

ANNEX 1: Key Source Analysis

The following tables present results from the key source analysis, the methodology of the analysis is presented in Chapter 1.5 of the NIR 2003:

Table A.1 presents the emission sources in the level of aggregation as used for the key source analysis. Emissions from 1990 to 2001 for these sources are also included.

Table A.2 presents results from the Level Assessment of the key source analysis.

Table A.3 presents results from the Trend Assessment of the key source analysis.

Table A.4 summarizes the key sources identified including their ranking in the level and trend assessments.

IPCC 96	Gas	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1 A 1 a liquid	CO2	1 283.56	1 283.56	1 511.87	1 323.93	2 057.75	1 911.38	1 562.00	1 555.68	1 931.10	2 215.39	1 983.33	1 076.49	1 447.95
1 A 1 a solid	CO2	6 254.57	6 254.57	6 817.04	4 009.47	3 116.78	3 279.20	4 529.81	4 714.31	5 002.81	3 514.05	3 869.92	4 983.33	5 846.09
1 A 1 a gaseous	CO2	3 223.81	3 223.81	3 165.51	2 887.22	3 009.86	3 269.79	3 555.75	4 346.31	3 711.28	3 983.61	4 074.69	3 204.00	3 870.99
1 A 1 a other	CO2	150.35	150.35	164.25	232.03	249.14	252.01	260.48	327.89	344.94	333.94	341.33	441.57	557.50
1 A 1 b liquid	CO2	1 576.40	1 576.40	1 695.31	1 826.02	1 747.97	1 880.98	1 784.68	2 128.99	2 052.59	2 238.24	2 060.35	2 034.40	2 076.11
1 A 1 b gaseous	CO2	442.46	442.46	442.23	410.78	439.07	381.02	418.32	461.01	434.41	401.76	403.65	349.60	405.89
1 A 1 c gaseous	CO2	293.62	293.62	296.77	276.46	289.01	287.55	316.01	166.19	204.01	164.39	165.92	146.60	170.47
1 A 2 stat-liquid	CO2	1 489.02	1 489.02	1 672.94	1 480.06	2 145.29	1 992.16	2 026.02	2 145.75	2 623.75	2 433.99	1 900.76	1 797.92	1 543.08
1 A 2 mob-liquid	CO2	822.42	822.42	873.16	900.87	890.15	932.92	930.11	924.49	960.86	991.91	1 022.26	1 058.48	1 066.42
1 A 2 solid	CO2	451.47	451.47	651.00	657.69	576.82	530.86	584.14	632.90	831.86	879.37	627.41	785.39	461.57
1 A 2 gaseous	CO2	4 115.37	4 115.37	4 219.81	4 297.97	4 462.58	5 081.82	5 159.22	5 216.33	5 358.21	5 269.84	5 180.64	5 391.40	4 656.17
1 A 2 other	CO2	48.65	48.65	49.17	44.80	23.20	28.43	30.44	39.91	40.81	25.64	41.19	28.01	25.23
1 A 3 a aviation gasoline	CO2	7.84	7.84	8.07	8.32	8.57	8.84	7.06	6.78	7.62	8.20	8.73	6.42	6.42
1 A 3 a jet kerosene	CO2	57.05	57.05	64.41	66.28	77.29	84.73	81.01	93.54	97.91	109.41	111.91	118.57	114.31
1 A 3 b gasoline	CO2	7 916.00	7 916.00	8 678.88	8 297.46	7 958.20	7 784.82	7 435.06	6 855.05	6 496.96	6 810.31	6 318.19	6 107.18	6 151.89
1 A 3 b diesel oil	CO2	4 364.17	4 364.17	5 006.22	5 315.24	5 785.41	6 050.52	6 483.34	8 711.91	8 007.27	9 650.63	9 385.25	10 475.66	11 742.93
1 A 3 c solid	CO2	6.62	6.62	6.02	6.29	5.68	5.59	5.79	5.77	3.28	2.93	2.84	2.47	2.28
1 A 3 c liquid	CO2	167.45	167.45	174.36	173.72	169.73	171.36	159.58	143.81	145.28	143.37	177.68	177.54	167.39
1 A 3 d gas/diesel oil	CO2	42.76	42.76	37.95	36.96	37.32	46.25	44.63	44.72	52.58	53.23	53.74	54.25	54.75
1 A 3 d gasoline	CO2	9.32	9.32	9.32	9.32	9.32	9.31	9.28	9.25	9.23	9.19	9.15	9.10	9.05
1 A 3 e gaseous	CO2	167.49	167.49	181.34	196.34	212.58	207.89	225.08	231.88	230.92	348.94	429.39	529.50	637.77
1 A 4 stat-liquid	CO2	7 251.82	7 251.82	7 719.45	7 198.14	7 127.29	6 445.70	7 073.48	8 107.96	7 122.02	7 152.14	7 088.43	6 264.65	7 439.94
1 A 4 mobile-liquid	CO2	141.81	141.81	142.23	143.63	144.52	143.47	144.26	143.31	142.30	140.67	140.16	140.00	138.62
1 A 4 mobile-diesel	CO2	1 156.43	1 156.43	1 185.57	1 228.71	1 267.22	1 304.30	1 339.99	1 398.59	1 459.03	1 515.12	1 568.49	1 616.50	1 634.40
1 A 4 mobile-gasoline	CO2	42.86	42.86	42.68	43.30	42.28	44.51	43.88	45.09	44.78	44.01	43.93	43.77	43.60
1 A 4 stat-solid	CO2	2 790.82	2 790.82	2 954.28	2 391.44	2 122.65	1 852.68	1 789.98	1 750.65	1 395.34	1 221.74	1 132.21	988.27	848.34
1 A 4 stat-gaseous	CO2	2 252.11	2 252.11	2 856.39	3 156.01	3 364.02	3 133.70	3 723.01	4 083.86	3 932.31	4 022.43	4 157.05	4 307.53	4 545.63
1 A 4 stat-other	CO2	2.30	2.30	6.90	10.85	7.48	8.80	6.50	4.32	5.51	5.80	6.31	7.17	7.36
1 B 2 b	CO2	119.97	119.97	129.99	138.65	131.67	147.73	149.09	94.51	143.14	165.07	194.27	187.48	206.89
2 A 1	CO2	3 088.07	3 088.07	3 042.76	3 212.18	3 070.16	3 191.15	2 498.40	2 495.54	2 642.55	2 382.01	2 380.60	2 346.95	2 346.95
2 A 2	CO2	317.52	317.52	299.40	286.53	291.11	287.50	303.77	303.77	303.77	303.77	295.55	295.55	295.55
2 A 7 a	CO2	83.69	83.69	96.32	85.23	85.31	91.32	91.37	91.37	85.21	85.21	93.46	78.82	92.58
2 A 7 b	CO2	485.28	485.28	399.52	315.64	282.28	293.89	338.54	338.54	338.54	338.54	338.54	338.54	338.54
2 B 1	CO2	396.00	396.00	408.03	371.09	402.87	381.40	468.32	465.33	457.10	501.24	472.12	463.00	442.00
2 B 2	CO2	0.41	0.41	0.42	0.38	0.40	0.39	0.37	0.38	0.36	0.38	0.40	0.37	0.36
2 B 5	CO2	27.43	27.43	25.19	23.38	24.76	24.26	19.95	18.38	17.57	18.97	19.94	20.81	20.01
2 C 1	CO2	8 461.04	8 461.04	8 040.82	6 948.63	7 254.29	7 771.03	8 585.41	8 084.35	9 107.32	8 384.63	8 456.00	8 590.51	9 245.00
2 D 2	CO2	61.21	61.21	64.52	54.51	47.57	53.11	51.89	50.65	47.64	56.70	57.71	53.06	53.06
3	CO3	522.65	522.65	436.44	381.45	360.87	361.41	380.64	379.09	405.46	395.64	395.64	395.64	395.64

IPCC 96	Gas	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
6 C 2 a	CO2	1.74	1.74	1.75	1.75	1.73	1.69	1.70	1.70	1.67	1.65	1.64	1.61	1.61
6 C 2 c	CO2	11.87	11.87	11.87	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6 C 2 f	CO2	7.09	7.09	4.84	5.80	6.77	8.06	8.38	8.70	9.03	9.35	9.67	9.67	9.67
1 A 1 a liquid	N2O	7.14	7.14	8.02	6.43	9.84	9.48	7.46	7.65	10.18	11.52	10.30	4.95	6.06
1 A 1 a solid	N2O	23.01	23.01	27.28	17.42	15.16	14.91	19.64	15.48	14.16	14.97	16.93	21.99	25.72
1 A 1 a gaseous	N2O	8.87	8.87	8.73	7.98	7.96	9.34	10.02	10.45	7.51	9.86	8.09	4.34	4.37
1 A 1 a biomass	N2O	2.54	2.54	3.74	4.44	4.62	4.85	5.72	7.83	7.80	7.95	8.22	9.16	10.80
1 A 1 a other	N2O	1.05	1.05	1.15	1.69	1.80	1.82	1.88	2.35	2.48	2.40	2.45	3.20	4.02
1 A 1 b liquid	N2O	1.19	1.19	1.10	2.92	3.81	4.06	3.71	3.55	3.57	3.61	2.86	2.86	2.82
1 A 1 b gaseous	N2O	0.25	0.25	0.25	0.23	0.25	0.21	0.24	0.26	0.24	0.23	0.23	0.20	0.23
1 A 1 c gaseous	N2O	0.17	0.17	0.17	0.16	0.16	0.16	0.18	0.09	0.11	0.09	0.09	0.08	0.10
1 A 2 stat-liquid	N2O	5.00	5.00	4.96	5.00	6.32	5.70	5.79	6.32	7.33	7.20	5.02	5.02	3.99
1 A 2 mob-liquid	N2O	88.80	88.80	94.27	97.24	96.08	103.46	103.54	103.92	110.45	108.03	107.86	107.42	98.32
1 A 2 solid	N2O	2.03	2.03	2.93	2.96	2.61	2.39	2.64	2.86	3.76	4.00	2.82	3.54	2.05
1 A 2 gaseous	N2O	2.32	2.32	2.38	2.42	2.52	2.86	2.91	2.94	3.02	2.97	2.92	3.04	2.62
1 A 2 biomass	N2O	20.38	20.38	20.72	21.33	23.86	23.79	23.32	22.23	25.84	22.08	25.40	23.99	22.96
1 A 2 other	N2O	2.11	2.11	2.13	1.94	1.01	1.23	1.32	1.73	1.77	1.11	1.79	1.22	1.10
1 A 3 a aviation gasoline	N2O	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 a jet kerosene	N2O	0.33	0.33	0.39	0.46	0.52	0.57	0.64	0.72	0.78	0.85	0.88	0.95	0.92
1 A 3 b gasoline	N2O	409.98	409.98	566.93	658.53	732.03	826.21	844.63	796.24	770.38	809.35	749.27	720.10	705.78
1 A 3 b diesel oil	N2O	64.78	64.78	72.43	75.26	80.53	81.18	85.05	115.90	102.14	122.05	115.87	126.90	137.52
1 A 3 c solid	N2O	0.15	0.15	0.13	0.14	0.13	0.12	0.13	0.13	0.07	0.07	0.06	0.05	0.05
1 A 3 c liquid	N2O	6.57	6.57	6.88	6.75	6.49	6.45	5.92	5.25	5.22	5.07	6.24	6.19	5.79
1 A 3 d gas/diesel oil	N2O	3.78	3.78	3.37	3.24	3.22	3.92	3.73	3.68	4.25	4.24	4.21	4.18	4.15
1 A 3 d gasoline	N2O	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
1 A 3 e gaseous	N2O	0.09	0.09	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.20	0.24	0.30	0.36
1 A 4 stat-liquid	N2O	24.38	24.38	26.95	24.81	25.76	23.51	25.76	29.89	27.38	27.28	26.84	23.47	28.17
1 A 4 mobile-liquid	N2O	7.37	7.37	7.38	7.49	7.56	7.77	8.04	7.94	7.92	7.01	6.87	6.75	5.87
1 A 4 mobile-diesel	N2O	121.48	121.48	124.54	129.07	133.12	137.80	143.29	151.39	159.89	165.34	167.41	169.09	166.27
1 A 4 mobile-gasoline	N2O	0.20	0.20	0.20	0.20	0.20	0.21	0.21	0.22	0.22	0.22	0.22	0.22	0.22
1 A 4 stat-solid	N2O	21.69	21.69	22.92	18.74	16.41	14.30	13.71	13.33	10.68	9.21	8.66	7.57	6.86
1 A 4 stat-gaseous	N2O	12.69	12.69	16.10	17.79	18.96	17.66	20.98	23.02	22.16	22.67	23.43	24.28	25.62
1 A 4 stat-biomass	N2O	85.27	85.27	94.03	88.39	89.66	82.47	88.74	96.51	89.65	86.87	87.57	82.51	93.71
1 A 4 stat-other	N2O	0.10	0.10	0.30	0.47	0.32	0.38	0.28	0.19	0.24	0.25	0.27	0.31	0.32
2 B 2	N2O	907.06	907.06	922.25	570.09	798.25	823.36	855.29	872.34	860.56	894.66	921.32	951.70	786.47
3 D 1	N2O	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50	108.50
3 D 3	N2O	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00	124.00
4 B 1	N2O	661.29	661.29	651.51	622.65	624.32	622.84	628.55	622.04	613.59	611.08	609.56	606.10	592.01
4 B 3	N2O	2.87	2.87	3.02	2.89	3.09	3.17	3.38	3.53	3.55	3.34	3.26	3.14	2.97

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4 B 4	N2O	0.07	0.07	0.08	0.08	0.09	0.10	0.11	0.11	0.11	0.11	0.11	0.11	0.12
4 B 6	N2O	0.24	0.24	0.28	0.30	0.32	0.33	0.35	0.36	0.36	0.37	0.40	0.40	0.41
4 B 8	N2O	57.26	57.26	56.27	58.25	97.55	95.96	96.04	93.47	93.69	97.61	88.12	85.49	89.31
4 B 9	N2O	26.21	26.21	27.85	26.31	28.05	27.45	26.77	24.94	28.20	27.29	27.45	22.69	23.96
4 B 13	N2O	0.00	0.00	0.00	0.00	0.07	0.07	0.08	0.08	0.11	0.10	0.08	0.07	0.00
4 D	N2O	2969.83	2969.83	3393.52	2505.94	2973.10	3535.35	3062.19	2847.57	3187.66	2902.95	2876.51	2862.09	2831.03
4 F	N2O	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17	1.17
6 B 1	N2O	5.05	5.05	5.14	5.25	5.23	5.31	5.40	5.49	5.46	5.63	5.49	5.50	5.50
6 B 2	N2O	16.82	16.82	17.14	17.51	17.44	17.70	17.99	18.31	18.20	18.75	18.30	18.34	18.34
6 C 2 c	N2O	0.08	0.08	0.08	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6 C 2 f	N2O	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
1 A 1 a liquid	CH4	0.33	0.33	0.38	0.34	0.58	0.49	0.45	0.47	0.57	0.62	0.58	0.32	0.59
1 A 1 a solid	CH4	1.50	1.50	1.72	0.94	0.69	0.56	0.54	0.37	0.39	0.14	0.12	0.22	0.72
1 A 1 a gaseous	CH4	0.46	0.46	0.48	0.49	0.58	0.63	0.72	1.10	1.16	1.13	1.49	1.69	2.18
1 A 1 a biomass	CH4	0.09	0.09	0.13	0.27	0.30	0.30	0.33	0.41	0.43	0.50	0.32	0.49	0.56
1 A 1 a other	CH4	0.61	0.61	0.67	0.98	1.05	1.06	1.09	1.36	1.44	1.39	1.42	1.86	2.33
1 A 1 c gaseous	CH4	0.17	0.17	0.17	0.16	0.17	0.16	0.18	0.10	0.12	0.09	0.10	0.08	0.10
1 A 2 stat-liquid	CH4	0.73	0.73	0.62	0.68	0.64	0.59	0.59	0.68	0.64	0.75	0.44	0.51	0.34
1 A 2 mob-liquid	CH4	5.44	5.44	5.77	5.95	5.88	6.17	6.15	6.11	6.36	6.56	6.76	7.01	7.06
1 A 2 solid	CH4	0.59	0.59	0.80	0.77	0.73	0.66	0.71	0.69	0.85	0.91	0.62	0.77	0.42
1 A 2 gaseous	CH4	2.36	2.36	2.42	2.46	2.56	2.91	2.95	2.99	3.07	3.02	2.97	3.09	2.67
1 A 2 biomass	CH4	1.18	1.18	1.20	1.23	1.37	1.41	1.44	1.39	1.56	1.41	1.59	1.54	1.48
1 A 2 other	CH4	1.23	1.23	1.24	1.13	0.58	0.72	0.77	1.01	1.03	0.65	1.04	0.71	0.64
1 A 3 a aviation gasoline	CH4	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02
1 A 3 a jet kerosene	CH4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02
1 A 3 b gasoline	CH4	56.56	56.56	58.61	54.69	51.50	49.08	44.78	39.78	36.46	36.12	32.32	30.10	28.94
1 A 3 b diesel oil	CH4	2.56	2.56	2.70	2.68	2.74	2.60	2.61	3.39	2.70	2.99	2.62	2.69	2.80
1 A 3 c solid	CH4	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00
1 A 3 c liquid	CH4	0.62	0.62	0.65	0.65	0.63	0.63	0.59	0.53	0.53	0.53	0.65	0.65	0.61
1 A 3 d gas/diesel oil	CH4	0.03	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.03
1 A 3 d gasoline	CH4	0.26	0.26	0.23	0.22	0.23	0.28	0.27	0.27	0.32	0.33	0.33	0.33	0.34
1 A 3 e gaseous	CH4	0.10	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.13	0.20	0.25	0.30	0.37
1 A 4 stat-liquid	CH4	0.66	0.66	0.72	0.69	0.68	0.61	0.63	0.65	0.58	0.57	0.56	0.51	0.59
1 A 4 mobile-liquid	CH4	0.42	0.42	0.43	0.43	0.44	0.43	0.44	0.43	0.43	0.42	0.42	0.42	0.41
1 A 4 mobile-diesel	CH4	6.54	6.54	6.74	7.01	7.29	7.48	7.74	8.11	8.52	8.93	9.30	9.63	9.76
1 A 4 mobile-gasoline	CH4	1.16	1.16	1.16	1.18	1.15	1.21	1.18	1.21	1.19	1.16	1.15	1.14	1.12
1 A 4 stat-solid	CH4	58.93	58.93	62.96	46.17	47.26	40.70	39.86	39.80	26.97	23.47	20.94	18.31	9.83
1 A 4 stat-gaseous	CH4	3.74	3.74	3.84	3.28	2.67	1.72	1.14	1.25	1.20	1.23	1.27	1.32	1.39
1 A 4 stat-biomass	CH4	314.67	314.67	341.68	316.37	316.05	286.57	302.41	324.36	185.53	179.92	181.58	170.82	193.95

IPCC 96	Gas	BY	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
1 A 4 stat-other	CH4	0.06	0.06	0.17	0.27	0.19	0.22	0.16	0.11	0.14	0.15	0.16	0.18	0.19
1 B 1	CH4	0.37	0.37	0.31	0.26	0.25	0.20	0.19	0.17	0.17	0.17	0.17	0.19	0.19
1 B 2 a	CH4	5.31	5.31	5.63	5.89	5.76	5.96	5.80	6.05	6.42	6.45	6.07	5.80	5.89
1 B 2 b	CH4	89.25	89.25	94.36	92.66	97.72	100.51	109.74	116.81	112.58	115.58	118.11	114.18	120.17
2 A 5	CH4	0.76	0.76	0.76	0.80	0.84	0.87	0.85	0.85	0.82	0.74	0.73	0.71	0.71
2 B 1	CH4	1.31	1.31	1.35	1.22	1.33	1.26	1.29	1.24	1.70	2.14	1.15	1.26	1.07
2 B 5	CH4	0.83	0.83	0.87	0.77	0.90	1.06	1.16	1.18	1.11	1.14	0.92	0.70	0.69
2 C 5	CH4	0.05	0.05	0.04	0.05	0.05	0.05	0.06	0.05	0.06	0.06	0.06	0.07	0.07
4 A 1	CH4	3364.10	3364.10	3311.12	3156.47	3147.98	3137.66	3137.00	3096.65	3050.71	3039.14	3025.22	2996.68	2949.30
4 A 3	CH4	52.07	52.07	54.78	52.42	56.08	57.48	61.36	63.98	64.45	60.62	59.18	56.99	53.84
4 A 4	CH4	3.92	3.92	4.30	4.14	4.96	5.22	5.69	5.72	6.13	5.70	6.09	5.89	6.24
4 A 6	CH4	18.60	18.60	21.85	23.21	24.54	25.23	27.40	27.68	28.04	28.48	30.83	31.37	32.13
4 A 8	CH4	116.17	116.17	114.60	117.17	120.32	117.46	116.74	115.41	115.92	120.02	108.14	105.46	108.37
4 B 1	CH4	546.58	546.58	536.60	513.42	495.94	503.67	494.78	490.15	487.41	486.65	481.71	472.91	462.54
4 B 3	CH4	1.24	1.24	1.30	1.24	1.33	1.37	1.46	1.52	1.53	1.44	1.41	1.35	1.28
4 B 4	CH4	0.09	0.09	0.10	0.10	0.12	0.13	0.14	0.14	0.15	0.14	0.15	0.14	0.15
4 B 6	CH4	1.44	1.44	1.69	1.79	1.90	1.95	2.12	2.14	2.17	2.20	2.38	2.42	2.48
4 B 8	CH4	295.12	295.12	289.99	299.84	463.72	457.09	458.48	447.54	448.29	462.36	416.61	404.28	422.50
4 B 9	CH4	22.64	22.64	23.58	22.41	23.76	23.22	22.87	21.26	24.18	23.43	23.75	19.31	20.59
4 B 13	CH4	0.00	0.00	0.00	0.00	0.15	0.15	0.16	0.17	0.22	0.20	0.16	0.15	0.00
4 F	CH4	1.57	1.57	1.57	1.57	1.56	1.56	1.54	1.54	1.52	1.52	1.51	1.51	1.51
6 A 1	CH4	4928.73	4928.73	4827.78	4767.69	4652.08	4547.36	4435.37	4345.75	4199.96	4036.86	3972.36	3883.63	3842.27
6 B 1	CH4	98.04	98.04	99.11	100.39	101.37	101.86	102.08	102.23	102.39	102.47	102.65	102.88	102.31
6 B 2	CH4	190.22	190.22	192.28	194.77	196.67	197.62	198.04	198.34	198.66	198.81	199.15	199.59	198.49
6 C 2 c	CH4	0.05	0.05	0.05	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6 D 1	CH4	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00	420.00
6 D 2	CH4	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08	52.08
2 C 4	SF6	443.11	253.34	277.24	253.34	277.24	372.84	443.11	610.65	349.18	164.19	22.23	7.65	7.65
2 C 3	PFCs	0.00	936.91	940.68	535.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2 F 6	F-gases	442.49	127.87	209.55	281.50	353.53	423.78	442.49	343.06	506.03	451.27	409.40	350.38	350.38
2 F 1/2/3	HFCs	545.56	1.76	2.77	4.10	6.33	9.70	545.56	622.92	717.12	814.66	869.43	1032.18	1032.18
2 F 7	SF6	63.42	37.56	53.11	53.74	55.53	74.73	63.42	57.22	55.33	75.57	84.87	97.59	97.59
2 F 8	SF6	241.87	127.15	179.73	182.12	190.48	222.27	241.87	251.91	256.69	285.68	239.76	247.56	247.56
	TOTAL	78 324.81	78 072.96	82 241.24	75 290.89	76 579.96	77 767.66	80 797.09	84 623.97	84 146.38	83 818.75	82 123.15	81 950.74	85 880.36

			BY			
					Cumulative	
					Total of	
					Level	
					Assessment	
No.	IPCC Source Categories	Direct GHG	Base Year Estimate	Level Assessment	Assessment	Assessment
1	2 C 1	Iron and Steel Production	CO2	8 461.04	10.80%	10.80%
2	1 A 3 b gaso	Road Transportation	CO2	7 916.00	10.11%	20.91%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	9.26%	30.17%
4	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	7.99%	38.15%
5	6 A 1	Managed Waste disposal	CH4	4928.73	6.29%	44.45%
6	1 A 3 b diesel	Road Transportation	CO2	4 364.17	5.57%	50.02%
7	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	5.25%	55.27%
8	4 A 1	Cattle	CH4	3364.10	4.30%	59.57%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	4.12%	63.68%
10	2 A 1	Cement Production	CO2	3 088.07	3.94%	67.63%
11	4 D	Agricultural Soils	N2O	2969.83	3.79%	71.42%
12	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	3.56%	74.98%
13	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	2.88%	77.86%
14	1 A 1 b liquic	Petroleum refining	CO2	1 576.40	2.01%	79.87%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 489.02	1.90%	81.77%
16	1 A 1 a liquic	Public Electricity and Heat Production	CO2	1 283.56	1.64%	83.41%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 156.43	1.48%	84.88%
18	2 B 2	Nitric Acid Production	N2O	907.06	1.16%	86.04%
19	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	822.42	1.05%	87.09%
20	4 B 1	Cattle	N2O	661.29	0.84%	87.94%
21	4 B 1	Cattle	CH4	546.58	0.70%	88.64%
22	2 F 1/2/3	ODS Substitutes	HFCs	545.56	0.70%	89.33%
23	3	Solvent and Other Product Use	CO3	522.65	0.67%	90.00%
24	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	0.62%	90.62%
25	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	0.58%	91.19%
26	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	443.11	0.57%	91.76%
27	2 F 6	Semiconductor Manufacture	F-gases	442.49	0.56%	92.33%
28	1 A 1 b gase	Petroleum refining	CO2	442.46	0.56%	92.89%
29	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.54%	93.43%
30	1 A 3 b gaso	Road Transportation	N2O	409.98	0.52%	93.95%
31	2 B 1	Ammonia Production	CO2	396.00	0.51%	94.46%
32	2 A 2	Lime Production	CO2	317.52	0.41%	94.86%
33	1 A 4 stat-bic	Fuel Combustion_Other Sectors-stationary	CH4	314.67	0.40%	95.26%

				1990		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	2 C 1	Iron and Steel Production	CO2	8 461.04	10.84%	10.84%
2	1 A 3 b gaso	Road Transportation	CO2	7 916.00	10.14%	20.98%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	9.29%	30.27%
4	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	8.01%	38.28%
5	6 A 1	Managed Waste disposal	CH4	4928.73	6.31%	44.59%
6	1 A 3 b diesel	Road Transportation	CO2	4 364.17	5.59%	50.18%
7	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	5.27%	55.45%
8	4 A 1	Cattle	CH4	3364.10	4.31%	59.76%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	4.13%	63.89%
10	2 A 1	Cement Production	CO2	3 088.07	3.96%	67.84%
11	4 D	Agricultural Soils	N2O	2969.83	3.80%	71.65%
12	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	3.57%	75.22%
13	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	2.88%	78.11%
14	1 A 1 b liquic	Petroleum refining	CO2	1 576.40	2.02%	80.13%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 489.02	1.91%	82.03%
16	1 A 1 a liquic	Public Electricity and Heat Production	CO2	1 283.56	1.64%	83.68%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1.48%	85.16%
18	2 C 3	Aluminium production	PFCs	936.91	1.20%	86.36%
19	2 B 2	Nitric Acid Production	N2O	907.06	1.16%	87.52%
20	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	822.42	1.05%	88.57%
21	4 B 1	Cattle	N2O	661.29	0.85%	89.42%
22	4 B 1	Cattle	CH4	546.58	0.70%	90.12%
23	3	Solvent and Other Product Use	CO3	522.65	0.67%	90.79%
24	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	0.62%	91.41%
25	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	0.58%	91.99%
26	1 A 1 b gase	Petroleum refining	CO2	442.46	0.57%	92.56%
27	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.54%	93.09%
28	1 A 3 b gaso	Road Transportation	N2O	409.98	0.53%	93.62%
29	2 B 1	Ammonia Production	CO2	396.00	0.51%	94.13%
30	2 A 2	Lime Production	CO2	317.52	0.41%	94.53%
31	1 A 4 stat-bic	Fuel Combustion_Other Sectors-stationary	CH4	314.67	0.40%	94.94%
32	4 B 8	Swine	CH4	295.12	0.38%	95.32%

				1991		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b gaso	Road Transportation	CO2	8 678.88	10.55%	10.55%
2	2 C 1	Iron and Steel Production	CO2	8 040.82	9.78%	20.33%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 719.45	9.39%	29.72%
4	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 817.04	8.29%	38.01%
5	1 A 3 b diese	Road Transportation	CO2	5 006.22	6.09%	44.09%
6	6 A 1	Managed Waste disposal	CH4	4827.78	5.87%	49.96%
7	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 219.81	5.13%	55.09%
8	4 D	Agricultural Soils	N2O	3 393.52	4.13%	59.22%
9	4 A 1	Cattle	CH4	3311.12	4.03%	63.25%
10	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 165.51	3.85%	67.10%
11	2 A 1	Cement Production	CO2	3 042.76	3.70%	70.80%
12	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 954.28	3.59%	74.39%
13	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 856.39	3.47%	77.86%
14	1 A 1 b liqui	Petroleum refining	CO2	1 695.31	2.06%	79.92%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 672.94	2.03%	81.96%
16	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 511.87	1.84%	83.79%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 185.57	1.44%	85.24%
18	2 C 3	Aluminium production	PFCs	940.68	1.14%	86.38%
19	2 B 2	Nitric Acid Production	N2O	922.25	1.12%	87.50%
20	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	873.16	1.06%	88.56%
21	4 B 1	Cattle	N2O	651.51	0.79%	89.36%
22	1 A 2 solid	Manufacturing Industries and Construction	CO2	651.00	0.79%	90.15%
23	1 A 3 b gaso	Road Transportation	N2O	566.93	0.69%	90.84%
24	4 B 1	Cattle	CH4	536.60	0.65%	91.49%
25	1 A 1 b gase	Petroleum refining	CO2	442.23	0.54%	92.03%
26	3	Solvent and Other Product Use	CO3	436.44	0.53%	92.56%
27	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.51%	93.07%
28	2 B 1	Ammonia Production	CO2	408.03	0.50%	93.56%
29	2 A 7 b	Magnesit Sinter Plants	CO2	399.52	0.49%	94.05%
30	1 A 4 stat-bic	Fuel Combustion_Other Sectors-stationary	CH4	341.68	0.42%	94.47%
31	2 A 2	Lime Production	CO2	299.40	0.36%	94.83%
32	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	296.77	0.36%	95.19%

				1992		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b gaso	Road Transportation	CO2	8 297.46	11.02%	11.02%
2	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 198.14	9.56%	20.58%
3	2 C 1	Iron and Steel Production	CO2	6 948.63	9.23%	29.81%
4	1 A 3 b diese	Road Transportation	CO2	5 315.24	7.06%	36.87%
5	6 A 1	Managed Waste disposal	CH4	4767.69	6.33%	43.20%
6	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 297.97	5.71%	48.91%
7	1 A 1 a solid	Public Electricity and Heat Production	CO2	4 009.47	5.33%	54.24%
8	2 A 1	Cement Production	CO2	3 212.18	4.27%	58.50%
9	4 A 1	Cattle	CH4	3156.47	4.19%	62.69%
10	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	3 156.01	4.19%	66.89%
11	1 A 1 a gase	Public Electricity and Heat Production	CO2	2 887.22	3.83%	70.72%
12	4 D	Agricultural Soils	N2O	2 505.94	3.33%	74.05%
13	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 391.44	3.18%	77.23%
14	1 A 1 b liquic	Petroleum refining	CO2	1 826.02	2.43%	79.65%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 480.06	1.97%	81.62%
16	1 A 1 a liquic	Public Electricity and Heat Production	CO2	1 323.93	1.76%	83.38%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 228.71	1.63%	85.01%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	900.87	1.20%	86.20%
19	1 A 3 b gaso	Road Transportation	N2O	658.53	0.87%	87.08%
20	1 A 2 solid	Manufacturing Industries and Construction	CO2	657.69	0.87%	87.95%
21	4 B 1	Cattle	N2O	622.65	0.83%	88.78%
22	2 B 2	Nitric Acid Production	N2O	570.09	0.76%	89.54%
23	2 C 3	Aluminium production	PFCs	535.34	0.71%	90.25%
24	4 B 1	Cattle	CH4	513.42	0.68%	90.93%
25	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.56%	91.49%
26	1 A 1 b gase	Petroleum refining	CO2	410.78	0.55%	92.03%
27	3	Solvent and Other Product Use	CO3	381.45	0.51%	92.54%
28	2 B 1	Ammonia Production	CO2	371.09	0.49%	93.03%
29	1 A 4 stat-bic	Fuel Combustion_Other Sectors-stationary	CH4	316.37	0.42%	93.45%
30	2 A 7 b	Magnesit Sinter Plants	CO2	315.64	0.42%	93.87%
31	4 B 8	Swine	CH4	299.84	0.40%	94.27%
32	2 A 2	Lime Production	CO2	286.53	0.38%	94.65%
33	2 F 6	Semiconductor Manufacture	F-gases	281.50	0.37%	95.02%

				1993		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b gaso	Road Transportation	CO2	7 958.20	10.39%	10.39%
2	2 C 1	Iron and Steel Production	CO2	7 254.29	9.47%	19.86%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 127.29	9.31%	29.17%
4	1 A 3 b diese	Road Transportation	CO2	5 785.41	7.55%	36.73%
5	6 A 1	Managed Waste disposal	CH4	4652.08	6.07%	42.80%
6	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 462.58	5.83%	48.63%
7	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	3 364.02	4.39%	53.02%
8	4 A 1	Cattle	CH4	3147.98	4.11%	57.13%
9	1 A 1 a solid	Public Electricity and Heat Production	CO2	3 116.78	4.07%	61.20%
10	2 A 1	Cement Production	CO2	3 070.16	4.01%	65.21%
11	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 009.86	3.93%	69.14%
12	4 D	Agricultural Soils	N2O	2973.10	3.88%	73.02%
13	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	2 145.29	2.80%	75.83%
14	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 122.65	2.77%	78.60%
15	1 A 1 a liqui	Public Electricity and Heat Production	CO2	2 057.75	2.69%	81.28%
16	1 A 1 b liqui	Petroleum refining	CO2	1 747.97	2.28%	83.57%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 267.22	1.65%	85.22%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	890.15	1.16%	86.38%
19	2 B 2	Nitric Acid Production	N2O	798.25	1.04%	87.43%
20	1 A 3 b gaso	Road Transportation	N2O	732.03	0.96%	88.38%
21	4 B 1	Cattle	N2O	624.32	0.82%	89.20%
22	1 A 2 solid	Manufacturing Industries and Construction	CO2	576.82	0.75%	89.95%
23	4 B 1	Cattle	CH4	495.94	0.65%	90.60%
24	4 B 8	Swine	CH4	463.72	0.61%	91.20%
25	1 A 1 b gase	Petroleum refining	CO2	439.07	0.57%	91.78%
26	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.55%	92.33%
27	2 B 1	Ammonia Production	CO2	402.87	0.53%	92.85%
28	3	Solvent and Other Product Use	CO3	360.87	0.47%	93.32%
29	2 F 6	Semiconductor Manufacture	F-gases	353.53	0.46%	93.78%
30	1 A 4 stat-bic	Fuel Combustion_Other Sectors-stationary	CH4	316.05	0.41%	94.20%
31	2 A 2	Lime Production	CO2	291.11	0.38%	94.58%
32	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industries	CO2	289.01	0.38%	94.95%
33	2 A 7 b	Magnesit Sinter Plants	CO2	282.28	0.37%	95.32%

				1994		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b gaso	Road Transportation	CO2	7 784.82	10.01%	10.01%
2	2 C 1	Iron and Steel Production	CO2	7 771.03	9.99%	20.00%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	6 445.70	8.29%	28.29%
4	1 A 3 b diese	Road Transportation	CO2	6 050.52	7.78%	36.07%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 081.82	6.53%	42.61%
6	6 A 1	Managed Waste disposal	CH4	4547.36	5.85%	48.45%
7	4 D	Agricultural Soils	N2O	3 535.35	4.55%	53.00%
8	1 A 1 a solid	Public Electricity and Heat Production	CO2	3 279.20	4.22%	57.22%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 269.79	4.20%	61.42%
10	2 A 1	Cement Production	CO2	3 191.15	4.10%	65.52%
11	4 A 1	Cattle	CH4	3137.66	4.03%	69.56%
12	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	3 133.70	4.03%	73.59%
13	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 992.16	2.56%	76.15%
14	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 911.38	2.46%	78.61%
15	1 A 1 b liquid	Petroleum refining	CO2	1 880.98	2.42%	81.03%
16	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 852.68	2.38%	83.41%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 304.30	1.68%	85.09%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	932.92	1.20%	86.29%
19	1 A 3 b gaso	Road Transportation	N2O	826.21	1.06%	87.35%
20	2 B 2	Nitric Acid Production	N2O	823.36	1.06%	88.41%
21	4 B 1	Cattle	N2O	622.84	0.80%	89.21%
22	1 A 2 solid	Manufacturing Industries and Construction	CO2	530.86	0.68%	89.89%
23	4 B 1	Cattle	CH4	503.67	0.65%	90.54%
24	4 B 8	Swine	CH4	457.09	0.59%	91.13%
25	2 F 6	Semiconductor Manufacture	F-gases	423.78	0.54%	91.67%
26	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.54%	92.21%
27	2 B 1	Ammonia Production	CO2	381.40	0.49%	92.70%
28	1 A 1 b gase	Petroleum refining	CO2	381.02	0.49%	93.19%
29	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	372.84	0.48%	93.67%
30	3	Solvent and Other Product Use	CO3	361.41	0.46%	94.14%
31	2 A 7 b	Magnesit Sinter Plants	CO2	293.89	0.38%	94.51%
32	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	287.55	0.37%	94.88%
33	2 A 2	Lime Production	CO2	287.50	0.37%	95.25%

				1995		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	2 C 1	Iron and Steel Production	CO2	8 585.41	10.63%	10.63%
2	1 A 3 b gaso	Road Transportation	CO2	7 435.06	9.20%	19.83%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 073.48	8.75%	28.58%
4	1 A 3 b diese	Road Transportation	CO2	6 483.34	8.02%	36.61%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 159.22	6.39%	42.99%
6	1 A 1 a solid	Public Electricity and Heat Production	CO2	4 529.81	5.61%	48.60%
7	6 A 1	Managed Waste disposal	CH4	4435.37	5.49%	54.09%
8	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	3 723.01	4.61%	58.70%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 555.75	4.40%	63.10%
10	4 A 1	Cattle	CH4	3137.00	3.88%	66.98%
11	4 D	Agricultural Soils	N2O	3 062.19	3.79%	70.77%
12	2 A 1	Cement Production	CO2	2 498.40	3.09%	73.86%
13	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	2 026.02	2.51%	76.37%
14	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 789.98	2.22%	78.58%
15	1 A 1 b liqui	Petroleum refining	CO2	1 784.68	2.21%	80.79%
16	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 562.00	1.93%	82.73%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 339.99	1.66%	84.39%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	930.11	1.15%	85.54%
19	2 B 2	Nitric Acid Production	N2O	855.29	1.06%	86.59%
20	1 A 3 b gaso	Road Transportation	N2O	844.63	1.05%	87.64%
21	4 B 1	Cattle	N2O	628.55	0.78%	88.42%
22	1 A 2 solid	Manufacturing Industries and Construction	CO2	584.14	0.72%	89.14%
23	2 F 1/2/3	ODS Substitutes	HFCs	545.56	0.68%	89.82%
24	4 B 1	Cattle	CH4	494.78	0.61%	90.43%
25	2 B 1	Ammonia Production	CO2	468.32	0.58%	91.01%
26	4 B 8	Swine	CH4	458.48	0.57%	91.58%
27	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	443.11	0.55%	92.12%
28	2 F 6	Semiconductor Manufacture	F-gases	442.49	0.55%	92.67%
29	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.52%	93.19%
30	1 A 1 b gase	Petroleum refining	CO2	418.32	0.52%	93.71%
31	3	Solvent and Other Product Use	CO3	380.64	0.47%	94.18%
32	2 A 7 b	Magnesit Sinter Plants	CO2	338.54	0.42%	94.60%
33	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	316.01	0.39%	94.99%
34	2 A 2	Lime Production	CO2	303.77	0.38%	95.37%

