367	5,850	36,921	1,743	46,880
ETHYLFURAN	861	2,162	10,308	569	13,900
ETHYLHEXANE	5,044	12,287	67,670	3,491	88,493
ETHYLMETHYLCYCLOHEXANES	4,494	11,109	70,117	3,310	89,031
ETHYLMETHYLHEXANE	105	260	1,642	78	2,085
ETHYLOCTANE	228	564	3,558	168	4,518
ETHYLTOLUENES {METHYLETHYLBENZENES}	20	49	297	15	381
FLUORANTHENE	215	540	2,584	142	3,481
FLUORENE	274	687	3,288	181	4,430
FLUORIDE COMPOUNDS	14	33	200	9.90	256
FORMALDEHYDE	43,397	108,536	527,722	28,847	708,502
FORMIC ACID	19	48	301	14	382
FREON	24	60	377	18	478
FURAN	1,818	4,564	21,762	1,201	29,345
FURFURYL ALCOHOL	17	41	262	12	332
GAMMA- BUTYROLACTONE	116	286	1,804	85	2,291
GLUTARALDEHYDE (A DIALDEHYDE)	724	1,791	11,302	534	14,351
GLYCOL ETHERS	4,899	12,110	76,430	3,608	97,046

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
GLYOXAL	24,626	61,755	295,666	16,286	398,333
HENEICOSANE	4.08	10	49	2.70	66
HEPTANAL	15,400	38,620	184,902	10,185	249,107
HEXACHLOROETHANE	133	329	2,077	98	2,637
HEXANAL (HEXANALDEHYDE)	15,363	38,528	184,460	10,161	248,512
HEXYLCYCLOHEXANE	21	50	307	15	394
HEXYLCYCLOPENTANE	117	277	1,689	84	2,167
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	73	174	1,061	53	1,361
HYDROCHLORIC ACID	73	173	1,054	53	1,352
HYDROGEN CYANIDE	0.15	0.36	2.19	0.11	2.81
HYDROGEN SULFIDE	8.70	21	126	6.29	162
HYDROQUINONE	632	1,585	7,590	418	10,226
INDAN	1,270	3,091	16,882	877	22,121
INDENE	351	867	5,474	258	6,950
INDENO(1,2,3-CD)PYRENE	74	186	886	49	1,194
ISOBUTYL ACETATE	988	2,399	14,913	721	19,020
ISOBUTYL ALCOHOL	11,292	26,844	163,695	8,160	209,991
ISOBUTYL ISOBUTYRATE	82	195	1,188	59	1,524
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	318	756	4,607	230	5,910
ISOMERS OF BUTENE	6,338	15,908	75,848	4,186	102,280
ISOMERS OF C10H18	70	173	1,095	52	1,390
ISOMERS OF C11H20	228	564	3,558	168	4,518
ISOMERS OF DECANE (C10 PARAFFINS)	13,550	33,412	210,161	9,852	266,975
ISOMERS OF DODECANE (C12 PARAFFINS)	1,175	2,905	18,337	866	23,283
ISOMERS OF HEPTANE	1.54	3.65	22	1.11	29
ISOMERS OF HEXANE	3.07	7.30	44	2.22	57
ISOMERS OF NONANE (C9 PARAFFIN)	190	448	2,649	108	3,394
ISOMERS OF OCTANE (C8 PARAFFIN)	2.78	6.60	40	2.01	52
ISOMERS OF PENTANE	162,731	405,839	1,990,797	108,424	2,667,792
ISOMERS OF PENTENE	3,275	8,221	39,197	2,163	52,856
ISOMERS OF TRIDECANE (C13 PARAFFINS)	53	130	821	39	1,043
ISOMERS OF UNDECANE (C11 PARAFFINS)	8,338	20,610	130,081	6,140	165,169
ISOMERS OF XYLENE	187,143	452,957	2,657,382	132,985	3,430,468
ISOPHORONE {3,5,5-TRIMETHYL-2-CYCLOHEXENONE}	121	299	1,884	89	2,393
ISOPHORONE DIAMINE (1-AMINO-3-AMINOMETHYL-3,5,5-TR	26	61	371	19	476
ISOPRENE	1,507	3,779	18,093	997	24,376
ISOPROPYL ACETATE	267	661	4,171	197	5,296
ISOPROPYL ALCOHOL	105,461	259,812	1,635,109	77,540	2,077,921
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	2,537	6,242	39,238	1,864	49,880
ISOPROPYLMETHYLCYCLOHEXANE	456	1,127	7,116	336	9,035

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
KEROSENE/DIESEL/FUEL OIL	19,898	49,186	310,440	14,654	394,179
LACTOL SPIRITS	231	570	3,600	170	4,571
LEAD & COMPOUNDS	68	169	833	45	1,116
MAGNESIUM OXIDE FUME	534	1,340	6,394	353	8,620
MALATHION	24	60	377	18	478
MANGANESE & COMPOUNDS	15	37	179	9.81	240
MERCURY & COMPOUNDS	0.49	1.17	6.80	0.34	8.80
MESITYL OXIDE (2-METHYL-2-PENTEN-4-ONE)	24	60	377	18	478
METHANE	1,617,015	3,935,555	21,683,631	1,125,257	28,361,458
METHENE(B)4-PHENYLISOCYANATE {METHYLENEDIPHENYLDIISOCYANATE}	15	37	223	11	286
METHOXYPROPANOL ACETATE	39	95	601	28	764
METHYL ACETATE	347	858	5,412	255	6,872
METHYL ALCOHOL	72,936	180,092	1,133,994	53,651	1,440,673
METHYL AMYL KETONE	1,258	2,993	18,257	909	23,418
METHYL BROMIDE	28,929	71,511	451,342	21,306	573,087
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	1,655	3,961	24,298	1,200	31,114
METHYL CHLORIDE	3.20×10^{-2}	7.61×10^{-2}	0.46	2.31×10^{-2}	0.60
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	36,319	87,924	524,537	26,066	674,847
METHYL ETHYL KETOXIME	31	73	445	22	571
METHYL GLYOXAL	34,660	86,918	416,139	22,922	560,639
METHYL ISOAMYL KETONE	87	215	1,355	64	1,720
METHYL ISOBUTYL KETONE	27,331	65,089	397,564	19,767	509,751
METHYL ISOTHIOCYANATE	24	60	377	18	478
METHYL METHACRYLATE	20	46	283	14	363
METHYL N-BUTYL KETONE	407	999	5,240	277	6,922
METHYL PENTYLCYCLOHEXANE	11	25	154	7.66	197
METHYL PROPYL KETONE (2-PENTANONE)	55	133	820	40	1,048
METHYL PROPYLCYCLOHEXANES	7,172	17,645	110,925	5,270	141,011
METHYL SALICYLATE (AN ESTER)	183	453	2,861	135	3,632
METHYL STYRENE (MIXED) {VINYL TOLUENE}	5.12	12	74	3.70	95
METHYL T-BUTYL ETHER (MTBE)	2.86	7.06	45	2.10	57
METHYLBENZALDEHYDE ISOMERS	441	1,106	5,296	292	7,134
METHYLCYCLOHEXANE	13,193	31,540	187,269	9,401	241,403
METHYLCYCLOPENTANE	14,867	36,237	195,925	10,216	257,245
METHYLDECALINS	579	1,431	9,032	426	11,468
METHYLDECENES	702	1,734	10,947	517	13,900
METHYLNAPHTHALENES	68	168	1,063	50	1,350
M-ETHYLTOLUENE	16,743	40,750	221,766	11,532	290,791
METHYLUNDECANE	965	2,385	15,053	711	19,113

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
MINERAL OIL	149	368	2,321	110	2,946
MINERAL SPIRITS	149,260	359,956	2,223,614	108,610	2,841,440
MOLYBDENUM	13	32	157	8.58	211
MONOMETHYL HYDRAZINE	1.03×10^{-2}	2.44×10^{-2}	0.15	7.42×10^{-3}	0.19
MORPHOLINE (TETRAHYDRO-1,4-OXAZIN)	11	28	175	8.26	222
N-(TRICHLOROMETHYLTHIO)PHTHALIMIDE {FOLPET}	5.12	12	74	3.70	95
N,N-DIMETHYLETHANOLAMINE	4.88	12	71	3.53	91
NAPHTHA	6,986	17,269	108,997	5,145	138,398
NAPHTHOL	501	1,238	7,816	369	9,925
NAPTHALENE	9,444	23,433	135,307	6,706	174,889
N-BUTANE	65,234	161,741	848,332	44,544	1,119,851
N-BUTYL ACETATE	31,350	74,752	457,088	22,688	585,877
N-BUTYL ALCOHOL	636	1,540	9,547	464	12,186
N-DECANE	8,605	20,597	120,523	5,939	155,665
N-DODECANE	604	1,435	8,752	436	11,228
N-HEPTADECANOIC ACID	3.01	7.56	36	1.99	49
N-HEPTANE	20,139	49,168	289,004	14,362	372,674
N-HEXANE	24,778	60,736	360,638	17,738	463,890
NICKEL & COMPOUNDS	26	65	321	17	430
NITRIC OXIDE	113,931	275,145	1,565,484	80,154	2,034,713
NITROGEN DIOXIDE	9,508	22,951	130,885	6,695	170,040
NITROMETHANE	724	1,791	11,302	534	14,351
NITROUS OXIDE	9,267	22,842	118,789	6,314	157,212
N-NONANE	13,120	32,091	192,954	9,301	247,466
N-OCTANE	8,433	20,260	117,065	5,880	151,639
NONADECANE	13	32	153	8.43	206
NONADIENE	175	434	2,737	129	3,475
N-PENTANAL (N-VALERALDEHYDE)	1,176	2,949	14,121	778	19,025
N-PENTANE	14,187	34,383	191,462	9,867	249,899
N-PROPYL ALCOHOL	247	610	3,853	182	4,892
N-PROPYLBENZENE	5,479	13,377	74,987	3,823	97,665
N-TETRADECANOIC ACID	13	33	158	8.68	212
N-TRIDECANE	53	126	768	38	985
N-UNDECANE	5,438	12,961	77,916	3,878	100,192
O-CHLOROTOLUENE	92	227	1,435	68	1,822
O-CRESOL (2-METHYL-BENZENOL)	52	123	748	37	959
OCTADECANE	13	33	157	8.65	212
O-DICHLOROBENZENE	34	83	525	25	667
O-ETHYLTOLUENE	7,349	17,886	98,617	5,090	128,941
OIL OF ORANGE	224	555	3,502	165	4,446
OXIDES OF NITROGEN	184,202	444,839	2,531,294	129,599	3,289,933

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
PALMITIC ACID {N-HEXADECANOIC ACID}	74	184	883	49	1,189
PARACHLOROBENZOTRIFLUORIDE {PCBTF}	20	49	297	15	381
PARAFFINS (C16-C34)	2,356	5,824	36,755	1,735	46,670
PARAFFINS/OLEFINS (C12-C16)	1,254	3,100	19,564	924	24,842
PARAFORMALDEHYDE	217	537	3,391	160	4,305
PARTICULATE MATTER ≤ 10 µm	504,225	1,262,493	6,088,003	334,243	8,188,963
PARTICULATE MATTER ≤ 2.5 µm	484,786	1,213,853	5,852,843	321,348	7,872,830
P-DICHLOROBENZENE	8,294	20,501	129,392	6,108	164,294
PENTACHLORONITROBENZENE	24	60	377	18	478
PENTYL CYCLOHEXANE	222	529	3,225	161	4,137
PENTYLCYCLOPENTANE	339	806	4,914	245	6,304
PENTYLIDENECYCLOHEXANE	175	434	2,737	129	3,475
PERCHLOROETHYLENE	4,666	11,534	72,792	3,436	92,429
PEROXYACETIC ACID	72	179	1,130	53	1,435
PERYLENE	7.32	18	88	4.83	118
P-ETHYLTOLUENE	575	1,379	8,115	410	10,479
PETROLEUM ETHER	10,504	25,965	163,881	7,736	208,086
PHENANTHRENE	1,142	2,864	13,677	754	18,437
PHENOL (CARBOLIC ACID)	8,952	22,428	107,893	5,931	145,204
PHOSPHORUS	68	171	828	45	1,112
PINE OIL	9,620	23,779	150,083	7,085	190,567
POLYCHLORINATED DIOXINS AND FURANS	1.69×10^{-4}	4.24×10^{-4}	2.04×10^{-3}	1.12×10^{-4}	2.75×10^{-3}
POLYCYCLIC AROMATIC HYDROCARBONS	13,904	34,650	185,550	9,587	243,691
POLYETHYLENE GLYCOL	55	137	862	41	1,094
PROPANE	44,757	109,962	663,973	32,320	851,012
PROPENYLCYCLOHEXANE	807	1,995	12,589	594	15,985
PROPIONALDEHYDE	9,804	24,561	118,149	6,494	159,009
PROPYL ACETATE	5,736	13,637	83,170	4,145	106,688
PROPYLCYCLOHEXANE	456	1,083	6,603	329	8,470
PROPYLCYCLOPENTANE	85	201	1,228	61	1,576
PROPYLENE	24,987	61,959	311,703	16,783	415,431
PROPYLENE CARBONATE	15	37	223	11	286
PROPYLENE GLYCOL	13,671	32,501	198,198	9,879	254,249
PROPYLENE GLYCOL BUTYL ETHER {1-BUTOXY-2-PROPANOL}	24	58	354	18	454
PROPYLENE GLYCOL METHYL ETHER {1-METHOXY-2-PROPANOL}	3,098	7,425	45,613	2,248	58,384
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE { 1-METHOXY-2-PROPYL ACETATE}	4,760	11,328	69,141	3,441	88,670
PROPYLENE GLYCOL N-PROPYL ETHER	30	70	428	21	549