				1996		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b diesel	Road Transportation	CO2	8 711.91	10.29%	10.29%
2	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	8 107.96	9.58%	19.88%
3	2 C 1	Iron and Steel Production	CO2	8 084.35	9.55%	29.43%
4	1 A 3 b gaso	Road Transportation	CO2	6 855.05	8.10%	37.53%
5	1 A 2 gaseo	Manufacturing Industries and Construction	CO2	5 216.33	6.16%	43.69%
6	1 A 1 a solid	Public Electricity and Heat Production	CO2	4 714.31	5.57%	49.26%
7	1 A 1 a gase	Public Electricity and Heat Production	CO2	4 346.31	5.14%	54.40%
8	6 A 1	Managed Waste disposal	CH4	4345.75	5.14%	59.54%
9	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	4 083.86	4.83%	64.36%
10	4 A 1	Cattle	CH4	3096.65	3.66%	68.02%
11	4 D	Agricultural Soils	N2O	2 847.57	3.36%	71.39%
12	2 A 1	Cement Production	CO2	2 495.54	2.95%	74.34%
13	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	2 145.75	2.54%	76.87%
14	1 A 1 b liqui	Petroleum refining	CO2	2 128.99	2.52%	79.39%
15	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 750.65	2.07%	81.46%
16	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 555.68	1.84%	83.29%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 398.59	1.65%	84.95%
18	1 A 2 mob-li	Manuf. Industries and Construction-mobile	CO2	924.49	1.09%	86.04%
19	2 B 2	Nitric Acid Production	N2O	872.34	1.03%	87.07%
20	1 A 3 b gaso	Road Transportation	N2O	796.24	0.94%	88.01%
21	1 A 2 solid	Manufacturing Industries and Construction	CO2	632.90	0.75%	88.76%
22	2 F 1/2/3	ODS Substitutes	HFCs	622.92	0.74%	89.49%
23	4 B 1	Cattle	N2O	622.04	0.74%	90.23%
24	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	610.65	0.72%	90.95%
25	4 B 1	Cattle	CH4	490.15	0.58%	91.53%
26	2 B 1	Ammonia Production	CO2	465.33	0.55%	92.08%
27	1 A 1 b gase	Petroleum refining	CO2	461.01	0.54%	92.63%
28	4 B 8	Swine	CH4	447.54	0.53%	93.15%
29	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.50%	93.65%
30	3	Solvent and Other Product Use	CO3	379.09	0.45%	94.10%
31	2 F 6	Semiconductor Manufacture	F-gases	343.06	0.41%	94.50%
32	2 A 7 b	Magnesit Sinter Plants	CO2	338.54	0.40%	94.90%
33	1 A 1 a othe	Public Electricity and Heat Production	CO2	327.89	0.39%	95.29%

				1997		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	2 C 1	Iron and Steel Production	CO2	9 107.32	10.82%	10.82%
2	1 A 3 b diesel	Road Transportation	CO2	8 007.27	9.52%	20.34%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 122.02	8.46%	28.80%
4	1 A 3 b gaso	Road Transportation	CO2	6 496.96	7.72%	36.52%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 358.21	6.37%	42.89%
6	1 A 1 a solid	Public Electricity and Heat Production	CO2	5 002.81	5.95%	48.84%
7	6 A 1	Managed Waste disposal	CH4	4199.96	4.99%	53.83%
8	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	3 932.31	4.67%	58.50%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 711.28	4.41%	62.91%
10	4 D	Agricultural Soils	N2O	3 187.66	3.79%	66.70%
11	4 A 1	Cattle	CH4	3050.71	3.63%	70.33%
12	2 A 1	Cement Production	CO2	2 642.55	3.14%	73.47%
13	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	2 623.75	3.12%	76.58%
14	1 A 1 b liqui	Petroleum refining	CO2	2 052.59	2.44%	79.02%
15	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 931.10	2.29%	81.32%
16	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 459.03	1.73%	83.05%
17	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 395.34	1.66%	84.71%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	960.86	1.14%	85.85%
19	2 B 2	Nitric Acid Production	N2O	860.56	1.02%	86.88%
20	1 A 2 solid	Manufacturing Industries and Construction	CO2	831.86	0.99%	87.86%
21	1 A 3 b gaso	Road Transportation	N2O	770.38	0.92%	88.78%
22	2 F 1/2/3	ODS Substitutes	HFCs	717.12	0.85%	89.63%
23	4 B 1	Cattle	N2O	613.59	0.73%	90.36%
24	2 F 6	Semiconductor Manufacture	F-gases	506.03	0.60%	90.96%
25	4 B 1	Cattle	CH4	487.41	0.58%	91.54%
26	2 B 1	Ammonia Production	CO2	457.10	0.54%	92.08%
27	4 B 8	Swine	CH4	448.29	0.53%	92.62%
28	1 A 1 b gase	Petroleum refining	CO2	434.41	0.52%	93.13%
29	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.50%	93.63%
30	3	Solvent and Other Product Use	CO3	405.46	0.48%	94.11%
31	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	349.18	0.41%	94.53%
32	1 A 1 a other	Public Electricity and Heat Production	CO2	344.94	0.41%	94.94%
33	2 A 7 b	Magnesit Sinter Plants	CO2	338.54	0.40%	95.34%

				1998		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b diesel	Road Transportation	CO2	9 650.63	11.51%	11.51%
2	2 C 1	Iron and Steel Production	CO2	8 384.63	10.00%	21.52%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 152.14	8.53%	30.05%
4	1 A 3 b gaso	Road Transportation	CO2	6 810.31	8.13%	38.17%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 269.84	6.29%	44.46%
6	6 A 1	Managed Waste disposal	CH4	4036.86	4.82%	49.28%
7	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	4 022.43	4.80%	54.08%
8	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 983.61	4.75%	58.83%
9	1 A 1 a solid	Public Electricity and Heat Production	CO2	3 514.05	4.19%	63.02%
10	4 A 1	Cattle	CH4	3039.14	3.63%	66.65%
11	4 D	Agricultural Soils	N2O	2 902.95	3.46%	70.11%
12	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	2 433.99	2.90%	73.02%
13	2 A 1	Cement Production	CO2	2 382.01	2.84%	75.86%
14	1 A 1 b liqui	Petroleum refining	CO2	2 238.24	2.67%	78.53%
15	1 A 1 a liqui	Public Electricity and Heat Production	CO2	2 215.39	2.64%	81.17%
16	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 515.12	1.81%	82.98%
17	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 221.74	1.46%	84.44%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	991.91	1.18%	85.62%
19	2 B 2	Nitric Acid Production	N2O	894.66	1.07%	86.69%
20	1 A 2 solid	Manufacturing Industries and Construction	CO2	879.37	1.05%	87.74%
21	2 F 1/2/3	ODS Substitutes	HFCs	814.66	0.97%	88.71%
22	1 A 3 b gaso	Road Transportation	N2O	809.35	0.97%	89.67%
23	4 B 1	Cattle	N2O	611.08	0.73%	90.40%
24	2 B 1	Ammonia Production	CO2	501.24	0.60%	91.00%
25	4 B 1	Cattle	CH4	486.65	0.58%	91.58%
26	4 B 8	Swine	CH4	462.36	0.55%	92.13%
27	2 F 6	Semiconductor Manufacture	F-gases	451.27	0.54%	92.67%
28	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.50%	93.17%
29	1 A 1 b gase	Petroleum refining	CO2	401.76	0.48%	93.65%
30	3	Solvent and Other Product Use	CO3	395.64	0.47%	94.12%
31	1 A 3 e gase	Transport-Other	CO2	348.94	0.42%	94.54%
32	2 A 7 b	Magnesit Sinter Plants	CO2	338.54	0.40%	94.94%
33	1 A 1 a other	Public Electricity and Heat Production	CO2	333.94	0.40%	95.34%

				1999		
				Current	Level	Cumulative
				Year	Assessment	Total of
No.	IPCC Source Categories		Direct GHG	Estimate	Assessment	Level Assessment
1	1 A 3 b diesel	Road Transportation	CO2	9 385.25	11.43%	11.43%
2	2 C 1	Iron and Steel Production	CO2	8 456.00	10.30%	21.72%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 088.43	8.63%	30.36%
4	1 A 3 b gaso	Road Transportation	CO2	6 318.19	7.69%	38.05%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 180.64	6.31%	44.36%
6	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	4 157.05	5.06%	49.42%
7	1 A 1 a gase	Public Electricity and Heat Production	CO2	4 074.69	4.96%	54.38%
8	6 A 1	Managed Waste disposal	CH4	3972.36	4.84%	59.22%
9	1 A 1 a solid	Public Electricity and Heat Production	CO2	3 869.92	4.71%	63.93%
10	4 A 1	Cattle	CH4	3025.22	3.68%	67.62%
11	4 D	Agricultural Soils	N2O	2 876.51	3.50%	71.12%
12	2 A 1	Cement Production	CO2	2 380.60	2.90%	74.02%
13	1 A 1 b liqui	Petroleum refining	CO2	2 060.35	2.51%	76.53%
14	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 983.33	2.42%	78.94%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 900.76	2.31%	81.26%
16	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 568.49	1.91%	83.17%
17	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	1 132.21	1.38%	84.54%
18	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	1 022.26	1.24%	85.79%
19	2 B 2	Nitric Acid Production	N2O	921.32	1.12%	86.91%
20	2 F 1/2/3	ODS Substitutes	HFCs	869.43	1.06%	87.97%
21	1 A 3 b gaso	Road Transportation	N2O	749.27	0.91%	88.88%
22	1 A 2 solid	Manufacturing Industries and Construction	CO2	627.41	0.76%	89.65%
23	4 B 1	Cattle	N2O	609.56	0.74%	90.39%
24	4 B 1	Cattle	CH4	481.71	0.59%	90.97%
25	2 B 1	Ammonia Production	CO2	472.12	0.57%	91.55%
26	1 A 3 e gase	Transport-Other	CO2	429.39	0.52%	92.07%
27	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.51%	92.58%
28	4 B 8	Swine	CH4	416.61	0.51%	93.09%
29	2 F 6	Semiconductor Manufacture	F-gases	409.40	0.50%	93.59%
30	1 A 1 b gase	Petroleum refining	CO2	403.65	0.49%	94.08%
31	3	Solvent and Other Product Use	CO3	395.64	0.48%	94.56%
32	1 A 1 a other	Public Electricity and Heat Production	CO2	341.33	0.42%	94.98%
33	2 A 7 b	Magnesit Sinter Plants	CO2	338.54	0.41%	95.39%

				2000		
				Current	Level	Cumulative
				Year	Assessment	Total of
No.	IPCC Source Categories		Direct GHG	Estimate		Level Assessment
1	1 A 3 b diesel	Road Transportation	CO2	10 475.66	12.78%	12.78%
2	2 C 1	Iron and Steel Production	CO2	8 590.51	10.48%	23.27%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	6 264.65	7.64%	30.91%
4	1 A 3 b gaso	Road Transportation	CO2	6 107.18	7.45%	38.36%
5	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	5 391.40	6.58%	44.94%
6	1 A 1 a solid	Public Electricity and Heat Production	CO2	4 983.33	6.08%	51.02%
7	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	4 307.53	5.26%	56.28%
8	6 A 1	Managed Waste disposal	CH4	3883.63	4.74%	61.02%
9	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 204.00	3.91%	64.93%
10	4 A 1	Cattle	CH4	2996.68	3.66%	68.58%
11	4 D	Agricultural Soils	N2O	2 862.09	3.49%	72.08%
12	2 A 1	Cement Production	CO2	2 346.95	2.86%	74.94%
13	1 A 1 b liqui	Petroleum refining	CO2	2 034.40	2.48%	77.42%
14	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 797.92	2.19%	79.62%
15	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 616.50	1.97%	81.59%
16	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 076.49	1.31%	82.90%
17	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	1 058.48	1.29%	84.19%
18	2 F 1/2/3	ODS Substitutes	HFCs	1032.18	1.26%	85.45%
19	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	988.27	1.21%	86.66%
20	2 B 2	Nitric Acid Production	N2O	951.70	1.16%	87.82%
21	1 A 2 solid	Manufacturing Industries and Construction	CO2	785.39	0.96%	88.78%
22	1 A 3 b gaso	Road Transportation	N2O	720.10	0.88%	89.66%
23	4 B 1	Cattle	N2O	606.10	0.74%	90.40%
24	1 A 3 e gase	Transport-Other	CO2	529.50	0.65%	91.04%
25	4 B 1	Cattle	CH4	472.91	0.58%	91.62%
26	2 B 1	Ammonia Production	CO2	463.00	0.56%	92.19%
27	1 A 1 a other	Public Electricity and Heat Production	CO2	441.57	0.54%	92.72%
28	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.51%	93.24%
29	4 B 8	Swine	CH4	404.28	0.49%	93.73%
30	3	Solvent and Other Product Use	CO3	395.64	0.48%	94.21%
31	2 F 6	Semiconductor Manufacture	F-gases	350.38	0.43%	94.64%
32	1 A 1 b gase	Petroleum refining	CO2	349.60	0.43%	95.07%

				2001		
				Current	Level	Cumulative
No.	IPCC Source Categories		Direct GHG	Year Estimate	Assessment	Total of Level Assessment
1	1 A 3 b diesel	Road Transportation	CO2	11 742.93	13.67%	13.67%
2	2 C 1	Iron and Steel Production	CO2	9 245.00	10.76%	24.44%
3	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 439.94	8.66%	33.10%
4	1 A 3 b gaso	Road Transportation	CO2	6 151.89	7.16%	40.27%
5	1 A 1 a solid	Public Electricity and Heat Production	CO2	5 846.09	6.81%	47.07%
6	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 656.17	5.42%	52.49%
7	1 A 4 stat-gas	Fuel Combustion_Other Sectors-stationary	CO2	4 545.63	5.29%	57.79%
8	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 870.99	4.51%	62.29%
9	6 A 1	Managed Waste disposal	CH4	3842.27	4.47%	66.77%
10	4 A 1	Cattle	CH4	2949.30	3.43%	70.20%
11	4 D	Agricultural Soils	N2O	2 831.03	3.30%	73.50%
12	2 A 1	Cement Production	CO2	2 346.95	2.73%	76.23%
13	1 A 1 b liqui	Petroleum refining	CO2	2 076.11	2.42%	78.65%
14	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 634.40	1.90%	80.55%
15	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 543.08	1.80%	82.35%
16	1 A 1 a liqui	Public Electricity and Heat Production	CO2	1 447.95	1.69%	84.04%
17	1 A 2 mob-lic	Manuf. Industries and Construction-mobile	CO2	1 066.42	1.24%	85.28%
18	2 F 1/2/3	ODS Substitutes	HFCs	1032.18	1.20%	86.48%
19	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	848.34	0.99%	87.47%
20	2 B 2	Nitric Acid Production	N2O	786.47	0.92%	88.38%
21	1 A 3 b gaso	Road Transportation	N2O	705.78	0.82%	89.20%
22	1 A 3 e gase	Transport-Other	CO2	637.77	0.74%	89.95%
23	4 B 1	Cattle	N2O	592.01	0.69%	90.64%
24	1 A 1 a other	Public Electricity and Heat Production	CO2	557.50	0.65%	91.29%
25	4 B 1	Cattle	CH4	462.54	0.54%	91.82%
26	1 A 2 solid	Manufacturing Industries and Construction	CO2	461.57	0.54%	92.36%
27	2 B 1	Ammonia Production	CO2	442.00	0.51%	92.88%
28	4 B 8	Swine	CH4	422.50	0.49%	93.37%
29	6 D 1	SNAP 091003 Sludge spreading	CH4	420.00	0.49%	93.86%
30	1 A 1 b gase	Petroleum refining	CO2	405.89	0.47%	94.33%
31	3	Solvent and Other Product Use	CO3	395.64	0.46%	94.79%
32	2 F 6	Semiconductor Manufacture	F-gases	350.38	0.41%	95.20%

					1991				
									Cumulative
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Current Year Estimate	Level Assessment	Trend Assessment	Contribution to Trend	Total of Trend Assessment
1	2 C 3	Aluminium production	PFCs	0.00	940.68	1.14%	0.010893	13.12%	13.12%
2	2 C 1	Iron and Steel Production	CO2	8 461.04	8 040.82	9.78%	0.009766	11.76%	24.89%
3	2 F 1/2/3	ODS Substitutes	HFCs	545.56	2.77	0.00%	0.006602	7.95%	32.84%
4	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	2 856.39	3.47%	0.005694	6.86%	39.70%
5	1 A 3 b diesel	Road Transportation	CO2	4 364.17	5 006.22	6.09%	0.004908	5.91%	45.61%
6	1 A 3 b gaso	Road Transportation	CO2	7 916.00	8 678.88	10.55%	0.004251	5.12%	50.73%
7	6 A 1	Managed Waste disposal	CH4	4928.73	4827.78	5.87%	0.004023	4.85%	55.58%
8	4 D	Agricultural Soils	N2O	2969.83	3 393.52	4.13%	0.003187	3.84%	59.42%
9	2 F 6	Semiconductor Manufacture	F-gases	442.49	209.55	0.25%	0.002954	3.56%	62.97%
10	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	6 817.04	8.29%	0.002892	3.48%	66.46%
11	4 A 1	Cattle	CH4	3364.10	3311.12	4.03%	0.002561	3.09%	69.54%
12	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	3 165.51	3.85%	0.002542	3.06%	72.60%
13	2 A 1	Cement Production	CO2	3 088.07	3 042.76	3.70%	0.002313	2.79%	75.39%
14	2 C 4	SF6 used in Aluminium and Magesium Found	SF6	443.11	277.24	0.34%	0.002177	2.62%	78.01%
15	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	651.00	0.79%	0.002049	2.47%	80.48%
16	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 511.87	1.84%	0.001901	2.29%	82.77%
17	1 A 3 b gaso	Road Transportation	N2O	409.98	566.93	0.69%	0.001580	1.90%	84.68%
18	3	Solvent and Other Product Use	CO3	522.65	436.44	0.53%	0.001301	1.57%	86.24%
19	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	399.52	0.49%	0.001274	1.53%	87.78%
20	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 489.02	1 672.94	2.03%	0.001268	1.53%	89.30%
21	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 719.45	9.39%	0.001216	1.47%	90.77%
22	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	4 219.81	5.13%	0.001173	1.41%	92.18%
23	2 F 8	Other Sources of SF6	SF6	241.87	179.73	0.22%	0.000860	1.04%	93.22%
24	4 B 1	Cattle	N2O	661.29	651.51	0.79%	0.000496	0.60%	93.82%
25	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	1 695.31	2.06%	0.000464	0.56%	94.38%
26	4 B 1	Cattle	CH4	546.58	536.60	0.65%	0.000432	0.52%	94.90%
27	2 A 2	Lime Production	CO2	317.52	299.40	0.36%	0.000394	0.47%	95.37%

					1992				
									Cumulative
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Current Year Estimate	Level Assessment	Trend Assessment	Contribution to Trend	Total of Trend Assessment
1	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	4 009.47	5.33%	0.027673	17.57%	17.57%
2	2 C 1	Iron and Steel Production	CO2	8 461.04	6 948.63	9.23%	0.016369	10.39%	27.97%
3	1 A 3 b diesel	Road Transportation	CO2	4 364.17	5 315.24	7.06%	0.015477	9.83%	37.80%
4	1 A 4 stat-gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	3 156.01	4.19%	0.013695	8.70%	46.49%
5	1 A 3 b gaso	Road Transportation	CO2	7 916.00	8 297.46	11.02%	0.00951	6.04%	52.53%
6	2 C 3	Aluminium production	PFCs	0.00	535.34	0.71%	0.007397	4.70%	57.23%
7	2 F 1/2/3	ODS Substitutes	HFCs	545.56	4.10	0.01%	0.007189	4.57%	61.79%
8	4 D	Agricultural Soils	N2O	2969.83	2 505.94	3.33%	0.004820	3.06%	64.85%
9	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	4 297.97	5.71%	0.00473	3.00%	67.86%
10	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	1 826.02	2.43%	0.004293	2.73%	70.58%
11	2 B 2	Nitric Acid Production	N2O	907.06	570.09	0.76%	0.004170	2.65%	73.23%
12	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	2 391.44	3.18%	0.004025	2.56%	75.79%
13	1 A 3 b gaso	Road Transportation	N2O	409.98	658.53	0.87%	0.00365	2.32%	78.11%
14	2 A 1	Cement Production	CO2	3 088.07	3 212.18	4.27%	0.003368	2.14%	80.24%
15	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 198.14	9.56%	0.003140	1.99%	82.24%
16	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	657.69	0.87%	0.00309	1.96%	84.20%
17	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	2 887.22	3.83%	0.002925	1.86%	86.06%
18	2 C 4	SF6 used in Aluminium and Magnesium Found	SF6	443.11	253.34	0.34%	0.002385	1.51%	87.57%
19	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	315.64	0.42%	0.002084	1.32%	88.90%
20	2 F 6	Semiconductor Manufacture	F-gases	442.49	281.50	0.37%	0.001988	1.26%	90.16%
21	3	Solvent and Other Product Use	CO3	522.65	381.45	0.51%	0.00167	1.06%	91.22%
22	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 156.43	1 228.71	1.63%	0.00162	1.03%	92.25%
23	1 A 2 mob-liq	Manuf. Industries and Construction-mobile	CO2	822.42	900.87	1.20%	0.00152	0.97%	93.22%
24	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 323.93	1.76%	0.001245	0.79%	94.01%
25	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	232.03	0.31%	0.00121	0.77%	94.77%
26	4 A 1	Cattle	CH4	3364.10	3156.47	4.19%	0.001068	0.68%	95.45%

					1993				
									Cumulative
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Current Year Estimate	Level Assessment	Trend Assessment	Contribution to Trend	Total of Trend Assessment
1	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	3 116.78	4.07%	0.040047	24.69%	24.69%
2	1 A 3 b diesel	Road Transportation	CO2	4 364.17	5 785.41	7.55%	0.020280	12.50%	37.19%
3	1 A 4 stationary gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	3 364.02	4.39%	0.015520	9.57%	46.76%
4	2 C 1	Iron and Steel Production	CO2	8 461.04	7 254.29	9.47%	0.013600	8.38%	55.15%
5	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	2 057.75	2.69%	0.010722	6.61%	61.76%
6	1 A 2 stationary liquid	Manuf. Industries and Construction-stationary	CO2	1 489.02	2 145.29	2.80%	0.009208	5.68%	67.43%
7	1 A 4 stationary solid	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	2 122.65	2.77%	0.008094	4.99%	72.42%
8	1 A 2 gaseous	Manufacturing Industries and Construction	CO2	4 115.37	4 462.58	5.83%	0.00586	3.61%	76.04%
9	1 A 3 b gaseous	Road Transportation	N2O	409.98	732.03	0.96%	0.004423	2.73%	78.76%
10	1 A 3 b gaseous	Road Transportation	CO2	7 916.00	7 958.20	10.39%	0.002919	1.80%	80.56%
11	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	1 747.97	2.28%	0.002761	1.70%	82.27%
12	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	282.28	0.37%	0.00257	1.58%	83.85%
13	4 B 8	Swine	CH4	295.12	463.72	0.61%	0.002340	1.44%	85.29%
14	6 A 1	Managed Waste disposal	CH4	4928.73	4652.08	6.07%	0.002228	1.37%	86.66%
15	3	Solvent and Other Product Use	CO3	522.65	360.87	0.47%	0.00201	1.24%	87.90%
16	1 A 1 a gaseous	Public Electricity and Heat Production	CO2	3 223.81	3 009.86	3.93%	0.001898	1.17%	89.07%
17	4 A 1	Cattle	CH4	3364.10	3147.98	4.11%	0.001886	1.16%	90.23%
18	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 267.22	1.65%	0.00182	1.12%	91.36%
19	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	576.82	0.75%	0.00181	1.11%	92.47%
20	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	249.14	0.33%	0.001364	0.84%	93.31%
21	2 B 2	Nitric Acid Production	N2O	907.06	798.25	1.04%	0.001183	0.73%	94.04%
22	1 A 2 mobile liquid	Manuf. Industries and Construction-mobile	CO2	822.42	890.15	1.16%	0.00115	0.71%	94.75%
23	4 D	Agricultural Soils	N2O	2969.83	2973.10	3.88%	0.000927	0.57%	95.32%

					1994				
									Cumulative
			Direct	Base Year	Current	Level	Trend	Contribution	Total of
No.	IPCC Source Categories		GHG	Estimate	Year Estimate	Assessment	Assessment	to Trend	Trend Assessment
1	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	3 279.20	4.22%	0.037958	20.36%	20.36%
2	1 A 3 b diesel	Road Transportation	CO2	4 364.17	6 050.52	7.78%	0.022242	11.93%	32.29%
3	1 A 2 gaseous	Manufacturing Industries and Construction	CO2	4 115.37	5 081.82	6.53%	0.01290	6.92%	39.20%
4	1 A 4 stationary	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 852.68	2.38%	0.011893	6.38%	45.58%
5	1 A 4 stationary	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	3 133.70	4.03%	0.011625	6.23%	51.82%
6	1 A 4 stationary	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	6 445.70	8.29%	0.009772	5.24%	57.06%
7	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 911.38	2.46%	0.008249	4.42%	61.48%
8	2 C 1	Iron and Steel Production	CO2	8 461.04	7 771.03	9.99%	0.008157	4.37%	65.86%
9	4 D	Agricultural Soils	N2O	2969.83	3 535.35	4.55%	0.007598	4.08%	69.93%
10	2 F 1/2/3	ODS Substitutes	HFCs	545.56	9.70	0.01%	0.006890	3.70%	73.63%
11	1 A 2 stationary	Manuf. Industries and Construction-stationary	CO2	1 489.02	1 992.16	2.56%	0.006653	3.57%	77.20%
12	1 A 3 b gaseous	Road Transportation	N2O	409.98	826.21	1.06%	0.00543	2.91%	80.11%
13	6 A 1	Managed Waste disposal	CH4	4928.73	4547.36	5.85%	0.004485	2.41%	82.51%
14	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	1 880.98	2.42%	0.004090	2.19%	84.71%
15	4 A 1	Cattle	CH4	3364.10	3137.66	4.03%	0.002623	1.41%	86.11%
16	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	293.89	0.38%	0.002434	1.31%	87.42%
17	4 B 8	Swine	CH4	295.12	457.09	0.59%	0.00212	1.14%	88.56%
18	3	Solvent and Other Product Use	CO3	522.65	361.41	0.46%	0.00204	1.09%	89.65%
19	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 304.30	1.68%	0.00202	1.08%	90.74%
20	2 A 1	Cement Production	CO2	3 088.07	3 191.15	4.10%	0.001619	0.87%	91.61%
21	1 A 2 mobile	Manuf. Industries and Construction-mobile	CO2	822.42	932.92	1.20%	0.00151	0.81%	92.41%
22	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	252.01	0.32%	0.00133	0.71%	93.13%
23	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	530.86	0.68%	0.00107	0.57%	93.70%
24	2 B 2	Nitric Acid Production	N2O	907.06	823.36	1.06%	0.001000	0.54%	94.24%
25	1 A 3 b gaseous	Road Transportation	CO2	7 916.00	7 784.82	10.01%	0.00097	0.52%	94.76%
26	1 A 1 a gaseous	Public Electricity and Heat Production	CO2	3 223.81	3 269.79	4.20%	0.000893	0.48%	95.24%

					1995				
									Cumulative
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Current Year Estimate	Level Assessment	Trend Assessment	Contribution to Trend	Total of Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	6 483.34	8.02%	0.023773	14.64%	14.64%
2	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	4 529.81	5.61%	0.023062	14.20%	28.83%
3	1 A 4 stat-gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	3 723.01	4.61%	0.016795	10.34%	39.18%
4	1 A 4 stat-solid	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 789.98	2.22%	0.013065	8.04%	47.22%
5	1 A 2 gaseous	Manufacturing Industries and Construction	CO2	4 115.37	5 159.22	6.39%	0.01097	6.75%	53.97%
6	1 A 3 b gasoil	Road Transportation	CO2	7 916.00	7 435.06	9.20%	0.00877	5.40%	59.37%
7	2 A 1	Cement Production	CO2	3 088.07	2 498.40	3.09%	0.008244	5.08%	64.44%
8	6 A 1	Managed Waste disposal	CH4	4928.73	4435.37	5.49%	0.007786	4.79%	69.24%
9	1 A 2 stat-liquid	Manuf. Industries and Construction-stationary	CO2	1 489.02	2 026.02	2.51%	0.005879	3.62%	72.86%
10	1 A 3 b gasoil	Road Transportation	N2O	409.98	844.63	1.05%	0.00506	3.12%	75.97%
11	1 A 4 stat-liquid	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 073.48	8.75%	0.004886	3.01%	78.98%
12	4 A 1	Cattle	CH4	3364.10	3137.00	3.88%	0.003999	2.46%	81.44%
13	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 562.00	1.93%	0.002855	1.76%	83.20%
14	1 A 1 a gaseous	Public Electricity and Heat Production	CO2	3 223.81	3 555.75	4.40%	0.002762	1.70%	84.90%
15	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.42%	0.001944	1.20%	86.10%
16	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	1 784.68	2.21%	0.001902	1.17%	87.27%
17	3	Solvent and Other Product Use	CO3	522.65	380.64	0.47%	0.00190	1.17%	88.44%
18	4 B 8	Swine	CH4	295.12	458.48	0.57%	0.00185	1.14%	89.58%
19	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 339.99	1.66%	0.00176	1.09%	90.66%
20	2 C 1	Iron and Steel Production	CO2	8 461.04	8 585.41	10.63%	0.001712	1.05%	91.72%
21	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	584.14	0.72%	0.00142	0.87%	92.59%
22	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	260.48	0.32%	0.00126	0.78%	93.37%
23	1 A 2 mobile-liquid	Manuf. Industries and Construction-mobile	CO2	822.42	930.11	1.15%	0.00098	0.60%	93.97%
24	2 B 2	Nitric Acid Production	N2O	907.06	855.29	1.06%	0.000965	0.59%	94.57%
25	4 B 1	Cattle	CH4	546.58	494.78	0.61%	0.000828	0.51%	95.08%

					1996				
									Cumulative
			Direct	Base Year	Current	Level	Trend	Contribution	Total of
No.	IPCC Source Categories		GHG	Estimate	Year Estimate	Assessment	Assessment	to Trend	Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	8 711.91	10.29%	0.043714	19.74%	19.74%
2	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	4 714.31	5.57%	0.022348	10.09%	29.83%
3	1 A 3 b gas	Road Transportation	CO2	7 916.00	6 855.05	8.10%	0.01857	8.38%	38.21%
4	1 A 4 stat-gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	4 083.86	4.83%	0.018054	8.15%	46.36%
5	1 A 4 stat-solid	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 750.65	2.07%	0.013832	6.25%	52.61%
6	2 C 1	Iron and Steel Production	CO2	8 461.04	8 084.35	9.55%	0.011563	5.22%	57.83%
7	6 A 1	Managed Waste disposal	CH4	4928.73	4345.75	5.14%	0.010712	4.84%	62.66%
8	1 A 1 a gas	Public Electricity and Heat Production	CO2	3 223.81	4 346.31	5.14%	0.009442	4.26%	66.93%
9	2 A 1	Cement Production	CO2	3 088.07	2 495.54	2.95%	0.009197	4.15%	71.08%
10	1 A 2 gas	Manufacturing Industries and Construction	CO2	4 115.37	5 216.33	6.16%	0.00842	3.80%	74.88%
11	4 A 1	Cattle	CH4	3364.10	3096.65	3.66%	0.005884	2.66%	77.54%
12	1 A 2 stat-liquid	Manuf. Industries and Construction-stationary	CO2	1 489.02	2 145.75	2.54%	0.005873	2.65%	80.19%
13	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 128.99	2.52%	0.004657	2.10%	82.29%
14	4 D	Agricultural Soils	N2O	2969.83	2 847.57	3.36%	0.003950	1.78%	84.08%
15	1 A 3 b gas	Road Transportation	N2O	409.98	796.24	0.94%	0.00386	1.74%	85.82%
16	1 A 4 stat-liquid	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	8 107.96	9.58%	0.002985	1.35%	87.17%
17	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.40%	0.002032	0.92%	88.09%
18	3	Solvent and Other Product Use	CO3	522.65	379.09	0.45%	0.00203	0.92%	89.00%
19	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 555.68	1.84%	0.001847	0.83%	89.84%
20	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	327.89	0.39%	0.00181	0.82%	90.66%
21	1 A 1 c gas	Manuf. of Solid fuels and Other Energy Industries	CO2	293.62	166.19	0.20%	0.00165	0.75%	91.40%
22	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 398.59	1.65%	0.00163	0.74%	92.14%
23	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	632.90	0.75%	0.00159	0.72%	92.85%
24	2 F 6	Semiconductor Manufacture	F-gases	442.49	343.06	0.41%	0.001477	0.67%	93.52%
25	2 C 4	SF6 used in Aluminium and Magnesium Foundries	SF6	443.11	610.65	0.72%	0.001443	0.65%	94.17%
26	4 B 8	Swine	CH4	295.12	447.54	0.53%	0.00141	0.64%	94.81%
27	2 B 2	Nitric Acid Production	N2O	907.06	872.34	1.03%	0.001178	0.53%	95.34%

					1997				
					Current				Cumulative
					Year	Level	Trend	Contribution	Total of
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Estimate	Assessment	Assessment	to Trend	Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	8 007.27	9.52%	0.036711	17.04%	17.04%
2	1 A 3 b gaso	Road Transportation	CO2	7 916.00	6 496.96	7.72%	0.02221	10.31%	27.35%
3	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	5 002.81	5.95%	0.018989	8.82%	36.17%
4	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 395.34	1.66%	0.017731	8.23%	44.40%
5	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	3 932.31	4.67%	0.016734	7.77%	52.17%
6	6 A 1	Managed Waste disposal	CH4	4928.73	4199.96	4.99%	0.012114	5.62%	57.79%
7	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 489.02	2 623.75	3.12%	0.011328	5.26%	63.05%
8	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	5 358.21	6.37%	0.01036	4.81%	67.86%
9	2 A 1	Cement Production	CO2	3 088.07	2 642.55	3.14%	0.007467	3.47%	71.33%
10	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 122.02	8.46%	0.007398	3.43%	74.76%
11	4 A 1	Cattle	CH4	3364.10	3050.71	3.63%	0.006233	2.89%	77.65%
12	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 931.10	2.29%	0.006108	2.84%	80.49%
13	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 052.59	2.44%	0.003971	1.84%	82.33%
14	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	831.86	0.99%	0.00384	1.78%	84.11%
15	1 A 3 b gaso	Road Transportation	N2O	409.98	770.38	0.92%	0.00365	1.69%	85.81%
16	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	3 711.28	4.41%	0.002742	1.27%	87.08%
17	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 156.43	1 459.03	1.73%	0.00240	1.11%	88.19%
18	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	344.94	0.41%	0.00203	0.94%	89.14%
19	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.40%	0.002022	0.94%	90.07%
20	3	Solvent and Other Product Use	CO3	522.65	405.46	0.48%	0.00173	0.80%	90.88%
21	1 A 4 stat-bi	Fuel Combustion_Other Sectors-stationary	CH4	314.67	185.53	0.22%	0.001687	0.78%	91.66%
22	4 B 8	Swine	CH4	295.12	448.29	0.53%	0.00145	0.67%	92.33%
23	2 F 1/2/3	ODS Substitutes	HFCs	545.56	717.12	0.85%	0.001449	0.67%	93.01%
24	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	443.11	349.18	0.41%	0.001403	0.65%	93.66%
25	2 B 2	Nitric Acid Production	N2O	907.06	860.56	1.02%	0.001260	0.58%	94.24%
26	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	293.62	204.01	0.24%	0.00123	0.57%	94.81%
27	4 B 1	Cattle	CH4	546.58	487.41	0.58%	0.001104	0.51%	95.33%

					1998				
									Cumulative
		IPCC Source Categories	Direct GHG	Base Year Estimate	Current Year	Level	Trend	Contribution	Total of
No.					Estimate	Assessment	Assessment	to Trend	Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	9 650.63	11.51%	0.055524	19.91%	19.91%
2	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	3 514.05	4.19%	0.03544	12.71%	32.61%
3	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 221.74	1.46%	0.019675	7.05%	39.67%
4	1 A 3 b gaso	Road Transportation	CO2	7 916.00	6 810.31	8.13%	0.01852	6.64%	46.31%
5	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	4 022.43	4.80%	0.01798	6.44%	52.75%
6	6 A 1	Managed Waste disposal	CH4	4928.73	4036.86	4.82%	0.013797	4.95%	57.70%
7	2 A 1	Cement Production	CO2	3 088.07	2 382.01	2.84%	0.010286	3.69%	61.39%
8	1 A 2 gaseou	Manufacturing Industries and Construction	CO2	4 115.37	5 269.84	6.29%	0.009652	3.46%	64.85%
9	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	2 215.39	2.64%	0.00938	3.36%	68.21%
10	1 A 2 stat-liq	Manuf. Industries and Construction-stationary	CO2	1 489.02	2 433.99	2.90%	0.00937	3.36%	71.57%
11	2 C 1	Iron and Steel Production	CO2	8 461.04	8 384.63	10.00%	0.007468	2.68%	74.25%
12	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 152.14	8.53%	0.006782	2.43%	76.68%
13	4 A 1	Cattle	CH4	3364.10	3039.14	3.63%	0.00625	2.24%	78.92%
14	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 238.24	2.67%	0.00615	2.20%	81.12%
15	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	3 983.61	4.75%	0.005950	2.13%	83.26%
16	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	879.37	1.05%	0.004417	1.58%	84.84%
17	1 A 3 b gaso	Road Transportation	N2O	409.98	809.35	0.97%	0.004132	1.48%	86.32%
18	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	443.11	164.19	0.20%	0.003456	1.24%	87.56%
19	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 156.43	1 515.12	1.81%	0.003095	1.11%	88.67%
20	4 D	Agricultural Soils	N2O	2969.83	2 902.95	3.46%	0.00307	1.10%	89.77%
21	2 F 1/2/3	ODS Substitutes	HFCs	545.56	814.66	0.97%	0.002573	0.92%	90.69%
22	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.40%	0.002015	0.72%	91.42%
23	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	333.94	0.40%	0.001929	0.69%	92.11%
24	1 A 3 e gase	Transport-Other	CO2	167.49	348.94	0.42%	0.001892	0.68%	92.79%
25	3	Solvent and Other Product Use	CO3	522.65	395.64	0.47%	0.001825	0.65%	93.44%
26	1 A 4 stat-bi	Fuel Combustion_Other Sectors-stationary	CH4	314.67	179.92	0.21%	0.001748	0.63%	94.07%
27	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	293.62	164.39	0.20%	0.00167	0.60%	94.67%
28	4 B 8	Swine	CH4	295.12	462.36	0.55%	0.001634	0.59%	95.25%

					1999				
									Cumulative
No.	IPCC Source Categories		Direct GHG	Base Year Estimate	Current Year Estimate	Level Assessment	Trend Assessment	Contribution to Trend	Total of Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	9 385.25	11.43%	0.055855	20.37%	20.37%
2	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	3 869.92	4.71%	0.031217	11.38%	31.75%
3	1 A 3 b gas	Road Transportation	CO2	7 916.00	6 318.19	7.69%	0.02301	8.39%	40.14%
4	1 A 4 stat-gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	4 157.05	5.06%	0.020855	7.60%	47.75%
5	1 A 4 stat-solid	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	1 132.21	1.38%	0.020834	7.60%	55.34%
6	6 A 1	Managed Waste disposal	CH4	4928.73	3972.36	4.84%	0.013883	5.06%	60.41%
7	1 A 2 gas	Manufacturing Industries and Construction	CO2	4 115.37	5 180.64	6.31%	0.01005	3.67%	64.07%
8	2 A 1	Cement Production	CO2	3 088.07	2 380.60	2.90%	0.009956	3.63%	67.70%
9	1 A 1 a gas	Public Electricity and Heat Production	CO2	3 223.81	4 074.69	4.96%	0.008066	2.94%	70.64%
10	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 983.33	2.42%	0.007404	2.70%	73.34%
11	1 A 4 stat-liquid	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 088.43	8.63%	0.005982	2.18%	75.53%
12	4 A 1	Cattle	CH4	3364.10	3025.22	3.68%	0.005830	2.13%	77.65%
13	2 C 4	SF6 used in Aluminium and Magnesium Found	SF6	443.11	22.23	0.03%	0.005137	1.87%	79.53%
14	2 C 1	Iron and Steel Production	CO2	8 461.04	8 456.00	10.30%	0.004824	1.76%	81.28%
15	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 060.35	2.51%	0.004733	1.73%	83.01%
16	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 568.49	1.91%	0.00413	1.51%	84.52%
17	1 A 2 stat-liquid	Manuf. Industries and Construction-stationary	CO2	1 489.02	1 900.76	2.31%	0.003943	1.44%	85.96%
18	1 A 3 b gas	Road Transportation	N2O	409.98	749.27	0.91%	0.00371	1.35%	87.31%
19	2 F 1/2/3	ODS Substitutes	HFCs	545.56	869.43	1.06%	0.003454	1.26%	88.57%
20	1 A 3 e gas	Transport-Other	CO2	167.49	429.39	0.52%	0.002947	1.07%	89.64%
21	4 D	Agricultural Soils	N2O	2969.83	2 876.51	3.50%	0.002756	1.01%	90.65%
22	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	341.33	0.42%	0.00213	0.78%	91.43%
23	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.41%	0.001977	0.72%	92.15%
24	1 A 2 mobile	Manuf. Industries and Construction-mobile	CO2	822.42	1 022.26	1.24%	0.00186	0.68%	92.82%
25	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	627.41	0.76%	0.00179	0.65%	93.48%
26	3	Solvent and Other Product Use	CO3	522.65	395.64	0.48%	0.00177	0.65%	94.12%
27	1 A 4 stat-bio	Fuel Combustion_Other Sectors-stationary	CH4	314.67	181.58	0.22%	0.001723	0.63%	94.75%
28	1 A 1 c gas	Manuf. of Solid fuels and Other Energy Industries	CO2	293.62	165.92	0.20%	0.00165	0.60%	95.35%