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
PROPYLENE GLYCOL PHENYL ETHER (2-PHENOXY-1-PROPANO	19	48	301	14	382
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	34	83	525	25	667
PYRENE	253	633	3,035	167	4,088
SEC-BUTYL ALCOHOL	21,302	50,634	308,740	15,393	396,068
SELENIUM & COMPOUNDS	1.03	2.56	13	0.70	17
SILICONE	92	227	1,430	68	1,816
STODDARD SOLVENT	29,035	71,773	452,995	21,384	575,186
STYRENE (ETHENYLBENZENE)	954	2,312	12,831	662	16,759
SULFUR DIOXIDE	10,507	26,087	131,080	7,069	174,743
SULFUR TRIOXIDE	8.28	20	120	5.98	154
T-BUTYLBENZENE	333	824	5,201	246	6,604
T-DECAHYDRONAPHTHALENE (TRANS-DECALIN)	632	1,561	9,853	465	12,510
TENNECO 500-100	2,367	5,850	36,921	1,743	46,880
TERPENE ALCOHOL	11	28	175	8.26	222
TETRAETHYLENE GLYCOL	18	44	278	13	353
TETRAHYDRO-2-FURANMETHANOL	219	541	3,416	161	4,338
TETRAHYDROFURAN	2,173	5,372	33,908	1,601	43,055
TETRAMETHYLCYCLOPENTANE	579	1,431	9,032	426	11,468
TETRAMETHYLTHIOUREA	53	130	821	39	1,043
TIN & COMPOUNDS	43	107	515	28	694
TOLUENE	184,934	448,860	2,618,644	131,250	3,383,688
TOLUENE DIISOCYANATE (MIXED ISOMERS)	5.12	12	74	3.70	95
TOTAL SUSPENDED PARTICULATE	538,515	1,348,414	6,500,939	356,949	8,744,817
TOTAL VOLATILE ORGANIC COMPOUNDS	3,757,137	9,213,084	53,178,101	2,660,390	68,808,712
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	255	611	3,626	183	4,675
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	1,420	3,375	20,576	1,026	26,396
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	667	1,587	9,674	482	12,410
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	99	246	1,205	66	1,615
TRANS-1,2-DIMETHYLCYCLOHEXANE	74	176	1,075	54	1,379
TRANS-1,3-DICHLOROPROPENE	8,862	21,907	138,266	6,527	175,562
TRANS-1,3-DIMETHYLCYCLOHEXANE	1,371	3,304	20,408	997	26,080
TRANS-1,3-DIMETHYLCYCLOPENTANE	802	1,933	11,104	567	14,406
TRANS-1,4-DIMETHYLCYCLOHEXANE	901	2,141	13,052	651	16,744
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	131	328	1,607	88	2,154
TRANS-1-2-DIMETHYLCYCLOPENTANE	164	410	2,009	109	2,692
TRANS-1-ETHYL-2-	138	327	1,996	100	2,561

Substance	Emissions (kg/year)				
	Newcastle	Non-Urban	Sydney	Wollongong	GMR
METHYLCYCLOHEXANE					
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	244	579	3,532	176	4,531
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	21	50	307	15	394
TRANS-2-BUTENE	12,975	32,324	159,317	8,658	213,274
TRANS-2-ETHYLMETHYLCYCLOPENTANE	99	246	1,205	66	1,615
TRANS-2-HEXENE	316	793	3,795	209	5,113
TRANS-2-PENTENE	12,347	30,684	152,847	8,266	204,144
TRICHLOROETHYLENE	281	693	4,377	207	5,558
TRIETHANOLAMINE	97	238	1,501	71	1,907
TRIETHYLAMINE	347	857	5,405	256	6,865
TRIETHYLENE GLYCOL MONOBUTYL ETHER	36	88	556	26	706
TRIETHYLENE TETRAMINE	54	130	799	39	1,023
TRIMETHYLBENZENES	3,009	7,372	45,995	2,130	58,507
TRIMETHYLCYCLOHEXANES	2,124	5,251	33,143	1,565	42,083
TRIMETHYLCYCLOHEXANOL	175	434	2,737	129	3,475
TRIMETHYLCYCLOPENTANONE	158	390	2,463	116	3,128
TRIMETHYLDECANE	18	43	274	13	348
TRIMETHYLHEXENE	368	911	5,747	271	7,298
TRIMETHYLOCTANES	368	911	5,747	271	7,298
TURPENTINE	862	2,132	13,455	635	17,085
VANADIUM & COMPOUNDS	25	62	312	17	415
VINYL ACETATE	20	46	283	14	363
WITCH HAZEL	1,100	2,719	17,163	810	21,793
XYLENOL	4,183	10,486	50,731	2,777	68,177
ZINC & COMPOUNDS	444	1,108	5,416	296	7,263

Appendix B: Domestic Survey Form

Department of Environment, Climate Change and Water NSW

Why a domestic survey?
The domestic survey is the most accurate way to obtain information on activities affecting air emissions carried out by people at home.

What's covered in the domestic survey?
This survey covers the usage of lawn mowers, garden appliances, watercraft and domestic heating and cooking appliances.

Confidentiality
The DECCW project team will not release any information you provide in a way which would enable an individual's or household's data to be identified.

Help available
If you need help completing this form, you can contact the DECCW project team via email air.majorprojects@environment.nsw.gov.au or telephone (02) 9995 6047.

9 3 4 6 0 4 7 3 4 3 9 5 5

Rec No (D-C)

- 1 -

NSW Department of Environment, Climate Change and Water

Domestic Survey

The NSW Department of Environment, Climate Change and Water (DECCW) seeks to collect some information from your household anonymously to assist us in developing means to improve the air quality in the NSW Greater Metropolitan Region. The focus of this survey is to establish the usage patterns of devices in a household that burn solid, liquid or gas fuel, including lawn mowers, garden appliances, watercraft and domestic heating and cooking appliances. The survey will help to assess total household emissions from fuel burning in NSW.

Telephone number listings have been used to generate a list of survey subjects at random in the Sydney, Newcastle and Wollongong areas. The survey takes about 15 minutes to complete and can be returned in the reply paid envelope supplied. Information collected is strictly confidential and will not be used in a manner that allows individual or household data to be identified. We appreciate your participation in this survey.

If you would like more information about the survey, you can contact the DECCW Project Manager, Mr Nick Agapides on (02) 9995 6047 or email the DECCW project team at air.majorprojects@environment.nsw.gov.au. You can also obtain more information about this survey at the DECCW website http://www.environment.nsw.gov.au/air/airinventory.htm.

What you need to do

- Use this form to record, to your best knowledge, details of the identified activities that take place at your home, or the usage of watercraft on waterways.
- Return the completed form in the supplied reply paid envelope.

How to answer

- Please use a black or blue pen.
- Please use block letters.
- If you do not know how to answer, give the best answer you can.

1. Dwelling Description

Post code:

Council rates paid to:

Type of dwelling

- ☐ Separate house
- ☐ Semi detached, terrace house or townhouse
- ☐ Flat, unit or apartment
- ☐ Something else (Please specify).

Number of people in the household:

- 2 -

2a. Lawn Mowing and Garden Equipment (Continued on next page)

Do you use a lawn mower or other garden equipment around your home? ☐ No – GO TO SECTION 2C ☐ Yes – answer questions below

Equipment type	1. Push Lawnmower	2. Ride on Lawnmower	3. Brush Cutter	4. Hedge Trimmer	5. Edge Trimmer	6. Chipper or Mulcher
Number of units owned? *(E.g. 0, 1, 2, 3, 4, 5, etc)*	Own:	Own:	Own:	Own:	Own:	Own:
Fuel type? (X in box)						
1. Unleaded petrol	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Petrol/oil mix	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Electricity	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
Engine type? (X in box)						
1. 2 stroke carburettor	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. 2 stroke injected	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. 4 stroke carburettor	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. 4 stroke injected	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Electric	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Spring *(Sep-Nov)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Spring *(Sep-Nov)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Summer *(Dec-Feb)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Summer *(Dec-Feb)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Autumn *(Mar-May)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Autumn *(Mar-May)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Winter *(June-Aug)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Winter *(June-Aug)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
Main operating times?						
1. Weekdays	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Weekends	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
How old is this device? *If it is less than one year old, write in 0.*	years old	years old	years old	years old	years old	years old

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2a. Lawn Mowing and Garden Equipment (Continued from previous page)

Equipment type	7. Compactor	8. High-Pressure Cleaner	9. Blower	10. Chainsaw	11. Garden Vacuum	12. Other (Please specify) _____
Number of units owned? *(E.g. 0, 1, 2, 3, 4, 5, etc)*	Own:	Own:	Own:	Own:	Own:	Own:
Fuel type? (X in box)						
1. Unleaded petrol	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Petrol/oil mix	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Electricity	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
Engine type? (X in box)						
1. 2 stroke carburettor	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. 2 stroke injected	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. 4 stroke carburettor	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. 4 stroke injected	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Electric	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Spring *(Sep-Nov)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Spring *(Sep-Nov)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Summer *(Dec-Feb)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Summer *(Dec-Feb)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Autumn *(Mar-May)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Autumn *(Mar-May)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
In Winter *(June-Aug)*: Average operating frequency? (X in box)						
1. At least weekly	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Fortnightly	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
3. Monthly	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3	☐ 3
4. Once or twice only	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4	☐ 4
5. Never	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5	☐ 5
In Winter *(June-Aug)*: Average operating time *(write in time **in minutes?***	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes	On average: minutes
Main operating times?						
1. Weekdays	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1	☐ 1
2. Weekends	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2	☐ 2
How old is this device? *If it is less than one year old, write in 0.*	years old	years old	years old	years old	years old	years old

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2b. Lawn Mowing

Do you use a push lawn mower or ride on lawn mower to mow your lawn?

☐ No – GO TO SECTION 2C
☐ Yes – answer i) to iv) below

i) What **time of day** do you mainly use the lawn mower? If this varies, put an x in the box for **all** the hours of the day when you would be likely to use that type of equipment.

☐ midnight to 1am	☐ midday to 1pm
☐ 1am to 2 am	☐ 1pm to 2 pm
☐ 2 am to 3 am	☐ 2 pm to 3 pm
☐ 3 am to 4 am	☐ 3 pm to 4 pm
☐ 4 am to 5 am	☐ 4 pm to 5 pm
☐ 5 am to 6 am	☐ 5 pm to 6 pm
☐ 6 am to 7 am	☐ 6 pm to 7 pm
☐ 7 am to 8 am	☐ 7 pm to 8 pm
☐ 8 am to 9 am	☐ 8 pm to 9 pm
☐ 9 am to 10 am	☐ 9 pm to 10 pm
☐ 10 am to 11 am	☐ 10 pm to 11 pm
☐ 11 am to midday	☐ 11 pm to midnight

ii) What is the **area** of the lawn you mow? If you can answer in square metres, please write your answer in **square metres** below.