					2000				
					Current				Cumulative
					Year	Level	Trend	Contribution	Total of
No.	IPCC Source Categories			Direct	Base Year	Assessment	Assessment	to Trend	Trend
				GHG	Estimate	Estimate			Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	10 475.66	12.78%	0.068919	23.81%	23.81%
2	1 A 3 b gasoline	Road Transportation	CO2	7 916.00	6 107.18	7.45%	0.02537	8.77%	32.58%
3	1 A 4 stationary gas	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	4 307.53	5.26%	0.022756	7.86%	40.44%
4	1 A 4 stationary solid	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	988.27	1.21%	0.022529	7.78%	48.22%
5	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	4 983.33	6.08%	0.018203	6.29%	54.51%
6	1 A 4 stationary liquid	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	6 264.65	7.64%	0.015428	5.33%	59.84%
7	6 A 1	Managed Waste disposal	CH4	4928.73	3883.63	4.74%	0.014850	5.13%	64.97%
8	1 A 2 gaseous	Manufacturing Industries and Construction	CO2	4 115.37	5 391.40	6.58%	0.01266	4.37%	69.35%
9	2 A 1	Cement Production	CO2	3 088.07	2 346.95	2.86%	0.010311	3.56%	72.91%
10	4 A 1	Cattle	CH4	3364.10	2996.68	3.66%	0.006101	2.11%	75.02%
11	2 F 1/2/3	ODS Substitutes	HFCs	545.56	1032.18	1.26%	0.005381	1.86%	76.88%
12	2 C 4	SF6 used in Aluminium and Magnesium Found	SF6	443.11	7.65	0.01%	0.005318	1.84%	78.71%
13	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agriculture	CO2	1 156.43	1 616.50	1.97%	0.00474	1.64%	80.35%
14	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 034.40	2.48%	0.004490	1.55%	81.90%
15	1 A 3 e gaseous	Transport-Other	CO2	167.49	529.50	0.65%	0.004131	1.43%	83.33%
16	1 A 2 solid	Manufacturing Industries and Construction	CO2	451.47	785.39	0.96%	0.00365	1.26%	84.59%
17	1 A 3 b gasoline	Road Transportation	N2O	409.98	720.10	0.88%	0.00340	1.17%	85.77%
18	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	441.57	0.54%	0.00332	1.15%	86.91%
19	1 A 1 a liquid	Public Electricity and Heat Production	CO2	1 283.56	1 076.49	1.31%	0.003108	1.07%	87.98%
20	2 C 1	Iron and Steel Production	CO2	8 461.04	8 590.51	10.48%	0.003058	1.06%	89.04%
21	4 D	Agricultural Soils	N2O	2969.83	2 862.09	3.49%	0.002860	0.99%	90.03%
22	1 A 2 stationary liquid	Manuf. Industries and Construction-stationary	CO2	1 489.02	1 797.92	2.19%	0.002799	0.97%	91.00%
23	1 A 2 mobile liquid	Manuf. Industries and Construction-mobile	CO2	822.42	1 058.48	1.29%	0.00231	0.80%	91.79%
24	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.41%	0.001973	0.68%	92.48%
25	1 A 1 a gaseous	Public Electricity and Heat Production	CO2	3 223.81	3 204.00	3.91%	0.001972	0.68%	93.16%
26	1 A 1 c gaseous	Manuf. of Solid fuels and Other Energy Industries	CO2	293.62	146.60	0.18%	0.00187	0.65%	93.80%
27	1 A 4 stationary biogas	Fuel Combustion_Other Sectors-stationary	CH4	314.67	170.82	0.21%	0.001848	0.64%	94.44%
28	3	Solvent and Other Product Use	CO3	522.65	395.64	0.48%	0.00176	0.61%	95.05%

					2001				
									Cumulative
		IPCC Source Categories	Direct GHG	Base Year Estimate	Current Year	Level	Trend	Contribution	Total of
No.					Estimate	Assessment	Assessment	to Trend	Trend Assessment
1	1 A 3 b diesel	Road Transportation	CO2	4 364.17	11 742.93	13.67%	0.073889	27.96%	27.96%
2	1 A 3 b gas	Road Transportation	CO2	7 916.00	6 151.89	7.16%	0.02684	10.16%	38.12%
3	1 A 4 stat-so	Fuel Combustion_Other Sectors-stationary	CO2	2 790.82	848.34	0.99%	0.023488	8.89%	47.01%
4	1 A 4 stat-ga	Fuel Combustion_Other Sectors-stationary	CO2	2 252.11	4 545.63	5.29%	0.022049	8.34%	55.35%
5	6 A 1	Managed Waste disposal	CH4	4928.73	3842.27	4.47%	0.016587	6.28%	61.63%
6	2 A 1	Cement Production	CO2	3 088.07	2 346.95	2.73%	0.011034	4.18%	65.80%
7	1 A 1 a solid	Public Electricity and Heat Production	CO2	6 254.57	5 846.09	6.81%	0.010745	4.07%	69.87%
8	4 A 1	Cattle	CH4	3364.10	2949.30	3.43%	0.007851	2.97%	72.84%
9	1 A 4 stat-liq	Fuel Combustion_Other Sectors-stationary	CO2	7 251.82	7 439.94	8.66%	0.005431	2.06%	74.90%
10	2 C 4	SF6 used in Aluminium and Magenesium Found	SF6	443.11	7.65	0.01%	0.005078	1.92%	76.82%
11	1 A 3 e gase	Transport-Other	CO2	167.49	637.77	0.74%	0.004823	1.82%	78.64%
12	2 F 1/2/3	ODS Substitutes	HFCs	545.56	1032.18	1.20%	0.004609	1.74%	80.39%
13	4 D	Agricultural Soils	N2O	2969.83	2 831.03	3.30%	0.004516	1.71%	82.10%
14	1 A 1 a other	Public Electricity and Heat Production	CO2	150.35	557.50	0.65%	0.00417	1.58%	83.67%
15	1 A 4 mobile	Fuel Combustion_Other Sectors-mobile_Agricult	CO2	1 156.43	1 634.40	1.90%	0.00389	1.47%	85.15%
16	1 A 1 b liquid	Petroleum refining	CO2	1 576.40	2 076.11	2.42%	0.003692	1.40%	86.54%
17	1 A 1 a gase	Public Electricity and Heat Production	CO2	3 223.81	3 870.99	4.51%	0.003570	1.35%	87.90%
18	1 A 3 b gas	Road Transportation	N2O	409.98	705.78	0.82%	0.00272	1.03%	88.93%
19	2 B 2	Nitric Acid Production	N2O	907.06	786.47	0.92%	0.002210	0.84%	89.76%
20	2 A 7 b	Magnesit Sinter Plants	CO2	485.28	338.54	0.39%	0.002055	0.78%	90.54%
21	3	Solvent and Other Product Use	CO3	522.65	395.64	0.46%	0.00188	0.71%	91.25%
22	1 A 2 mob-liq	Manuf. Industries and Construction-mobile	CO2	822.42	1 066.42	1.24%	0.00175	0.66%	91.91%
23	1 A 1 c gase	Manuf. of Solid fuels and Other Energy Industrie	CO2	293.62	170.47	0.20%	0.00161	0.61%	92.52%
24	1 A 4 stat-bi	Fuel Combustion_Other Sectors-stationary	CH4	314.67	193.95	0.23%	0.001604	0.61%	93.13%
25	1 A 2 gaseol	Manufacturing Industries and Construction	CO2	4 115.37	4 656.17	5.42%	0.00153	0.58%	93.71%
26	4 B 1	Cattle	CH4	546.58	462.54	0.54%	0.001452	0.55%	94.26%
27	2 F 6	Semiconductor Manufacture	F-gases	442.49	350.38	0.41%	0.001431	0.54%	94.80%
28	4 B 1	Cattle	N2O	661.29	592.01	0.69%	0.00141	0.53%	95.33%

IPCC 96	Bezeichnung	Gas	BY	LA90	LA91	LA92	LA93	LA94	LA95	LA96	LA97	LA98	LA99	LA00	LA01	TA91	TA92	TA93	TA94	TA95	TA96	TA97	TA98	TA99	TA00	TA01
1 A 1 a gaseous	Public Electricity and Heat Production	CO2	9	9	10	11	11	9	9	7	9	8	7	9	8	12	17	16	26	14	8	16	15	9	25	17
1 A 1 a liquid	Public Electricity and Heat Production	CO2	16	16	16	16	15	14	16	16	15	15	14	16	16	16	24	5	7	13	19	12	9	10	19	
1 A 1 a other	Public Electricity and Heat Production	CO2								33	32	33	32	27	24		25	20	22	22	20	18	23	22	18	14
1 A 1 a solid	Public Electricity and Heat Production	CO2	4	4	4	7	9	8	6	6	6	9	9	6	5	10	1	1	1	2	2	3	2	2	5	7
1 A 1 b gaseous	Petroleum refining	CO2	28	25	25	26	25	28	30	27	28	29	30	32	30											
1 A 1 b liquid	Petroleum refining	CO2	14	14	14	14	16	15	15	14	14	14	13	13	13	25	10	11	14	16	13	13	14	15	14	16
1 A 1 c gaseous	Manuf. of Solid fuels and Other Energy Industries	CO2			32		32	32	33											21	26	27	28	26	23	
1 A 2 gaseous	Manufacturing Industries and Construction	CO2	7	7	7	6	6	5	5	5	5	5	5	5	6	22	9	8	3	5	10	8	8	7	8	25
1 A 2 mob-liquid	Manuf. Industries and Construction-mobile	CO2	19	20	20	18	18	18	18	18	18	18	18	17	17		23	22	21	23				24	23	22
1 A 2 solid	Manufacturing Industries and Construction	CO2	25	25	22	20	22	22	22	21	20	20	22	21	26	15	16	19	23	21	23	14	16	25	16	
1 A 2 stat-liquid	Manuf. Industries and Construction-stationary	CO2	15	15	15	15	13	13	13	13	13	12	15	14	15	20		6	11	9	12	7	10	17	22	
1 A 3 b diesel oil	Road Transportation	CO2	6	6	5	4	4	4	4	1	2	1	1	1	1	5	3	2	2	1	1	1	1	1	1	1
1 A 3 b gasoline	Road Transportation	CO2	2	2	1	1	1	1	2	4	4	4	4	4	4	6	5	9	12	6	3	2	4	3	2	2
1 A 3 b gasoline	Road Transportation	N2O	30	28	23	19	20	19	20	20	21	22	21	22	21	17	13	10	25	10	15	15	17	18	17	18
1 A 3 e gaseous	Transport-Other	CO2										31	26	24	22								24	20	15	11
1 A 4 mobile-diesel	Fuel Combustion_Other Sectors-mobile_Agriculture and F	CO2	17	17	17	17	17	17	17	17	16	16	16	15	14		22	18	19	19	22	17	19	16	13	15
1 A 4 stat-biomass	Fuel Combustion_Other Sectors-stationary	CH4	33	31	30	29	30															21	26	27	27	24
1 A 4 stat-gaseous	Fuel Combustion_Other Sectors-stationary	CO2	13	13	13	10	7	12	8	9	8	7	6	7	7	4	4	3	5	3	4	5	5	4	3	4
1 A 4 stat-liquid	Fuel Combustion_Other Sectors-stationary	CO2	3	3	3	2	3	3	3	2	3	3	3	3	3	21	15		6	11	16	10	12	11	6	9
1 A 4 stat-solid	Fuel Combustion_Other Sectors-stationary	CO2	12	12	12	13	14	16	14	15	17	17	17	19	19		12	7	4	4	5	4	3	5	4	3
2 A 1	Cement Production	CO2	10	10	11	8	10	10	12	12	12	13	12	12	12	13	14		20	7	9	9	7	8	9	6
2 A 2	Lime Production	CO2	32	30	31	32	31	33	34							27										
2 A 7 b	Magnesit Sinter Plants	CO2	24	24	29	30	33	31	32	32	33	32	33			19	19	12	16	15	17	19	22	23	24	20
2 B 1	Ammonia Production	CO2	31	29	28	28	27	27	25	26	26	24	25	26	27											
2 B 2	Nitric Acid Production	N2O	18	19	19	22	19	20	19	19	19	19	19	20	20		11	21	24	24	27	25				19
2 C 1	Iron and Steel Production	CO2	1	1	2	3	2	2	1	3	1	2	2	2	2	2	2	4	8	20	6		11	14	20	
2 C 4	SF6 used in Aluminium and Magesesium Foundries	SF6	26					29	27	24	31					14	18				25	24	18	13	12	10
2 C 3	Aluminium production	PFCs		18	18	23										1	6									
2 F 6	Semiconductor Manufacture	F-gases	27				29	25	28	24	24	27	29	31	32	9	20				24					27
2 F 1/2/3	ODS Substitutes	HFCs	22						23	22	22	21	20	18	18				10			23	21	19	11	12
2 F 8	Other Sources of SF6	SF6														23										
3	Solvent and Other Product Use	CO3	23	23	26	27	28	30	31	30	30	30	31	30	31	18	21	15	18	17	18	20	25	26	28	21
4 A 1	Cattle	CH4	8	8	9	9	8	11	10	10	11	10	10	10	10	11	26	17	15	12	11	11	13	12	10	8
4 B 1	Cattle	N2O	20	21	21	21	21	21	21	23	23	23	23	23	23	24										28
4 B 1	Cattle	CH4	21	22	24	24	23	23	24	25	25	25	24	25	25	26				25		27				26
4 B 8	Swine	CH4		32		31	24	24	26	28	27	26	28	29	28			13	17	18	26	22	28			
4 D	Agricultural Soils	N2O	11	11	8	12	12	7	11	11	10	11	11	11	11	8	8	23	9		14		20	21	21	13
6 A 1	Managed Waste disposal	CH4	5	5	6	5	5	6	7	8	7	6	8	8	9	7		14	13	8	7	6	6	6	7	5
6 D 1	SNAP 091003 Sludge spreading	CH4	29	27	27	25	26	26	29	29	29	28	27	28	29											
	Rank in Key Source Anslis																									
	LA00= Level Assessment 2000																									
	TA00= Trend Assessment BY-2001																									

ANNEX 2: SECTOR 1 A FOSSIL FUEL COMBUSTION

In this chapter the methodology and detailed data for *CRF Sector 1 A Fuel Combustion* are presented.

Recalculations

Until the previous submission the main data suppliers for the underlying energy source data were the Austrian Institute for Economic Research (WIFO) for the period 1980-1995 and STATISTIK AUSTRIA for the period 1996-2000.

In 2002 STATISTIK AUSTRIA compiled a new energy balance in the IEA format on the basis of the old WIFO energy balance and new information from industry. Inconsistencies of the old energy balance time series regarding fuel categories, sectoral data split and reporting units were eliminated. Another benefit of the new energy balance is the greater detail in fuels.

Public Electricity and Heat Production (1 A 1 a)

Total fuel consumption has been taken from the new energy balance.

In comparison with previous energy balances it reports a considerably lower consumption of fuel oil of thermoelectric power conversion (-250 Gg), resulting in e.g. 800 Gg lower CO₂ emissions in the year 1990.

For the year 2000 emission declarations of combustion plants ≥ 50 MW have been updated.

Emissions of waste incineration for energy purposes reported in the previous submission under categories 6 C 1 and 1 A 5 are now reported under category 1 A 1 a.

Natural gas so far double counted under categories 1 A 1 a and 1 A 1 b is now reported in sector 1 A 1 b only (-442.5 Gg CO₂ in sector 1 A 1 a in 1990).

Petroleum refining (1 A 1 b)

Liquid fuel consumption of refineries have been taken from the new energy balance. Natural gas consumption that was allocated in the previous submissions under category 1 A 2 f is now reported under category 1 A 1 b.

Manufacture of Solid Fuels and Other Energy Industries (1 A 1 c)

Emissions from coal consumption of the mining industry which previously were included in category 1 A 2 f are now included in category 1 A 1 c.

Manufacturing Industries and Construction (1 A 2)

Emissions from the different industry branches so far included under category 1 A 2 f are now reported under the corresponding categories 1 A 2 b to 1 A 2 e.

Iron and Steel (1 A 2 a)

Energy consumption of iron and steel industry has been updated according to the new energy balance and information of the plant operators. Natural gas and residual fuel oil consumption which were previously considered under category 1 A 2 f are now reported under category 1 A 2 a.

Other (1 A 2 f)

In previous submissions all emissions from fuel combustion in industry except iron and steel industry were included under 1 A 3 f. In this submission only emissions from industry which are not considered under the categories 1 A 2 a to 1 A 2 e are included.

The new energy balance includes a more detailed description on fuel use increasing transparency and thus avoiding double counting of previous submissions under sector 1 A 2 f.

Coke:

Coke so far double counted under category 1 A 2 a is now reported in sector 1 A 2 a only. This leads to -45 Gg CO₂ in sector 1 A 2 f in 1990.

Fuel oil:

Fuel oil so far double counted under category 1 A 2 a is now reported in sector 1 A 2 a only. This leads to -283 Gg CO₂ in sector 1 A 2 f in 1990.

Natural gas:

Natural gas so far double counted under categories 1 A 1 b, 1 A 2 a is now reported in sector 1 A 2 a only. This leads to -547.8 Gg CO₂ in sector 1 A 2 f in 1990.

Other Sectors (1A4)

Energy consumption and disaggregation to sub categories have been updated according to the new energy balance.

Other (1A5)

In the previous submission energy consumption and CO₂ emissions from biomass of waste incineration plants were reported under this category. In this submission the energy consumption data and the emissions of waste incineration plants are reported under category 1 A 1 a. However, these emissions are not (and were not) included in the national total.

Table 1 to Table 3 presents the sectoral differences due to recalculation for each GHG.

Table 1 Recalculation difference with respect to previous submission from Category 1 Energy 1990-2000; CO₂.

Year	Category 1A1 CO ₂ [Gg Diff.]	Category 1A2 CO ₂ [Gg Diff.]	Category 1A3 CO ₂ [Gg Diff.]	Category 1A4 CO ₂ [Gg Diff.]	Category 1B2 CO ₂ [Gg Diff.]
1990	-1 171	-1 523	795	-270	0
1991	-1 444	-405	770	-1 484	0
1992	-1 079	-636	732	-829	0
1993	-411	215	564	-1 695	0
1994	-395	844	-232	-2 363	0
1995	-698	184	660	-1 419	0
1996	-295	-829	2 318	154	0
1997	-676	-238	866	-647	0
1998	-636	-1 089	1 981	703	0
1999	-19	-1 225	501	-194	0
2000	99	-1 546	543	-270	93

Table 2 Recalculation difference with respect to previous submission from Category 1 Energy 1990-2000; CH₄.

Year	Category 1A1 CH ₄ [Gg Diff.]	Category 1A2 CH ₄ [Gg Diff.]	Category 1A3 CH ₄ [Gg Diff.]	Category 1A4 CH ₄ [Gg Diff.]	Category 1B1 CH ₄ [Gg Diff.]
1990	0.00	0.02	-0.32	1.70	0.00
1991	0.00	0.06	-0.36	5.43	0.00
1992	0.03	0.05	-0.20	5.19	0.00
1993	0.04	0.03	-0.11	3.65	0.00
1994	0.05	0.26	-0.06	2.59	0.00
1995	0.06	0.23	-0.05	1.98	0.00
1996	0.07	0.18	-0.01	3.66	0.00
1997	0.07	0.19	0.00	-1.18	0.00
1998	0.06	0.19	0.07	-1.15	0.00
1999	0.06	0.20	0.03	-0.72	0.00
2000	0.09	0.20	0.05	-0.42	0.0008

Table 3 Recalculation difference with respect to previous submission from Category 1 Energy 1990-2000; N₂O.

Year	Category 1A1 N ₂ O [Gg Diff.]	Category 1A2 N ₂ O [Gg Diff.]	Category 1A3 N ₂ O [Gg Diff.]	Category 1A4 N ₂ O [Gg Diff.]
1990	0.00	-0.07	0.58	-0.23
1991	-0.01	-0.05	0.86	-0.17
1992	0.01	-0.05	1.00	-0.16
1993	0.02	-0.03	1.10	-0.19
1994	0.01	-0.09	1.22	-0.19
1995	0.01	-0.10	1.25	-0.18
1996	0.01	-0.12	1.22	-0.09
1997	0.02	-0.10	1.10	-0.08
1998	0.01	-0.09	1.21	-0.05
1999	0.00	-0.07	1.01	-0.03
2000	0.01	-0.06	0.97	-0.02

Table 4 presents the recalculation difference of fuel consumption for the base year 1990 and the years 1999 and 2000.

Table 4: Recalculation difference of fuel consumption [PJ] with respect to previous submission.

IPCC Category / Fuel Group	Fuel Consumption [PJ]								
	1990			1999			2000		
	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference
1 A FUEL COMBUSTION ACTIVITIES	872.66	844.13	-28.53	971.60	983.37	11.78	967.19	978.77	11.59
1 A liquid	372.23	358.61	-13.62	436.91	436.63	-0.29	427.89	426.13	-1.76
1 A solid	164.42	181.20	16.78	122.00	144.66	22.66	141.71	164.34	22.64
1 A gaseous	201.60	201.60	0.00	275.74	275.74	0.00	269.00	265.39	-3.62
1 A biomass	113.32	94.38	-18.94	129.38	114.44	-14.93	122.01	110.54	-11.48
1 A other	21.10	8.35	-12.75	7.56	11.90	4.34	6.57	12.38	5.81
1 A 1 Energy Industries	184.50	176.19	-8.31	188.32	189.87	1.55	171.08	175.85	4.77
1 A 1 liquid	45.34	38.26	-7.09	59.47	54.29	-5.18	46.67	42.43	-4.25
1 A 1 solid	62.66	61.47	-1.19	37.87	38.71	0.83	49.72	50.87	1.15
1 A 1 gaseous	75.39	72.00	-3.40	83.99	84.44	0.45	67.01	67.28	0.27
1 A 1 biomass	1.02	2.04	1.02	6.98	6.78	-0.21	7.68	7.91	0.23
1 A 1 other	0.08	2.42	2.34	0.00	5.65	5.65	0.00	7.36	7.36
1 A 1 a Public Electricity and Heat Production	162.52	140.87	-21.65	153.73	150.26	-3.46	138.85	137.99	-0.86
1 A 1 a liquid	23.69	16.32	-7.37	25.81	25.04	-0.77	15.16	13.58	-1.58
1 A 1 a solid	62.66	61.47	-1.19	37.87	38.71	0.83	49.72	50.87	1.15
1 A 1 a gaseous	75.06	58.61	-16.45	83.06	74.09	-8.98	66.29	58.25	-8.04
1 A 1 a biomass	1.02	2.04	1.02	6.98	6.78	-0.21	7.68	7.91	0.23
1 A 1 a other	0.08	2.42	2.34	0.00	5.65	5.65	0.00	7.36	7.36
1 A 1 b Petroleum refining	21.65	29.98	8.33	33.67	36.60	2.93	31.51	35.20	3.68
1 A 1 b liquid	21.65	21.94	0.29	33.67	29.26	-4.41	31.51	28.84	-2.67
1 A 1 b solid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 b gaseous	0.00	8.04	8.04	0.00	7.34	7.34	0.00	6.36	6.36
1 A 1 b biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 b other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 c Manufacture of Solid fuels and Other Energy Industries	0.33	5.34	5.01	0.93	3.02	2.09	0.72	2.67	1.95

IPCC Category / Fuel Group	Fuel Consumption [PJ]								
	1990			1999			2000		
	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference
1 A 1 c liquid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 c solid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 c gaseous	0.33	5.34	5.01	0.93	3.02	2.09	0.72	2.67	1.95
1 A 1 c biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 1 c other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 2 Manufacturing Industries and Construction	227.14	247.69	20.55	270.04	291.47	21.43	284.15	300.16	16.01
1 A 2 liquid	51.55	38.37	-13.18	41.07	46.10	5.02	42.98	45.82	2.83
1 A 2 solid	74.22	90.03	15.82	71.16	93.84	22.68	80.13	102.89	22.76
1 A 2 gaseous	73.64	85.61	11.97	114.98	107.91	-7.07	120.77	110.16	-10.61
1 A 2 biomass	7.24	28.11	20.87	35.39	38.12	2.73	33.81	37.11	3.30
1 A 2 other	20.50	5.57	-14.93	7.44	5.50	-1.94	6.45	4.18	-2.27
1 A 2 a Iron and Steel	22.03	94.02	72.00	20.91	105.75	84.84	23.85	115.70	91.85
1 A 2 a liquid	0.00	3.84	3.84	0.00	8.07	8.07	0.00	8.83	8.83
1 A 2 a solid	22.03	79.59	57.56	20.91	83.86	62.96	23.85	91.30	67.44
1 A 2 a gaseous	0.00	10.59	10.59	0.00	13.81	13.81	0.00	15.58	15.58
1 A 2 a biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 2 a other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 2 b Non-ferrous Metals	0.00	1.92	1.92	0.00	3.03	3.03	0.00	3.38	3.38
1 A 2 b liquid	0.00	0.53	0.53	0.00	0.60	0.60	0.00	0.63	0.63
1 A 2 b solid	0.00	0.03	0.03	0.00	0.18	0.18	0.00	0.22	0.22
1 A 2 b gaseous	0.00	1.36	1.36	0.00	2.24	2.24	0.00	2.53	2.53
1 A 2 b biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 2 b other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 2 c Chemicals	0.00	14.10	14.10	0.00	15.96	15.96	0.00	16.10	16.10
1 A 2 c liquid	0.00	0.93	0.93	0.00	0.89	0.89	0.00	0.95	0.95
1 A 2 c solid	0.00	0.22	0.22	0.00	1.60	1.60	0.00	1.94	1.94
1 A 2 c gaseous	0.00	7.76	7.76	0.00	9.59	9.59	0.00	10.81	10.81
1 A 2 c biomass	0.00	2.90	2.90	0.00	2.62	2.62	0.00	0.76	0.76
1 A 2 c other	0.00	2.29	2.29	0.00	1.26	1.26	0.00	1.63	1.63
1 A 2 d Pulp, Paper and Print	0.00	36.58	36.58	0.00	39.55	39.55	0.00	45.88	45.88
1 A 2 d liquid	0.00	5.09	5.09	0.00	2.70	2.70	0.00	2.96	2.96

[illegible]

IPCC Category / Fuel Group	Fuel Consumption [PJ]								
	1990			1999			2000		
	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference
1 A 3 b biomass	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 b other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 c Railways	2.33	2.33	0.00	2.43	2.43	0.00	2.43	2.43	0.00
1 A 3 c solid	0.07	0.07	0.00	0.03	0.03	0.00	0.03	0.03	0.00
1 A 3 c liquid	2.26	2.26	0.00	2.40	2.40	0.00	2.40	2.40	0.00
1 A 3 c other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 d Navigation	0.70	0.70	0.00	0.85	0.85	0.00	0.86	0.86	0.00
1 A 3 d coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 d residual oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 d gas/diesel oil	0.58	0.58	0.00	0.73	0.73	0.00	0.74	0.74	0.00
1 A 3 d other	0.13	0.12	0.00	0.12	0.12	0.00	0.12	0.12	0.00
1 A 3 d gasoline	0.13	0.12	0.00	0.12	0.12	0.00	0.12	0.12	0.00
1 A 3 e Other	0.00	3.05	3.05	0.00	7.81	7.81	0.00	9.63	9.63
1 A 3 e liquid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 e solid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 3 e gaseous	0.00	3.05	3.05	0.00	7.81	7.81	0.00	9.63	9.63
1 A 4 Other Sectors	295.37	249.02	-46.35	290.63	276.34	-14.29	276.32	263.30	-13.02
1 A 4 liquid	112.67	113.99	1.32	119.47	118.50	-0.97	108.40	108.19	-0.21
1 A 4 solid	27.48	29.63	2.15	12.94	12.08	-0.86	11.83	10.55	-1.28
1 A 4 gaseous	52.53	40.95	-11.58	76.47	75.58	-0.88	80.92	78.32	-2.60
1 A 4 biomass	102.30	64.22	-38.08	81.74	69.55	-12.20	75.17	65.52	-9.65
1 A 4 other	0.39	0.23	-0.16	0.00	0.63	0.63	0.00	0.72	0.72
1 A 4 a Commercial/Institutional	114.21	27.23	-86.99	69.76	32.76	-36.99	67.26	29.27	-38.00
1 A 4 a liquid	40.24	16.12	-24.12	14.22	12.00	-2.22	12.84	5.92	-6.91
1 A 4 a solid	5.14	0.93	-4.21	1.36	0.62	-0.74	1.75	0.69	-1.05
1 A 4 a gaseous	15.53	7.76	-7.77	19.75	18.17	-1.57	20.90	20.50	-0.40
1 A 4 a biomass	52.91	2.18	-50.74	34.43	1.34	-33.09	31.78	1.43	-30.35
1 A 4 a other	0.39	0.23	-0.16	0.00	0.63	0.63	0.00	0.72	0.72
1 A 4 b Residential	159.67	192.70	33.03	198.36	212.50	14.14	186.43	202.45	16.01
1 A 4 b liquid	50.95	73.73	22.77	82.75	81.45	-1.30	72.95	76.59	3.63

IPCC Category / Fuel Group	Fuel Consumption [PJ]								
	1990			1999			2000		
	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference	Subm. 2002	Subm. 2003	Difference
1 A 4 b solid	22.33	28.09	5.77	11.57	11.21	-0.36	10.08	9.65	-0.42
1 A 4 b gaseous	37.00	32.83	-4.17	56.72	56.80	0.08	60.02	57.20	-2.82
1 A 4 b biomass	49.39	58.05	8.66	47.32	63.04	15.72	43.38	59.00	15.62
1 A 4 b other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 4 c Agriculture/Forestry/Fisheries	21.49	29.09	7.61	22.51	31.08	8.57	22.62	31.58	8.97
1 A 4 c liquid	21.48	24.14	2.67	22.50	25.05	2.55	22.61	25.68	3.07
1 A 4 c solid	0.01	0.60	0.59	0.01	0.24	0.23	0.01	0.21	0.20
1 A 4 c gaseous	0.00	0.35	0.35	0.00	0.61	0.61	0.00	0.62	0.62
1 A 4 c biomass	0.00	4.00	4.00	0.00	5.17	5.17	0.00	5.08	5.08
1 A 4 c other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 5 Other	2.79	0.00	-2.79	5.66	0.00	-5.66	5.97	0.00	-5.97
1 A 5 liquid	0.00	0.00	0.00	0.09	0.00	-0.09	0.30	0.00	-0.30
1 A 5 solid	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1 A 5 gaseous	0.03	0.00	-0.03	0.31	0.00	-0.31	0.31	0.00	-0.31
1 A 5 biomass	2.75	0.00	-2.75	5.26	0.00	-5.26	5.36	0.00	-5.36
1 A 5 other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
International Bunkers	13.01	12.26	-0.75	21.24	21.25	0.01	23.01	23.08	0.07

Methodology

The CORINAIR methodology was applied. The fuel consumption out of the energy balance is multiplied with emission factors for CO₂, CH₄ and N₂O. Sector specific considerations and emission factors are raised in the related sub chapters of Chapter 3 *Energy*.

Activity data

Activity data is taken from the national energy balance as described in the following sub chapters.

The National Energy Balance

The new time series is consistent to the IEA-questionnaire format and has been submitted to the IEA in November 2002. There are four different IEA questionnaires for each of: oil, natural gas, coal and renewable fuels. Table 5 shows the unified categories of the IEA questionnaires and the corresponding IPCC categories to which the fuel consumption is assigned to.

Table 5: IEA-Questionnaires and their correspondence to IPCC categories.

IEA-Category*	Comments	SNAP	IPCC-Category
Production			Reference Approach: Production
Imports			Reference Approach: Import
Exports			Reference Approach: Export
Bunkers	No activity.		
Stock Changes			Reference Approach: Stock Change
Refinery Fuel		0103	1 A 1 b Petroleum Refining
Transformation Sector, of which:			
Public Electricity plants	Plant specific data are considered.	0101 0102	1 A 1 a Public Electricity and Heat Production
Public CHP plants			
Public Heat plants			
Auto Producer Electricity plants		0301	1 A 2 Manufacturing Industries and Construction
Auto Producer CHP plants		0301	1 A 2 Manufacturing Industries and Construction
Auto Producer Heat plants		0301	1 A 2 Manufacturing Industries and Construction
Coke Ovens	Transformation from <i>Coking Coal to Coke Oven Coke</i> .		
Blast furnaces	Coke Oven Coke only.	030326	1 A 2 a Iron and Steel
Gas Works	Transformation of <i>Other Oil Products to Gas Works Gas</i> .		
Petrochemical Industry	No activity.		
Patent Fuel Plants	No activity.		
Not Elsewhere Specified	No activity.		
Energy Sector, of which:			
Coal Mines	No activity.		
Oil and Gas Extraction		0105	1 A 1 c Manufacture of Solid fuels and Other Energy Industries
Inputs to oil refineries		0103	1 A 1 b Petroleum Refining
Coke Ovens	<i>Coke Oven Gas and Blast Furnace Gas</i> only.	0301	1 A 2 a Iron and Steel
Blast furnaces	<i>Coke Oven Coke</i> only.	030326	1 A 2 a Iron and Steel

IEA-Category*	Comments	SNAP	IPCC-Category
Gas Works	<i>Natural Gas</i> only.	0101	1 A 1 a Public Electricity and Heat Production
Electricity, CHP and Heat Plants		0101	1 A 1 a Public Electricity and Heat Production
Liquefaction Plants	No activity.		
Not Elsewhere Specified	No activity.		
Distribution Losses	Includes statistical differences and therefore it may be less than zero.		
Final Energy Consumption			
Total Transport, of which:			
Domestic Air Transport	Division to SNAP categories is performed by means of studies.	07 08 0201	1 A 2 f Manuf. Ind. and Constr. -Other 1 A 3 Transport 1 A 4 b Residential 1 A 4 c Agriculture/ Forestry/ Fisheries
Road			
Rail			
Inland Waterways			
Pipeline Transport	<i>Natural Gas</i> only	010506	1 A 3 e Transport-Other
Non Specified	<i>Other biofuels</i> only.	0201	1 A 4 a Commercial/ Institutional
Total Industry, of which:			
Iron and Steel		0301 030301	1 A 2 a Iron and Steel
Chemical (incl.Petro-Chemical)		0301	1 A 2 c Chemicals
Non ferrous Metals		0301	1 A 2 b Non-ferrous Metals
Non metallic Mineral Products		0301 030311 030317 030319	1 A 2 f Manuf. Ind. and Constr. -Other
Transportation Equipment		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Machinery		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Mining and Quarrying		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Food, Beverages and Tobacco		0301	1 A 2 e Food Processing, Beverages and Tobacco
Pulp, Paper and Printing		0301	1 A 2 d Pulp, Paper and Print
Wood and Wood Products		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Construction		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Textiles and Leather		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Non Specified		0301	1 A 2 f Manuf. Ind. and Constr. -Other
Total Other sectors, of which:			

IEA-Category*	Comments	SNAP	IPCC-Category
Commercial and Public Services		0201	1 A 4 a Commercial/ Institutional
Residential		0202	1 A 4 b Residential
Agriculture		0203	1 A 4 c Agriculture/Forestry/ Fisheries
Non Specified	No activity.		

*Sector names may differ to original IEA questionnaire naming convention.

Fuels and Fuel Categories

The units used in the national fuel statistics are: *ton* for solid or liquid fuels and *cubic meter* for gaseous fuels. To convert these units into the caloric unit *Joule* the calorific value of each fuel category has to be quantified. These calorific values are specified in the unit *Joule per Mass or Volume Unit*, e.g. MJ/kg, MJ/m³ gas.

Each fuel has chemical and physical characteristics which influence its burning performance e.g. calorific value or carbon and sulphur content. Fuel categories are formed to pool fuels of the same characteristics in fuel groups, limitations are given by the fuel categories of the energy balance. A list of the fuel categories and their correspondence to IPCC-fuel categories is shown in Table 6.

Table 6: Fuel categories used for the inventory and correspondence to IPCC fuel categories

Inventory Fuel Category		IEA Fuel Category		IPCC Fuel Category ⁽³⁾
Code ⁽¹⁾	Category	Category	Net Calorific Value ⁽²⁾	
102 A	Hard Coal	Bituminous Coal and Anthracite	28.00	Solid (coal)
104 A	Hard Coal Briquettes	Patent Fuel	31.00	Solid (coal)
105 A	Brown Coal	Lignite/Brown Coal	9.82	Solid (coal)
106 A	Brown Coal Briquettes	BKB/PB	19.30	Solid (coal)
107 A	Coke	Coke Oven Coke	28.20	Solid (coal)
113 A	Peat	Peat	8.80	Solid
304 A	Coke Oven Gas	Coke Oven Gas	17.52	Solid
305 A	Blast Furnace Gas	Blast Furnace Gas	3.50	Solid
203 B	Light Fuel Oil Sulphur Content < 0,2 %	Residual Fuel Oil	41.50	Liquid (residual oil)
203 C	Medium Fuel Oil Sulphur Content < 0,4%	Residual Fuel Oil	41.50	Liquid (residual oil)
203 D	Heavy Fuel Oil Sulphur Content >= 1%	Residual Fuel Oil	41.50	Liquid (residual oil)
204 A	Gasoil	Heating and other Gasoil	42.80	Liquid (gas/diesel oil)
205 0	Diesel	Transport Diesel	42.80	Liquid (diesel oil; gas/diesel oil)

Inventory Fuel Category		IEA Fuel Category		IPCC Fuel Category ⁽³⁾
Code ⁽¹⁾	Category	Category	Net Calorific Value ⁽²⁾	
206 A	Petroleum	Other Kerosene	43.41	Liquid
206 B	Kerosene	Kerosene Type Jet Fuel	43.41	Liquid (jet kerosene)
207 A	Aviation Gasoline	Gasoline Type Jet Fuel	42.50	Liquid (aviation gasoline)
208 0	Motor Gasoline	Motor Gasoline	42.50	Liquid (gasoline)
224 A	Other Petroleum Products	Other Products	43.49	Liquid
303 A	Liquified Petroleum Gas (LPG)	LPG	46.00	Liquid
308 A	Refinery Gas	Refinery Gas	49.00	Liquid
301 A	Natural Gas	Natural Gas	35.85	Gaseous (natural gas)
114 B	Municipal Waste	Municipal Solid Waste	8.70	Other Fuels
114 C	Hazardous Waste	Industrial Wastes	8.70	Other Fuels
115 A	Industrial Waste	Industrial Wastes	8.70	Other Fuels
111 A	Fuel Wood	<i>Wood/Wood wastes/Other Solid Wastes, of which: Wood</i>	14.35	Biomass
116 A	Wood Wastes	<i>Wood/Wood wastes/Other Solid Wastes, of which: Other vegetal materials and waste (including straw, sawdust, wood chips)</i>	8.70	Biomass
118 A	Sewage Sludge	Industrial Wastes	8.70	Biomass
215 A	Black Liquor	<i>Wood/Wood wastes/Other Solid Wastes, of which: Black Liquor</i>	8.70	Biomass
309 A	Biogas	Biogas	23.40	Biomass
309 B	Sewage Sludge Gas	Sewage Sludge Gas	27.00	Biomass
310 A	Gas from Waste Disposal Site	Landfill Gas	25.00	Biomass

(1) First three digits are based on CORINAIR / NAPFUE 94–Code

(2) Units: [MJ / kg] or [MJ / m³ Gas] respectively, for the Year 2001

(3) Fuel subcategories are shown in parenthesis

Energy Consumption and CO₂ emissions by Sectors and Fuel Types

In the following detailed data for each fuel type according to Table 6 and each sector of 1 A Fuel Combustion are provided. For information on completeness, in particular on CO₂ emissions included elsewhere, please refer to the documentation boxes of the CRF and to Chapter 3.1, subsection *Completeness* of the NIR 2003.