Area mown in square metres |___|___|___|
IF ANSWERED IN SQUARE METRES GO TO SECTION 2c

iii) If you cannot estimate this in square metres, can you say how long and wide the area of the lawn you mow is in **paces** below?

|___|___|___| paces long and |___|___|___| paces wide
IF ANSWERED IN PACES GO TO SECTION 2c

iv) If you cannot estimate how long and wide the area is in paces, what else can you tell us about the area of lawn you mow? For example, how long it takes to mow it, or the sizes of different patches that you mow? Please write your answer below:

_____

_____

_____

_____

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2c. Lawn Mowing Contractor

Do you have someone (e.g. a gardener) mow any of your lawn for you? ☐ No – GO TO SECTION 3 ☐ Yes – answer i) to viii)

How **often** does the person mow the lawn in (Please put an x in the appropriate box for **each season**)

i) Spring (Sep-Nov)?	☐ weekly	☐ fortnightly	☐ monthly	☐ once or twice	☐ never
ii) Summer (Dec-Feb)?	☐ weekly	☐ fortnightly	☐ monthly	☐ once or twice	☐ never
iii) Autumn (Mar-May)?	☐ weekly	☐ fortnightly	☐ monthly	☐ once or twice	☐ never
iv) Winter (Jun-Aug)?	☐ weekly	☐ fortnightly	☐ monthly	☐ once or twice	☐ never

v) How **long** on average does it take the person to mow your lawn? |___|___|___| **minutes** on average

vi) What **types** of equipment does the person use? ☐ Push lawn mower ☐ Ride on lawn mower ☐ Edge trimmer ☐ Other (Please specify) _____

vii) **When** does the person mainly mow the lawn? ☐ Weekdays ☐ Weekends

viii) What is the **area** of the lawn the person mows?

If you can answer in square metres, please write your answer in **square metres** |___|___|___| square metres
IF ANSWERED IN SQUARE METRES GO TO SECTION 3
If you cannot estimate this in square metres, can you say how long and wide the area of the lawn the person mows is in **paces**?

|___|___|___| paces long and |___|___|___| paces wide IF ANSWERED IN PACES GO TO SECTION 3

If you cannot estimate how long and wide the area the person mows is in paces, what else can you tell us about the area of lawn the person mows? For example, how long it takes to mow it, or the sizes of different patches that are mown? Please write your answer below:

_____

_____

_____

3. Solid Fuel Heaters (Wood or Coal) (Continues on next page)

Do you have a heater that uses wood or coal including a slow combustion heater, potbelly stove or open fireplace? ☐ No – GO TO SECTION 4 ☐ Yes – answer 3 a) to 3 i)

3a. What **type** of wood/coal heating do you have?	☐ Slow Combustion heater (**with** AS/NZS 4012: 1992 or AS/NZS 4013: 1999 **compliance plate**) ☐ Slow Combustion heater (**without** AS/NZS 4012: 1992 or AS/NZS 4013: 1999 **compliance plate**) ☐ Potbelly stove ☐ An open fireplace ☐ Other (Please specify)_____
3b. Which **months** do you use wood/coal for heating?	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec

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3. Solid Fuel Heaters (Wood or Coal) (Continued from previous page)

3c. How many **times a week** do you use wood/coal heating?	☐ Most days ☐ 4-5 times a week ☐ 2-3 times a week ☐ About once a week ☐ Less than once a week
3d. Do you usually **use** wood/coal heating?	☐ On week days only ☐ On weekend days only ☐ Both weekdays and weekends
3e. What **times of day** do you usually use wood/coal heating? If you usually use only on weekdays, just answer for weekdays. If you usually use only for weekends, just answer for weekends. If you usually use on both, answer both. If the time of day varies, put an x in the boxes for **all** the hours of the day when you would be likely to use wood/coal heating.	**Hours used on weekdays** ☐ midnight to 1am ☐ midday to 1pm ☐ 1am to 2am ☐ 1pm to 2pm ☐ 2am to 3am ☐ 2pm to 3pm ☐ 3am to 4am ☐ 3pm to 4pm ☐ 4am to 5am ☐ 4pm to 5pm ☐ 5am to 6am ☐ 5pm to 6pm ☐ 6am to 7am ☐ 6pm to 7pm ☐ 7am to 8am ☐ 7pm to 8pm ☐ 8am to 9am ☐ 8pm to 9pm ☐ 9am to 10am ☐ 9pm to 10pm ☐ 10am to 11am ☐ 10pm to 11pm ☐ 11am to midday ☐ 11pm to midnight ☐ No weekday use **Hours used on weekends** ☐ midnight to 1am ☐ midday to 1pm ☐ 1am to 2am ☐ 1pm to 2pm ☐ 2am to 3am ☐ 2pm to 3pm ☐ 3am to 4am ☐ 3pm to 4pm ☐ 4am to 5am ☐ 4pm to 5pm ☐ 5am to 6am ☐ 5pm to 6pm ☐ 6am to 7am ☐ 6pm to 7pm ☐ 7am to 8am ☐ 7pm to 8pm ☐ 8am to 9am ☐ 8pm to 9pm ☐ 9am to 10am ☐ 9pm to 10pm ☐ 10am to 11am ☐ 10pm to 11pm ☐ 11am to midday ☐ 11pm to midnight ☐ No weekend day use
3f. What **type of fuel** do you normally use? Please put an x in the box for **all** the types you normally use	☐ Hardwood (such as eucalyptus) PLEASE ANSWER 3 f(1) ☐ Softwood (such as pine) PLEASE ANSWER 3 f(1) ☐ Coal PLEASE ANSWER 3 f(2)
3f(1). How much **firewood** do you typically use in a full year? THEN ANSWER 3g	(Approximate total in tonnes, trailer loads, or cubic metres) _____ tonnes of firewood _____ trailer loads (of approximately 2 m^3 each) of firewood _____ cubic metres of firewood IF YOU CAN'T ESTIMATE, WHAT CAN YOU TELL US ABOUT HOW MUCH FIREWOOD YOU USE IN A YEAR: _____ _____
3f(2). How much **coal** do you typically use in a full year? THEN ANSWER 3g	(Approximate total in tonnes, trailer loads, or cubic metres) _____ tonnes of coal _____ trailer loads (of approximately 2 m^3 each) of coal _____ cubic metres of coal IF YOU CAN'T ESTIMATE, WHAT CAN YOU TELL US ABOUT HOW MUCH COAL YOU USE IN A YEAR: _____ _____
3g. Where do you **get** your firewood or coal?	☐ From a wood/coal merchant ☐ Collect from woodland ☐ From a service station or market ☐ Other (Please specify)_____
3h. Was the heater **installed**?	☐ Installed before 1992 ☐ Installed between 1992 and 1999 ☐ Installed after 1999
3i. Please estimate how many **years old** the heater is?	|___|___| years. If it is less than one year old, write in 0.