Table 7: 2001 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	59.96	97.11	0.02	9.06	166.15	5.85	0.46	0.00	0.85	7.16
102A	Hard Coal	45.75	6.43	0.02	0.27	52.47	4.32	0.26	0.00	0.02	4.61
104A	Hard Coal Briquettes				0.02	0.02				0.00	0.00
105A	Brown Coal	14.21	0.52		0.31	15.04	1.53	0.04		0.03	1.60
106A	Brown Coal Briquettes		0.00		1.90	1.90		0.00		0.18	0.18
107A	Coke		64.77		6.56	71.33		0.16		0.60	0.77
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		5.11			5.11					
305A	Blast Furnace Gas		20.27			20.27					
	Total Liquid	46.94	42.29	247.39	124.07	460.69	3.52	2.61	18.25	9.26	33.64
203B	Light Fuel Oil	1.28	15.50		12.65	29.43	0.10	0.98		0.97	2.06
203C	Medium Fuel Oil		0.08		0.09	0.17		0.01		0.01	0.01
203D	Heavy Fuel Oil	16.69	9.18			25.87	1.31	0.35			1.67
204A	Gasoil	0.78	0.45		82.78	84.01	0.06	0.03		6.21	6.30
2050	Diesel	0.01	14.39	162.41	23.02	199.83	0.00	1.06	11.97	1.70	14.72
206A	Other Kerosene	0.04	0.00		0.04	0.09	0.00	0.00		0.00	0.01
206B	Jet Kerosene			1.58		1.58			0.11		0.11
207A	Aviation Gasoline	0.04		0.09		0.13	0.00		0.01		0.01
2080	Motor Gasoline		0.09	83.32	1.63	85.03		0.01	6.16	0.12	6.29
224A	Other Petroleum Products	12.07				12.07	0.94				0.94
303A	Liquified Petroleum Gas (LPG)	0.00	2.53		3.86	6.39	0.00	0.16		0.25	0.41
308A	Refinery Gas	16.01	0.07			16.09	1.10	0.01			1.11
301A	Total Gaseous (Natural Gas)	80.86	98.10	11.60	82.65	273.20	4.45	4.66	0.64	4.55	14.29
	Total Other Fuel	9.26	3.90		0.74	13.90	0.56	0.03		0.01	0.59
114A	Municipal Waste										
114B	Municipal Waste	8.30				8.30	0.51				0.51
114C	Hazardous Waste	0.83				0.83	0.04				0.04
115A	Industrial Waste	0.13	3.90		0.74	4.77	0.00	0.03		0.01	0.03
	Total Biomass⁽¹⁾	9.28	35.80		74.41	119.49	(1.02)	(3.94)		(7.52)	(12.48)
111A	Fuel Wood	0.07	0.08		67.04	67.19	0.01	0.01		6.70	6.72
116A	Wood Wastes	8.38	10.25		7.38	26.01	0.92	1.13		0.81	2.86
118A	Sewage Sludge	0.69				0.69	0.08				0.08
215A	Black Liquor		23.24			23.24		2.56			2.56
309A	Biogas	0.02	0.18			0.20	0.00	0.02			0.02
309B	Sewage Sludge Gas	0.05	0.77			0.82	0.01	0.09			0.09
310A	Gas from Waste Disposal Site	0.07	1.28			1.34	0.01	0.14			0.15
	Total⁽¹⁾	206.30	277.20	259.01	290.93	1 033.43	14.37	7.75	18.89	14.66	55.67

(1) CO₂ emissions of Biomass are not included in Total.

Table 8: 2000 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	50.87	102.89	0.03	10.55	164.34	4.98	0.79	0.00	0.99	6.76
102A	Hard Coal	39.12	9.65	0.03	2.46	51.26	3.70	0.56	0.00	0.23	4.49
104A	Hard Coal Briquettes				0.11	0.11				0.01	0.01
105A	Brown Coal	11.75	0.57		0.34	12.67	1.29	0.05		0.04	1.37
106A	Brown Coal Briquettes		0.00		1.84	1.84		0.00		0.18	0.18
107A	Coke		62.71		5.79	68.50		0.18		0.53	0.71
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		10.47			10.47					
305A	Blast Furnace Gas		19.49			19.49					
	Total Liquid	42.43	45.82	229.81	108.19	426.25	3.11	2.86	16.95	8.06	30.98
203B	Light Fuel Oil	1.24	14.59		11.37	27.19	0.10	0.91		0.88	1.88
203C	Medium Fuel Oil		0.10		0.12	0.22		0.01		0.01	0.02
203D	Heavy Fuel Oil	13.84	13.54			27.37	1.10	0.68			1.77
204A	Gasoil	0.01	0.14		68.23	68.38	0.00	0.01		5.12	5.13
2050	Diesel	0.01	14.32	145.34	22.79	182.46	0.00	1.05	10.71	1.68	13.44
206A	Other Kerosene		0.00		0.26	0.26		0.00		0.02	0.02
206B	Jet Kerosene			1.63		1.63			0.12		0.12
207A	Aviation Gasoline			0.09		0.09			0.01		0.01
2080	Motor Gasoline		0.09	82.75	1.63	84.48		0.01	6.12	0.12	6.24
224A	Other Petroleum Products	11.18				11.18	0.87				0.87
303A	Liquified Petroleum Gas (LPG)	0.94	2.95		3.78	7.67	0.06	0.19		0.24	0.49
308A	Refinery Gas	15.21	0.10			15.31	0.98	0.01			0.99
301A	Total Gaseous (Natural Gas)	67.28	110.16	9.63	78.32	265.39	3.70	5.39	0.53	4.31	13.93
	Total Other Fuel	7.36	4.18		0.72	12.26	0.44	0.03		0.01	0.48
114A	Municipal Waste										
114B	Municipal Waste	6.57				6.57	0.41				0.41
114C	Hazardous Waste	0.66				0.66	0.03				0.03
115A	Industrial Waste	0.13	4.18		0.72	5.03	0.00	0.03		0.01	0.04
	Total Biomass⁽¹⁾	7.91	37.11		65.52	110.54	(0.87)	(4.08)		(6.61)	(11.57)
111A	Fuel Wood	0.04	0.10		59.30	59.44	0.00	0.01		5.93	5.94
116A	Wood Wastes	7.10	11.60		6.22	24.91	0.78	1.28		0.68	2.74
118A	Sewage Sludge	0.70				0.70	0.08				0.08
215A	Black Liquor		24.06			24.06		2.65			2.65
309A	Biogas	0.02	0.21			0.23	0.00	0.02			0.03
309B	Sewage Sludge Gas	0.04	0.70			0.74	0.00	0.08			0.08
310A	Gas from Waste Disposal Site	0.02	0.44			0.46	0.00	0.05			0.05
	Total⁽¹⁾	175.85	300.16	239.47	263.30	978.77	12.24	9.06	17.48	13.37	52.15

(1) CO₂ emissions of Biomass are not included in Total.

Table 9: 1999 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	38.71	93.84	0.03	12.08	144.66	3.87	0.63	0.00	1.13	5.63
102A	Hard Coal	24.82	7.85	0.03	2.72	35.42	2.34	0.39	0.00	0.25	2.99
104A	Hard Coal Briquettes				0.12	0.12				0.01	0.01
105A	Brown Coal	13.89	0.96		0.49	15.33	1.53	0.08		0.05	1.66
106A	Brown Coal Briquettes		0.00		2.05	2.05		0.00		0.20	0.20
107A	Coke		55.50		6.69	62.19		0.15		0.62	0.77
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		12.22			12.22					
305A	Blast Furnace Gas		17.31			17.31					
	Total Liquid	54.29	46.10	217.86	118.50	436.75	4.04	2.92	16.06	8.84	31.87
203B	Light Fuel Oil	1.35	17.83		11.31	30.48	0.11	1.17		0.87	2.14
203C	Medium Fuel Oil	0.09	0.17		0.13	0.38	0.01	0.01		0.01	0.03
203D	Heavy Fuel Oil	24.33	10.71			35.04	1.93	0.49			2.42
204A	Gasoil	0.29	0.45		78.88	79.62	0.02	0.03		5.92	5.97
2050	Diesel	0.10	13.83	130.53	22.14	166.60	0.01	1.02	9.62	1.63	12.27
206A	Other Kerosene		0.01		0.69	0.70		0.00		0.05	0.05
206B	Jet Kerosene			1.54		1.54			0.11		0.11
207A	Aviation Gasoline			0.12		0.12			0.01		0.01
2080	Motor Gasoline		0.09	85.66	1.64	87.39		0.01	6.33	0.12	6.46
224A	Other Petroleum Products	11.42				11.42	0.89				0.89
303A	Liquified Petroleum Gas (LPG)	0.14	2.90		3.72	6.76	0.01	0.19		0.24	0.43
308A	Refinery Gas	16.58	0.11			16.69	1.07	0.01			1.08
301A	Total Gaseous (Natural Gas)	84.44	107.91	7.81	75.58	275.74	4.64	5.18	0.43	4.16	14.41
	Total Other Fuel	5.65	5.50		0.63	11.78	0.34	0.04		0.01	0.39
114A	Municipal Waste										
114B	Municipal Waste	5.33				5.33	0.33				0.33
114C	Hazardous Waste	0.19				0.19	0.01				0.01
115A	Industrial Waste	0.13	5.50		0.63	6.26	0.00	0.04		0.01	0.05
	Total Biomass⁽¹⁾	6.78	38.12		69.55	114.44	(0.75)	(4.19)		(7.01)	(11.95)
111A	Fuel Wood	0.02	0.13		64.10	64.25	0.00	0.01		6.41	6.43
116A	Wood Wastes	6.55	13.03		5.44	25.03	0.72	1.43		0.60	2.75
118A	Sewage Sludge	0.15				0.15	0.02				0.02
215A	Black Liquor		23.62			23.62		2.60			2.60
309A	Biogas	0.01	0.15			0.16	0.00	0.02			0.02
309B	Sewage Sludge Gas	0.02	0.70			0.71	0.00	0.08			0.08
310A	Gas from Waste Disposal Site	0.03	0.50			0.52	0.00	0.06			0.06
	Total⁽¹⁾	189.87	291.47	225.69	276.34	983.37	12.90	8.77	16.50	14.14	52.30

(1) CO₂ emissions of Biomass are not included in Total.

Table 10: 1998 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	35.96	99.90	0.03	13.04	148.93	3.51	0.88	0.00	1.22	5.62
102A	Hard Coal	28.48	11.92	0.03	3.19	43.62	2.69	0.70	0.00	0.30	3.69
104A	Hard Coal Briquettes				0.12	0.12				0.01	0.01
105A	Brown Coal	7.48	0.53		0.56	8.57	0.82	0.05		0.06	0.93
106A	Brown Coal Briquettes		0.00		1.99	1.99		0.00		0.19	0.19
107A	Coke		56.67		7.17	63.83		0.13		0.66	0.79
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		12.17			12.17					
305A	Blast Furnace Gas		18.61			18.61					
	Total Liquid	61.65	54.81	227.32	118.53	462.31	4.45	3.43	16.78	8.85	33.52
203B	Light Fuel Oil	2.14	17.75		10.63	30.53	0.17	1.12		0.82	2.11
203C	Medium Fuel Oil	0.14	0.42		0.37	0.93	0.01	0.03		0.03	0.07
203D	Heavy Fuel Oil	28.01	19.55			47.56	2.22	1.04			3.27
204A	Gasoil	0.20	0.53		80.48	81.21	0.02	0.04		6.04	6.09
2050	Diesel	0.09	13.34	133.35	21.37	168.16	0.01	0.99	9.85	1.58	12.42
206A	Other Kerosene		0.01		0.73	0.73		0.00		0.06	0.06
206B	Jet Kerosene			1.51		1.51			0.11		0.11
207A	Aviation Gasoline			0.11		0.11			0.01		0.01
2080	Motor Gasoline		0.09	92.35	1.64	94.08		0.01	6.82	0.12	6.95
224A	Other Petroleum Products	13.88				13.88	1.08				1.08
303A	Liquified Petroleum Gas (LPG)	0.13	3.13		3.31	6.56	0.01	0.20		0.21	0.42
308A	Refinery Gas	17.04				17.04	0.94				0.94
301A	Total Gaseous (Natural Gas)	82.72	109.39	6.34	73.14	271.59	4.55	5.27	0.35	4.02	14.19
	Total Other Fuel	5.53	3.72		0.58	9.83	0.33	0.03		0.01	0.37
114A	Municipal Waste										
114B	Municipal Waste	4.78				4.78	0.30				0.30
114C	Hazardous Waste	0.75				0.75	0.04				0.04
115A	Industrial Waste		3.72		0.58	4.30		0.03		0.01	0.03
	Total Biomass⁽¹⁾	6.92	33.85		68.54	109.31	(0.76)	(3.72)		(6.89)	(11.38)
111A	Fuel Wood	0.21	0.15		64.52	64.88	0.02	0.02		6.45	6.49
116A	Wood Wastes	6.03	9.61		4.01	19.65	0.66	1.06		0.44	2.16
118A	Sewage Sludge	0.59				0.59	0.07				0.07
215A	Black Liquor		22.92			22.92		2.52			2.52
309A	Biogas		0.03			0.03		0.00			0.00
309B	Sewage Sludge Gas	0.05	0.66			0.71	0.01	0.07			0.08
310A	Gas from Waste Disposal Site	0.03	0.49		0.01	0.53	0.00	0.05		0.00	0.06
	Total⁽¹⁾	192.78	301.67	233.70	273.83	1 001.97	12.85	9.60	17.14	14.10	53.69

(1) CO₂ emissions of Biomass are not included in Total.

Table 11: 1997 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	50.96	101.88	0.03	14.88	167.76	5.00	0.83	0.00	1.40	7.23
102A	Hard Coal	39.25	12.15	0.03	3.58	55.02	3.71	0.62	0.00	0.33	4.67
104A	Hard Coal Briquettes				0.22	0.22				0.02	0.02
105A	Brown Coal	11.71	0.72		0.60	13.03	1.29	0.06		0.06	1.42
106A	Brown Coal Briquettes		0.00		2.55	2.56		0.00		0.25	0.25
107A	Coke		58.87		7.93	66.79		0.15		0.73	0.88
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		11.60			11.60					
305A	Blast Furnace Gas		18.53			18.53					
	Total Liquid	57.95	57.81	200.75	117.37	433.88	3.98	3.58	14.82	8.77	31.15
203B	Light Fuel Oil	1.15	23.76		9.69	34.61	0.09	1.56		0.75	2.39
203C	Medium Fuel Oil	0.09	0.85		0.95	1.89	0.01	0.07		0.07	0.15
203D	Heavy Fuel Oil	24.63	16.88			41.52	1.95	0.78			2.74
204A	Gasoil	0.11	0.48		81.01	81.60	0.01	0.04		6.08	6.12
2050	Diesel	0.35	12.92	111.11	20.63	145.02	0.03	0.95	8.21	1.52	10.71
206A	Other Kerosene		0.00		0.42	0.43		0.00		0.03	0.03
206B	Jet Kerosene			1.35		1.35			0.10		0.10
207A	Aviation Gasoline			0.10		0.10			0.01		0.01
2080	Motor Gasoline		0.09	88.18	1.66	89.93		0.01	6.51	0.12	6.64
224A	Other Petroleum Products	14.34				14.34	1.12				1.12
303A	Liquified Petroleum Gas (LPG)	0.09	2.81		3.01	5.92	0.01	0.18		0.19	0.38
308A	Refinery Gas	17.18				17.18	0.77				0.77
301A	Total Gaseous (Natural Gas)	79.09	110.87	4.20	71.50	265.65	4.35	5.36	0.23	3.93	13.87
	Total Other Fuel	5.72	4.99		0.55	11.26	0.34	0.04		0.01	0.39
114A	Municipal Waste										
114B	Municipal Waste	4.89				4.89	0.30				0.30
114C	Hazardous Waste	0.83				0.83	0.04				0.04
115A	Industrial Waste		4.99		0.55	5.54		0.04		0.01	0.05
	Total Biomass⁽¹⁾	6.74	37.53		70.40	114.68	(0.74)	(4.13)		(7.07)	(11.94)
111A	Fuel Wood	0.07	0.20		66.93	67.21	0.01	0.02		6.69	6.72
116A	Wood Wastes	6.02	14.48		3.46	23.97	0.66	1.59		0.38	2.64
118A	Sewage Sludge	0.56				0.56	0.06				0.06
215A	Black Liquor		21.67			21.67		2.38			2.38
309A	Biogas		0.05			0.05		0.01			0.01
309B	Sewage Sludge Gas	0.06	0.63			0.69	0.01	0.07			0.08
310A	Gas from Waste Disposal Site	0.03	0.49		0.01	0.52	0.00	0.06		0.00	0.06
	Total⁽¹⁾	200.46	313.08	204.98	274.70	993.23	13.68	9.82	15.05	14.10	52.65

(1) CO₂ emissions of Biomass are not included in Total.

Table 12: 1996 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	47.72	90.34	0.06	18.66	156.78	4.71	0.63	0.01	1.75	7.10
102A	Hard Coal	33.71	9.51	0.06	4.32	47.60	3.19	0.41	0.01	0.40	4.01
104A	Hard Coal Briquettes										
105A	Brown Coal	14.01	1.14		0.90	16.05	1.52	0.10		0.10	1.72
106A	Brown Coal Briquettes		0.25		2.97	3.22		0.02		0.29	0.31
107A	Coke		51.58		10.46	62.04		0.09		0.96	1.05
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		11.55			11.55					
305A	Blast Furnace Gas		16.31			16.31					
	Total Liquid	53.63	47.45	214.98	129.47	445.53	3.68	3.07	15.87	9.69	32.31
203B	Light Fuel Oil	1.84	15.40		20.92	38.16	0.14	0.91		1.61	2.67
203C	Medium Fuel Oil	0.34	0.93		0.80	2.07	0.03	0.07		0.06	0.16
203D	Heavy Fuel Oil	19.46	13.93			33.40	1.54	0.85			2.39
204A	Gasoil	0.06	1.24		82.44	83.74	0.00	0.09		6.18	6.28
2050	Diesel	0.18	12.43	120.53	19.82	152.96	0.01	0.92	8.90	1.46	11.30
206A	Other Kerosene		0.01		0.51	0.51		0.00		0.04	0.04
206B	Jet Kerosene			1.29		1.29			0.09		0.09
207A	Aviation Gasoline			0.09		0.09			0.01		0.01
2080	Motor Gasoline		0.09	93.07	1.67	94.83		0.01	6.86	0.12	6.99
224A	Other Petroleum Products	13.79				13.79	1.08				1.08
303A	Liquified Petroleum Gas (LPG)	0.38	3.43		3.32	7.13	0.02	0.22		0.21	0.46
308A	Refinery Gas	17.57				17.57	0.85				0.85
301A	Total Gaseous (Natural Gas)	90.43	106.55	4.22	74.25	275.44	4.97	5.22	0.23	4.08	14.51
	Total Other Fuel	5.41	4.88		0.43	10.72	0.33	0.04		0.00	0.37
114A	Municipal Waste										
114B	Municipal Waste	4.77				4.77	0.30				0.30
114C	Hazardous Waste	0.64				0.64	0.03				0.03
115A	Industrial Waste		4.88		0.43	5.31		0.04		0.00	0.04
	Total Biomass⁽¹⁾	6.71	33.37		75.41	115.49	(0.74)	(3.66)		(7.57)	(11.97)
111A	Fuel Wood	0.04	0.74		72.50	73.29	0.00	0.07		7.25	7.33
116A	Wood Wastes	6.09	10.54		2.87	19.50	0.67	1.16		0.32	2.14
118A	Sewage Sludge	0.52				0.52	0.06				0.06
215A	Black Liquor		21.17			21.17		2.33			2.33
309A	Biogas		0.04			0.04		0.00			0.00
309B	Sewage Sludge Gas	0.03	0.64			0.67	0.00	0.07			0.07
310A	Gas from Waste Disposal Site	0.03	0.24		0.04	0.31	0.00	0.03		0.00	0.03
	Total⁽¹⁾	203.90	282.58	219.26	298.23	1 003.96	13.70	8.96	16.10	15.53	54.30

(1) CO₂ emissions of Biomass are not included in Total.

Table 13: 1995 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	45.49	94.47	0.06	19.06	159.08	4.53	0.58	0.01	1.79	6.91
102A	Hard Coal	29.91	7.41	0.06	4.12	41.50	2.82	0.29	0.01	0.38	3.50
104A	Hard Coal Briquettes										
105A	Brown Coal	15.58	2.34		1.08	19.00	1.71	0.22		0.12	2.04
106A	Brown Coal Briquettes		0.27		3.06	3.32		0.03		0.30	0.32
107A	Coke		55.98		10.79	66.77		0.05		0.99	1.04
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		10.91			10.91					
305A	Blast Furnace Gas		17.56			17.56					
	Total Liquid	52.87	48.05	192.73	115.09	408.74	3.35	2.96	14.22	8.60	29.12
203B	Light Fuel Oil	1.42	17.89		18.31	37.62	0.11	1.00		1.41	2.52
203C	Medium Fuel Oil	0.11	1.06		1.18	2.35	0.01	0.08		0.09	0.18
203D	Heavy Fuel Oil	23.32	13.13			36.45	1.85	0.73			2.58
204A	Gasoil	0.09	0.33		70.38	70.80	0.01	0.02		5.28	5.31
2050	Diesel	0.30	12.53	90.56	19.03	122.43	0.02	0.93	6.69	1.41	9.04
206A	Other Kerosene				0.21	0.21				0.02	0.02
206B	Jet Kerosene			1.11		1.11			0.08		0.08
207A	Aviation Gasoline			0.10		0.10			0.01		0.01
2080	Motor Gasoline		0.09	100.95	1.65	102.70		0.01	7.44	0.12	7.57
224A	Other Petroleum Products	11.63				11.63	0.91				0.91
303A	Liquified Petroleum Gas (LPG)	1.06	3.02		4.32	8.41	0.07	0.19		0.28	0.54
308A	Refinery Gas	14.94				14.94	0.37				0.37
301A	Total Gaseous (Natural Gas)	78.00	104.64	4.09	67.69	254.42	4.29	5.16	0.23	3.72	13.40
	Total Other Fuel	4.33	3.91		0.65	8.89	0.26	0.03		0.01	0.30
114A	Municipal Waste										
114B	Municipal Waste	3.67				3.67	0.23				0.23
114C	Hazardous Waste	0.66				0.66	0.03				0.03
115A	Industrial Waste		3.91		0.65	4.56		0.03		0.01	0.04
	Total Biomass⁽¹⁾	5.00	34.40		69.02	108.42	(0.55)	(3.77)		(6.93)	(11.25)
111A	Fuel Wood		1.07		66.28	67.35		0.11		6.63	6.74
116A	Wood Wastes	4.41	11.17		2.69	18.26	0.48	1.23		0.30	2.01
118A	Sewage Sludge	0.56				0.56	0.06				0.06
215A	Black Liquor		21.39			21.39		2.35			2.35
309A	Biogas		0.04			0.04		0.00			0.00
309B	Sewage Sludge Gas	0.01	0.61			0.62	0.00	0.07			0.07
310A	Gas from Waste Disposal Site	0.03	0.12		0.05	0.20	0.00	0.01		0.01	0.02
	Total⁽¹⁾	185.69	285.46	196.88	271.51	939.54	12.43	8.73	14.45	14.12	49.73

(1) CO₂ emissions of Biomass are not included in Total.

Table 14: 1994 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	32.97	84.78	0.06	19.70	137.51	3.28	0.53	0.01	1.85	5.67
102A	Hard Coal	22.73	6.38	0.06	4.05	33.22	2.17	0.23	0.01	0.38	2.78
104A	Hard Coal Briquettes										
105A	Brown Coal	10.05	2.20		1.28	13.53	1.09	0.21		0.14	1.44
106A	Brown Coal Briquettes	0.19	0.46		3.21	3.86	0.02	0.04		0.31	0.38
107A	Coke		49.33		11.15	60.48		0.05		1.03	1.07
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		10.79			10.79					
305A	Blast Furnace Gas		15.61			15.61					
	Total Liquid	59.89	50.52	191.71	106.31	408.42	3.79	2.93	14.16	7.94	28.81
203B	Light Fuel Oil	1.91	20.42		15.27	37.61	0.15	0.96		1.18	2.29
203C	Medium Fuel Oil	0.09	1.24		1.56	2.89	0.01	0.10		0.12	0.23
203D	Heavy Fuel Oil	27.64	12.80			40.44	2.20	0.71			2.91
204A	Gasoil	0.08	0.34		64.58	65.00	0.01	0.03		4.84	4.88
2050	Diesel	0.28	12.51	84.69	18.49	115.97	0.02	0.93	6.27	1.37	8.58
206A	Other Kerosene				0.10	0.10				0.01	0.01
206B	Jet Kerosene			1.17		1.17			0.08		0.08
207A	Aviation Gasoline			0.12		0.12			0.01		0.01
2080	Motor Gasoline		0.09	105.73	1.67	107.49		0.01	7.79	0.12	7.92
224A	Other Petroleum Products	13.05				13.05	1.02				1.02
303A	Liquified Petroleum Gas (LPG)	0.13	3.11		4.64	7.87	0.01	0.20		0.30	0.50
308A	Refinery Gas	16.71				16.71	0.38				0.38
301A	Total Gaseous (Natural Gas)	71.61	102.72	3.78	56.98	235.08	3.94	5.08	0.21	3.13	12.36
	Total Other Fuel	4.20	3.71		0.88	8.79	0.25	0.03		0.01	0.29
114A	Municipal Waste										
114B	Municipal Waste	3.51				3.51	0.22				0.22
114C	Hazardous Waste	0.69				0.69	0.03				0.03
115A	Industrial Waste		3.71		0.88	4.59		0.03		0.01	0.04
	Total Biomass⁽¹⁾	4.28	33.77		63.89	101.94	(0.47)	(3.71)		(6.41)	(10.59)
111A	Fuel Wood		0.90		61.49	62.39		0.09		6.15	6.24
116A	Wood Wastes	3.71	12.62		2.32	18.65	0.41	1.39		0.25	2.05
118A	Sewage Sludge	0.57				0.57	0.06				0.06
215A	Black Liquor		19.61			19.61		2.16			2.16
309A	Biogas										
309B	Sewage Sludge Gas		0.64			0.64		0.07			0.07
310A	Gas from Waste Disposal Site				0.09	0.09				0.01	0.01
	Total⁽¹⁾	172.95	275.49	195.54	247.75	891.74	11.26	8.57	14.37	12.93	47.13

(1) CO₂ emissions of Biomass are not included in Total.

Table 15: 1993 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	31.10	80.63	0.06	22.55	134.34	3.12	0.58	0.01	2.12	5.82
102A	Hard Coal	20.22	7.61	0.06	4.68	32.58	1.95	0.28	0.01	0.44	2.67
104A	Hard Coal Briquettes										
105A	Brown Coal	10.64	2.48		1.54	14.66	1.15	0.24		0.17	1.55
106A	Brown Coal Briquettes	0.23	0.28		3.67	4.18	0.02	0.03		0.36	0.41
107A	Coke		45.34		12.65	57.99		0.03		1.16	1.19
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		10.64			10.64					
305A	Blast Furnace Gas		14.28			14.28					
	Total Liquid	59.65	49.48	190.27	114.76	414.17	3.81	3.04	14.05	8.58	29.47
203B	Light Fuel Oil	2.25	19.02		18.71	39.98	0.18	1.02		1.44	2.64
203C	Medium Fuel Oil	0.39	1.12		2.12	3.63	0.03	0.08		0.17	0.28
203D	Heavy Fuel Oil	28.21	14.08			42.30	2.24	0.83			3.06
204A	Gasoil	0.11	0.59		68.90	69.60	0.01	0.04		5.17	5.22
2050	Diesel	0.26	11.93	80.96	18.01	111.16	0.02	0.88	5.99	1.33	8.23
206A	Other Kerosene				0.62	0.62				0.05	0.05
206B	Jet Kerosene			1.07		1.07			0.08		0.08
207A	Aviation Gasoline			0.12		0.12			0.01		0.01
2080	Motor Gasoline		0.09	108.12	1.63	109.85		0.01	7.97	0.12	8.10
224A	Other Petroleum Products	12.57				12.57	0.98				0.98
303A	Liquified Petroleum Gas (LPG)	0.22	2.65		4.77	7.64	0.01	0.17		0.31	0.49
308A	Refinery Gas	15.65				15.65	0.34				0.34
301A	Total Gaseous (Natural Gas)	67.96	90.58	3.87	61.16	223.57	3.74	4.46	0.21	3.36	11.78
	Total Other Fuel	4.15	3.19		0.75	8.08	0.25	0.02		0.01	0.28
114A	Municipal Waste										
114B	Municipal Waste	3.48				3.48	0.22				0.22
114C	Hazardous Waste	0.67				0.67	0.03				0.03
115A	Industrial Waste		3.19		0.75	3.94		0.02		0.01	0.03
	Total Biomass⁽¹⁾	4.11	32.75		68.90	105.76	(0.45)	(3.6)		(6.92)	(10.96)
111A	Fuel Wood		0.80		66.37	67.18		0.08		6.64	6.72
116A	Wood Wastes	3.52	12.77		2.45	18.74	0.39	1.40		0.27	2.06
118A	Sewage Sludge	0.59				0.59	0.07				0.07
215A	Black Liquor		18.54			18.54		2.04			2.04
309A	Biogas										
309B	Sewage Sludge Gas		0.63			0.63		0.07			0.07
310A	Gas from Waste Disposal Site				0.08	0.08				0.01	0.01
	Total⁽¹⁾	166.97	256.63	194.19	268.13	885.92	10.91	8.10	14.26	14.08	47.35

(1) CO₂ emissions of Biomass are not included in Total

Table 16: 1992 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	39.96	83.54	0.07	25.39	148.96	4.01	0.66	0.01	2.39	7.06
102A	Hard Coal	27.97	9.73	0.07	3.81	41.58	2.73	0.33	0.01	0.35	3.42
104A	Hard Coal Briquettes										
105A	Brown Coal	11.74	2.30		1.86	15.91	1.25	0.22		0.20	1.67
106A	Brown Coal Briquettes	0.26	0.32		4.30	4.87	0.03	0.03		0.42	0.47
107A	Coke		45.74		15.42	61.16		0.08		1.42	1.50
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		11.16			11.16					
305A	Blast Furnace Gas		14.27			14.27					
	Total Liquid	46.32	38.99	186.05	114.91	386.27	3.15	2.38	13.91	8.61	28.05
203B	Light Fuel Oil	1.05	7.57		27.39	36.01	0.08	0.23		2.11	2.42
203C	Medium Fuel Oil	0.12	0.90		1.99	3.00	0.01	0.06		0.15	0.23
203D	Heavy Fuel Oil	18.67	15.81			34.48	1.48	1.02			2.50
204A	Gasoil	0.00	0.18		60.38	60.56	0.00	0.01		4.53	4.54
2050	Diesel		12.08	74.66	17.48	104.21		0.89	5.53	1.29	7.71
206A	Other Kerosene		0.05		1.26	1.31		0.00		0.10	0.10
206B	Jet Kerosene			0.92		0.92			0.07		0.07
207A	Aviation Gasoline			0.11		0.11			0.01		0.01
2080	Motor Gasoline		0.09	110.36	1.61	112.06		0.01	8.31	0.12	8.44
224A	Other Petroleum Products	9.66				9.66	0.75				0.75
303A	Liquified Petroleum Gas (LPG)	0.22	2.32		4.80	7.35	0.01	0.15		0.31	0.47
308A	Refinery Gas	16.60				16.60	0.81				0.81
301A	Total Gaseous (Natural Gas)	64.99	87.67	3.57	57.38	213.62	3.57	4.30	0.20	3.16	11.22
	Total Other Fuel	3.88	5.38		1.09	10.35	0.23	0.04		0.01	0.29
114A	Municipal Waste										
114B	Municipal Waste	3.15				3.15	0.20				0.20
114C	Hazardous Waste	0.74				0.74	0.04				0.04
115A	Industrial Waste		5.38		1.09	6.47		0.04		0.01	0.06
	Total Biomass⁽¹⁾	3.91	29.18		67.47	100.56	(0.43)	(3.2)		(6.77)	(10.4)
111A	Fuel Wood		0.71		65.28	65.98		0.07		6.53	6.60
116A	Wood Wastes	3.40	10.40		2.19	16.00	0.37	1.14		0.24	1.76
118A	Sewage Sludge	0.51				0.51	0.06				0.06
215A	Black Liquor		18.07			18.07		1.99			1.99
309A	Biogas										
309B	Sewage Sludge Gas										
310A	Gas from Waste Disposal Site										
	Total⁽¹⁾	159.07	244.76	189.68	266.24	859.75	10.97	7.38	14.11	14.17	46.63

(1) CO₂ emissions of Biomass are not included in Total.

Table 17: 1991 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	67.34	92.72	0.06	31.38	191.50	6.82	0.65	0.01	2.95	10.43
102A	Hard Coal	41.79	7.79	0.06	5.96	55.60	4.13	0.27	0.01	0.55	4.96
104A	Hard Coal Briquettes										
105A	Brown Coal	24.92	2.99		2.28	30.19	2.62	0.27		0.25	3.13
106A	Brown Coal Briquettes	0.63	0.47		5.05	6.15	0.06	0.05		0.49	0.60
107A	Coke		52.65		18.08	70.74		0.07		1.66	1.73
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		12.28			12.28					
305A	Blast Furnace Gas		16.53			16.53					
	Total Liquid	38.75	42.07	186.95	120.91	388.68	3.21	2.55	13.98	9.09	28.82
203B	Light Fuel Oil	0.84	12.45		30.04	43.34	0.07	0.55		2.31	2.93
203C	Medium Fuel Oil	0.06	1.15		2.92	4.13	0.00	0.09		0.23	0.32
203D	Heavy Fuel Oil	21.26	12.83			34.09	1.68	0.78			2.46
204A	Gasoil	0.01	0.19		64.86	65.07	0.00	0.01		4.86	4.88
2050	Diesel		11.71	70.50	16.88	99.09		0.87	5.22	1.25	7.33
206A	Other Kerosene				1.36	1.36				0.11	0.11
206B	Jet Kerosene			0.89		0.89			0.06		0.06
207A	Aviation Gasoline			0.11		0.11			0.01		0.01
2080	Motor Gasoline		0.09	115.45	1.60	117.13		0.01	8.69	0.12	8.82
224A	Other Petroleum Products										
303A	Liquified Petroleum Gas (LPG)	0.58	3.65		3.24	7.48	0.04	0.23		0.21	0.48
308A	Refinery Gas	16.00				16.00	1.42				1.42
301A	Total Gaseous (Natural Gas)	70.99	86.25	3.30	51.93	212.48	3.90	4.22	0.18	2.86	11.16
	Total Other Fuel	2.65	5.69		0.69	9.03	0.16	0.05		0.01	0.22
114A	Municipal Waste										
114B	Municipal Waste	2.65				2.65	0.16				0.16
114C	Hazardous Waste										
115A	Industrial Waste		5.69		0.69	6.38		0.05		0.01	0.06
	Total Biomass⁽¹⁾	3.02	28.46		71.36	102.84	(0.33)	(3.12)		(7.16)	(10.61)
111A	Fuel Wood		0.73		69.23	69.96		0.07		6.92	7.00
116A	Wood Wastes	3.02	9.98		2.14	15.14	0.33	1.10		0.23	1.67
118A	Sewage Sludge										
215A	Black Liquor		17.74			17.74		1.95			1.95
309A	Biogas										
309B	Sewage Sludge Gas										
310A	Gas from Waste Disposal Site										
	Total⁽¹⁾	182.75	255.19	190.31	276.27	904.52	14.09	7.47	14.17	14.91	50.63

(1) CO₂ emissions of Biomass are not included in Total.

Table 18: 1990 Energy Consumption Data and CO₂ Emissions from 1 A Fuel Combustion by Fuel Type and Sector.

		Consumption (PJ)					CO ₂ emissions (Tg)				
		1 A 1 Energy Ind.	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total	1 A 1 Energy	1 A 2 Industry	1 A 3 Trans- port	1 A 4 Small Comb.	1 A Total
	Total Solid	61.47	90.03	0.07	29.63	181.20	6.25	0.45	0.01	2.79	9.50
102A	Hard Coal	38.44	7.10	0.07	5.35	50.97	3.85	0.14	0.01	0.50	4.50
104A	Hard Coal Briquettes										
105A	Brown Coal	22.80	2.25		2.23	27.28	2.38	0.19		0.24	2.81
106A	Brown Coal Briquettes	0.23	0.85		4.84	5.91	0.02	0.08		0.47	0.57
107A	Coke		50.54		17.20	67.74		0.03		1.58	1.61
113A	Peat				0.01	0.01				0.00	0.00
304A	Coke Oven Gas		13.12			13.12					
305A	Blast Furnace Gas		16.18			16.18					
	Total Liquid	38.26	38.37	168.11	113.99	358.73	2.86	2.31	12.56	8.59	26.33
203B	Light Fuel Oil	0.46	1.75		37.01	39.21	0.04	0.13		2.85	3.02
203C	Medium Fuel Oil	0.29	0.89		2.80	3.98	0.02	0.07		0.22	0.31
203D	Heavy Fuel Oil	18.82	21.41			40.22	1.48	1.08			2.56
204A	Gasoil	0.00	0.06		52.94	53.00	0.00	0.00		3.97	3.97
2050	Diesel		11.03	61.80	16.49	89.32		0.82	4.57	1.22	6.61
206A	Other Kerosene				0.77	0.77				0.06	0.06
206B	Jet Kerosene			0.79		0.79			0.06		0.06
207A	Aviation Gasoline			0.10		0.10			0.01		0.01
2080	Motor Gasoline		0.08	105.42	1.60	107.10		0.01	7.93	0.12	8.05
224A	Other Petroleum Products										
303A	Liquified Petroleum Gas (LPG)	0.41	3.15		2.40	5.96	0.03	0.20		0.15	0.38
308A	Refinery Gas	18.28				18.28	1.29				1.29
301A	Total Gaseous (Natural Gas)	72.00	85.61	3.05	40.95	201.60	3.96	4.12	0.17	2.25	10.49
	Total Other Fuel	2.42	5.57		0.23	8.23	0.15	0.05		0.00	0.20
114A	Municipal Waste										
114B	Municipal Waste	2.42				2.42	0.15				0.15
114C	Hazardous Waste										
115A	Industrial Waste		5.57		0.23	5.80		0.05		0.00	0.05
	Total Biomass⁽¹⁾	2.04	28.11		64.22	94.38	(0.22)	(3.09)		(6.44)	(9.75)
111A	Fuel Wood		0.66		62.46	63.12		0.07		6.25	6.31
116A	Wood Wastes	2.04	9.65		1.77	13.46	0.22	1.06		0.19	1.48
118A	Sewage Sludge										
215A	Black Liquor		17.80			17.80		1.96			1.96
309A	Biogas										
309B	Sewage Sludge Gas										
310A	Gas from Waste Disposal Site										
	Total⁽¹⁾	176.19	247.69	171.23	249.02	844.13	13.22	6.93	12.74	13.64	46.53

(1) CO₂ emissions of Biomass are not included in Total.

The detailed National Energy Balance is presented in Annex 4.

ANNEX 3: CO₂ REFERENCE APPROACH

In this chapter the results, methodology and detailed data for the CO₂ reference approach are presented.

Methodology

The default methodology according to IPCC Worksheet 1-1 was used.

Emission factors

Carbon emission factors

For estimation of emissions that arise from combustion of fossil fuels the default carbon emission factors described in chapter 1.4.1.1 of the IPCC Reference Manual have been used (see IPCC Workbook 1.6 table 1-2 and Table).

Fraction of carbon oxidised

The default values of table 1-6 of the IPCC Reference Manual have been used (see Table).

Activity data

Production, Imports, Exports, Stock Change

Activity data are taken from the national energy balance. The reference approach requires very detailed fuel categories, but the fuel categories of the national energy balance, which are used as input data, are not that detailed. Some of these categories are aggregations of the detailed fuel categories the reference approach asks for.

Ethane, Naphtha and Petroleum Coke are included in *Other Oil*. *Anthracite* is included in *Other Bituminous Coal*.

International Bunkers

There is no occurrence of international navigation. Only air traffic is considered.

Fuel consumption of international bunkers is consistent with memo item international bunkers as described in the relevant chapter for Category 1 A 3.

Carbon Stored (Feedstocks)

Emissions from carbon stored in products is calculated for each fuel by multiplying its non-energy use with the corresponding default IPCC carbon emission factor.

It is assumed that 100% of the carbon of non-energy use of all types of fuels is stored in products, which implies that the fraction of carbon stored is 1.00. In the Sectoral Approach the release of stored carbon as emissions is considered as 'other fuels' in category 1 A *Fuel Combustion Activities* and in category 6 C *Waste Incineration*.

Completeness

For the following fuel types the energy statistics does not give detailed data:

- Ethane and Naphta is included in Refinery Feedstocks.
- Petroleum Coke is included in Other Oil.
- Anthracite is included in Other Bituminous Coal.
- Liquid Biomass is included in Solid Biomass.

Calculation Results

Table 1 presents the calculation results of the Reference Approach.

Table 1: Actual CO₂ emissions (Gg CO₂)

Fuel Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Crude Oil	24 681	25 675	27 102	26 450	27 615	26 751	27 168	29 094	28 522	26 800	25 573	27 308
Orimulsion	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Natural Gas Liquids	116	116	113	113	133	121	150	122	637	201	302	154
Gasoline	-251	1 217	664	709	-75	409	-234	-932	-90	-279	513	225
Jet Kerosene	-889	-1 071	-1 185	-1 093	-1 090	-1 209	-1 381	-1 451	-1 561	-1 476	-1 580	-1 488
Other Kerosene	-51	-39	-49	50	-33	-10	21	23	30	48	16	-1
Shale Oil	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Gas / Diesel Oil	1 815	2 048	1 979	2 031	1 903	3 662	6 143	4 404	6 165	6 599	6 789	8 492
Residual Fuel Oil	374	10	-102	1 236	1 502	1 159	1 183	1 222	1 893	922	1 097	949
LPG	254	367	335	220	411	377	413	262	345	393	409	427
Ethane	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Naphtha	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Bitumen	-872	-911	-1 232	-921	-1 008	-823	-846	-969	-960	-1 057	-1 111	-1 304
Lubricants	-91	-91	-80	-74	-77	-212	-321	-333	-315	-309	-327	-343
Petroleum Coke	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Refinery Feedstocks	3 867	4 451	3 567	3 295	2 648	1 665	1 848	2 615	1 619	2 618	1 616	2 003
Other Oil	-1 572	-2 066	-1 720	-1 534	-1 931	-1 624	-1 950	-1 981	-2 023	-2 076	-1 860	-2 236
Liquid Fossil Totals	27 381	29 705	29 394	30 484	29 999	30 265	32 192	32 075	34 261	32 384	31 435	34 185
Anthracite	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Coking Coal	6 065	5 441	5 178	4 873	4 991	4 953	5 433	5 479	5 638	5 688	4 875	4 911
Other Bit. Coal	4 725	5 155	3 854	3 020	3 080	3 847	4 413	5 100	4 044	3 284	4 752	4 862
Sub- Bit. Coal	0	0	0	0	0	0	0	0	0	0	0	0
Lignite	2 705	2 995	1 577	1 454	1 342	1 885	1 752	1 423	936	1 696	1 395	1 655
Oil Shale	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Peat	0	0	0	0	0	0	0	0	0	0	0	0
BKB & Patent Fuel	548	570	452	388	358	308	299	250	192	197	177	177
Coke Oven / Gas Coke	-541	246	-419	-563	-607	-351	-870	-769	-1 087	-1 184	-206	-64
Solid Fuel Totals	13 503	14 407	10 643	9 174	9 164	10 643	11 027	11 483	9 723	9 682	10 993	11 542
Gaseous Fossil	11 463	12 108	12 167	12 625	13 289	14 534	15 493	14 916	15 336	15 609	14 876	15 935
TOTAL	52 347	56 220	52 203	52 282	52 451	55 442	58 712	58 473	59 320	57 675	57 305	61 661
Biomass Total	9 105	9 921	9 653	10 155	9 789	10 416	11 104	11 024	10 504	11 044	10 614	11 491
Solid Biomass	9 105	9 921	9 653	10 078	9 710	10 324	10 994	10 887	10 366	10 892	10 459	11 234
Liquid Biomass	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Gas Biomass	0	0	0	77	79	92	110	137	138	152	155	256

Table 1 presents the apparent fuel consumption for each fuel type of the Reference Approach.

Table 1: Apparent Consumption (TJ)

Fuel Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Crude Oil	339 954	353 655	373 311	364 329	380 375	368 466	374 218	400 742	392 864	369 149	352 242	376 144
Orimulsion	0	0	0	0	0	0	0	0	0	0	0	0
Natural Gas Liquids	1 854	1 854	1 809	1 809	2 125	1 944	2 400	1 961	10 206	3 217	4 842	2 473
Gasoline	-3 341	17 855	9 690	10 330	-1 087	5 965	-3 422	-13 577	-1 141	-4 072	7 511	3 309
Jet Kerosene	-12 566	-15 129	-16 742	-15 437	-15 404	-17 076	-19 514	-20 499	-22 057	-20 846	-22 322	-21 022
Other Kerosene	-712	-551	-691	705	-461	-142	290	329	418	674	218	-14
Shale Oil	0	0	0	0	0	0	0	0	0	0	0	0
Gas / Diesel Oil	24 755	27 930	26 995	27 699	25 959	49 946	83 770	60 058	84 070	90 000	92 585	115 805
Residual Fuel Oil	4 885	125	-1 331	16 137	19 611	15 126	15 450	15 949	24 720	12 033	14 316	12 388
LPG	4 029	5 825	5 306	3 486	6 517	5 974	6 545	4 147	5 464	6 224	6 486	6 763
Ethane	0	0	0	0	0	0	0	0	0	0	0	0
Naphtha	0	0	0	0	0	0	0	0	0	0	0	0
Bitumen	10 811	8 480	2 452	5 064	5 426	7 475	9 324	9 766	11 092	9 407	9 798	8 685
Lubricants	5 345	4 541	3 738	2 693	2 532	563	-161	-201	-40	-82	-111	-355
Petroleum Coke	0	0	0	0	0	0	0	0	0	0	0	0
Refinery Feedstocks	52 736	60 696	48 647	44 933	36 113	22 707	25 196	35 661	22 083	35 705	22 032	27 307
Other Oil	6 375	2 655	5 142	3 190	533	1 303	2 298	5 581	-545	-693	384	-2 362
Liquid Fossil Totals	434 126	467 938	458 325	464 937	462 239	462 252	496 394	499 917	527 133	500 717	487 982	529 121
Anthracite	0	0	0	0	0	0	0	0	0	0	0	0
Coking Coal	65 423	58 690	55 855	52 568	53 834	53 427	58 604	59 096	60 811	61 358	52 579	52 969
Other Bit. Coal	51 016	55 653	41 633	32 626	33 254	41 541	47 629	55 053	43 654	35 456	51 290	52 482
Sub- Bit. Coal	0	0	0	0	0	0	0	0	0	0	0	0
Lignite	27 278	30 194	15 906	14 663	13 532	19 004	17 671	14 347	9 441	17 101	14 062	16 688
Oil Shale	0	0	0	0	0	0	0	0	0	0	0	0
Peat	4	4	4	4	4	4	4	4	4	4	4	4
BKB & Patent Fuel	5 912	6 146	4 872	4 185	3 858	3 323	3 221	2 694	2 066	2 126	1 909	1 908
Coke Oven / Gas Coke	19 100	27 322	19 236	17 854	19 447	25 238	18 090	22 623	18 769	16 848	29 439	32 011
Solid Fuel Totals	168 733	178 010	137 505	121 901	123 929	142 538	145 218	153 817	134 744	132 893	149 283	156 063
Gaseous Fossil	219 239	231 794	227 610	240 044	246 908	269 583	286 941	276 551	283 920	288 876	275 682	293 982
TOTAL	822 098	877 742	823 440	826 882	833 076	874 374	928 554	930 285	945 796	922 486	912 947	979 166
Biomass Total	94 376	102 837	100 050	105 164	101 375	107 860	114 968	114 112	108 716	114 294	109 838	118 806
Solid Biomass	94 376	102 837	100 050	104 456	100 649	107 011	113 954	112 849	107 448	112 898	108 410	116 444
Liquid Biomass	0	0	0	0	0	0	0	0	0	0	0	0
Gas Biomass	0	0	0	708	726	849	1 014	1 263	1 269	1 396	1 428	2 362

Table 2: Carbon Stored (Gg C)

[illegible]

Table 3 presents international bunker fuels for the relevant fuel types of the Reference Approach.

Table 3: International Bunkers [Gg]

Fuel Type	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Jet Kerosene	292	341	363	354	372	410	454	470	496	485	526	507

Table 4 presents conversion factors, carbon emission factors and the fraction of carbon oxidised for all fuel types of the Reference Approach.

Table 4: Conversion factor, carbon emission factor and fraction of carbon oxidised.

Fuel Type	Conversion Factor (TJ/Unit)	Carbon emission factor (t C/TJ)	Carbon emission factor (t C/TJ)
Crude Oil	42.75	20.00	0.99
Orimulsion	-	-	-
Natural Gas Liquids	45.22	17.20	0.99
Gasoline	44.80	18.90	0.99
Jet Kerosene	44.59	19.50	0.99
Other Kerosene	44.75	19.60	0.99
Shale Oil	-	-	-
Gas / Diesel Oil	43.33	20.20	0.99
Residual Fuel Oil	40.19	21.10	0.99
LPG	47.31	17.20	1.00
Ethane	-	-	-
Naphtha	-	-	-
Bitumen	40.19	22.00	1.00
Lubricants	40.19	20.00	1.00
Petroleum Coke	-	-	-
Refinery Feedstocks	42.50	20.00	1.00
Other Oil	40.19	20.00	1.00
Anthracite	-	-	-
Coking Coal	28.00	25.80	0.98
Other Bit. Coal	28.00	25.80	0.98
Sub- Bit. Coal	-	-	-
Lignite	10.90	27.60	0.98
Oil Shale	-	-	-
Peat	8.80	28.90	0.98
BKB & Patent Fuel	19.30	25.80	0.98
Coke Oven / Gas Coke	28.20	29.50	0.99

	Conversion Fac- tor	Carbon emis- sion factor	Carbon emis- sion factor
Fuel Type	(TJ/Unit)	(t C/TJ)	(t C/TJ)
Natural Gas	1.00	15.30	1.00
Solid Biomass	1.00	29.90	0.88
Liquid Biomass	-	-	-
Gas Biomass	1.00	29.90	0.99

[illegible]

Table 2: National Energy Balance 1990-2001. Bituminous Coal & Anthracite [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	0	0	1	1	1	1	0	0	0	0	0	0
Total Imports (Balance)	1 233	1 717	1 692	1 422	1 096	1 216	1 724	1 623	1 657	1 215	1 675	1 863
Total Exports (Balance)	0	0	9	0	0	1	2	4	0	0	0	0
International Marine Bunkers	0	0	0	0	0	0	0	0	0	0	0	0
Stock Change (National Territory)	589	270	-197	-257	91	268	-21	348	-97	52	157	11
Gross Inland Deliveries (Obs.)	1 822	1 987	1 487	1 165	1 188	1 484	1 701	1 966	1 559	1 266	1 832	1 874
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	1 421	1 561	1 075	746	822	1 082	1 245	1 437	1 061	912	1 414	1 670
Public Electricity	964	957	647	394	485	550	1 076	1 275	890	740	1 203	1 390
Public Combined Heat and Power	409	535	352	318	327	518	128	127	127	140	161	242
Public Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producers of Electricity	0	0	0	0	0	0	19	5	4	4	10	13
Auto Producers for CHP	48	68	76	34	10	14	22	31	40	29	40	26
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	7	33	2
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum refineries	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	7	33	2
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	400	425	410	417	365	400	455	528	497	346	384	201
Total Transport	3	0	1	0	0	0	1	1	1	1	1	1
Rail	3	0	1	0	0	0	1	1	1	1	1	1
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	152	177	212	248	218	250	299	399	382	241	295	124
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	6	8	27	42	42	45	49	73	70	44	54	23
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	145	142	164	167	142	163	191	208	199	125	154	65
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	1	27	22	38	35	43	58	118	113	71	87	37
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0

[illegible]

Table 3: National Energy Balance 1990-2001. Patent Fuel [1000 tons].

[illegible]

Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	0	0	0	0	0	0	0	7	4	4	4	1
Commerce - Public Services	0	0	0	0	0	0	0	1	1	1	1	0
Residential	0	0	0	0	0	0	0	6	3	3	3	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	0	0	0	0	0	0	0	0	0	0	0	0

Table 4: National Energy Balance 1990-2001. Lignite and Brown Coal [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	2 448	2 081	1 771	1 691	1 369	1 297	1 108	1 130	1 140	1 137	1 249	1 206
Total Imports (Balance)	36	53	22	1	19	29	43	23	13	13	34	6
Total Exports (Balance)	3	3	3	1	0	0	0	0	0	1	0	0
International Marine Bunkers	0	0	0	0	0	0	0	0	0	0	0	0
Stock Change (National Territory)	23	639	-330	-347	-146	417	470	163	-287	419	7	319
Gross Inland Deliveries (Obs.)	2 503	2 770	1 459	1 345	1 241	1 743	1 621	1 316	866	1 569	1 290	1 531
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	2 133	2 338	1 167	1 068	984	1 524	1 495	1 205	763	1 403	1 218	1 470
Public Electricity	1 182	1 445	583	301	405	1 081	1 358	1 164	738	1 372	1 168	1 420
Public Combined Heat and Power	881	830	484	668	509	339	48	13	3	9	26	26
Public Heat Plants	16	8	9	7	7	9	9	4	0	0	0	0
Auto Producers of Electricity	0	0	0	0	0	0	4	0	0	0	0	0
Auto Producers for CHP	54	54	91	92	63	95	76	23	22	22	23	23
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	4	3	1	0	1	0	0	1	0	15	2	0
Coal Mines	3	1	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum refineries	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	1	2	1	0	1	0	0	1	0	15	2	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	366	429	291	277	257	219	126	111	103	150	70	61
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	149	211	118	136	139	115	33	46	45	94	26	21
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl. Petro-Chemical)	0	0	0	0	0	0	0	0	0	0	0	0
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	11	14	4	0	1	4	6	3	3	6	2	2
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	2	1	1	1	0	0	0	0	0	0	0	0

[illegible]

Table 5: National Energy Balance 1990-2001. Brown Coal Briquettes [1000 tons].

[illegible]

Food, Beverages and Tobacco	1	2	1	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	43	23	16	15	24	14	13	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	251	261	223	190	166	158	154	132	103	106	95	98
Commerce - Public Services	6	11	8	7	11	6	6	20	11	11	13	5
Residential	235	240	206	176	149	146	142	108	88	91	79	90
Agriculture	10	11	9	8	7	6	6	5	4	4	3	4
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	0	0	0	0	0	0	0	0	0	0	0	0

Table 6: National Energy Balance 1990-2001. Coke Oven Coke [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	1 725	1 540	1 487	1 402	1 432	1 448	1 559	1 566	1 598	1 608	1 385	1 394
Total Imports (Balance)	815	893	685	580	607	718	652	764	642	654	981	1 091
Total Exports (Balance)	1	2	2	0	0	1	0	0	0	2	14	1
International Marine Bunkers	0	0	0	0	0	0	0	0	0	0	0	0
Stock Change (National Territory)	-136	78	-1	54	83	178	-10	39	24	-54	77	46
Gross Inland Deliveries (Obs.)	2 402	2 508	2 169	2 035	2 122	2 343	2 200	2 369	2 264	2 205	2 429	2 530
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	596	609	526	521	569	647	601	683	660	638	718	747
Public Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Public Combined Heat and Power	0	0	0	0	0	0	0	0	0	0	0	0
Public Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producers of Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producers for CHP	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	596	609	526	521	569	647	601	683	660	638	718	747
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	97	119	110	97	106	121	112	127	123	119	134	139
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	97	119	110	97	106	121	112	127	123	119	134	139
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum refineries	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	853	893	712	598	556	564	557	502	455	459	465	487
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	243	252	165	154	165	185	186	221	201	222	260	254
Iron and Steel	234	233	142	151	157	177	164	179	166	181	211	207
Chemical (incl. Petro-Chemical)	2	4	4	1	2	3	8	13	11	13	15	15
Non ferrous Metals	1	2	3	0	2	2	4	7	6	7	8	8
Non metallic Mineral Products	4	7	11	1	1	2	4	14	12	14	17	17
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	1	1	0	0	1	1	0	0	0	0	0

Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	1	2	3	0	1	1	3	5	4	5	5	5	5
Pulp, Paper and Printing	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	3	1	0	0	0	0	0	0	0	0	0	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	1	0	0	0	2	2	2	2	3	3	3
Total Other Sectors	610	641	547	444	391	379	371	281	254	237	205	233	233
Commerce - Public Services	13	14	12	10	9	8	8	6	6	5	5	6	6
Residential	585	615	524	426	375	363	356	269	244	227	196	223	223
Agriculture	12	12	11	9	8	7	7	5	5	5	4	5	5
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	857	887	821	819	891	1 011	930	1 057	1 025	989	1 112	1 156	1 156

Table 7: National Energy Balance 1990-2001. Peat [1000 tons].

[illegible]

[illegible]

Table 8: National Energy Balance 1990-2001. Coke Oven Gas [TJ].

[illegible]

[illegible]

Table 9: National Energy Balance 1990-2001. Blast Furnace Gas [TJ].

[illegible]

Non metallic Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	0	0	0	0	0	0	0	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	0	0	0	0	0	0	0	0	0	0	0	0
Commerce - Public Services	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	0	0	0	0	0	0	0	0	0	0	0	0

Table 10: National Energy Balance 1990-2001. Crude Oil [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	1 149	1 280	1 180	1 154	1 099	1 035	992	972	959	1 002	971	957
Refinery Losses	0	0	0	113	139	206	103	82	89	76	35	35
Refinery Intake (Calculated)	7 952	8 273	8 732	8 522	8 898	8 619	8 754	9 374	9 190	8 635	8 240	8 799
Refinery Intake (Observed)	7 952	8 273	8 732	8 522	8 898	8 619	8 754	9 374	9 190	8 635	8 240	8 799
Refinery Fuel	0	0	0	0	0	0	0	0	0	0	0	0
Total Imports (Balance)	6 797	7 000	7 550	7 453	7 790	7 590	7 737	8 450	8 269	7 698	7 315	7 940
Total Exports (Balance)	0	0	0	0	0	0	51	25	44	51	61	63
Stock Change (National Territory)	6	-8	3	-84	9	-6	75	-23	6	-14	16	-36
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0

Table 11: National Energy Balance 1990-2001. Natural Gas Liquids [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	41	41	40	40	47	43	53	55	88	61	101	55
Refinery Losses	0	0	0	0	0	0	0	0	0	0	0	0
Refinery Intake (Calculated)	41	41	40	40	47	43	53	43	226	71	107	55
Refinery Intake (Observed)	41	41	40	40	47	43	53	43	226	71	107	55
Refinery Fuel	0	0	0	0	0	0	0	0	0	0	0	0
Total Imports (Balance)	0	0	0	0	0	0	0	0	135	0	6	0
Total Exports (Balance)	0	0	0	0	0	0	0	0	0	0	0	0
Stock Change (National Territory)	0	0	0	0	0	0	0	-12	2	10	0	0
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0

Table 12: National Energy Balance 1990-2001. Refinery Feedstocks [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Refinery Losses	0	0	0	0	0	0	0	0	0	0	0	0
Refinery Intake (Calculated)	1 327	1 530	1 224	1 158	952	637	684	853	607	873	540	653
Refinery Intake (Observed)	1 327	1 530	1 224	1 158	952	637	684	853	607	873	540	652
Refinery Fuel	0	0	0	0	0	0	0	0	0	0	0	1
Total Imports (Balance)	1 211	1 394	1 058	708	848	637	712	664	729	740	627	570
Total Exports (Balance)	0	0	0	0	102	103	62	14	13	15	76	42
Stock Change (National Territory)	30	34	86	349	105	1	-58	189	-196	115	-32	115

Table 13: National Energy Balance 1990-2001. Residual Fuel Oil [1000 tons].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Refinery Gross Output	1 913	1 981	1 821	1 678	1 472	1 513	1 441	1 540	1 347	1 308	979	1 044

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Refinery Fuel	81	77	80	126	143	139	56	49	63	22	37	7
Total Imports (Balance)	400	240	220	541	456	532	386	449	671	468	262	280
Total Exports (Balance)	185	149	65	110	77	38	121	180	18	37	152	228
International Marine Bunkers	0	0	0	0	0	0	0	0	0	0	0	0
Stock Change (National Territory)	-93	-88	-188	-29	109	-117	119	128	-38	-131	246	256
Gross Inland Deliveries (Obs.)	1 954	1 907	1 709	1 954	1 816	1 750	1 770	1 888	1 899	1 586	1 299	1 345
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	406	500	454	789	738	666	694	806	883	797	455	500
Public Electricity	28	37	10	102	95	88	198	391	351	271	117	197
Public Combined Heat and Power	253	297	229	408	398	316	177	149	230	281	162	184
Public Heat Plants	46	64	106	112	81	71	106	53	108	63	59	59
Auto Producers of Electricity	0	0	0	0	0	0	85	78	102	85	65	1
Auto Producers for CHP	80	102	109	168	164	191	128	135	92	94	51	58
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	2	1	1
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petrochemical Industry	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Gas Extraction	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	1 548	1 407	1 255	1 165	1 078	1 084	1 076	1 081	1 016	789	843	846
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	577	605	540	661	670	602	538	817	743	514	566	538
Iron and Steel	88	92	88	105	125	141	112	283	257	178	196	186
Chemical (incl.Petro-Chemical)	23	23	17	19	25	23	23	29	27	18	20	19
Non ferrous Metals	4	4	4	4	5	6	8	13	12	8	9	9
Non metallic Mineral Products	113	108	108	157	134	118	102	141	129	89	98	93
Transportation Equipment	13	15	13	16	17	15	5	4	4	3	3	3
Machinery	11	13	11	13	14	14	16	17	15	10	11	11
Mining and Quarrying	6	6	5	7	7	6	8	8	7	5	6	5
Food, Beverages and Tobacco	77	85	78	88	83	78	54	61	56	39	43	40
Pulp, Paper and Printing	123	131	116	139	140	95	76	101	92	64	70	67
Wood and Wood Products	15	15	13	14	15	18	21	30	27	19	21	20
Construction	32	34	21	24	25	19	28	32	29	20	22	21
Textiles and Leather	26	30	24	27	28	22	28	35	32	22	24	23
Non Specified (Industry)	46	49	41	47	52	46	57	63	58	40	44	42
Total Other Sectors	971	802	715	504	408	482	539	264	273	275	277	307
Commerce - Public Services	309	225	199	161	163	209	231	52	47	32	36	34
Residential	471	410	367	244	174	194	219	151	161	173	172	194
Agriculture	191	167	149	99	71	79	89	61	65	70	70	79
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	0	0	0	0	0	0	0	0	0	0	0	1

[illegible]

[illegible]

Table 15: National Energy Balance 1990-2001. Diesel [1000 tons].

[illegible]

[illegible]

Table 16: National Energy Balance 1990-2001. Other Kerosene [1000 tons].

[illegible]

[illegible]

Table 17: National Energy Balance 1990-2001. Kerosene Type Jet Fuel [1000 tons].

[illegible]

[illegible]

Table 18: National Energy Balance 1990-2001. Gasoline Type Jet Fuel [1000 tons].

[illegible]

[illegible]

Table 19: National Energy Balance 1990-2001. Motor Gasoline [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	2 506	2 748	2 636	2 530	2 442	2 358	2 177	2 063	2 096	2 045	1 978	1 992
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	46	46	38	35	68	42	39	40	103	2	2	2
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	7	3	0	0	0	0	0	0	4	0	1	1
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	32	35	30	28	55	34	32	32	80	1	1	0
Machinery	0	0	0	0	0	0	0	0	1	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	1	1	1	1	1	1	1	1	2	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	5	6	6	5	10	6	6	6	14	0	0	1
Textiles and Leather	1	1	1	1	1	1	1	1	1	0	0	0
Non Specified (Industry)	0	0	0	0	1	0	0	0	1	0	0	0
Total Other Sectors	2	2	2	2	3	2	2	2	5	0	0	0
Commerce - Public Services	2	2	2	2	3	2	2	2	5	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	7	3	0	0	0	0	0	0	4	0	1	1

Table 20: National Energy Balance 1990-2001. Lubricants [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Non Specified (Energy)	9	8	7	5	5	5	6	6	6	6	6	6
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	146	128	107	82	79	77	94	96	95	92	97	96
Total Transport	67	59	49	38	36	35	43	44	43	42	44	44
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	66	58	48	37	35	34	42	43	42	41	43	43
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	1	1	1	1	1	1	1	1	1	1	1	1
Total Industry	76	67	56	43	41	40	49	50	49	48	50	50
Iron and Steel	14	13	10	8	8	8	9	9	9	9	9	9
Chemical (incl.Petro-Chemical)	6	6	5	4	3	3	4	4	4	4	4	4
Non ferrous Metals	2	2	2	1	1	1	1	2	1	1	2	2
Non metallic Mineral Products	10	9	7	6	5	5	6	7	6	6	7	7
Transportation Equipment	2	2	1	1	1	1	1	1	1	1	1	1
Machinery	3	3	2	2	2	2	2	2	2	2	2	2
Mining and Quarrying	3	3	2	2	2	2	2	2	2	2	2	2
Food, Beverages and Tobacco	10	9	8	6	6	5	7	7	7	7	7	7
Pulp, Paper and Printing	8	7	6	5	4	4	5	5	5	5	5	5
Wood and Wood Products	3	2	2	1	1	1	2	2	2	2	2	2
Construction	2	1	1	1	1	1	1	1	1	1	1	1
Textiles and Leather	4	4	3	2	2	2	3	3	3	3	3	3
Non Specified (Industry)	8	7	6	5	5	4	5	6	5	5	6	6
Total Other Sectors	3	3	2	2	2	2	2	2	2	2	2	2
Commerce - Public Services	3	3	2	2	2	2	2	2	2	2	2	2
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	164	144	120	92	89	86	105	108	106	103	108	108

Table 21: National Energy Balance 1990-2001. White Spirit [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Oil and Gas Extraction	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	11	14	14	14	14	12	12	11	11	13	7	7
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	11	14	14	14	14	12	12	11	11	13	7	7
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	11	14	10	10	10	10	9	8	5	4	3	3
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	0	0	4	4	4	2	3	3	6	8	3	4
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	0	0	0	0	0	0	0	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	1	1	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	0	0	0	0	0	0	0	0	0	0	0	0
Commerce - Public Services	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	11	14	10	10	10	10	9	8	5	4	3	3

Table 22: National Energy Balance 1990-2001. Bitumen [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Petrochemical Industry	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Gas Extraction	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	538	492	441	410	446	440	493	542	572	560	587	618
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	538	492	441	410	446	440	493	542	572	560	587	618
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	0	0	0	0	0	0	0	0	0	0	0	0
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	0	0	0	0	0	0	0	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	538	492	441	410	446	440	493	542	572	560	587	618
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	0	0	0	0	0	0	0	0	0	0	0	0
Commerce - Public Services	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	538	492	441	410	446	440	493	542	572	560	587	618

Table 23: National Energy Balance 1990-2001. Other Oil Products [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Auto Producers for CHP	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Transformation)	22	19	0	1	1	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petrochemical Industry	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Gas Extraction	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	681	753	701	590	659	574	710	803	668	683	638	697
Total Transport	0	0	0	0	0	0	0	0	0	0	0	0
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	0	0	0	0	0	0	0	0	0	0	0	0
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	681	753	701	590	659	574	710	803	668	683	638	697
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	681	753	701	590	659	574	710	803	668	683	638	697
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	0	0	0	0	0	0
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	0	0	0	0	0	0	0	0	0	0	0	0
Pulp, Paper and Printing	0	0	0	0	0	0	0	0	0	0	0	0
Wood and Wood Products	0	0	0	0	0	0	0	0	0	0	0	0
Construction	0	0	0	0	0	0	0	0	0	0	0	0
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	0	0	0	0	0	0	0	0	0	0	0	0
Total Other Sectors	0	0	0	0	0	0	0	0	0	0	0	0
Commerce - Public Services	0	0	0	0	0	0	0	0	0	0	0	0
Residential	0	0	0	0	0	0	0	0	0	0	0	0
Agriculture	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	681	753	701	590	659	574	710	803	668	683	638	697

Table 24: National Energy Balance 1990-2001. LPG [1000 tons].

[illegible]

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total Transformation Sector	1	4	4	3	3	3	3	2	1	1	0	0
Public Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Public Combined Heat and Power	0	0	0	0	0	0	0	0	0	0	0	0
Public Heat Plants	1	4	4	3	3	3	3	2	1	1	0	0
Auto Producers of Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producers for CHP	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petrochemical Industry	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Gas Extraction	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	124	153	158	165	172	163	150	130	143	148	150	143
Total Transport	4	4	4	4	4	4	4	4	4	4	4	4
International Civil Aviation	0	0	0	0	0	0	0	0	0	0	0	0
Domestic Air Transport	0	0	0	0	0	0	0	0	0	0	0	0
Road	4	4	4	4	4	4	4	4	4	4	4	4
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	68	79	50	57	67	65	74	61	67	63	64	55
Iron and Steel	5	5	4	4	4	4	13	13	15	15	15	13
Chemical (incl.Petro-Chemical)	0	0	0	0	0	0	0	0	0	0	0	0
Non ferrous Metals	8	8	7	6	7	6	6	5	5	6	6	5
Non metallic Mineral Products	13	14	12	16	22	24	23	15	16	16	17	14
Transportation Equipment	1	2	1	1	1	3	2	4	5	0	0	0
Machinery	6	6	5	6	6	6	7	4	5	5	5	4
Mining and Quarrying	1	1	0	1	1	1	1	1	1	1	1	1
Food, Beverages and Tobacco	4	4	4	4	3	3	2	2	2	2	2	2
Pulp, Paper and Printing	1	1	1	2	1	1	2	1	1	1	1	1
Wood and Wood Products	0	0	0	1	0	0	1	0	0	0	0	0
Construction	24	31	9	10	12	10	9	7	8	8	8	7
Textiles and Leather	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Industry)	6	8	8	8	9	9	8	7	8	8	8	7
Total Other Sectors	52	70	104	103	100	93	72	65	71	81	82	84
Commerce - Public Services	34	49	83	79	76	65	37	25	28	33	33	29
Residential	16	19	19	22	22	26	31	36	39	43	44	50
Agriculture	2	2	2	2	2	3	3	4	4	4	5	5
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	0	0	0	0	0	0	0	0	0	0	0	0

Table 25: National Energy Balance 1990-2001. Refinery Gas [1000 tons].

[illegible]

[illegible]

Table 26: National Energy Balance 1990-2001. Natural Gas [TJ].

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	46 376	47 729	51 722	53 559	48 776	53 336	53 701	51 404	56 440	62 524	64 826	62 194
Total Imports (Balance)	187 917	184 138	183 846	193 697	179 430	229 114	236 579	216 911	224 009	219 484	222 784	227 406
Total Exports (Balance)	0	0	12	0	189	576	0	0	698	0	633	14 713
Stock Change (National Territory)	-15 054	-73	-7 946	-7 212	18 891	-12 290	-3 340	8 236	4 168	6 867	-11 295	19 095
Gross Inland Deliveries (Obs.)	219 239	231 794	227 610	240 044	246 908	269 583	286 941	276 551	283 920	288 876	275 682	293 982
Statistical Difference	0	0	0	0	0	0	0	0	0	-1	0	0
Total Transformation Sector	74 710	76 968	74 215	80 159	94 010	95 817	108 595	96 829	100 564	102 771	79 212	78 398
Public Electricity	28 100	25 602	20 818	20 129	23 477	21 731	30 433	27 354	34 382	30 571	22 256	22 239
Public Combined Heat and Power	23 810	24 752	24 529	25 628	27 342	30 757	34 179	31 061	29 381	35 099	29 602	30 928
Public Heat Plants	6 677	7 200	7 148	8 135	7 517	11 513	13 681	8 373	7 741	7 455	5 461	5 453
Auto Producers of Electricity	1 265	1 303	1 256	1 357	1 591	1 622	19 953	22 299	21 190	18 436	12 925	11 749
Auto Producers for CHP	14 858	18 111	20 464	24 910	34 084	30 195	10 349	7 741	7 870	10 443	8 513	7 575
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	766	454	454
Gas Works (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Conversion to Liquids	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	13 411	13 437	12 495	14 070	13 271	14 001	12 134	12 297	11 219	11 316	9 957	22 241
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Oil and Gas Extraction	5 339	5 396	5 027	5 255	5 228	5 746	3 022	3 709	2 989	3 017	2 665	3 099
Inputs to Oil Refineries	8 045	8 041	7 469	7 983	6 928	7 606	8 382	7 898	7 305	7 339	6 356	7 380
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	28	1	0	833	1 115	650	731	690	926	960	935	11 761
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	2 726	3 352	3 259	1 471	1 788	4 643	718	230	1 776	2 493	-207	10 835
Final Consumption	113 479	122 072	126 906	129 338	127 802	144 603	154 713	156 527	159 807	161 653	176 216	172 563
Total Transport	3 045	3 297	3 570	3 865	3 780	4 092	4 216	4 199	6 344	7 807	9 627	11 596
Road	0	0	0	0	0	0	0	0	0	0	0	0
Pipeline Transport	3 045	3 297	3 570	3 865	3 780	4 092	4 216	4 199	6 344	7 807	9 627	11 596
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	69 486	66 841	65 954	64 308	67 046	72 820	76 245	80 832	80 328	78 264	88 270	78 320
Iron and Steel	10 594	9 589	9 517	9 424	10 481	11 142	11 875	14 266	14 177	13 812	15 578	13 822
Chemical (incl. Petro-Chemical)	7 762	7 139	7 383	7 491	7 603	8 176	8 165	9 900	9 839	9 586	10 812	9 593
Non ferrous Metals	1 361	1 208	1 574	1 899	2 025	2 134	1 975	2 315	2 301	2 242	2 528	2 243
Non metallic Mineral Products	10 153	10 300	9 342	9 631	10 126	10 997	11 690	12 966	12 885	12 554	14 159	12 563
Transportation Equipment	1 545	1 776	1 924	2 071	2 381	2 532	2 361	1 138	1 131	1 102	1 242	1 102
Machinery	2 501	2 486	2 449	2 658	2 985	3 220	3 156	1 458	1 449	1 412	1 592	1 413
Mining and Quarrying	2 648	2 486	1 819	1 829	1 990	2 496	2 586	2 471	2 455	2 392	2 698	2 394
Food, Beverages and Tobacco	8 939	8 879	8 222	7 732	8 705	9 333	8 999	9 429	9 370	9 129	10 297	9 136
Pulp, Paper and Printing	12 948	12 253	12 246	9 976	8 812	9 695	10 703	16 496	16 393	15 972	18 014	15 983
Wood and Wood Products	1 729	1 705	1 784	1 657	1 919	2 026	2 206	1 621	1 611	1 570	1 771	1 571
Construction	736	710	875	1 208	1 386	1 519	1 446	538	535	521	588	521
Textiles and Leather	3 531	3 267	3 499	3 279	2 985	3 364	3 625	2 353	2 338	2 278	2 570	2 280
Non Specified (Industry)	5 039	5 043	5 318	5 454	5 649	6 186	7 457	5 880	5 844	5 693	6 421	5 698
Total Other Sectors	40 947	51 934	57 382	61 164	56 976	67 691	74 252	71 497	73 135	75 583	78 319	82 648
Commerce - Public Services	7 765	12 096	18 129	17 929	15 762	23 148	24 117	18 769	18 652	18 172	20 496	18 185
Residential	32 828	39 412	38 833	42 772	40 774	44 066	49 599	52 164	53 901	56 796	57 204	63 773
Agriculture	355	426	420	462	441	476	536	564	583	614	619	690
Non Specified (Others)	0	0	0	0	0	0	0	0	0	0	0	0
Total Non-Energy Use	14 913	15 965	10 735	15 006	10 036	10 518	10 781	10 669	10 554	10 644	10 504	9 945

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	61 401	66 501	63 235	64 028	60 260	65 763	70 726	65 357	63 416	62 799	57 814	65 571
Total Imports (Balance)	2 288	2 832	2 421	3 064	2 382	1 623	2 423	2 017	1 604	1 486	1 803	1 803
Total Exports (Balance)	28	80	57	29	73	222	107	114	140	34	180	180
Stock Change (National Territory)	-545	706	382	113	-179	189	243	-54	0	0	0	0
Gross Inland Deliveries (Obs.)	63 116	69 960	65 982	67 176	62 390	67 354	73 285	67 206	64 881	64 251	59 437	67 194
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	0	0	0	0	0	0	0	0	210	0	0	0
Public Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Public Combined Heat and Power	0	0	0	0	0	0	0	0	0	0	0	0
Public Heat Plants	0	0	0	0	0	0	0	0	210	0	0	0
Auto Producers of Electricity	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producers for CHP	0	0	0	0	0	0	0	0	0	0	0	0
Auto Producer Heat Plants	0	0	0	0	0	0	0	0	0	0	0	0
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum refineries	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	63 116	69 960	65 982	67 176	62 390	67 354	73 285	67 206	64 672	64 251	59 437	67 194
Total Transport	2	2	1	1	1	1	1	0	0	0	0	0
Rail	2	2	1	1	1	1	1	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	0	0	0	0	0	0	0	0	0	0	0	0
Total Industry	661	734	706	802	904	1 074	783	272	151	148	135	157
Iron and Steel	0	0	0	0	0	0	0	0	0	0	0	0
Chemical (incl.Petro-Chemical)	0	0	0	10	0	0	0	0	0	0	0	0
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	47	44	43	41	42	62	7	1	1	1	1	1
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	28	26	34	31	31	31	10	0	0	0	0	0
Mining and Quarrying	0	9	0	0	0	0	2	0	0	0	0	0
Food, Beverages and Tobacco	121	114	77	144	94	93	23	15	8	8	7	9
Pulp, Paper and Printing	9	26	0	0	0	0	54	1	1	0	0	1
Wood and Wood Products	233	253	221	226	291	300	319	76	42	42	38	44
Construction	0	0	102	113	156	289	142	79	44	43	39	46
Textiles and Leather	19	26	17	21	21	21	5	0	0	0	0	0
Non Specified (Industry)	205	236	213	216	270	279	221</					

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Indigenous Production	13 668	14 819	15 705	18 136	18 456	18 739	20 571	26 311	22 341	28 523	28 603	29 896
Total Imports (Balance)	1 864	2 437	2 536	2 116	2 418	2 144	1 744	2 838	2 344	2 641	2 819	4 095
Total Exports (Balance)	2 072	2 116	2 240	1 517	2 221	2 617	2 819	5 181	5 034	6 137	6 509	7 978
Stock Change (National Territory)	0	0	0	0	0	0	0	0	0	0	0	0
Gross Inland Deliveries (Obs.)	13 461	15 139	16 001	18 736	18 653	18 265	19 496	23 968	19 651	25 027	24 913	26 012
Statistical Difference	0	0	0	0	0	0	0	0	0	0	0	0
Total Transformation Sector	2 450	3 881	4 316	7 440	9 181	8 864	10 038	12 941	7 092	11 673	11 536	10 425
Public Electricity	0	0	0	0	0	0	0	0	14	17	9	517
Public Combined Heat and Power	0	0	0	0	0	73	98	117	111	81	77	296
Public Heat Plants	2 045	3 020	3 404	3 515	3 714	4 332	5 988	5 904	5 904	6 453	7 010	7 566
Auto Producers of Electricity	0	0	0	0	0	189	2 493	3 041	34	2 636	2 108	877
Auto Producers for CHP	405	861	912	3 925	5 467	4 270	1 459	3 806	950	2 394	2 248	1 085
Auto Producer Heat Plants	0	0	0	0	0	0	0	72	79	92	83	83
Total Energy Sector	0	0	0	0	0	0	0	0	0	0	0	0
Coal Mines	0	0	0	0	0	0	0	0	0	0	0	0
Patent Fuel Plants	0	0	0	0	0	0	0	0	0	0	0	0
Coke Ovens (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Blast Furnaces (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Gas Works (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
BKB (Transformation)	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum refineries	0	0	0	0	0	0	0	0	0	0	0	0
Power Plants	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Energy)	0	0	0	0	0	0	0	0	0	0	0	0
Distribution Losses	0	0	0	0	0	0	0	0	0	0	0	0
Final Consumption	11 011	11 258	11 685	11 295	9 472	9 401	9 458	11 027	12 558	13 354	13 377	15 587
Total Transport	79	87	113	165	171	233	250	272	291	340	367	404
Rail	0	0	0	0	0	0	0	0	0	0	0	0
Inland Waterways	0	0	0	0	0	0	0	0	0	0	0	0
Non Specified (Transport)	79	87	113	165	171	233	250	272	291	340	367	404
Total Industry	9 245	9 123	9 492	8 846	7 156	6 709	6 584	7 565	8 544	7 910	7 162	8 210
Iron and Steel	0	0	0	0	0	0	20	0	0	0	0	0
Chemical (incl.Petro-Chemical)	2 898	2 902	3 258	2 173	1 808	1 722	2 062	2 413	1 575	2 616	765	877
Non ferrous Metals	0	0	0	0	0	0	0	0	0	0	0	0
Non metallic Mineral Products	0	0	0	0	0	0	2	0	0	0	0	0
Transportation Equipment	0	0	0	0	0	0	0	0	0	0	0	0
Machinery	0	0	0	0	0	0	11	6	6	2	2	2
Mining and Quarrying	0	0	0	0	0	0	0	0	0	0	0	0
Food, Beverages and Tobacco	10	10	10	9	9	9	6	1	1	0	0	0
Pulp, Paper and Printing	3 662	3 475	3 952	4 547	3 605	3 911	2 502	2 761	5 842	4 376	5 287	6 061
Wood and Wood Products	2 569	2 620										

[illegible]

Table 30: National Energy Balance 1990-2001. Biogas [TJ].