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4. Liquid Fuel Heating (Fuel Oil, Heating Oil, Kerosene or other Liquid Fuel)

Do you use liquid fuel (fuel oil, heating oil, kerosene or other liquid fuel) for heating at your home?

☐ No – GO TO SECTION 5
☐ Yes – answer 4 a) to 4 e)

4a. What **type** of liquid fuel do you use for heating in your home?	☐ Fuel oil ☐ Heating oil ☐ Kerosene ☐ Other (Please specify)_____
4b. How many **litres** of liquid fuel was used for heating in the last year?	|___|___|___| litres of liquid fuel used in a year
4c. Which **months** do you usually use liquid fuel for heating?	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec
4d. When you use liquid fuel for heating, how many **times a week** do you use it?	☐ Most days ☐ 4-5 times a week ☐ 2-3 times a week ☐ About once a week ☐ Less than once a week
4e. What **times of day** do you usually use liquid fuel for heating? If the time of day varies, put an x in the box for **all** the hours of the day when you would be likely to use liquid fuel for heating.	☐ midnight to 1am ☐ midday to 1pm ☐ 1am to 2 am ☐ 1pm to 2 pm ☐ 2 am to 3 am ☐ 2 pm to 3 pm ☐ 3 am to 4 am ☐ 3 pm to 4 pm ☐ 4 am to 5 am ☐ 4 pm to 5 pm ☐ 5 am to 6 am ☐ 5 pm to 6 pm ☐ 6 am to 7 am ☐ 6 pm to 7 pm ☐ 7 am to 8 am ☐ 7 pm to 8 pm ☐ 8 am to 9 am ☐ 8 pm to 9 pm ☐ 9 am to 10 am ☐ 9 pm to 10 pm ☐ 10 am to 11 am ☐ 10 pm to 11 pm ☐ 11 am to midday ☐ 11 pm to midnight

5. Natural Gas and Bottled LPG (Continues on next page)

Do you have a natural gas connection in your home or use bottled LPG (not just for BBQ)?

☐ No – GO TO SECTION 6
☐ Yes – answer 5 a) to 5 i)

5a. Do you have a **natural gas connection** in your home or use **bottled LPG** (not just for BBQ)?	☐ Yes, use natural gas ☐ Yes, use bottled LPG
5b. What do you use the **natural gas** connection for? Put an x in the boxes of all that apply.	☐ Heating ☐ Cooking ☐ Hot water ☐ Other (Please specify)_____
5c. What was your latest billing period for **natural gas usage**? Provide the billing period in dd/mm/yyyy format from either the front or rear of your bill?	From |____|____|____| to |____|____|____| dd / mm / yyyy dd / mm / yyyy
5d. How much did you **pay** for **natural gas** consumption for this billing period? Just give the amount in whole dollars for natural gas consumption only without service charges. You can get this from either the front or back of your latest bill.	$|__|__|__|
5e. Please write in opposite how much **natural gas** you **used** in that period, using the line with the units you can most easily find on the bill.	Check the front or rear of the bill and record the amount in: |___|___|___| Total Megajoules (MJ) for the period OR |___|___|___| Average Megajoules (MJ) per day for the period

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5. Natural Gas and Bottled LPG (Continued from previous page)

5f. Please provide the **natural gas usage** for the **previous three** billing periods. For each, just 1) give the months 2) give the size of the bill in whole dollars 3) and give the natural gas consumption for the period in one of - total MJ for billing period or - average MJ/day for billing period You can find the consumption for these periods on either the front or rear of your latest bill. If you cannot find your latest bill, please write in D (for Don't Know).	PERIOD 1 IN PERIOD 1 From |____| to |____| PAID $|__|__|__| mm mm IN PERIOD 1 USED: (Enter amount for whichever unit is easiest to find) |___|___|___| Total Megajoules (MJ) for the period OR |___|___|___| Average Megajoules (MJ) per day for the period PERIOD 2 IN PERIOD 2 From |____| to |____| PAID $|__|__|__| mm mm IN PERIOD 2 USED: (Enter amount for whichever unit is easiest to find) |___|___|___| Total Megajoules (MJ) for the period OR |___|___|___| Average Megajoules (MJ) per day for the period PERIOD 3 IN PERIOD 3 From |____| to |____| PAID $|__|__|__| mm mm IN PERIOD 3 USED: (Enter amount for whichever unit is easiest to find) |___|___|___| Total Megajoules (MJ) for the period OR |___|___|___| Average Megajoules (MJ) per day for the period
5g. What do you use the **bottled LPG** for, apart from fuelling a barbecue? Put an x in the boxes of all that apply.	☐ Heating ☐ Cooking ☐ Hot water ☐ Other (Please specify):
5h. Please write in opposite the **weight** of the **LPG bottle** you use in kilograms or the **dimensions** of the bottle?	|___|___| **Weight** in kilograms (kg) IF YOU CAN'T GIVE THE WEIGHT OF BOTTLE IN KILOGRAMS, PLEASE GIVE THE BOTTLE DIMENSIONS IN: |___|___| **Width** in centimetres (cm) **AND** |___|___| **Height** in centimetres (cm)
5i. How many **LPG bottles** do you typically consume in a year?	|___|___|___| bottles of LPG gas used per year

6. Barbecues, Outdoor and Portable Stoves (Continues on next page)

Do you use a barbecue, outdoor or portable stove at your home? ☐ No – GO TO SECTION 7 ☐ Yes – answer 6 a) to 6 l)

6a. Which **one** of those listed below do you use most **outdoors**?		
☐ Barbecue using natural gas with a piped connection	☐ Barbecue using an LPG cylinder	☐ Barbecue using briquettes
☐ Outdoor stove using natural gas with a piped connection	☐ Portable stove with a butane cartridge	☐ Barbecue using wood

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6. Barbecues, Outdoor and Portable Stoves (Continued from previous page)

6b. How **many** of the type that you use most do you own? (write in number opposite *e.g. 1*)

6c. Please tell us below **how often** and **how long** you use it in each season.