[illegible]

[illegible]

[illegible]

Table 33 presents heat calorific values taken from the IEA used for estimating emissions.

Table 33: Heat calorific values [MJ/kg], [MJ/m³] taken from the IEA 1990-2001.

Fuel Code	Fuel Description		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
101A	Coking Coal	Transf.	29.07	29.07	29.07	29.07	29.07	29.07	29.07	29.07	29.07	29.07	29.07	29.07
102A	Hard Coal	Final Cons.	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
		Transf.	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00	28.00
104A	Hard Coal Briquettes	Final Cons.								31.00	31.00	31.00	31.00	31.00
105A	Brown Coal	Final Cons.	10.90	10.90	10.90	10.90	10.90	10.90	9.90	9.90	9.90	9.77	9.82	9.82
		Transf.	10.90	10.90	10.90	10.90	10.90	10.90	9.90	9.90	9.90	9.77	9.82	9.82
106A	Brown Coal Briquettes	Final Cons.	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30
		Transf.	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30	19.30
107A	Coke Oven Coke	Final Cons.	28.20	28.20	28.20	28.50	28.50	28.50	28.20	28.20	28.20	28.20	28.20	28.20
		Transf.	28.20	28.20	28.20	28.50	28.50	28.50	28.20	28.20	28.20	28.20	28.20	28.20
113A	Peat	Final Cons.	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80	8.80
304A	Coke Oven Gas	Production	17.52	17.52	17.52	17.52	17.52	17.52	17.52	17.52	17.52	17.52	17.52	17.52
305A	Blast Furnace Gas	Production	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
201A	Crude Oil	Average	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.51	42.50	42.52	42.52	42.50
203X	Residual Fuel Oil	Final Cons.	41.00	41.10	41.10	41.30	41.30	40.46	40.33	40.28	40.27	41.54	41.50	41.50
		Transf.	41.00	41.10	41.10	41.30	41.30	40.46	40.33	40.28	40.27	40.49	40.19	40.19
204A	Gasoil	Final Cons.	42.60	42.60	42.60	42.60	42.60	42.70	42.80	42.80	42.80	42.80	42.80	42.80
		Transf.	42.60	42.60	42.60	42.60	42.60	42.70	42.80	42.80	42.80	42.62	42.32	42.32
2050	Diesel	Final Cons.	42.60	42.60	42.60	42.60	42.60	42.70	42.70	42.70	42.70	42.80	42.80	42.80
		Transf.	42.60	42.60	42.60	42.60	42.60	42.70	42.70	42.70	42.70	42.63	42.80	42.80
206A	Petroleum	Final Cons.	43.60	43.60	43.60	43.60	43.60	43.30	43.38	43.41	43.41	43.41	43.41	43.41
206B	Kerosene	Final Cons.	43.60	43.60	43.60	43.60	43.60	43.30	43.38	43.41	43.41	43.41	43.41	43.41
207A	Aviation Gasoline	Final Cons.	41.60	41.60	41.60	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50
2080	Motor Gasoline	Final Cons.	41.60	41.60	41.60	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50
217A	Refinery Feedstocks	Average	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	40.30	42.70	42.95	42.85
219A	Lubricants	Final Cons.	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	43.83	43.49	43.49
		Transf.	41.80	41.80	41.80	41.80	41.80	41.80						
220A	White Spirit	Final Cons.	41.60	41.60	41.60	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50	42.50
222A	Bitumen	Final Cons.	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	43.83	43.49	43.49
		Transf.	41.80	41.80	41.80	41.80	41.80	41.80						
224A	Other Petroleum Products	Final Cons.	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	41.80	43.83	43.49	43.49
		Transf.	41.80	41.80	41.80	41.80	41.80	41.80						
302A	Natural Gas Liquids (NGL)	Average	45.22	45.22	45.22	45.22	45.22	45.22	45.22	45.22	45.22	45.22	45.22	45.22
303A	Liquified Petroleum Gas (LPG)	Final Cons.	46.30	46.20	46.20	46.20	46.20	46.30	46.32	46.31	46.32	46.00	46.00	46.00
301A	Natural Gas	Final Cons.	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	35.85	35.85	35.85
		Transf.	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	36.00	35.85	35.85	35.85
		Transf.	46.30	46.20	46.20	46.20	46.20	46.30	46.32	46.31	46.32	46.04	46.34	46.34
308A	Refinery Gas	Transf.	49.00	49.00	49.00	49.00	49.00	49.00	49.00	49.00	49.00	42.23	45.93	45.93

Table 34 presents heat calorific values taken from STATISTIK AUSTRIA used for estimating emissions.

Table 34: Heat calorific values [MJ/kg] taken from STATISTIK AUSTRIA 1990-2001.

Fuel Code	Fuel Description		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
114B	Municipal Waste	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70
114C	Hazardous Waste	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70
115A	Industrial Waste	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70
111A	Fuel Wood	Average	15.50	15.50	15.50	14.35	14.35	14.35	14.35	14.35	14.35	14.35	14.35	14.35
116A	Wood Wastes	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70
118A	Sewage Sludge	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70
215A	Black Liquor	Average	9.20	9.20	9.20	9.20	9.20	9.20	8.50	8.70	8.70	8.70	8.70	8.70

Table 35 presents IPCC default values for heat calorific values used for estimating emissions.

Table 35: Heat calorific values [MJ/kg], [MJ/m³]: IPCC default values 1990-2001.

[illegible]

ANNEX 5: CRF

The following Annex includes the CRF- format for the year 2001 as included in Austria's data submission 2003 to the UNFCCC.





TABLE 1 SECTORAL REPORT FOR ENERGY
(Sheet 1 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC	SO ₂
	(Gg)						
Total Energy	55 879.06	18.84	4.41	179.70	643.59	82.44	27.97
A. Fuel Combustion Activities (Sectoral Approach)	55 672.17	12.83	4.41	179.70	643.59	78.84	27.81
1. Energy Industries	14 375.00	0.31	0.17	13.04	3.21	0.69	7.82
a. Public Electricity and Heat Production	11 722.53	0.30	0.16	9.27	2.71	0.69	4.21
b. Petroleum Refining	2 482.00	0.00	0.01	3.30	0.49	IE	3.62
c. Manufacture of Solid Fuels and Other Energy Industries	170.47	0.00	0.00	0.46	0.02	0.00	0.00
2. Manufacturing Industries and Construction	7 752.48	0.60	0.42	24.84	15.47	3.63	6.22
a. Iron and Steel	260.98	0.00	0.00	0.34	0.06	0.00	0.29
b. Non-Ferrous Metals	187.64	0.00	0.00	0.19	0.05	0.00	0.17
c. Chemicals	717.15	0.04	0.01	1.07	0.62	0.09	1.01
d. Pulp, Paper and Print	1 213.15	0.08	0.05	3.90	3.92	0.68	0.89
e. Food Processing, Beverages and Tobacco	658.63	0.02	0.00	0.67	0.09	0.01	0.36
f. Other (<i>please specify</i>)	4 714.92	0.46	0.36	18.67	10.72	2.85	3.50
Industry (not disaggregated to subsectors)	4 714.92	0.46	0.36	18.67	10.72	2.85	3.50
3. Transport	18 886.80	1.58	2.76	101.46	221.98	30.33	3.15
a. Civil Aviation	120.73	0.00	0.00	0.32	2.05	0.07	0.04
b. Road Transportation	17 894.82	1.51	2.72	97.14	216.63	29.34	3.00
c. Railways	169.67	0.03	0.02	1.69	0.49	0.24	0.10
d. Navigation	63.80	0.02	0.01	0.57	2.75	0.68	0.02
e. Other Transportation (<i>please specify</i>)	637.77	0.02	0.00	1.74	0.06	0.01	0.00
SNAP 0803 Inland waterways	637.77	0.02	0.00	1.74	0.06	0.01	0.00

TABLE 1 SECTORAL REPORT FOR ENERGY
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	NO _x	CO	NMVOC	SO ₂
	(Gg)						
4. Other Sectors	14 657.89	10.34	1.05	40.35	402.93	44.18	10.63
a. Commercial/Institutional	1 865.40	0.23	0.03	1.61	7.45	0.66	0.80
b. Residential	10 785.43	8.94	0.46	15.53	345.94	32.74	8.99
c. Agriculture/Forestry/Fisheries	2 007.06	1.18	0.57	23.21	49.54	10.78	0.84
5. Other (please specify) ⁽¹⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00
a. Stationary 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
b. Mobile 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B. Fugitive Emissions from Fuels	206.89	6.01	0.00	0.00	0.00	3.61	0.16
1. Solid Fuels	0.00	0.01	0.00	0.00	0.00	0.00	0.00
a. Coal Mining	0.00	0.01	NO	NO	NO	NO	
b. Solid Fuel Transformation	IE	NO	NO	IE	IE	IE	IE
c. Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2. Oil and Natural Gas	206.89	6.00	0.00	0.00	0.00	3.61	0.16
a. Oil	0.00	0.28		NE	NE	3.45	NE
b. Natural Gas	206.89	5.72				0.16	0.16
c. Venting and Flaring	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Venting	IE	IE				IE	IE
Flaring	IE	IE	IE	IE	IE	IE	IE
d. Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Memo Items: ⁽²⁾							
International Bunkers	1 614.75	0.01	0.06	5.16	1.59	0.65	0.51
Aviation	1 614.75	0.01	0.06	5.16	1.59	0.65	0.51
Marine	NO	NO	NO	NO	NO	NO	NO
Multilateral Operations	IE	IE	IE	IE	IE	IE	IE
CO₂ Emissions from Biomass	12 477.05						

⁽¹⁾ Include military fuel use under this category.

⁽²⁾ Please do not include in energy totals.

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 1 of 4)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	⁽¹⁾	(t/TJ)	(kg/TJ)	(kg/TJ)	(Gg)	(Gg)	(Gg)
I.A. Fuel Combustion	1 033 434.89	NCV				55 672.17	12.83	4.41
Liquid Fuels	460 566.06	NCV	73.01	5.41	8.17	33 627.81	2.49	3.76
Solid Fuels	166 148.39	NCV	43.08	3.15	0.67	7 158.29	0.52	0.11
Gaseous Fuels	273 202.32	NCV	52.29	1.17	0.39	14 286.93	0.32	0.11
Biomass	119 493.33	NCV	104.42	78.10	3.44 ⁽³⁾	12 477.05	9.33	0.41
Other Fuels	14 024.80	NCV	42.72	11.87	1.27	599.14	0.17	0.02
I.A.1. Energy Industries	206 301.24	NCV				14 375.00	0.31	0.17
Liquid Fuels	46 941.45	NCV	75.07	0.60	0.61	3 524.06	0.03	0.03
Solid Fuels	59 957.77	NCV	97.50	0.58	1.38	5 846.09	0.03	0.08
Gaseous Fuels	80 860.90	NCV	55.00	1.34	0.19	4 447.35	0.11	0.02
Biomass	9 276.36	NCV	109.95	2.88	3.76 ⁽³⁾	1 019.95	0.03	0.03
Other Fuels	9 264.76	NCV	60.17	12.00	1.40	557.50	0.11	0.01
a. Public Electricity and Heat Production	167 340.74	NCV				11 722.53	0.30	0.16
Liquid Fuels	18 460.28	NCV	78.44	1.53	1.06	1 447.95	0.03	0.02
Solid Fuels	59 957.77	NCV	97.50	0.58	1.38	5 846.09	0.03	0.08
Gaseous Fuels	70 381.57	NCV	55.00	1.47	0.20	3 870.99	0.10	0.01
Biomass	9 276.36	NCV	109.95	2.88	3.76 ⁽³⁾	1 019.95	0.03	0.03
Other Fuels	9 264.76	NCV	60.17	12.00	1.40	557.50	0.11	0.01
b. Petroleum Refining	35 861.03	NCV				2 482.00	0.00	0.01
Liquid Fuels	28 481.17	NCV	72.89	0.00	0.32	2 076.11	IE	0.01
Solid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Gaseous Fuels	7 379.86	NCV	55.00	0.00	0.10	405.89	IE	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
c. Manufacture of Solid Fuels and Other Energy Industries	3 099.47	NCV				170.47	0.00	0.00
Liquid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Solid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Gaseous Fuels	3 099.47	NCV	55.00	1.50	0.10	170.47	0.00	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00

⁽¹⁾ Activity data should be calculated using net calorific values (NCV) as specified by the IPCC Guidelines. If gross calorific values (GCV) were used, please indicate this by replacing "NCV" with "GCV" in this column.

⁽²⁾ Accurate estimation of CH₄ and N₂O emissions depends on combustion conditions, technology, and emission control policy, as well as fuel characteristics. Therefore, caution should be used when comparing the implied emission factors.

⁽³⁾ Carbon dioxide emissions from biomass are reported under Memo Items. The content of the cells is not included in the totals.

Note: For the coverage of fuel categories, please refer to the IPCC Guidelines (Volume 1. Reporting Instructions - Common Reporting Framework, section 1.2, p. 1.19). If some derived gases (e.g. gas work gas, coke oven gas, blast gas, oxygen steel furnace gas, etc.) are considered, Parties should provide information on the allocation of these derived gases under the above fuel categories (liquid, solid, gaseous, biomass, other fuels) in the documentation box at the end of sheet 4 of this table.

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 2 of 4)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	⁽¹⁾	(t/TJ)	(kg/TJ)	(kg/TJ)	(Gg)	(Gg)	(Gg)
I.A.2 Manufacturing Industries and Construction	277 197.76	NCV				7 752.48	0.60	0.42
Liquid Fuels	42 288.39	NCV	61.71	8.33	7.80	2 609.50	0.35	0.33
Solid Fuels	97 106.54	NCV	4.75	0.20	0.07	461.57	0.02	0.01
Gaseous Fuels	98 097.65	NCV	47.46	1.29	0.09	4 656.17	0.13	0.01
Biomass	35 803.02	NCV	110.10	1.97	2.07 ⁽³⁾	3 941.93	0.07	0.07
Other Fuels	3 902.16	NCV	6.47	7.76	0.91	25.23	0.03	0.00
a. Iron and Steel	110 961.30	NCV				260.98	0.00	0.00
Liquid Fuels	8 325.05	NCV	23.06	0.15	0.15	191.96	0.00	0.00
Solid Fuels	88 813.67	NCV	0.27	0.01	0.00	23.55	0.00	0.00
Gaseous Fuels	13 822.25	NCV	3.29	0.09	0.01	45.47	0.00	0.00
Biomass	0.33	NCV	110.00	2.00	4.00 ⁽³⁾	0.04	0.00	0.00
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
b. Non-Ferrous Metals	3 036.36	NCV				187.64	0.00	0.00
Liquid Fuels	581.00	NCV	72.66	0.98	0.48	42.21	0.00	0.00
Solid Fuels	211.95	NCV	104.00	2.00	1.40	22.04	0.00	0.00
Gaseous Fuels	2 243.40	NCV	55.00	1.50	0.10	123.39	0.00	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
c. Chemicals	14 125.25	NCV				717.15	0.04	0.01
Liquid Fuels	888.40	NCV	77.14	0.61	0.65	68.53	0.00	0.00
Solid Fuels	1 060.56	NCV	98.01	3.80	1.40	103.95	0.00	0.00
Gaseous Fuels	9 592.77	NCV	55.00	1.50	0.10	527.60	0.01	0.00
Biomass	876.61	NCV	110.00	2.00	4.00 ⁽³⁾	96.43	0.00	0.00
Other Fuels	1 706.90	NCV	10.00	12.00	1.40	17.07	0.02	0.00
d. Pulp, Paper and Print	42 071.52	NCV				1 213.15	0.08	0.05
Liquid Fuels	2 814.35	NCV	77.76	1.11	0.79	218.83	0.00	0.00
Solid Fuels	1 218.15	NCV	94.46	5.31	1.40	115.07	0.01	0.00
Gaseous Fuels	15 983.30	NCV	55.00	1.50	0.10	879.08	0.02	0.00
Biomass	22 038.99	NCV	110.00	2.00	2.11 ⁽³⁾	2 424.40	0.04	0.05
Other Fuels	16.73	NCV	10.00	12.00	1.40	0.17	0.00	0.00
e. Food Processing, Beverages and Tobacco	11 122.80	NCV				658.63	0.02	0.00
Liquid Fuels	1 821.51	NCV	77.18	0.72	0.68	140.58	0.00	0.00
Solid Fuels	149.16	NCV	103.98	2.01	1.40	15.51	0.00	0.00
Gaseous Fuels	9 135.81	NCV	55.00	1.50	0.10	502.47	0.01	0.00
Biomass	8.97	NCV	100.50	2.00	4.00 ⁽³⁾	0.90	0.00	0.00
Other Fuels	7.34	NCV	10.00	12.00	1.40	0.07	0.00	0.00
f. Other (<i>please specify</i>)	95 880.54	NCV				4 714.92	0.46	0.36
Liquid Fuels	27 858.07	NCV	69.90	12.40	11.65	1 947.39	0.35	0.32
Solid Fuels	5 653.05	NCV	32.10	1.43	0.46	181.45	0.01	0.00
Gaseous Fuels	47 320.12	NCV	54.48	1.49	0.10	2 578.17	0.07	0.00
Biomass	12 878.12	NCV	110.28	1.92	1.86 ⁽³⁾	1 420.17	0.02	0.02
Other Fuels	2 171.18	NCV	3.65	4.38	0.51	7.92	0.01	0.00

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 3 of 4)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	(1)	(t/TJ)	(kg/TJ)	(kg/TJ)	(Gg)	(Gg)	(Gg)
1.A.3 Transport	259 008.43	NCV				18 886.80	1.58	2.76
Gasoline	84 855.60	NCV	73.92	16.26	26.87	6 272.63	1.38	2.28
Diesel	162 411.02	NCV	73.67	1.01	2.93	11 965.07	0.16	0.48
Natural Gas	11 595.88	NCV	55.00	1.50	0.10	637.77	0.02	0.00
Solid Fuels	24.00	NCV	95.00	6.83	6.83	2.28	0.00	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels	121.94	NCV	74.19	132.25	2.05	9.05	0.02	0.00
a. Civil Aviation	1 661.96	NCV				120.73	0.00	0.00
Aviation Gasoline	86.65	NCV	74.12	13.59	0.00	6.42	0.00	0.00
Jet Kerosene	1 575.30	NCV	72.56	0.53	1.88	114.31	0.00	0.00
b. Road Transportation	242 596.80	NCV				17 894.82	1.51	2.72
Gasoline	83 193.64	NCV	73.95	16.56	27.37	6 151.89	1.38	2.28
Diesel Oil	159 403.16	NCV	73.67	0.84	2.78	11 742.93	0.13	0.44
Natural Gas	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels (<i>please specify</i>)	0.00	NCV				0.00	0.00	0.00
		NCV	0.00	0.00	0.00			
c. Railways	2 288.62	NCV				169.67	0.03	0.02
Solid Fuels	24.00	NCV	95.00	6.83	6.83	2.28	0.00	0.00
Liquid Fuels	2 264.62	NCV	73.92	12.91	8.25	167.39	0.03	0.02
Other Fuels (<i>please specify</i>)	0.00	NCV				0.00	0.00	0.00
		NCV	0.00	0.00	0.00			
d. Navigation	865.18	NCV				63.80	0.02	0.01
Coal	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Residual Oil	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Gas/Diesel Oil	743.24	NCV	73.67	1.67	18.02	54.75	0.00	0.01
Other Fuels (<i>please specify</i>)	121.94	NCV				9.05	0.02	0.00
Gasoline	121.94	NCV	74.19	132.25	2.05	9.05	0.02	0.00
		NCV	0.00	0.00	0.00			
e. Other Transportation	11 595.88	NCV				637.77	0.02	0.00
Liquid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Solid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Gaseous Fuels	11 595.88	NCV	55.00	1.50	0.10	637.77	0.02	0.00

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel Combustion Activities - Sectoral Approach
(Sheet 4 of 4)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾			EMISSIONS		
	Consumption		CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O
	(TJ)	⁽¹⁾	(t/TJ)	(kg/TJ)	(kg/TJ)	(Gg)	(Gg)	(Gg)
I.A.4 Other Sectors	290 927.46	NCV				14 657.89	10.34	1.05
Liquid Fuels	124 069.60	NCV	74.61	4.56	5.21	9 256.55	0.57	0.65
Solid Fuels	9 060.09	NCV	93.64	51.68	2.44	848.34	0.47	0.02
Gaseous Fuels	82 647.88	NCV	55.00	0.80	1.00	4 545.63	0.07	0.08
Biomass	74 413.95	NCV	100.99	124.11	4.06 ⁽³⁾	7 515.17	9.24	0.30
Other Fuels	735.94	NCV	10.00	12.00	1.40	7.36	0.01	0.00
a. Commercial/Institutional	32 072.38	NCV				1 865.40	0.23	0.03
Liquid Fuels	11 215.94	NCV	73.98	0.37	0.85	829.71	0.00	0.01
Solid Fuels	298.51	NCV	94.24	48.46	2.68	28.13	0.01	0.00
Gaseous Fuels	18 185.44	NCV	55.00	0.80	1.00	1 000.20	0.01	0.02
Biomass	1 636.54	NCV	106.91	112.00	3.00 ⁽³⁾	174.96	0.18	0.00
Other Fuels	735.94	NCV	10.00	12.00	1.40	7.36	0.01	0.00
b. Residential	225 794.24	NCV				10 785.43	8.94	0.46
Liquid Fuels	86 509.82	NCV	74.87	0.49	1.14	6 477.11	0.04	0.10
Solid Fuels	8 554.82	NCV	93.61	51.92	2.43	800.80	0.44	0.02
Gaseous Fuels	63 772.91	NCV	55.00	0.80	1.00	3 507.51	0.05	0.06
Biomass	66 956.69	NCV	100.65	125.46	4.07 ⁽³⁾	6 739.38	8.40	0.27
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
c. Agriculture/Forestry/Fisheries	33 060.84	NCV				2 007.06	1.18	0.57
Liquid Fuels	26 343.84	NCV	74.01	19.72	20.46	1 949.73	0.52	0.54
Solid Fuels	206.75	NCV	93.86	46.26	2.74	19.41	0.01	0.00
Gaseous Fuels	689.53	NCV	55.00	0.80	1.00	37.92	0.00	0.00
Biomass	5 820.71	NCV	103.22	112.00	4.29 ⁽³⁾	600.83	0.65	0.02
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
I.A.5 Other (Not elsewhere specified) ⁽⁴⁾	0.00	NCV				0.00	0.00	0.00
Liquid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Solid Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Gaseous Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00
Biomass	0.00	NCV	0.00	0.00	0.00 ⁽³⁾	0.00	0.00	0.00
Other Fuels	0.00	NCV	0.00	0.00	0.00	0.00	0.00	0.00

⁽⁴⁾ Include military fuel use under this category.

Documentation Box:

Military fuel use is included in "I A 3 b Road Transportation".

I A 2 a emissions from fuel consumption of iron and steel plants are included in **2 C Metal Production**". This leads to low IEF for solid, liquid an gaseous fuels in category 1 A 2 a

I A 1 c Petroleum Refining: CH₄ and NMVOC emissions are included in " **I B 2** fugitive emissions from fuels"

I A 2 f emissions from fuel consumption of cement industry are included in **2 A Mineral Products**". This leads to low IEF for solid, liquid an gaseous fuels in category 1 A 2 f

TABLE 1.A(b) SECTORAL BACKGROUND DATA FOR ENERGY
CO₂ from Fuel Combustion Activities - Reference Approach (IPCC Worksheet 1-1)
(Sheet 1 of 1)

Austria
2001
submission 2003

FUEL TYPES			Unit	Production	Imports	Exports	International bunkers	Stock change	Apparent consumption	Conversion factor ⁽¹⁾ (TJ/Unit)	⁽¹⁾	Apparent consumption (TJ)	Carbon emission factor (t C/TJ)	Carbon content (Gg C)	Carbon stored (Gg C)	Net carbon emissions (Gg C)	Fraction of carbon oxidized	Actual CO ₂ emissions (Gg CO ₂)
Liquid Fossil	Primary Fuels	Crude Oil	Gg	957.47	7 940.06	62.59		36.24	8 798.70	42.75	NCV	376 144.38	20.00	7 522.89	0.00	7 522.89	0.99	27 308.08
		Orimulsion	Gg	NO	NO	NO		NO	0.00		NCV	0.00		0.00		0.00		0.00
		Natural Gas Liquids	Gg	54.68	0.00	0.00		0.00	54.68	45.22	NCV	2 472.72	17.20	42.53	0.00	42.53	0.99	154.39
	Secondary Fuels	Gasoline	Gg		606.99	583.25	0.00	-50.12	73.86	44.80	NCV	3 308.85	18.90	62.54	0.57	61.97	0.99	224.95
		Jet Kerosene	Gg		36.56	5.27	507.03	-4.27	-471.46	44.59	NCV	-21 022.43	19.50	-409.94	0.00	-409.94	0.99	-1 488.07
		Other Kerosene	Gg		0.00	0.30	0.00	0.01	-0.31	44.75	NCV	-13.91	19.60	-0.27	0.00	-0.27	0.99	-0.99
		Shale Oil	Gg		NO	NO		NO	0.00		NCV	0.00		0.00		0.00		0.00
		Gas / Diesel Oil	Gg		3 059.70	417.96	0.00	-30.89	2 672.63	43.33	NCV	115 805.17	20.20	2 339.26	0.00	2 339.26	0.99	8 491.53
		Residual Fuel Oil	Gg		280.39	227.99	0.00	-255.84	308.24	40.19	NCV	12 388.07	21.10	261.39		261.39	0.99	948.84
		LPG	Gg		140.33	3.68		-6.29	142.95	47.31	NCV	6 762.73	17.20	116.32	0.00	116.32	1.00	426.50
		Ethane	Gg		IE	IE		IE	0.00		NCV	0.00		0.00	0.00	0.00		0.00
		Naphtha	Gg		IE	IE		IE	0.00		NCV	0.00		0.00	0.00	0.00		0.00
		Bitumen	Gg		295.77	78.44		1.23	216.10	40.19	NCV	8 685.12	22.00	191.07	546.69	-355.61	1.00	-1 303.92
		Lubricants	Gg		51.05	64.94	0.00	-5.05	-8.84	40.19	NCV	-355.10	20.00	-7.10	86.57	-93.68	1.00	-343.48
		Petroleum Coke	Gg		IE	IE		IE	0.00		NCV	0.00		0.00		0.00		0.00
		Refinery Feedstocks	Gg		569.91	42.26		-114.87	642.53	42.50	NCV	27 307.45	20.00	546.15	0.00	546.15	1.00	2 002.55
		Other Oil	Gg		91.89	161.97		-11.30	-58.78	40.19	NCV	-2 362.50	20.00	-47.25	562.51	-609.76	1.00	-2 235.77
Liquid Fossil Totals												529 120.56		10 617.59	1 196.34	9 421.25		34 184.60
Solid Fossil	Primary Fuels	Anthracite ⁽²⁾	Gg	IE	IE	IE		IE	0.00		NCV	0.00		0.00		0.00		0.00
		Coking Coal	Gg	0.00	1 861.32	0.00		-30.43	1 891.75	28.00	NCV	52 969.08	25.80	1 366.60	0.00	1 366.60	0.98	4 910.66
		Other Bit. Coal	Gg	0.00	1 862.89	0.01	0.00	-11.47	1 874.35	28.00	NCV	52 481.84	25.80	1 354.03	0.93	1 353.10	0.98	4 862.13
		Sub-bit. Coal	Gg	NO	NO	NO	NO	NO	0.00		NCV	0.00		0.00		0.00		0.00
		Lignite	Gg	1 205.62	6.00	0.08		-319.49	1 531.03	10.90	NCV	16 688.17	27.60	460.59	0.00	460.59	0.98	1 655.07
		Oil Shale	Gg	NO	NO	NO		NO	0.00		NCV	0.00		0.00		0.00		0.00
		Peat	Gg	0.50	0.00	0.00		0.00	0.50	8.80	NCV	4.40	28.90	0.13	0.00	0.13	0.98	0.46
	Secondary Fuels	BKB & Patent Fuel	Gg		98.87	0.00		0.00	98.87	19.30	NCV	1 908.17	25.80	49.23	0.00	49.23	0.98	176.90
		Coke Oven/Gas Coke	Gg		1 090.51	1.37		-46.02	1 135.16	28.20	NCV	32 011.43	29.50	944.34	961.85	-17.51	0.99	-63.57
Solid Fuel Totals												156 063.10		4 174.92	962.78	3 212.14		11 541.64
Gaseous Fossil		Natural Gas (Dry)	TJ	62 194.46	227 406.25	14 713.14		-19 094.76	293 982.32	1.00	NCV	293 982.32	15.30	4 497.93	152.16	4 345.77	1.00	15 934.51
Total												979 165.98		19 290.44	2 311.28	16 979.16		61 660.75
Biomass total												118 806.17		3 552.30	0.00	3 552.30		11 490.58
		Solid Biomass	TJ	118 705.17	5 897.25	8 158.04		0.00	116 444.38	1.00	NCV	116 444.38	29.90	3 481.69	0.00	3 481.69	0.88	11 234.24
		Liquid Biomass	TJ	IE	IE	IE		IE	0.00		NCV	0.00		0.00		0.00		0.00
		Gas Biomass	TJ	2 361.79	0.00	0.00		0.00	2 361.79	1.00	NCV	2 361.79	29.90	70.62	0.00	70.62	0.99	256.34

⁽¹⁾ To convert quantities expressed in natural units to energy units, use net calorific values (NCV). If gross calorific values (GCV) are used in this table, please indicate this by replacing "NCV" with "GCV" in this colour

⁽²⁾ If Anthracite is not separately available, include with Other Bituminous Coa

TABLE 1.A(c) COMPARISON OF CO₂ EMISSIONS FROM FUEL COMBUSTION
(Sheet 1 of 1)

Austria
2001
submission 2003

FUEL TYPES	Reference approach		National approach ⁽¹⁾		Difference ⁽²⁾	
	Energy consumption (PJ)	CO ₂ emissions (Gg)	Energy consumption (PJ)	CO ₂ emissions (Gg)	Energy consumption (%)	CO ₂ emissions (%)
Liquid Fuels (excluding international bunkers)	529.12	34 184.60	460.57	33 627.81	14.88	1.66
Solid Fuels (excluding international bunkers)	156.06	11 541.64	166.15	7 158.29	-6.07	61.23
Gaseous Fuels	293.98	15 934.51	273.20	14 286.93	7.61	11.53
Other ⁽³⁾	NE	NE	14.02	599.14	-100.00	-100.00
Total ⁽³⁾	979.17	61 660.75	913.94	55 672.17	7.14	10.76

⁽¹⁾ "National approach" is used to indicate the approach (if different from the Reference approach) followed by the Party to estimate its CO₂ emissions from fuel combustion reported in the national GHG inventory.

⁽²⁾ Difference of the Reference approach over the National approach (i.e. difference = 100% x ((RA-NA)/NA), where NA = National approach and RA = Reference approach).

⁽³⁾ Emissions from biomass are not included.

Note: In addition to estimating CO₂ emissions from fuel combustion by sector, Parties should also estimate these emissions using the IPCC Reference approach, as found in the IPCC Guidelines, Worksheet 1-1 (Volume 2. Workbook). The Reference approach is to assist in verifying the sectoral data. Parties should also complete the above tables to compare the alternative estimates, and if the emission estimates lie more than 2 percent apart, should explain the source of this difference in the documentation box provided.

Documentation Box:

All fuels: Emissions of the cement industry are included in category 2A. Emissions of iron and steel industry are included in category 2C.

Solid fuels: Energy consumption: National approach includes coke oven coke for blast furnaces whereas in the reference approach a share is considered as non energy use blast furnaces.

CO₂ emissions: The national approach doesn't separate between fuel related and non-fuel related CO₂-emissions for metal production. All CO₂-emissions are included in sector 2C: Metal Production.

Gaseous fuels: Energy consumption: National approach doesn't include losses and non-energy-use.

CO₂ emissions: National approach uses sector specific carbon contents (different from IPCC reference factor). Emissions from natural gas consumption of cement industry and iron and steel industry are reported under category "2 Industrial Processes".


Liquid fuels: Energy consumption: National approach doesn't include non-energy use and energy losses.

CO₂ emissions: Heat values and carbon contents are sector and fuel specific. The energy statistic is mass balanced only. Emissions from liquid fuels consumption of cement industry and iron and steel industry are reported under category "2 Industrial Processes".

Other fuels: The national approach considers waste as an additional fuel type (e.g. municipal solid waste and industrial fuel waste).

TABLE 1.A(d) SECTORAL BACKGROUND DATA FOR ENERGY
Feedstocks and Non-Energy Use of Fuels
(Sheet 1 of 1)

Austria
2001
submission 2003


FUEL TYPE ⁽¹⁾	ACTIVITY DATA AND RELATED INFORMATION		IMPLIED EMISSION FACTOR	ESTIMATE
	Fuel quantity (TJ)	Fraction of carbon stored	Carbon emission factor (t C/TJ)	of carbon stored in non-energy use of fuels (Gg C)
Naphtha ⁽²⁾	0.00	0.00	0.00	0.00
Lubricants	4 328.71	1.00	20.00	86.57
Bitumen	24 849.42	1.00	22.00	546.69
Coal Oils and Tars (from Coking Coal)	0.00	1.00	0.00	0.00
Natural Gas ⁽²⁾	9 944.79	1.00	15.30	152.16
Gas/Diesel Oil ⁽²⁾	0.00	1.00	0.00	0.00
LPG ⁽²⁾	0.00	1.00	0.00	0.00
Butane ⁽²⁾	0.00	1.00	0.00	0.00
Ethane ⁽²⁾	0.00	0.00	0.00	0.00
Other (please specify) 				
Coke Oven Coke	32 605.09	1.00	29.50	961.85
Other Bituminous Coal	36.20	1.00	25.80	0.93
Gasoline	30.08	1.00	18.90	0.57
Other Oil Products	28 125.33	1.00	20.00	562.51
			0.00	

⁽¹⁾ Where fuels are used in different industries, please enter in different rows.

⁽²⁾ Enter these fuels when they are used as feedstocks.

Note: The table is consistent with the IPCC Guidelines. Parties that take into account the emissions associated with the use and disposal of these feedstocks could continue to use their methodology, and provide explanation notes in the documentation box below.

Documentation box: A fraction of energy carriers is stored in such products as plastics or asphalt. The non-stored fraction of the carbon in the energy carrier or product is oxidized, resulting in carbon dioxide emissions, either during the use of the energy carriers in the industrial production (e.g. fertilizer production), or during the use of the products (e.g. solvents, lubricants), or in both (e.g. monomers). To report associated emissions use the above table, filling an extra "Additional information" table, as shown below.

Associated CO ₂ emissions (Gg)	Allocated under (Specify source category) ^(a) 
	^(a) e.g. Industrial Processes, Waste Incineration, etc.


Additional information ^(a)

CO ₂ not emitted (Gg CO ₂)	Subtracted from energy sector (specify source category)
0.00	NA
317.44	NA
2 004.52	NA
0.00	NA
557.90	NA
0.00	NA
0.00	NA
0.00	NA
0.00	NA
0.00	NA
3 526.78	NA
3.42	NA
2.08	NA
2 062.52	NA
0.00	

^(a) The fuel lines continue from the table to the left.

TABLE 1.B.1 SECTORAL BACKGROUND DATA FOR ENERGY
Fugitive Emissions from Solid Fuels
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTOR		EMISSIONS	
	Amount of fuel produced ⁽¹⁾	CH ₄	CO ₂	CH ₄	CO ₂
	(Mt)	(kg/t)	(kg/t)	(Gg)	(Gg)
I. B. 1. a. Coal Mining and Handling	1.21			0.01	0.00
i. Underground Mines ⁽²⁾	NO	0.00	0.00	NO	NO
Mining Activities		0.00	0.00	NO	NO
Post-Mining Activities		0.00	0.00	NO	NO
ii. Surface Mines ⁽²⁾	1.21	0.01	0.00	0.01	0.00
Mining Activities		0.01	0.00	0.01	NO
Post-Mining Activities		0.00	0.00	NE	NE
I. B. 1. b. Solid Fuel Transformation	1.39	0.00	0.00	NO	IE
I. B. 1. c. Other (please specify) ⁽³⁾ 				0.00	0.00
		0.00	0.00		

⁽¹⁾ Use the documentation box to specify whether the fuel amount is based on the run-of-mine (ROM) production or on the saleable production.

⁽²⁾ Emissions both for Mining Activities and Post-Mining Activities are calculated with the activity data in lines Underground Mines and Surface Mines respectively.

⁽³⁾ Please click on the button to enter any other solid fuel related activities resulting in fugitive emissions, such as emissions from abandoned mines and waste piles.

Note: There are no clear references to the coverage of I.B.1.b. and I.B.1.c. in the IPCC Guidelines. Make sure that the emissions entered here are not reported elsewhere. If they are reported under another source category, indicate this (IE) and make a reference in Table 9 (completeness) and/or in the documentation box.

Documentation box:
I B 1 b: emissions from coke ovens are included in 2 C 1 Iron and Steel Production

Additional information ^(a)

Description	Value
Amount of CH ₄ drained (recovered) and utilized or flared (Gg)	0.00
Number of active underground mines	0.00
Number of mines with drainage (recovery) systems	0.00

^(a) For underground mines.

TABLE 1.B.2 SECTORAL BACKGROUND DATA FOR ENERGY
Fugitive Emissions from Oil and Natural Gas
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA			IMPLIED EMISSION FACTORS			EMISSIONS		
	Description ⁽¹⁾	Unit	Value	CO ₂ (kg/unit) ⁽²⁾	CH ₄ (kg/unit) ⁽²⁾	N ₂ O (kg/unit) ⁽²⁾	CO ₂ (Gg)	CH ₄ (Gg)	N ₂ O (Gg)
1. B. 2. a. Oil ⁽³⁾							0.00	0.28	
i. Exploration	(e.g. number of wells drilled)			0.00	0.00		IE	IE	
ii. Production ⁽⁴⁾	(e.g. PJ of oil produced)			0.00	0.00		IE	IE	
iii. Transport	(e.g. PJ oil loaded in tankers)			0.00	0.00		IE	IE	
iv. Refining / Storage	Oil refined (SNAP 0401)	Mt	8.86	0.00	31 662.50		NE	0.28	
v. Distribution of oil products	Oil distributed (SNAP 0505)	Mt	8.63	0.00	0.00		IE	IE	
vi. Other				0.00	0.00		NE	NE	
1. B. 2. b. Natural Gas							206.89	5.72	
Exploration				0.00	0.00				
i. Production ⁽⁴⁾ / Processing	NG Production (SNAP 0503)	Mm3 G	580.56	314 695.61	0.00		182.70	IE	
ii. Transmission	(e.g. PJ gas consumed)			0.00	0.00		IE	IE	
Distribution	NG Distribution (SNAP 0506)	Mm3 G	8 200.00	2 950.00	697.87		24.19	5.72	
iii. Other Leakage	(e.g. PJ gas consumed)			0.00	0.00		IE	IE	
at industrial plants and power stations				0.00	0.00		IE	IE	
in residential and commercial sectors				0.00	0.00		IE	IE	
1. B. 2. c. Venting ⁽⁵⁾							IE	IE	
i. Oil	(e.g. PJ oil produced)			0.00	0.00		IE	IE	
ii. Gas	(e.g. PJ gas produced)			0.00	0.00		IE	IE	
iii. Combined				0.00	0.00		IE	IE	
Flaring							IE	IE	IE
i. Oil	(e.g. PJ gas consumption)			0.00	0.00	0.00	IE	IE	IE
ii. Gas	(e.g. PJ gas consumption)			0.00	0.00	0.00	IE	IE	IE
iii. Combined				0.00	0.00	0.00	IE	IE	IE
1.B.2.d. Other (please specify) ⁽⁶⁾				0.00	0.00	0.00	0.00	0.00	0.00

Additional information

Description	Value	Unit
Pipelines length (km)		km
Number of oil wells		NUMBER
Number of gas wells		NUMBER
Gas throughput ^(a)		Mm3 GAS
Oil throughput ^(a)		Mt
Other relevant information (specify)		

^(a) In the context of oil and gas production, throughput is a measure of the total production, such as barrels per day of oil, or cubic meters of gas per year. Specify the units of the reported value in the unit column. Take into account that these values should be consistent with the activity data reported under the production rows of the main table.

⁽¹⁾ Specify the activity data used and fill in the activity data description column, as given in the examples in brackets. Specify the unit of the activity data in the unit column. Use the document box to specify whether the fuel amount is based on the raw material production or on the saleable production. Note cases where more than one variable is used as activity data.

⁽²⁾ The unit of the implied emission factor will depend on the units of the activity data used, and is therefore not specified in this column. The unit of the implied emission factor for each activity will be kg/unit of activity data.

⁽³⁾ Use the category also to cover emissions from combined oil and gas production fields. Natural gas processing and distribution from these fields should be included under 1.B.2.b.ii and 1.B.2.b.iii, respectively.

⁽⁴⁾ If using default emission factors these categories will include emissions from production other than venting and flaring.

⁽⁵⁾ If using default emission factors, emissions from Venting and Flaring from all oil and gas production should be accounted for here. Parties using the IPCC software could report those emissions together, indicating so in the documentation box.


⁽⁶⁾ For example, fugitive CO₂ emissions from production of geothermal power could be reported here.

Documentation box:

1 B 2 a i, 1 B 2 a ii, 1 B 2 a iii, 1 B 2 c : emissions are included in 1 B 2 a iv Oil Refining / Storage

TABLE 1.C SECTORAL BACKGROUND DATA FOR ENERGY
International Bunkers and Multilateral Operations
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS			EMISSIONS		
	Consumption (TJ)	CO ₂ (t/TJ)	CH ₄ (kg/TJ)	N ₂ O (kg/TJ)	CO ₂ (Gg)	CH ₄ (Gg)	N ₂ O (Gg)
Marine Bunkers	0.00				NO	NO	NO
Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Gas/Diesel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Residual Fuel Oil	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lubricants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coal	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		0.00	0.00	0.00			
Aviation Bunkers	22 252.98				1 614.75	0.01	0.06
Jet Kerosene	22 252.98	72.56	0.53	2.56	1 614.75	0.01	0.06
Gasoline	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Multilateral Operations ⁽¹⁾	0.00				IE	IE	IE

⁽¹⁾ Parties may choose to report or not report the activity data and emission factors for multilateral operation consistent with the principle of confidentiality stated in the UNFCCC reporting guidelines on inventories. In any case, Parties should report the emissions from multilateral operations, where available, under the Memo Items section of the Summary tables and in the Sectoral report table for energy.

Note: In accordance with the IPCC Guidelines, international aviation and marine bunker fuel emissions from fuel sold to ships or aircraft engaged in international transport should be excluded from national totals and reported separately for informational purposes only.

Documentation box: Please explain how the consumption of international marine and aviation bunkers fuels was estimated and separated from the domestic consumption.

Kerosene consumption in Austria is divided into national and international traffic by using national LTO-statistics.




Additional information

Fuel consumption	Allocation ^(a) (percent)	
	Domestic	International
Marine	100.00	0.00
Aviation	6.95	93.05

^(a) For calculating the allocation of fuel consumption, use the sums of fuel consumption by domestic navigation and aviation (Table 1.A(a)) and by international bunkers (Table 1.C).

TABLE 2(I) SECTORAL REPORT FOR INDUSTRIAL PROCESSES
(Sheet 1 of 2)

Austria
2001
submission 2003




GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
				P	A	P	A	P	A				
	(Gg)			CO ₂ equivalent (Gg)				(Gg)					
Total Industrial Processes	12 834.06	0.12	2.54	5 090.46	1 033.25	0.00	25.16	0.38	0.03	14.64	199.94	20.75	8.64
A. Mineral Products	3 073.62	0.03	0.00							5.24	16.74	5.17	0.18
1. Cement Production	2 346.95									3.96	7.63	0.22	0.18
2. Lime Production	295.55												
3. Limestone and Dolomite Use	NE												
4. Soda Ash Production and Use	0.00												
5. Asphalt Roofing	NE	0.03									9.11	4.68	
6. Road Paving with Asphalt	NE									NE	NE	0.26	NE
7. Other (please specify) 	431.13	0.00	0.00							1.28	0.00	0.01	0.00
SNAP 040613 Glass	92.58	NE	NE							1.28	NE	0.01	NE
MgCO ₃ Sinter Plants	338.54	NE	NE							NE	NE	NE	NE
B. Chemical Industry	462.37	0.08	2.54	0.00	0.00	0.00	0.00	0.00	0.00	4.40	11.11	12.34	3.19
1. Ammonia Production	442.00	0.05								IE	0.04	IE	IE
2. Nitric Acid Production	0.36		2.54							IE			
3. Adipic Acid Production			NE							NE	NE	NE	
4. Carbide Production	0.00	0.00									NE	NE	NE
5. Other (please specify) 	20.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.40	11.07	12.34	3.19
Other Chemical Products	20.01	0.03	0.00	NE	NE	NE	NE	NE	NE	4.40	11.07	12.34	3.19
C. Metal Production	9 245.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.27	171.55	0.51	5.28
1. Iron and Steel Production	9 245.00	0.00								4.07	142.87	0.32	4.56
2. Ferroalloys Production	NE	NE								NE	NE	NE	NE
3. Aluminium Production	NE	NE					0.00			NE	NE	NE	NE
4. SF ₆ Used in Aluminium and Magnesium Foundries									0.00				
5. Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	28.67	0.19	0.72
SNAP 040207 electric furnace steel plant	0.00	0.00	0.00	NE	NE	NE	NE	NE	NE	0.18	28.38	0.03	0.32
SNAP 040208 rolling mills	0.00	0.00	0.00	NE	NE	NE	NE	NE	NE	0.00	0.00	0.00	0.00
SNAP 040309 Processes in non-ferrous metal industries /	0.00	0.00	0.00	NE	NE	NE	NE	NE	NE	0.02	0.30	0.15	0.40

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines. A = Actual emissions based on Tier 2 approach of the IPCC Guidelines. This only applies in sectors where methods exist for both tiers.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

TABLE 2(I) SECTORAL REPORT FOR INDUSTRIAL PROCESSES
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
				P	A	P	A	P	A				
	(Gg)			CO ₂ equivalent (Gg)				(Gg)					
D. Other Production	53.06									0.74	0.54	2.74	0.00
1. Pulp and Paper										0.74	0.54	0.54	IE
2. Food and Drink ⁽²⁾	53.06											2.19	
E. Production of Halocarbons and SF₆					0.00		0.00		0.00				
1. By-product Emissions					0.00		0.00		0.00				
Production of HCFC-22					0.00								
Other					0.00		0.00		0.00				
2. Fugitive Emissions					0.00		0.00		0.00				
3. Other (please specify) 					0.00		0.00		0.00				
F. Consumption of Halocarbons and SF₆				5 090.46	1 033.25	NE	25.16	0.38	0.03				
1. Refrigeration and Air Conditioning Equipment				IE	288.72	IE	0.00	IE	0.00				
2. Foam Blowing				IE	737.60	IE	0.00	IE	0.00				
3. Fire Extinguishers				IE	5.87	IE	0.00	IE	0.00				
4. Aerosols/ Metered Dose Inhalers				IE	0.00	IE	0.00	IE	0.00				
5. Solvents				IE	0.00	IE	0.00	IE	0.00				
6. Semiconductor Manufacture				IE	1.06	IE	25.16	IE	0.01				
7. Electrical Equipment				IE	IE	IE	IE	IE	0.00				
8. Other (please specify) 				0.00	0.00	0.00	0.00	0.00	0.01				
G. Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

⁽²⁾ CO₂ from Food and Drink Production (e.g. gasification of water) can be of biogenic or non-biogenic origin. Only information on CO₂ emissions of non-biogenic origin should be reported.

TABLE 2(I).A-G SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES

Emissions of CO₂, CH₄ and N₂O

(Sheet 1 of 2)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS ⁽²⁾					
	Production/Consumption quantity		CO ₂	CH ₄	N ₂ O	CO ₂		CH ₄		N ₂ O	
	Description ⁽¹⁾	(kt)	(t/t)	(t/t)	(t/t)	(Gg)	(2)	(Gg)	(2)	(Gg)	(2)
A. Mineral Products						3 073.62		0.00		0.00	
1. Cement Production	Cement Produced [kt]	3 580.57	0.66			2 346.95					
2. Lime Production	Lime Produced [kt]	340.00	0.87			295.55					
3. Limestone and Dolomite Use	Limestone and Dolomite used [kt]	NE	0.00			NE					
4. Soda Ash						0.00					
Soda Ash Production	Soda Ash Production	NE	0.00			NE					
Soda Ash Use	Soda Ash Use: Glass Production [kt]	440.87	0.00			NE					
5. Asphalt Roofing	Roofing Material Production [Mio m ²]	26.02	0.00			NE		0.03			
6. Road Paving with Asphalt	Asphalt Production [kt]	429.29	0.00			NE					
7. Other (please specify)						431.13		0.00		0.00	
Glass Production	Glass Production [kt]	440.87	0.21			92.58					
MgCO ₃ Sinter Plants	MgCO ₃ sintered [kt]	307.77	1.10	0.00	0.00	338.54					
			0.00	0.00	0.00						
B. Chemical Industry						462.37		0.08		2.54	
1. Ammonia Production ⁽³⁾	Ammonia Production [kt]	448.18	0.99	0.00	0.00	442.00		0.05		0.00	
2. Nitric Acid Production	Nitric Acid Production [kt]	510.80			0.00	0.362				2.54	
3. Adipic Acid Production	Adipic Acid Production	NO			0.00					NE	
4. Carbide Production	Carbide Production	NE	0.00	0.00		0.00		0.00			
Silicon Carbide	Silicon Carbide Production	NE	0.00	0.00		NE		NE			
Calcium Carbide	Calcium Carbide Production	NE	0.00	0.00		NE		NE			
5. Other (please specify)						20.01		0.03		0.00	
Carbon Black	Carbon Black Production	NE		0.00				NE			
Ethylene	Ethylene Production [kt]	NE	0.00	0.00	0.00	NE		NE		NE	
Dichloroethylene	Dichloroethylene Production	NE		0.00				NE			
Styrene	Styrene Production [kt]	NE		0.00				NE			
Methanol	Methanol Production	NE		0.00				NE			
Other Chemical Products	Other Chemical Products [kt]	NA	0.00	0.00	0.00	20.01		0.03		0.00	
			0.00	0.00	0.00						




⁽¹⁾ Where the IPCC Guidelines provide options for activity data, e.g. cement or clinker for estimating the emissions from Cement Production, specify the activity data used (as shown in the example in brackets) in order to make the choice of emission factor more transparent and to facilitate comparisons of implied emission factors.

⁽²⁾ Enter cases in which the final emissions are reduced with the quantities of emission recovery, oxidation, destruction, transformation. Adjusted emissions are reported and the quantitative information on recovery, oxidation, destruction, and transformation should be given in the additional columns provided.

⁽³⁾ To avoid double counting make offsetting deductions from fuel consumption (e.g. natural gas) in Ammonia Production, first for feedstock use of the fuel, and then to a sequestering use of the feedstock.

TABLE 2(I).A-G SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Emissions of CO₂, CH₄ and N₂O
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS ⁽²⁾					
	Production/Consumption Quantity		CO ₂	CH ₄	N ₂ O	CO ₂		CH ₄		N ₂ O	
	Description ⁽¹⁾	(kt)	(t/t)	(t/t)	(t/t)	(Gg)	(2)	(Gg)	(2)	(Gg)	(2)
C. Metal Production ⁽⁴⁾						9 245.00		0.00		0.00	
1. Iron and Steel Production			0.00			9 245.00		0.00			
Steel	Steel Production [kt]	5 107.72	1.81			9 245.00					
Pig Iron	Steel Production [kt]	5 107.72	0.00	0.00		IE		NE			
Sinter	Sinter Production [kt]	3 527.74	0.00	0.00		IE		NE			
Coke	Coke Production [kt]	1 394.00	0.00	0.00		IE		NE			
Other (please specify) 						0.00		0.00			
			0.00	0.00	0.00						
2. Ferroalloys Production	Ferroalloys Production [kt]	NE	0.00	0.00		NE		NE			
3. Aluminium Production	Aluminium production [kt]	NO	0.00	0.00		NE		NE			
4. SF ₆ Used in Aluminium and Magnesium Foundries											
5. Other (please specify) 						0.00		0.00		0.00	
SNAP 040207 electric furnace steel plant	Steel Production [kt]	545.70	0.00	0.00	0.00	0.00		0.00		0.00	
SNAP 040208 rolling mills	Steel Production [kt]	5 107.72	0.00	0.00	0.00	0.00		0.00		0.00	
SNAP 040309 Processes in non-ferrous m	Non-ferrous metal Production	113.35	0.00	0.00	0.00	0.00		0.00		0.00	
			0.00	0.00	0.00						
D. Other Production						53.06					
1. Pulp and Paper											
2. Food and Drink	Beer, Spirits Production [kt]	1 441.19	0.04			53.06					
G. Other (please specify) 						0.00		0.00		0.00	
			0.00	0.00	0.00						

⁽⁴⁾ More specific information (e.g. data on virgin and recycled steel production) could be provided in the documentation box.

Note: In case of confidentiality of the activity data information, the entries should provide aggregate figures but there should be a note in the documentation box indicating this

Documentation box:
CO2-emissions of "Pig Iron", "Sinter" and "Coke" are included in "Steel"

TABLE 2(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES - EMISSIONS OF HFCs, PFCs AND SF₆
(Sheet 1 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	HFC-23	HFC-32	HFC-41	HFC-43-10mee	HFC-125	HFC-134	HFC-134a	HFC-152a	HFC-143	HFC-143a	HFC-227ea	HFC-236fa	HFC-245ca	Total HFCs ⁽¹⁾	CF ₄	C ₂ F ₆	C ₃ F ₈	C ₄ F ₁₀	c-C ₄ F ₈	C ₅ F ₁₂	C ₆ F ₁₄	Total PFCs ⁽¹⁾	SF ₆
	(t) ⁽²⁾																						
Total Actual Emissions of Halocarbons (by chemical) and SF₆	0.55	1.75	0.00	0.00	21.90	0.00	653.07	452.23	0.00	13.57	0.17	0.00	0.00		1.47	1.70	0.00	0.00	0.00	0.00	0.00		28.32
C. Metal Production															0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.32
Aluminium Production															0.00	0.00	0.00	0.00	0.00	0.00	0.00		
SF ₆ Used in Aluminium Foundries																							0.32
SF ₆ Used in Magnesium Foundries																							0.00
E. Production of Halocarbons and SF₆	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
1. By-product Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Production of HCFC-22	NO																						
Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
2. Fugitive Emissions	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		NO
3. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
F(a). Consumption of Halocarbons and SF₆ (actual emissions - Tier 2)	0.55	1.75	0.00	0.00	21.90	0.00	653.07	452.23	0.00	13.57	0.17	0.00	0.00		1.47	1.70	0.00	0.00	0.00	0.00	0.00		28.00
1. Refrigeration and Air Conditioning Equipment	0.00	1.75	0.00	0.00	21.90	0.00	134.30	0.79	0.00	13.57	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
2. Foam Blowing	0.00	0.00	0.00	0.00	0.00	0.00	518.76	451.44	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
3. Fire Extinguishers	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
4. Aerosols/Metered Dose Inhalers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
5. Solvents	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
6. Semiconductor Manufacture	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		1.47	1.70	0.00	0.00	0.00	0.00	0.00		13.56
7. Electrical Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		4.08
8. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		10.36
research and other use																							10.36
stock or not identifiable							NE																
heat pumps							0.00																
G. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00

⁽¹⁾ Although shaded, the columns with HFCs and PFCs totals on sheet 1 are kept for consistency with sheet 2 of the table.

⁽²⁾ Note that the units used in this table differ from those used in the rest of the Sectoral report tables, i.e. [t] instead of [Gg].

Note: Where information is confidential the entries should provide aggregate figures but there should be a note indicating this in the relevant documentation boxes of the Sectoral background data tables or as a comment to the corresponding cell.
Gases with GWP not yet agreed upon by the COP, should be reported in Table 9 (Completeness), sheet 2.

TABLE 2(II) SECTORAL REPORT FOR INDUSTRIAL PROCESSES - EMISSIONS OF HFCs, PFCs AND SF₆
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	HFC-23	HFC-32	HFC-41	HFC-43-10mcc	HFC-125	HFC-134	HFC-134a	HFC-152a	HFC-143	HFC-143a	HFC-227ea	HFC-236fa	HFC-245ea	Total HFCs	CF ₄	C ₂ F ₆	C ₃ F ₈	C ₄ F ₁₀	c-C ₄ F ₈	C ₅ F ₁₂	C ₆ F ₁₄	Total PFCs	SF ₆
	(t) ⁽²⁾																						
F(p). Total Potential Emissions of Halocarbons (by chemical) and SF₆⁽³⁾	31.00	24.61	0.00	0.00	292.00	0.00	2 396.77	462.04	0.00	179.04	11.50	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		384.29
Production ⁽⁴⁾	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Import:	31.00	24.61	0.00	0.00	292.00	0.00	2 396.77	462.04	0.00	179.04	11.50	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		384.29
In bulk	31.00	24.61	0.00	0.00	292.00	0.00	2 396.77	462.04	0.00	179.04	11.50	0.00	0.00		NE	NE	0.00	0.00	0.00	0.00	0.00		384.29
In products ⁽⁵⁾	IE	IE	0.00	0.00	IE	0.00	IE	IE	0.00	IE	IE	0.00	0.00		IE	IE	0.00	0.00	0.00	0.00	0.00		IE
Export:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
In bulk	NE	NE	0.00	0.00	NE	0.00	NE	NE	0.00	NE	NE	0.00	0.00		NE	NE	0.00	0.00	0.00	0.00	0.00		NE
In products ⁽⁵⁾	NE	NE	0.00	0.00	NE	0.00	NE	NE	0.00	NE	NE	0.00	0.00		NE	NE	0.00	0.00	0.00	0.00	0.00		NE
Destroyed amount	NE	NE	0.00	0.00	NE	0.00	NE	NE	0.00	NE	NE	0.00	0.00		NE	NE	0.00	0.00	0.00	0.00	0.00		NE
GWP values used	11700	650	150	1300	2800	1000	1300	140	300	3800	2900	6300	560		6500	9200	7000	7000	8700	7500	7400		23900
Total Actual Emissions⁽⁶⁾ (Gg CO₂ eq.)	6.44	1.14	0.00	0.00	61.33	0.00	848.99	63.31	0.00	51.55	0.50	0.00	0.00	1 033.25	9.53	15.63	0.00	0.00	0.00	0.00	0.00	25.16	676.95
C. Metal Production															0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.65
E. Production of Halocarbons and SF ₆	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
F(a). Consumption of Halocarbons and SF ₆	6.44	1.14	0.00	0.00	61.33	0.00	848.99	63.31	0.00	51.55	0.50	0.00	0.00	1 033.25	9.53	15.63	0.00	0.00	0.00	0.00	0.00	25.16	669.30
G. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ratio of Potential/Actual Emissions from Consumption of Halocarbons and SF₆																							
Actual emissions - F(a) (Gg CO ₂ eq.)	6.44	1.14	0.00	0.00	61.33	0.00	848.99	63.31	0.00	51.55	0.50	0.00	0.00	1 033.25	9.53	15.63	0.00	0.00	0.00	0.00	0.00	25.16	669.30
Potential emissions - F(p) (7) (Gg CO ₂ eq.)	362.70	15.99	0.00	0.00	817.59	0.00	3 115.80	64.68	0.00	680.34	33.35	0.00	0.00	5 090.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9 184.46
Potential/Actual emissions ratio	56.34	14.09	0.00	0.00	13.33	0.00	3.67	1.02	0.00	13.20	67.32	0.00	0.00	4.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.72

⁽³⁾ Potential emissions of each chemical of halocarbons and SF₆ estimated using Tier 1a or Tier 1b of the IPCC Guidelines (Volume 3. Reference Manual, pp. 2.47-2.50). When potential emissions estimates are available in a disaggregated manner corresponding to the subsectors for actual emissions defined on sheet 1 of this table, these should be reported in an annex to sheet 2, using the format of sheet 1, sector F(a). Use Summary 3 of this common reporting format to indicate whether Tier 1a or Tier 1b was used.

⁽⁴⁾ Production refers to production of new chemicals. Recycled substances could be included here, but it should be ensured that double counting of emissions is avoided. Relevant explanations should be provided as a comment to the corresponding cell.

⁽⁵⁾ Relevant just for Tier 1b.





⁽⁶⁾ Sums of the actual emissions of each chemical of halocarbons and SF₆ from the source categories given in sheet 1 of the table multiplied by the corresponding GWP values.

⁽⁷⁾ Potential emissions of each chemical of halocarbons and SF₆ taken from row F(p) multiplied by the corresponding GWP values.

Note: As stated in the revised UNFCCC guidelines, Parties should report actual emissions of HFCs, PFCs and SF₆, where data are available, providing disaggregated data by chemical and source category in units of mass and in CO₂ equivalents. Parties reporting actual emissions should also report potential emissions for the sources where the concept of potential emissions applies, for reasons of transparency and comparability.

TABLE 2(II). C, E SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Metal Production; Production of Halocarbons and SF₆
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS ⁽²⁾	EMISSIONS ⁽²⁾	
	Description ⁽¹⁾	(t)	(kg/t)	(t)	(3)
C. PFCs and SF₆ from Metal Production					
PFCs from Aluminium Production					
CF ₄	Aluminium production [kt]	NO	0.00	0.00	
C ₂ F ₆	Aluminium production [kt]	NO	0.00	0.00	
SF ₆				0.32	
Aluminium Foundries	cast Aluminium [t]	C	0.00	0.32	
Magnesium Foundries	cast Magnesium [t]	3 600.00	0.00	0.00	
E. Production of Halocarbons and SF₆					
1. By-product Emissions					
Production of HCFC-22					
HFC-23	HFC-23 production	NO	0.00	NO	
Other (specify chemical) 					
			0.00		
2. Fugitive Emissions					
HFCs (specify chemical) 					
			0.00		
PFCs (specify chemical) 					
			0.00		
SF ₆	NO		0.00	NO	
3. Other (please specify) 					
			0.00		

⁽¹⁾ Specify the activity data used as shown in the examples within brackets. Where applying Tier 1b (for C), Tier 2 (for E) and country specific methods, specify any other relevant activity data used in the documentation box below.

⁽²⁾ Emissions and implied emission factors are after recovery.









⁽³⁾ Enter cases in which the final emissions are reported after subtracting the quantities of emission recovery, oxidation, destruction, transformation. Enter these quantities in the specified column and use the documentation box for further explanations.

Note: Where the activity data are confidential, the entries should provide aggregate figures, but there should be a note in the documentation box indicating this

Documentation box:
Potential emissions of HFC-23, HFC-32, HFC-125, HFC-143a, HFC-227ea, CF ₄ , C ₂ F ₆ and SF ₆ of "import in products" are included in "import in bulk".

TABLE 2(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Consumption of Halocarbons and SF₆
(Sheet 1 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA <i>Amount of fluid</i>			IMPLIED EMISSION FACTORS			EMISSIONS		
	Filled in new manufactured products	In operating systems (average annual stocks)	Remained in products at decommissioning ⁽¹⁾	Product manufacturing factor	Product life factor	Disposal loss factor	From manufacturing	From stocks	From disposal
	(t)			(% per annum)			(t)		
1 Refrigeration									
Air Conditioning Equipment									
Domestic Refrigeration (<i>Specify chemical</i>) ⁽²⁾ 									
HFC-134a	0.00	74.88	NE	NE	1.50	NE	NE	1.12	NE
Commercial Refrigeration 									
HFC-134a	4.00	32.00	NE	NE	1.50	NE	NE	0.48	NE
Transport Refrigeration 									
HFC-134a	5.00	37.27	2.50	NE	10.00	NE	NO	3.73	NE
Industrial Refrigeration 									
HFC-152a	1.24	10.60	NE	NE	7.48	NE	NE	0.79	NE
HFC-32	2.42	6.14	NE	NE	7.59	NE	NE	0.47	NE
HFC-143a	52.78	176.96	NE	NE	7.58	NE	NE	13.41	NE
HFC-125	62.40	270.17	NE	NE	7.54	NE	NE	20.38	NE
HFC-134a	126.40	551.90	NE	NE	7.53	NE	NE	41.58	NE
Stationary Air-Conditioning 									
HFC-32	10.12	18.46	NE	NE	6.93	NE	NE	1.28	NE
HFC-143a	0.52	2.08	NE	NE	7.55	NE	NE	0.16	NE
HFC-125	11.44	21.83	NE	NE	6.98	NE	NE	1.52	NE
HFC-134a	32.92	126.76	NE	NE	6.63	NE	NE	8.41	NE
Mobile Air-Conditioning 									
HFC-134a	145.93	659.60	NE	NE	11.98	NE	NE	78.99	NE
2 Foam Blowing									
Hard Foam 									
HFC-152a	752.40	451.44	NE	NE	100.00	NE	NE	451.44	NE
HFC-134a	752.40	299.15	NE	NE	1.51	NE	NE	4.51	NE
Soft Foam 									
HFC-134a	530.40	519.92	NE	NE	98.91	NE	NE	514.25	NE








⁽¹⁾ Parties should use the documentation box to provide information on the amount of the chemical recovered (recovery efficiency) and other relevant information used in the emission estimate

⁽²⁾ Please click on the button to specify the chemical consumed, as given in the example. If needed, new rows could be added for reporting the disaggregated chemicals from a source by clicking on the corresponding button

Note: Table 2.(II).F provides for reporting of the activity data and emission factors used to calculate actual emissions from consumption of halocarbons and SF₆ using the "bottom-up approach" (based on the total stock of equipment and estimated emission rates from this equipment). Some Parties may prefer to estimate their actual emissions following the alternative "top-down approach" (based on annual sales of equipment and/or gas). These Parties should provide the activity data used in the current format and any other relevant information in the documentation box at the end of Table2(II)Fs2. Data these Parties should provide includes (1) the amount of fluid used to fill new products, (2) the amount of fluid used to service existing products, (3) the amount of fluid originally used to fill retiring products (the total nameplate capacity of retiring products), (4) the product lifetime, and (5) the growth rate of product sales, if this has been used to calculate the amount of fluid originally used to fill retiring products. Alternatively, Parties may provide alternative formats with equivalent information. These formats may be considered for future versions of the common reporting format after the trial period.

TABLE 2(II).F SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES
Consumption of Halocarbons and SF₆
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA <i>Amount of fluid</i>			IMPLIED EMISSION FACTORS			EMISSIONS		
	Filled in new manufactured products	In operating systems (average annual stocks)	Remained in products at decommissioning ⁽¹⁾	Product manufacturing factor	Product life factor	Disposal loss factor	From manufacturing	From stocks	From disposal
	(t)			(% per annum)			(t)		
3 Fire Extinguishers 									
HFC-227ea	4.00	11.50	NE	NE	1.50	NE	NE	0.17	NE
HFC-23	5.00	31.00	NE	NE	1.50	NE	NE	0.46	NE
4 Aerosols									
Metered Dose Inhalers 									
Other 									
5 Solvents 									
6 Semiconductors 									
SF6	14.75	13.56	NE	NE	NE	NE	NE	13.56	NE
C2F6	8.84	NE	NE	NE	NE	NE	NE	1.70	NE
CF4	18.11	NE	NE	NE	NE	NE	NE	1.47	NE
HFC-23	1.15	NE	NE	NE	NE	NE	NE	0.09	NE
7 Electric Equipment 									
SF6	4.77	104.60	NE	NE	NE	NE	NE	4.08	NE
8 Other (please specify) 									
SF6 : research and other use	24.69	265.81	NE	NE	NE	NE	NE	10.36	NE
HFC-134a : stock or not identifiable	65.60	NE	NE	NE	NE	NE	NE	NE	NE
HFC-134a : heat pumps	5.42	95.29	NE	NE	0.00	NE	NE	0.00	NE

Note: Where the activity data are confidential, the entries should provide aggregate figures, but there should be a note indicating this and explanations in the documentation box.

Documentation box:

TABLE 3 SECTORAL REPORT FOR SOLVENT AND OTHER PRODUCT USE
(Sheet 1 of 1)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	N ₂ O	NM VOC
	(Gg)		
Total Solvent and Other Product Use	395.64	0.75	126.94
A. Paint Application	44.89	NO	14.40
B. Degreasing and Dry Cleaning	IE	NO	IE
C. Chemical Products, Manufacture and Processing	51.37		16.48
D. Other (please specify)	299.38	0.75	96.06
Use of N ₂ O for Anaesthesia	NO	0.35	NO
N ₂ O from Fire Extinguishers	NO	NE	NO
N ₂ O from Aerosol Cans	NO	0.40	NO
Other Solvent Use	299.38	NO	96.06

Please account for the quantity of carbon released in the form of NMVOC in both the NMVOC and the CO₂ columns.

Note: The IPCC Guidelines do not provide methodologies for the calculation of emissions of N₂O from Solvent and Other Product Use. If reporting such data, Parties should provide additional information (activity data and emission factors) used to make these estimates in the documentation box to Table 3.A-D.

TABLE 3.A-D SECTORAL BACKGROUND DATA FOR SOLVENT AND OTHER PRODUCT USE
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS	
	Description	(kt)	CO ₂ (t/t)	N ₂ O (t/t)
A. Paint Application	Solvents used [kt]	16.94	2.65	0.00
B. Degreasing and Dry Cleaning	Solvents used [kt]	1.75	0.00	0.00
C. Chemical Products, Manufacture and Processing	Solvents used [kt]	40.39		
D. Other (please specify) ⁽¹⁾				
Use of N2O for Anaesthesia	Use of N2O for Anaesthesia [kt]	0.35	0.00	1.00
N2O from Fire Extinguishers	N2O from Fire Extinguishers	NE	0.00	0.00
N2O from Aerosol Cans	N2O from Aerosol Cans	NA	0.00	0.00
Other Solvent Use	Solvents used [kt]	113.01	2.65	0.00

⁽¹⁾ Some probable sources are provided in brackets. Complement the list with other relevant sources. Make sure that the order is the same as in Table 3.

Note: The table follows the format of the IPCC Sectoral Report for Solvent and Other Product Use, although some of the source categories are not relevant to the direct GHG emissions.

Documentation box:
Emissions from "Solvent Use for Degreasing and Dry Cleaning" are included in Category 3 D Other Solvent Use

TABLE 4 SECTORAL REPORT FOR AGRICULTURE
(Sheet 1 of 2)

Austria
2001
submission 2003







GREENHOUSE GAS SOURCE AND SINK	CH ₄	N ₂ O	NO _x	CO	NMVOC
CATEGORIES	(Gg)				
Total Agriculture	193.38	11.42	5.02	1.72	1.92
A. Enteric Fermentation	149.99				
1. Cattle	140.44				
Dairy Cattle	60.47				
Non-Dairy Cattle	79.97				
2. Buffalo	NO				
3. Sheep	2.56				
4. Goats	0.30				
5. Camels and Llamas	NO				
6. Horses	1.53				
7. Mules and Asses	IE				
8. Swine	5.16				
9. Poultry	0.00				
10. Other (<i>please specify</i>) 	0.00				
Other animals	NE				
B. Manure Management	43.31	2.29			NE
1. Cattle	22.03				
Dairy Cattle	11.23				
Non-Dairy Cattle	10.80				
2. Buffalo	NO				
3. Sheep	0.06				
4. Goats	0.01				
5. Camels and Llamas	NO				
6. Horses	0.12				
7. Mules and Asses	IE				
8. Swine	20.12				
9. Poultry	0.98				

TABLE 4 SECTORAL REPORT FOR AGRICULTURE
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CH ₄	N ₂ O	NO _x	CO	NMVOC
	(Gg)				
B. Manure Management (continued)					
10. Anaerobic Lagoons		NO			NE
11. Liquid Systems		2.29			NE
12. Solid Storage and Dry Lot		IE			NE
13. Other (please specify) 		0.00			0.00
Other animals		IE			NE
C. Rice Cultivation	NO				NO
1. Irrigated	NO				NO
2. Rainfed	NO				NO
3. Deep Water	NO				NO
4. Other (please specify) 	NO				0.00
D. Agricultural Soils ⁽¹⁾	NO	9.13	5.02		1.71
1. Direct Soil Emissions	NO	5.04			1.71
2. Animal Production	NO	0.67			IE
3. Indirect Emissions	NO	3.42			IE
4. Other (please specify) 	0.00	0.00			0.00
E. Prescribed Burning of Savannas	NO	NO	NO	NO	NO
F. Field Burning of Agricultural Residues	0.07	0.00	0.01	1.72	0.22
1. Cereals	0.05	0.00	0.01	1.50	0.16
2. Pulse	NO	NO	NO	NO	NO
3. Tuber and Root	NO	NO	NO	NO	NO
4. Sugar Cane	NO	NO	NO	NO	NO
5. Other (please specify) 	0.02	0.00	0.00	0.22	0.05
Vine	0.02	0.00	0.00	0.22	0.05
G. Other (please specify) 	0.00	0.00	0.00	0.00	0.00

⁽¹⁾ See footnote 4 to Summary 1.A of this common reporting format. Parties which choose to report CO₂ emissions and removals from agricultural soils under 4.D. Agricultural Soils category of the sector Agriculture should indicate the amount [Gg] of these emissions or removals in the documentation box to Table 4.D. Additional information (activity data, implied emissions factors) should also be provided using the relevant documentation box to Table 4.D. This table is not modified for reporting the CO₂ emissions and removals for the sake of consistency with the IPCC tables (i.e. IPCC Sectoral Report for Agriculture).

Note: The IPCC Guidelines do not provide methodologies for the calculation of CH₄ emissions, CH₄ and N₂O removals from agricultural soils, or CO₂ emissions from savanna burning or agricultural residues burning. If you have reported such data, you should provide additional information (activity data and emission factors) used to make these estimates using the relevant documentation boxes of the Sectoral background data tables.

TABLE 4.A SECTORAL BACKGROUND DATA FOR AGRICULTURE


Enteric Fermentation

(Sheet 1 of 1)


Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA ⁽¹⁾ AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTORS
	Population size ⁽²⁾ (1000 head)	Average daily feed intake (MJ/day)	CH ₄ conversion (%)	CH ₄ (kg CH ₄ /head/yr)
1. Cattle	2 118	NA	6.00	66.29
Dairy Cattle ⁽³⁾	598	257.0	6.00	101.13
Non-Dairy Cattle	1 520	NA	6.00	52.60
2. Buffalo	NO	NO	NO	0.00
3. Sheep	320	NE	NE	8.00
4. Goats	59	NE	NE	5.00
5. Camels and Llamas	NO	NO	NO	0.00
6. Horses	85	NE	NE	18.00
7. Mules and Asses	IE	IE	IE	0.00
8. Swine	3 440	NE	NE	1.50
9. Poultry	12 572	NE	NE	0.00
10. Other (please specify) 				
Other animals	0	NE	NE	0.00
				0.00

Additional information (for Tier 2)^(a)

Disaggregated list of animals ^(b)		Dairy Cattle	Non-Dairy Cattle	Other (specify) 	
Indicators:					
Weight	(kg)	642.00	406.70		
Feeding situation ^(c)		NE	NE		
Milk yield	(kg/day)	14.25	NO		
Work	(hrs/day)		NE		
Pregnant	(%)	NE	NE		
Digestibility of feed	(%)	73.00	71.50		

^(a) Compare to Tables A-1 and A-2 of the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.31-4.34). These data are relevant if Parties do not have data on average feed intake.

^(b) Disaggregate to the split actually used. Add columns to the table if necessary.

^(c) Specify feeding situation as pasture, stall fed, confined, open range, etc.

⁽¹⁾ In the documentation boxes to all Sectoral background data tables for Agriculture, Parties should provide information on whether the activity data is one year or a 3-year average.

⁽²⁾ Parties are encouraged to provide detailed livestock population data by animal type and region in a separate table below the documentation box. This consistent set of animal population statistics should be used to estimate CH₄ emissions from enteric fermentation, CH₄ and N₂O from manure management, N₂O direct emissions from soil and N₂O emissions associated with manure production, as well as emissions from the use of manure as fuel, and sewage-related emissions reported in the waste sector.

⁽³⁾ Including data on dairy heifers, if available.

Documentation box:
<p>Population statistics are on a yearly basis.</p> <p>Emissions of "4 A 7 Mules and Asses" are included in "4 A 6 Horses".</p> <p>Emissions of "4 B 7 Mules and Asses" are included in "4 B 6 Horses".</p> <p>NMVOC emissions of 4 D 2 and 4 D 3 are included in 4 D 1.</p> <p>Emissions of "4 B 12 Solid Storage and Dry Lot" are included in "4 B 11 Liquid Systems".</p>

TABLE 4.B(a) SECTORAL BACKGROUND DATA FOR AGRICULTURE
CH₄ Emissions from Manure Management
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS CH ₄ (kg CH ₄ /head/yr)	
	Population size (⁽¹⁾) (1000 head)	Allocation by climate region (⁽²⁾)			Typical animal mass (kg)	VS ⁽³⁾ daily excretion (kg dm/head/yr)		CH ₄ producing potential (Bo) ⁽³⁾ (CH ₄ m ³ /kg VS)
		Cool	Temperate	Warm				
1. Cattle	2 118	100.0	0.0	0.0	NA	NA	NA	10.40
Dairy Cattle ⁽⁴⁾	598	100.0	0.0	0.0	600.0	1 423.5	0.2	18.77
Non-Dairy Cattle	1 520	100.0	0.0	0.0	406.7	664.4	0.2	7.10
2. Buffalo	NO	NO	NO	NO	NO	NO	NO	0.00
3. Sheep	320	100.0	0.0	0.0	43.0	146.0	0.2	0.19
4. Goats	59	100.0	0.0	0.0	30.0	102.2	0.2	0.12
5. Camels and Llamas	NO	NO	NO	NO	0.0	0.0	0.0	0.00
6. Horses	85	100.0	0.0	0.0	238.0	627.8	0.3	1.39
7. Mules and Asses	IE	IE	IE	IE	238.0	627.8	0.3	0.00
8. Swine	3 440	100.0	0.0	0.0	82.0	0.4	0.5	5.85
9. Poultry	12 572	100.0	0.0	0.0	1.1	36.5	0.3	0.08

⁽¹⁾ See footnote 1 to Table 4.A of this common reporting format.

⁽²⁾ Climate regions are defined in terms of annual average temperature as follows: Cool=less than 15°C; Temperate=15°C to 25°C inclusive; and Warm=greater than 25°C (see Table 4.2 of the IPCC Guidelines (Volume 3, Reference Manual, p. 4.8)).

⁽³⁾ VS=Volatile Solids; Bo=maximum methane producing capacity for manure IPCC Guidelines (Volume 3, Reference Manual, p.4.23 and p. 4.15.

⁽⁴⁾ Including data on dairy heifers, if available.