IN SPRING (Sep to Nov)
How **often** do you use the device in spring

- ☐ 1. Daily or most days in spring
- ☐ 2. Weekly in spring
- ☐ 3. Fortnightly in spring
- ☐ 4. Monthly in spring
- ☐ 5. Less often/never in spring

What is the average number of **minutes** you use the device in spring? Write your answer below

|___|___|___| minutes in spring

IN SUMMER (Dec to Feb)
How **often** do you use the device in summer

- ☐ 1. Daily or most days in summer
- ☐ 2. Weekly in summer
- ☐ 3. Fortnightly in summer
- ☐ 4. Monthly in summer
- ☐ 5. Less often/never in summer

What is the average number of **minutes** you use the device in summer? Write your answer below

|___|___|___| minutes in summer

IN AUTUMN (Mar to May)
How **often** do you use the device in autumn

- ☐ 1. Daily or most days in autumn
- ☐ 2. Weekly in autumn
- ☐ 3. Fortnightly in autumn
- ☐ 4. Monthly in autumn
- ☐ 5. Less often/never in autumn

What is the average number of **minutes** you use the device in autumn? Write your answer below

|___|___|___| minutes in autumn

IN WINTER (June to Aug)
How **often** do you use the device in winter

- ☐ 1. Daily or most days in winter
- ☐ 2. Weekly in winter
- ☐ 3. Fortnightly in winter
- ☐ 4. Monthly in winter
- ☐ 5. Less often/never in winter

What is the average number of **minutes** you use the device in winter? Write your answer below

|___|___|___| minutes in winter

6d. How **old** is this device? Please write in its age in whole years.
If it is less than one year old, write in 0.

AGE IN WHOLE YEARS:
|___|___| YEARS

6e. What **times of day** do you mainly use the outdoor cooking device you use most?

If the time of day varies, put an x in the box for **all** the hours of the day when you would be likely to use that outdoor cooking device.

☐ midnight to 1am	☐ midday to 1pm
☐ 1am to 2 am	☐ 1pm to 2 pm
☐ 2 am to 3 am	☐ 2 pm to 3 pm
☐ 3 am to 4 am	☐ 3 pm to 4 pm
☐ 4 am to 5 am	☐ 4 pm to 5 pm
☐ 5 am to 6 am	☐ 5 pm to 6 pm
☐ 6 am to 7 am	☐ 6 pm to 7 pm
☐ 7 am to 8 am	☐ 7 pm to 8 pm
☐ 8 am to 9 am	☐ 8 pm to 9 pm
☐ 9 am to 10 am	☐ 9 pm to 10 pm
☐ 10 am to 11 am	☐ 10 pm to 11 pm
☐ 11 am to midday	☐ 11 pm to midnight

6. Barbecues, Outdoor and Portable Stoves (Continued from previous page)

IF YOU **USE LPG BOTTLES** FOR A BARBECUE PLEASE ANSWER 6 f) AND 6 g). IF YOU DO NOT USE LPG BOTTLES PLEASE GO TO 6 h).	
6f. Please write in opposite the **weight** of the **LPG bottle** you use in kilograms or the **dimensions** of the bottle. .	|___|___| **Weight** in kilograms (kg) IF YOU CAN'T GIVE THE WEIGHT OF BOTTLE IN KILOGRAMS, PLEASE GIVE THE BOTTLE DIMENSIONS IN: |___|___| **Width** in centimetres (cm) **AND** |___|___| **Height** in centimetres (cm)
6g. How many **LPG bottles** do you typically consume in a year in your barbecue?	|___|___|___| bottles of LPG gas used per year for barbecue
IF YOU **USE BUTANE CARTRIDGES** FOR A PORTABLE STOVE PLEASE ANSWER 6 h) AND 6 i). IF YOU DO NOT USE BUTANE CARTRIDGES PLEASE GO TO 6 j).	
6h. Please write in opposite the **weight** of the **butane cartridges** you use in grams or the **dimensions** of the cartridge.	|___|___| **Weight** in grams (g) IF YOU CAN'T GIVE THE WEIGHT OF CARTRIDGE IN GRAMS, PLEASE GIVE THE CARTRIDGE DIMENSIONS IN: |___|___| **Width** in centimetres (cm) **AND** |___|___| **Height** in centimetres (cm)
6i. How many **butane cartridges** do you typically consume in a year in your portable stove?	|___|___|___| butane cartridges used per year in your portable stove
IF YOU **USE BRIQUETTES** FOR A BARBECUE PLEASE ANSWER 6 j) AND 6 k). IF YOU DO NOT USE BRIQUETTES PLEASE GO TO 6 l).	
6j. Please write in opposite the **weight** of the **briquette bags** you use in kilograms or the **volume** of the bags in litres.	|___|___| **Weight** in kilograms (kg) IF YOU CAN'T GIVE THE WEIGHT OF BAG IN KILOGRAMS, PLEASE GIVE THE BAG VOLUME IN: |___|___| **Volume** in litres
6k. How many **briquette bags** do you typically use **each time**?	|___|___| bags of briquettes typically used each time for barbecues
IF YOU **USE WOOD** FOR A BARBECUE PLEASE ANSWER 6 l). IF YOU DO NOT USE WOOD PLEASE GO TO SECTION 7.	
6l. Please write in opposite how much wood you consume **each time** by **weight** in kilograms or **volume** in litres.	|___|___| **Weight** in kilograms (kg) typically consumed **each time** IF YOU CAN'T GIVE THE WEIGHT OF WOOD IN KILOGRAMS, PLEASE GIVE THE WOOD VOLUME IN: |___|___| **Volume** in litres typically consumed **each time**

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7. First Watercraft

Do you own a dinghy or boat with outboard motor, boat with inboard motor or jet ski?

☐ No – GO TO SECTION 8 ☐ Yes – answer 7a) to 7i)

(If you own a second watercraft, also fill in **Section 7. Second Watercraft)**

7a. What **type** of **watercraft** do you have?	☐ Dinghy with outboard motor ☐ Boat with outboard motor ☐ Boat with inboard motor ☐ Jet ski
7b. What **type** of **fuel** does it use?	☐ Unleaded Petrol ☐ Petrol/oil mix ☐ Diesel
7c. What is the **capacity** of the engine? Please fill this in **horsepower, kilowatts** or **cubic centimetres.**	Power in horsepower: |__|__|__| Horsepower Power in kilowatts: |__|__|__| kW Capacity in ccs cubic centimetres: |__|__|__| ccs
7d. What is the **engine type**? Please put an x in the box.	☐ 2 stroke carburettor ☐ 2 stroke injected ☐ 4 stroke carburettor ☐ 4 stroke injected.
7d. How **old** is the engine?	|__|__| years old. If it is less than one year old, write in 0.
7e. Where do you **normally use** this watercraft? Put an x in the boxes for **all** the places you normally use it.	☐ 1. Port Stevens ☐ 2. Hunter River ☐ 3. Lake Macquarie ☐ 4. Tuggerah Lake ☐ 5. Broken Bay ☐ 6. Hawkesbury River ☐ 7. Port Jackson ☐ 8. Parramatta River ☐ 9. Nepean River ☐ 10. Botany Bay ☐ 11. Port Hacking ☐ 12. Lake Illawarra ☐ 13. Other River ☐ 14. Open Ocean
7f. Which **months** do you use the watercraft? Put an x in the boxes of **all** the months you use it.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec
7g. In the months that you indicated, how **often** do you use the watercraft?	☐ Most days ☐ 2-3 times a week ☐ About once a week ☐ Once or twice a month ☐ Less than once a month
7h. When you use your watercraft, **how long** do you typically have the engine running? Please enter the time in minutes.	|__|__|__| Engine operating time in minutes
7i. What **times of day** do you mainly use that watercraft? If the time of day varies, put an x in the box for **all** the hours of the day when you would be likely to use that watercraft.	☐ midnight to 1am ☐ midday to 1pm ☐ 1am to 2 am ☐ 1pm to 2 pm ☐ 2 am to 3 am ☐ 2 pm to 3 pm ☐ 3 am to 4 am ☐ 3 pm to 4 pm ☐ 4 am to 5 am ☐ 4 pm to 5 pm ☐ 5 am to 6 am ☐ 5 pm to 6 pm ☐ 6 am to 7 am ☐ 6 pm to 7 pm ☐ 7 am to 8 am ☐ 7 pm to 8 pm ☐ 8 am to 9 am ☐ 8 pm to 9 pm ☐ 9 am to 10 am ☐ 9 pm to 10 pm ☐ 10 am to 11 am ☐ 10 pm to 11 pm ☐ 11 am to midday ☐ 11 pm to midnight

(If you have a second watercraft please complete Section 7. Second Watercraft on the next page. If not, please fill in the last details in Section 8. Follow Up at the bottom of the next page)

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7. Second Watercraft (*If you do not own a second watercraft, go to Section 8. Follow Up)

7a. What **type** of **watercraft** do you have?	☐ Dinghy with outboard motor ☐ Boat with outboard motor ☐ Boat with inboard motor ☐ Jet ski
7b. What **type** of **fuel** does it use?	☐ Unleaded Petrol ☐ Petrol/oil mix ☐ Diesel
7c. What is the **capacity** of the engine? Please fill this in **horsepower, kilowatts** or **cubic centimetres**	Power in horsepower: |__|__|__| Horsepower Power in kilowatts: |__|__|__| kW Capacity in ccs cubic centimetres: |__|__|__| ccs
7d. What is the **engine type**? Please put an x in the box	☐ 2 stroke carburettor ☐ 2 stroke injected ☐ 4 stroke carburettor ☐ 4 stroke injected.
7d. How **old** is the engine?	|__|__| years old. If it is less than one year old, write in 0.
7e. Where do you **normally use** this watercraft? Put an x in the boxes for all the places you normally use it.	☐ 1. Port Stevens ☐ 2. Hunter River ☐ 3. Lake Macquarie ☐ 4. Tuggerah Lake ☐ 5. Broken Bay ☐ 6. Hawkesbury River ☐ 7. Port Jackson ☐ 8. Parramatta River ☐ 9. Nepean River ☐ 10. Botany Bay ☐ 11. Port Hacking ☐ 12. Lake Illawarra ☐ 13. Other River ☐ 14. Open Ocean
7f. Which **months** do you use the watercraft? Put an x in the boxes of all the months you use it.	☐ Jan ☐ Feb ☐ Mar ☐ Apr ☐ May ☐ Jun ☐ Jul ☐ Aug ☐ Sep ☐ Oct ☐ Nov ☐ Dec
7g. In the months that you indicated, how **often** do you use the watercraft?	☐ Most days ☐ 2-3 times a week ☐ About once a week ☐ Once or twice a month ☐ Less than once a month
7h. When you use your watercraft, **how long** do you typically have the engine running? Please enter the time in minutes.	|__|__|__| Engine operating time in minutes
7i. What **times of day** do you mainly use that watercraft? If the time of day varies, put an x in the box for **all** the hours of the day when you would be likely to use that watercraft.	☐ midnight to 1am ☐ midday to 1pm ☐ 1am to 2 am ☐ 1pm to 2 pm ☐ 2 am to 3 am ☐ 2 pm to 3 pm ☐ 3 am to 4 am ☐ 3 pm to 4 pm ☐ 4 am to 5 am ☐ 4 pm to 5 pm ☐ 5 am to 6 am ☐ 5 pm to 6 pm ☐ 6 am to 7 am ☐ 6 pm to 7 pm ☐ 7 am to 8 am ☐ 7 pm to 8 pm ☐ 8 am to 9 am ☐ 8 pm to 9 pm ☐ 9 am to 10 am ☐ 9 pm to 10 pm ☐ 10 am to 11 am ☐ 10 pm to 11 pm ☐ 11 am to midday ☐ 11 pm to midnight

8. Follow Up (*Thank you for completing this form. DECCW Project Team)

May we contact you to clarify your survey response? Yes/No. If yes, the contact person is: _____

Contact Number: _____ Preferred contact time: _____