Documentation Box:

Population statistics are on a yearly basis
Emissions of "4 B 7 Mules and Asses" are included in "4 B 6 Horses"

Additional information (for Tier 2)

Animal category ^(a)	Indicator	Climate region	Animal waste management system					
			Anaerobic lagoon	Liquid system	Daily spread	Solid storage and dry lot	Pasture range paddock	Other
Dairy Cattle	Allocation ^(b)	Cool	0.00	18.95	0.00	70.40	10.65	0.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO
	MCF ^(b)	Cool	90.00	39.00	0.00	1.00	1.00	1.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO
Non-Dairy Cattle	Allocation ^(b)	Cool	0.00	23.99	0.00	66.36	9.66	0.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO
	MCF ^(b)	Cool	90.00	39.00	0.00	1.00	1.00	1.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO
Swine	Allocation ^(b)	Cool	0.00	71.49	0.00	28.51	0.00	0.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO
	MCF ^(b)	Cool	90.00	39.00	0.00	1.00	1.00	1.00
		Temperate	NO	NO	NO	NO	NO	NO
		Warm	NO	NO	NO	NO	NO	NO

^(a) Copy the above table as many times as necessary.

^(b) MCF = Methane Conversion Factor (IPCC Guidelines, (Volume 3, Reference Manual, p. 4.9)). In the case of use of other climate region categorization, please replace the entries in the cells with the climate regions for which the MCFs are specified.

TABLE 4.B(b) SECTORAL BACKGROUND DATA FOR AGRICULTURE
N₂O Emissions from Manure Management
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION								IMPLIED EMISSION FACTORS	
	Population size (⁽¹⁾) (1000s)	Nitrogen excretion (kg N/head/yr)	Nitrogen excretion per animal waste management system (kg N/yr)						Emission factor per animal waste management system	
			Anaerobic lagoon	Liquid system	Daily spread	Solid storage and dry lot	Pasture range and paddock	Other	(kg N ₂ O-N/kg N)	
Non-Dairy Cattle	1 520	34.2	NO	2 856 689.6	0.0	8 413 896.7	1 750 482.2	0.0	Anaerobic lagoon	0.000
Dairy Cattle	598	62.8	NO	7 129 428.5	0.0	26 416 408.7	3 977 470.6	0.0	Liquid system	0.130
Sheep	320	20.0	NO	0.0	0.0	128 186.8	5 576 125.8	705 027.4	Solid storage and dry lot	0.000
Swine	3 440	17.6	NO	0.0	0.0	4 785 947.5	0.0	0.0	Other	0.000
Poultry	12 572	0.9	NO	1 181 683.1	0.0	90 898.7	181 797.4	7 635 491.0		
Other (please specify) <input type="checkbox"/>										
Goats	59	20.0	NO	0.0	0.0	0.0	1 141 478.4	47 561.6		
Other animals	0	20.0	NO	0.0	0.0	0.0	0.0	0.0		
Total per AWMS⁽²⁾			0.0	11 167 801.2	0.0	39 835 338.3	12 627 354.4	8 388 080.0		

⁽¹⁾ See footnote 1 to Table 4.A of this common reporting format

⁽²⁾ AWMS - Animal Waste Management System

Documentation box:
Population statistics are on a yearly basis

TABLE 4.C SECTORAL BACKGROUND DATA FOR AGRICULTURE
Rice Cultivation

(Sheet 1 of 1)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTOR ⁽¹⁾	EMISSIONS
	Harvested area ⁽²⁾ (10 ⁻⁹ m ² /yr)	Organic amendments added ⁽³⁾ :		CH ₄ (g/m ²)	CH ₄ (Gg)
		type	(t/ha)		
1. Irrigated					NO
Continuously Flooded	NO			0.00	NO
Intermittently Flooded	NO			0.00	NO
Single Aeration	NO			0.00	NO
Multiple Aeration	NO			0.00	NO
2. Rainfed					NO
Flood Prone	NO			0.00	NO
Drought Prone	NO			0.00	NO
3. Deep Water					NO
Water Depth 50-100 cm	NO			0.00	NO
Water Depth > 100 cm	NO			0.00	NO
4. Other (please specify)					NO
	NO			0.00	NO
Upland Rice ⁽⁴⁾	NO				
Total ⁽⁴⁾	0.00				

⁽¹⁾ The implied emission factor takes account of all relevant corrections for continuously flooded fields without organic amendment plus the correction for the organic amendments, if used, as well as of the effect of different soil characteristics, if taken into account, on methane emissions.

⁽²⁾ Harvested area is the cultivated area multiplied by the number of cropping seasons per year

⁽³⁾ Specify dry weight or wet weight for organic amendments

⁽⁴⁾ These rows are included to allow comparison with the international statistics. Upland rice emissions are assumed to be zero and are ignored in the emission calculation

Documentation box:

When disaggregating by more than one region within a country, provide additional information in the documentation box.

Where available, provide activity data and scaling factors by soil type and rice cultivar.

There is no rice cultivation in Austria

TABLE 4.D SECTORAL BACKGROUND DATA FOR AGRICULTURE

Agricultural Soils⁽¹⁾

(Sheet 1 of 1)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION		IMPLIED EMISSION FACTORS		EMISSIONS (Gg N ₂ O)
	Description	Value	Unit		
Direct Soil Emissions	N input to soils (kg N/yr)				5.04
Synthetic Fertilizers	Use of synthetic fertilizers (kg N/yr)	118 557 137	(kg N ₂ O-N/kg N) ⁽²⁾	0.013	2.33
Animal Wastes Applied to Soils	Nitrogen input from manure applied to soils (kg N/yr)	94 359 723	(kg N ₂ O-N/kg N) ⁽²⁾	0.013	1.85
N-fixing Crops	pulses and soybeans produced (kg N fixed/yr)	18 493 960	(kg N ₂ O-N/kg dry biomass) ⁽²⁾	0.013	0.36
Crop Residue	N-input from Dry production of other crops (kg N/yr)	24 978 571	(kg N ₂ O-N/kg dry biomass) ⁽²⁾	0.013	0.49
Cultivation of Histosols	Area of cultivated organic soils (ha)	NO	(kg N ₂ O-N/ha) ⁽²⁾	0.000	NO
Animal Production	N excretion on pasture range and paddock (kg N/yr)	21 448 645	(kg N₂O-N/kg N)⁽²⁾	0.020	0.67
Indirect Emissions					3.42
Atmospheric Deposition	Volatized N (NH ₃ and NO _x) from fertilizers and animal wastes (kg N/yr)	23 994 911	(kg N ₂ O-N/kg N) ⁽²⁾	0.010	0.38
Nitrogen Leaching and Run-off	N from fertilizers and animal wastes that is lost through leaching and run off (kg N/yr)	77 508 125	(kg N ₂ O-N/kg N) ⁽²⁾	0.025	3.04
Other (please specify)					0.00
				0.000	

Additional information

Fraction ^(a)	Description	Value
Frac _{BURN}	Fraction of crop residue burned	0.007
Frac _{FUEL}	Fraction of livestock N excretion in excrements burned for fuel	0.000
Frac _{GASF}	Fraction of synthetic fertilizer N applied to soils that volatilizes as NH ₃ and NO _x	0.030
Frac _{GASM}	Fraction of livestock N excretion that volatilizes as NH ₃ and NO _x	0.177
Frac _{GRAZ}	Fraction of livestock N excreted and deposited onto soil during grazing	0.158
Frac _{LEACH}	Fraction of N input to soils that is lost through leaching and runoff	0.300
Frac _{NCRBF}	Fraction of N in non-N-fixing crop	0.005
Frac _{NCRO}	Fraction of N in N-fixing crop	0.015
Frac _R	Fraction or crop residue removed from the field as crop	0.341

^(a) Use the fractions as specified in the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.92 - 4.113).


⁽¹⁾ See footnote 4 to Summary 1.A. of this common reporting format. Parties which choose to report CO₂ emissions and removals from agricultural soils under 4.D. Agricultural Soils category should indicate the amount [Gg] of these emissions or removals and relevant additional information (activity data, implied emissions factors) in the documentation box.

⁽²⁾ To convert from N₂O-N to N₂O emissions, multiply by 44/28.

Documentation box:

TABLE 4.E SECTORAL BACKGROUND DATA FOR AGRICULTURE
Prescribed Burning of Savannas
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION					IMPLIED EMISSION FACTORS		EMISSIONS	
	Area of savanna burned (k ha/yr)	Average aboveground biomass density (t dm/ha)	Fraction of savanna burned	Biomass burned (Gg dm)	Nitrogen fraction in biomass	(kg/t dm)		(Gg)	
						CH ₄	N ₂ O	CH ₄	N ₂ O
(specify ecological zone) 								NO	NO
	NO					0.00	0.00	NO	NO

Additional information

	Living	Dead
Fraction of aboveground biomass		
Fraction oxidized		
Carbon fraction		

Documentation box:

No occurrence of savannas in Austria

TABLE 4.F SECTORAL BACKGROUND DATA FOR AGRICULTURE
Field Burning of Agricultural Residues
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS		EMISSIONS	
	Crop production	Residue/ Crop ratio	Dry matter fraction	Fraction burned in fields	Biomass burned (Gg dm)	Nitrogen fraction in biomass of residues	CH ₄	N ₂ O	CH ₄	N ₂ O
	(t)						(kg/t dm)	(kg/t dm)	(Gg)	(Gg)
1. Cereals									0.05	0.00
Wheat	NA	NA	NA	NA	30.00	NA	1.78	0.12	0.05	0.00
NA	NA	NA	NA	NA	IE	NA	0.00	0.00	IE	IE
Maize	NA	NA	NA	NA	IE	NA	0.00	0.00	IE	IE
Oats	NA	NA	NA	NA	IE	NA	0.00	0.00	IE	IE
Rye	NA	NA	NA	NA	IE	NA	0.00	0.00	IE	IE
Rice	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
Other (please specify) <input type="checkbox"/>									0.00	0.00
							0.00	0.00		
2. Pulse ⁽¹⁾									NO	NO
Dry bean	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
Peas	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
Soybeans	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
Other (please specify) <input type="checkbox"/>									0.00	0.00
							0.00	0.00		
3 Tuber and Root									NO	NO
Potatoes	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
Other (please specify) <input type="checkbox"/>									0.00	0.00
							0.00	0.00		
4 Sugar Cane	NO	NO	NO	NO	NO	NO	0.00	0.00	NO	NO
5 Other (please specify) <input type="checkbox"/>									0.02	0.00
Vine	NE	NE	NE	NE	87.28	NE	0.21	0.00	0.02	0.00






⁽¹⁾ To be used in Table 4.D of this common reporting format.

Documentation Box:

Wheat includes cereals total

TABLE 5 SECTORAL REPORT FOR LAND-USE CHANGE AND FORESTRY
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	Net CO ₂ emissions/ removals	CH ₄	N ₂ O	NO _x	CO
	(Gg)						
Total Land-Use Change and Forestry	22 174.94	-29 808.30	-7 633.36	0.00	0.00	0.00	0.00
A. Changes in Forest and Other Woody Biomass Stocks	22 174.94	-29 808.30	-7 633.36				
1. Tropical Forests	NO	NO	0.00				
2. Temperate Forests	22 174.94	-29 808.30	-7 633.36				
3. Boreal Forests	NO	NO	0.00				
4. Grasslands/Tundra	NE	NE	0.00				
5. Other (please specify) 	0.00	0.00	0.00				
Harvested Wood ⁽¹⁾	NE	NE	0.00				
			0.00				
B. Forest and Grassland Conversion ⁽²⁾	IE			NE	NE	NE	NE
1. Tropical Forests	NO			NO	NO	NO	NO
2. Temperate Forests	IE			NE	NE	NE	NE
3. Boreal Forests	NO			NO	NO	NO	NO
4. Grasslands/Tundra	NE			NE	NE	NE	NE
5. Other (please specify) 	0.00			0.00	0.00	0.00	0.00
C. Abandonment of Managed Lands	IE	IE	IE				
1. Tropical Forests	NO	NO	0.00				
2. Temperate Forests	IE	IE	0.00				
3. Boreal Forests	NO	NO	0.00				
4. Grasslands/Tundra	NE	NE	0.00				
5. Other (please specify) 	0.00	0.00	0.00				
			0.00				
D. CO₂ Emissions and Removals from Soil	NE	NE	NE				
Cultivation of Mineral Soils	NE	NE	0.00				
Cultivation of Organic Soils	NE	NE	0.00				
Liming of Agricultural Soils	NE	NE	0.00				
Forest Soils	NE	NE	0.00				
Other (please specify) ⁽³⁾ 	0.00	0.00	0.00				
			0.00				
E. Other (please specify) 	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			0.00				

⁽¹⁾ Following the IPCC Guidelines, the harvested wood should be reported under Changes in Forest and Other Woody Biomass Stocks (Volume 3. Reference Manual, p.5.17).

⁽²⁾ Include only the emissions of CO₂ from Forest and Grassland Conversion. Associated removals should be reported under section D.

⁽³⁾ Include emissions from soils not reported under sections A, B and C.

Note: See footnote 4 to Summary 1.A of this common reporting format.

**TABLE 5.A SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE
AND FORESTRY**
Changes in Forest and Other Woody Biomass Stocks
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES			ACTIVITY DATA		IMPLIED EMISSION FACTORS	ESTIMATES
			Area of forest/biomass stocks (kha)	Average annual growth rate (t dm/ha)	Implied carbon uptake factor (t C/ha)	Carbon uptake increment (Gg C)
Tropical	Plantations	<i>Acacia spp.</i>	NO		0.00	0.00
		<i>Eucalyptus spp.</i>	NO		0.00	0.00
		<i>Tectona grandis</i>	NO		0.00	0.00
		<i>Pinus spp</i>	NO		0.00	0.00
		<i>Pinus caribaea</i>	NO		0.00	0.00
		Mixed Hardwoods	NO		0.00	0.00
		Mixed Fast-Growing Hardwoods	NO		0.00	0.00
		Mixed Softwoods	NO		0.00	0.00
	Other Forests	Moist	NO		0.00	0.00
		Seasonal	NO		0.00	0.00
		Dry	NO		0.00	0.00
	Other (specify) <input type="checkbox"/>		NO		0.00	0.00
Temperate	Plantations		2.00	NE	0.00	NE
			NO		0.00	0.00
	Commercial	Evergreen	2 534.11	4.91	2.41	6 095.19
		Deciduous	817.89	5.15	2.49	2 034.34
	Other (specify) <input type="checkbox"/>		NE		0.00	NE
			NO		0.00	0.00
Boreal			NO		0.00	0.00
			Number of trees (1000s of trees)	Annual growth rate (kt dm/1000 trees)	Carbon uptake factor (t C/tree)	Carbon uptake increment (Gg C)
Non-Forest Trees (specify type) <input type="checkbox"/>			NE		0.00	NE
Total annual growth increment (Gg C)						8 129.54
Gg CO ₂						29 808.30
			Amount of biomass removed (kt dm)	Carbon emission factor (t C/t dm)	Carbon release (Gg C)	
Total biomass removed in Commercial Harvest			12 388.62	0.49	6 047.71	
Traditional Fuelwood Consumed			IE	0.00	IE	
Total Other Wood Use			NE	0.00	NE	
Total Biomass Consumption from Stocks ⁽¹⁾ (Gg C)						6 047.71
Other Changes in Carbon Stocks ⁽²⁾ (Gg C)						NE
Gg CO ₂						22 174.94
Net annual carbon uptake (+) or release (-) (Gg C)						2 081.82
Net CO ₂ emissions (-) or removals (+) (Gg CO ₂)						7 633.36

⁽¹⁾ Make sure that the quantity of biomass burned off-site is subtracted from this total

⁽²⁾ The net annual carbon uptake/release is determined by comparing the annual biomass growth versus annual harvest, including the decay of forest products and slash left during harvest. The IPCC Guidelines recommend default assumption that all carbon removed in wood and other biomass from forests is oxidized in the year of removal. The emissions from decay could be included under Other Changes in Carbon Stocks.

Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology.

Parties that use country specific methods and models should report information on them in a transparent manner, also providing suggestions for a possible sectoral background data table suitable for their calculation method.

Documentation box:
Figures for "Total annual growth increment" include above and belowground biomass and also growth increment resulting from conversion of managed lands to forests (see Table 5.C)
The basis for the estimated figures for "Total biomass removed in Commercial Harvest" are at-site-measured data by the Austrian forest inventory. These data include all possible reasons for biomass losses in the forests. Therefore the figures for "Total biomass removed in Commercial Harvest" include also for instance traditional fuelwood consumption, biomass losses by forest fires (in the 90-ies at areas <135 ha per year) and biomass losses due to other damages
Figures for "Total biomass removed in Commercial Harvest" include the above- and belowground biomass of harvested trees)
Figures for "Total Biomass Consumption from Stocks" include also biomass losses due to forest conversion (see Table 5.B)
Since 1996 no forest inventory was carried out in Austria. Therefore the mean of the inventory results for the period 1992/96 is used for the years after 1996. A data revision for these years will take place when the new data of the presently running forest inventory will be available which will be in 2003.

TABLE 5.B. SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
Forest and Grassland Conversion
 (Sheet 1 of 1)

Austria
2001
submission 2003

[illegible]

⁽¹⁾ Activity data are for default 10-year average. Specify the average decay time which is appropriate for the local conditions, if other than 10 years.

Emissions/Removals	On site	Off site
Immediate carbon release from burning	0.00	0.00
Total On site and Off site (Gg C)	0.00	
Delayed emissions from decay (Gg C)	0.00	
Total annual carbon release (Gg C)	0.00	
Total annual CO ₂ emissions (Gg CO ₂)	0.00	

Additional information		
Fractions	On site	Off site
Fraction of biomass burned (average)	NA	NA
Fraction which oxidizes during burning (average)	NA	NA
Carbon fraction of aboveground biomass (average)	NA	NA
Fraction left to decay (average)	NA	NA
Nitrogen-carbon ratio	NA	NA


Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner, also providing suggestions for a possible sectoral background data table suitable for their calculation method.

Documentation box:

Figures for biomass losses due to forest conversion are included in the figures of Table 5.A

TABLE 5.C SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
Abandonment of Managed Lands
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		ACTIVITY DATA AND OTHER RELATED INFORMATION						IMPLIED EMISSION FACTORS		ESTIMATES	
		Total area abandoned and regrowing ⁽¹⁾		Annual rate of aboveground biomass growth		Carbon fraction of aboveground biomass		Rate of aboveground biomass carbon uptake		Annual carbon uptake in aboveground biomass	
		first 20 years (kha)	>20 years (kha)	first 20 years (t dm/ha)	>20 years (t dm/ha)	first 20 years	>20 years	first 20 years (t C/ha/yr)	>20 years (t C/ha/yr)	first 20 years (Gg C/yr)	>20 years (Gg C/yr)
Original natural ecosystems											
Tropical	Wet/Very Moist	NO						0.00	0.00	0.00	0.00
	Moist, short dry season	NO						0.00	0.00	0.00	0.00
	Moist, long dry season	NO						0.00	0.00	0.00	0.00
	Dry	NO						0.00	0.00	0.00	0.00
	Montane Moist	NO						0.00	0.00	0.00	0.00
	Montane Dry	NO						0.00	0.00	0.00	0.00
Tropical Savanna/Grasslands		NO						0.00	0.00	0.00	0.00
Temperate	Mixed Broadleaf/Coniferous	IE						0.00	0.00	IE	IE
	Coniferous	IE						0.00	0.00	IE	IE
	Broadleaf	IE						0.00	0.00	IE	IE
Grasslands		NE						0.00	0.00	NE	NE
Boreal	Mixed Broadleaf/Coniferous	NO						0.00	0.00	0.00	0.00
	Coniferous	NO						0.00	0.00	0.00	0.00
	Forest-tundra	NO						0.00	0.00	0.00	0.00
Grasslands/Tundra		NO						0.00	0.00	0.00	0.00
Other (please specify) 		NO						0.00	0.00	0.00	0.00
		NO						0.00	0.00	0.00	0.00
Total annual carbon uptake (Gg C)										0.00	
Total annual CO ₂ removal (Gg CO ₂)										0.00	

⁽¹⁾ If lands are regenerating to grassland, then the default assumption is that no significant changes in above-ground biomass occur.


Note: Sectoral background data tables on Land-use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner, also providing suggestions for a possible sectoral background data table suitable for their calculation method.

Documentation box:

Figures for biomass growth increment resulting from conversion of managed lands to forests are included in the figures of Table 5.A

TABLE 5.D SECTORAL BACKGROUND DATA FOR LAND-USE CHANGE AND FORESTRY
CO₂ Emissions and Removals from Soil
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA	IMPLIED EMISSION FACTORS	ESTIMATES
	Land area (Mha)	Average annual rate of soil carbon uptake/removal (Mg C/ha/yr)	Net change in soil carbon in mineral soils (Tg C over 20 yr)
Cultivation of Mineral Soils ⁽¹⁾	NE		0.00
High Activity Soils	NE	0.00	NE
Low Activity Soils	NE	0.00	NE
Sandy	NE	0.00	NE
Volcanic	NE	0.00	NE
Wetland (Aquic)	NE	0.00	NE
Other (please specify) 			0.00
		0.00	
	Land area (ha)	Annual loss rate (Mg C/ha/yr)	Carbon emissions from organic soils (Mg C/yr)
Cultivation of Organic Soils			0.00
Cool Temperate			0.00
Upland Crops	NO	0.00	0.00
Pasture/Forest	NO	0.00	0.00
Warm Temperate			0.00
Upland Crops	NE	0.00	NE
Pasture/Forest	NE	0.00	NE
Tropical			0.00
Upland Crops	NO	0.00	0.00
Pasture/Forest	NO	0.00	0.00
	Total annual amount of lime (Mg)	Carbon conversion factor	Carbon emissions from liming (Mg C)
Liming of Agricultural Soils			0.00
Limestone Ca(CO ₃)	NE	0.00	NE
Dolomite CaMg(CO ₃) ₂	NE	0.00	NE
Total annual net carbon emissions from agriculturally impacted soils (Gg C)			0.00
Total annual net CO ₂ emissions from agriculturally impacted soils (Gg CQ)			0.00

Additional information

Year	Climate ^(a)	land-use/ management system ^(a)	Soil type					
			High activity soils	Low activity soils	Sandy	Volcanic	Wetland (Aquic)	Organic soil
			percent distribution (%)					
20 years prior			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
inventory year			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE
			NE	NE	NE	NE	NE	NE

^(a) These should represent the major types of land management systems per climate regions presented in the country as well as ecosystem types which were either converted to agriculture (e.g., forest, savanna, grassland) or have been derived from previous agricultural land-use (e.g., abandoned lands, reforested lands). Systems should also reflect differences in soil carbon stocks that can be related to differences in management (IPCC Guidelines (Volume 2. Workbook, Table 5-9, p. 5.26, and Appendix (pp. 5-31 - 5.38)).

⁽¹⁾ The information to be reported under Cultivation of Mineral Soils aggregates data per soil type over all land-use/management systems. This refers to land area data and to the emission estimates and implied emissions factors according

Note: Sectoral background data tables on Land-Use Change and Forestry should be filled in only by Parties using the IPCC default methodology. Parties that use country specific methods and models should report information on them in a transparent manner, also providing suggestions for a possible sectoral background data table suitable for their calculation method.

Documentation Box:

TABLE 6 SECTORAL REPORT FOR WASTE
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ ⁽¹⁾	CH ₄	N ₂ O	NO _x	CO	NMVOC	SO ₂
	(Gg)						
Total Waste	11.28	219.77	0.08	0.03	14.50	0.19	0.05
A. Solid Waste Disposal on Land	0.00	182.97		0.00	14.49	0.19	
1. Managed Waste Disposal on Land	0.00	182.97		0.00	14.49	0.19	
2. Unmanaged Waste Disposal Sites	NO	NO		NO	NO	NO	
3. Other (<i>please specify</i>)	0.00	0.00		0.00	0.00	0.00	
B. Wastewater Handling		14.32	0.08	0.00	0.00	0.00	
1. Industrial Wastewater		4.87	0.02	0.00	0.00	0.00	
2. Domestic and Commercial Wastewater		9.45	0.06	0.00	0.00	0.00	
3. Other (<i>please specify</i>)		0.00	0.00	0.00	0.00	0.00	
C. Waste Incineration	11.28	0.00	0.00	0.03	0.01	0.00	0.05
D. Other (<i>please specify</i>)	0.00	22.48	0.00	0.00	0.00	0.00	0.00
Sludge spreading	0.00	20.00	0.00	0.00	0.00	0.00	0.00
Compost production	0.00	2.48	0.00	0.00	0.00	0.00	0.00

⁽¹⁾ Note that CO₂ from Waste Disposal and Incineration source categories should only be included if it stems from non-biological or inorganic waste sources.

TABLE 6.A SECTORAL BACKGROUND DATA FOR WASTE
Solid Waste Disposal
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION				IMPLIED EMISSION FACTOR		EMISSIONS ⁽¹⁾	
	Annual MSW at the SWDS (Gg)	MCF	DOC degraded (Gg)	CH ₄ recovery ⁽²⁾ (Gg)	CH ₄ (t/t MSW)	CO ₂ (t/t MSW)	CH ₄ (Gg)	CO ₂ ⁽³⁾ (Gg)
1 Managed Waste Disposal on Land	3 957.06	NE	252.24	48.64	0.05	0.00	182.97	0.00
2 Unmanaged Waste Disposal Sites	NO	NO	NO	NO	0.00	0.00	NO	NO
- deep (>5 m)	NO	NO	NO	NO	0.00	0.00	NO	NO
- shallow (<5 m)	NO	NO	NO	NO	0.00	0.00	NO	NO
3 Other (please specify)					0.00	0.00	0.00	0.00
					0.00	0.00		

TABLE 6.C SECTORAL BACKGROUND DATA FOR WASTE
Waste Incineration
(Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA Amount of incinerated wastes (Gg)	IMPLIED EMISSION FACTOR			EMISSIONS		
		CO ₂ (kg/t waste)	CH ₄ (kg/t waste)	N ₂ O (kg/t waste)	CO ₂ ⁽³⁾ (Gg)	CH ₄ (Gg)	N ₂ O (Gg)
Waste Incineration (please specify)	3.00				11.28	0.00	0.00
(biogenic)(3)		0.00	0.00	0.00			
(plastics and other non-biogenic waste) (3)		0.00	0.00	0.00			
Incineration of corpses [Number]	9 214.00	0.18	0.00	0.00	1.61	0.00	0.00
municipal solid waste [Gg]	NO	0.00	0.00	0.00	NE	NE	NE
waste oil [Gg]	3.00	3 224.00	0.00	0.02	9.67	0.00	0.00
		0.00	0.00	0.00			
		0.00	0.00	0.00			
		0.00	0.00	0.00			

MSW - Municipal Solid Waste, SWDS - Solid Waste Disposal Site, MCF - Methane Correction Factor, DOC - Degradable Organic Carbon

(IPCC Guidelines (Volume 3. Reference Manual, section 6.2.4)). MSW includes household waste, yard/garden waste, commercial/market waste and organic industrial solid waste. MSW should not include inorganic industrial waste such as construction or demolition materials.

⁽¹⁾ Actual emissions (after recovery).

⁽²⁾ CH₄ recovered and flared or utilized.

⁽³⁾ Under Waste Disposal, CO₂ emissions should be reported only when the disposed wastes are combusted at the disposal site which might constitute a management practice. CO₂ emissions from non-biogenic wastes are included in the totals, while the CO₂ emissions from biogenic wastes are not included in the totals.

Documentation box:

All relevant information used in calculation should be provided in the additional information box and in the documentation box.
Parties that use country specific models should note this with a brief rationale in the documentation box and fill the relevant cells only.

Additional information

Description	Value
Total population (1000s) ^(a)	8 065.00
Urban population (1000s) ^(a)	5 436.00
Waste generation rate (kg/capita/day)	1.05
Fraction of MSW disposed to SWDS	0.29
Fraction of DOC in MSW	0.20
Fraction of wastes incinerated	0.15
Fraction of wastes recycled	0.34
CH ₄ oxidation factor (b)	0.20
CH ₄ fraction in landfill gas	0.55
Number of SWDS recovering CH ₄	48.00
CH ₄ generation rate constant (k) ^(c)	NA
Time lag considered (yr) ^(c)	NA
Composition of landfilled waste (%)	
Paper and paperboard	8.18
Food and garden waste	23.42
Plastics	7.32
Glass	2.81
Textiles	4.82
Other (specify)	51.04
other - inert	2.41
other - organic	0.00

^(a) Specify whether total or urban population is used and the rationale for doing so.

^(b) See IPCC Guidelines (Volume 3. Reference Manual, p. 6.9).

^(c) For Parties using Tier 2 methods.

TABLE 6.B SECTORAL BACKGROUND DATA FOR WASTE
Wastewater Handling
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND RELATED INFORMATION ⁽¹⁾				IMPLIED EMISSION FACTOR			EMISSIONS ⁽²⁾		
	Total organic product		CH ₄ recovered and/or flared		CH ₄		N ₂ O ⁽³⁾	CH ₄		N ₂ O ⁽³⁾
	Wastewater	Sludge	Wastewater	Sludge	Wastewater	Sludge		Wastewater	Sludge	
	(Gg DC ⁽¹⁾ /yr)		(Gg)		(kg/kg DC)	(kg/kg DC)	(kg/kg DC)	(Gg)	(Gg)	(Gg)
Industrial Wastewater	NA	NA	NA	NA	0.00	0.00	NA	4.87	IE	0.02
Domestic and Commercial Wastewater	NA	NA	NA	NA	0.00	0.00	NA	9.45	IE	0.00
Other (please specify) <input type="checkbox"/>								0.00	0.00	0.00
					0.00	0.00				

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION			IMPLIED EMISSION FACTOR	EMISSIONS
	Population ⁽⁴⁾ (1000s)	Protein consumption (protein in kg/person/yr)	N fraction (kg N/kg protein)	N ₂ O (kg N ₂ O-N/kg sewage N produced)	N ₂ O (Gg)
N ₂ O from human sewage ⁽³⁾	8 065	38.69	0.16	0.00	0.06

⁽¹⁾ DC - degradable organic component. DC indicators are COD (Chemical Oxygen Demand) for industrial wastewater and BOD (Biochemical Oxygen Demand) for Domestic/Commerce wastewater/sludge (IPCC Guidelines (Volume 3. Reference Manual, pp. 6.14, 6.18)).

⁽²⁾ Actual emissions (after recovery)

⁽³⁾ Parties using other methods for estimation of N₂O emissions from human sewage or wastewater treatment should provide corresponding information on methods, activity data and emission factors used in the documentation box. Use the table to provide aggregate data.

⁽⁴⁾ Specify whether total or urban population is used in the calculations and the rationale for doing so. Provide explanation in the documentation box.

Documentation box:

N₂O from human sewage: 10 g N / person / day is released into wastewater. 75 % of wastewater is treated in sewage plants. 10 % of N is denitrified. 1 % of denitrified N reacts to N₂O.
IE: CH₄-Emissions from sludge are reported under emissions from wastewater.

Additional information

	Domestic	Industrial
Total wastewater (m ³):	NE	NE
Treated wastewater (%):	NE	NE

Wastewater streams:	Wastewater output (m ³)	DC (kgCOD/m ³)
Industrial wastewater	NE	NE
Iron and steel	NE	NE
Non-ferrous	NE	NE
Fertilizers	NE	NE
Food and beverage	NE	NE
Paper and pulp	NE	NE
Organic chemicals	NE	NE
Other (specify) <input type="checkbox"/>	NE	NE
DC (kg BOD/1000 person/yr)		
Domestic and Commercial	NE	
Other <input type="checkbox"/>	NE	

Handling systems:	Industrial wastewater treated (%)	Ind. sludge treated (%)	Domestic wastewater treated (%)	Domestic sludge treated (%)
Aerobic	NE	NE	NE	NE
Anaerobic	NE	NE	NE	NE
Other (specify) <input type="checkbox"/>	NE	NE	NE	NE

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)

(Sheet 1 of 3)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		CO ₂	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NM VOC	SO ₂
		emissions	removals			P	A	P	A	P	A				
		(Gg)				CO ₂ equivalent (Gg)				(Gg)					
Total National Emissions and Removals		69 120.04	-7 633.36	432.11	19.20	5 090.46	1 033.25	0.00	25.16	0.38	0.03	199.40	859.74	232.25	36.67
1. Energy		55 879.06		18.84	4.41							179.70	643.59	82.44	27.97
A. Fuel Combustion	Reference Approach ⁽²⁾	61 660.75													
	Sectoral Approach ⁽²⁾	55 672.17		12.83	4.41							179.70	643.59	78.84	27.81
1. Energy Industries		14 375.00		0.31	0.17							13.04	3.21	0.69	7.82
2. Manufacturing Industries and Construction		7 752.48		0.60	0.42							24.84	15.47	3.63	6.22
3. Transport		18 886.80		1.58	2.76							101.46	221.98	30.33	3.15
4. Other Sectors		14 657.89		10.34	1.05							40.35	402.93	44.18	10.63
5. Other		0.00		0.00	0.00							0.00	0.00	0.00	0.00
B. Fugitive Emissions from Fuels		206.89		6.01	0.00							0.00	0.00	3.61	0.16
1. Solid Fuels		0.00		0.01	0.00							0.00	0.00	0.00	0.00
2. Oil and Natural Gas		206.89		6.00	0.00							0.00	0.00	3.61	0.16
2. Industrial Processes		12 834.06		0.12	2.54	5 090.46	1 033.25	0.00	25.16	0.38	0.03	14.64	199.94	20.75	8.64
A. Mineral Products		3 073.62		0.03	0.00							5.24	16.74	5.17	0.18
B. Chemical Industry		462.37		0.08	2.54	0.00	0.00	0.00	0.00	0.00	0.00	4.40	11.11	12.34	3.19
C. Metal Production		9 245.00		0.00	0.00				0.00		0.00	4.27	171.55	0.51	5.28
D. Other Production ⁽³⁾		53.06										0.74	0.54	2.74	0.00
E. Production of Halocarbons and SF ₆							0.00		0.00		0.00				
F. Consumption of Halocarbons and SF ₆						5 090.46	1 033.25	NE	25.16	0.38	0.03				
G. Other		0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked to report the results of their calculations using the Reference approach and to explain any differences with the Sectoral approach. Where possible, the calculations using the Sectoral approach should be used for estimating national totals. Do not include the results of both the Reference approach and the Sectoral approach in national totals.

⁽³⁾ Other Production includes Pulp and Paper and Food and Drink Production.

Note: The numbering of footnotes to all tables containing more than one sheet continue to the next sheet. Common footnotes are given only once at the first point of reference.

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)
(Sheet 2 of 3)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂	CO ₂	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NMVOC	SO ₂
	emissions	removals			P	A	P	A	P	A				
	(Gg)				CO ₂ equivalent (Gg)				(Gg)					
3. Solvent and Other Product Use	395.64			0.75							0.00	0.00	126.94	0.00
4. Agriculture	0.00	0.00	193.38	11.42							5.02	1.72	1.92	0.00
A. Enteric Fermentation			149.99											
B. Manure Management			43.31	2.29									NE	
C. Rice Cultivation			NO										NO	
D. Agricultural Soils	⁽⁴⁾ 0.00	⁽⁴⁾ 0.00	NO	9.13							5.02		1.71	
E. Prescribed Burning of Savannas			NO	NO							NO	NO	NO	
F. Field Burning of Agricultural Residues			0.07	0.00							0.01	1.72	0.22	0.00
G. Other			0.00	0.00							0.00	0.00	0.00	0.00
5. Land-Use Change and Forestry	⁽⁵⁾ 0.00	⁽⁵⁾ -7 633.36	0.00	0.00							0.00	0.00	0.00	0.00
A. Changes in Forest and Other Woody Biomass Stocks	⁽⁵⁾ 0.00	⁽⁵⁾ -7 633.36												
B. Forest and Grassland Conversion	IE		NE	NE							NE	NE	NE	
C. Abandonment of Managed Lands	⁽⁵⁾ IE	⁽⁵⁾ IE												
D. CO ₂ Emissions and Removals from Soil	⁽⁵⁾ NE	⁽⁵⁾ NE												
E. Other	⁽⁵⁾ 0.00	⁽⁵⁾ 0.00	0.00	0.00							0.00	0.00	0.00	0.00
6. Waste	11.28		219.77	0.08							0.03	14.50	0.19	0.05
A. Solid Waste Disposal on Land	⁽⁶⁾ 0.00		182.97									14.49	0.19	
B. Wastewater Handling			14.32	0.08							0.00	0.00	0.00	
C. Waste Incineration	⁽⁶⁾ 11.28		0.00	0.00							0.03	0.01	0.00	0.05
D. Other	0.00		22.48	0.00							0.00	0.00	0.00	0.00
7. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

⁽⁴⁾ According to the IPCC Guidelines (Volume 3. Reference Manual, pp. 4.2, 4.87), CO₂ emissions from agricultural soils are to be included under Land-Use Change and Forestry (LUCF). At the same time, the Summary Report 7A (Volume 1. Reporting Instructions, Tables.27) allows for reporting CO₂ emissions or removals from agricultural soils, either in the Agriculture sector, under D. Agricultural Soils or in the Land-Use Change and Forestry sector under D. Emissions and Removals from Soil. Parties may choose either way to report emissions or removals from this source in the common reporting format, but the way they have chosen to report should be clearly indicated, by inserting explanatory comments to the corresponding cells of Summary 1.A and Summary 1.B. Double-counting of these emissions or removals should be avoided. Parties should include these emissions or removals consistently in Table8(a) (Recalculation - Recalculated data) and Table10 (Emission trends).

⁽⁵⁾ Please do not provide an estimate of both CO₂ emissions and CO₂ removals. "Net" emissions (emissions - removals) of CO₂ should be estimated and a single number placed in either the CO₂ emissions or CO₂ removals column, as appropriate. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

⁽⁶⁾ Note that CO₂ from Waste Disposal and Incineration source categories should only be included if it stems from non-biogenic or inorganic waste streams.

SUMMARY 1.A SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7A)
(Sheet 3 of 3)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	CH ₄	N ₂ O	HFCs		PFCs		SF ₆		NO _x	CO	NMVOC	SO ₂
					P	A	P	A	P	A				
	(Gg)				CO ₂ equivalent (Gg)				(Gg)					
Memo Items: ⁽⁷⁾														
International Bunkers	1 614.75		0.01	0.06							5.16	1.59	0.65	0.51
Aviation	1 614.75		0.01	0.06							5.16	1.59	0.65	0.51
Marine	NO		NO	NO							NO	NO	NO	NO
Multilateral Operations	IE		IE	IE							IE	IE	IE	IE
CO₂ Emissions from Biomass	12 477.05													

⁽⁷⁾ Memo Items are not included in the national totals.

SUMMARY 1.B SHORT SUMMARY REPORT FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 7B)
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	CH ₄	N ₂ O	HFCs ⁽¹⁾		PFCs ⁽¹⁾		SF ₆		NO _x	CO	NM VOC	SO ₂
					P	A	P	A	P	A				
	(Gg)				CO ₂ equivalent (Gg)				(Gg)					
Total National Emissions and Removals	69 120.04	-7 633.36	432.11	19.20	5 090.46	1 033.25	0.00	25.16	0.38	0.03	199.40	859.74	232.25	36.67
1. Energy	55 879.06		18.84	4.41							179.70	643.59	82.44	27.97
A. Fuel Combustion	Reference Approach ⁽²⁾	61 660.75												
	Sectoral Approach ⁽²⁾	55 672.17	12.83	4.41							179.70	643.59	78.84	27.81
B. Fugitive Emissions from Fuels		206.89	6.01	0.00							0.00	0.00	3.61	0.16
2. Industrial Processes	12 834.06		0.12	2.54	5 090.46	1 033.25	0.00	25.16	0.38	0.03	14.64	199.94	20.75	8.64
3. Solvent and Other Product Use	395.64			0.75							0.00	0.00	126.94	0.00
4. Agriculture⁽³⁾	0.00	0.00	193.38	11.42							5.02	1.72	1.92	0.00
5. Land-Use Change and Forestry	⁽⁴⁾ 0.00	⁽⁴⁾ -7 633.36	0.00	0.00							0.00	0.00	0.00	0.00
6. Waste	11.28		219.77	0.08							0.03	14.50	0.19	0.05
7. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Memo Items:														
International Bunkers	1 614.75		0.01	0.06							5.16	1.59	0.65	0.51
Aviation	1 614.75		0.01	0.06							5.16	1.59	0.65	0.51
Marine	NO		NO	NO							NO	NO	NO	NO
Multilateral Operations	IE		IE	IE							IE	IE	IE	IE
CO₂ Emissions from Biomass	12 477.05													

P = Potential emissions based on Tier 1 approach of the IPCC Guidelines.

A = Actual emissions based on Tier 2 approach of the IPCC Guidelines.

⁽¹⁾ The emissions of HFCs and PFCs are to be expressed as CO₂ equivalent emissions. Data on disaggregated emissions of HFCs and PFCs are to be provided in Table 2(II) of this common reporting format.

⁽²⁾ For verification purposes, countries are asked to report the results of their calculations using the Reference approach and to explain any differences with the Sectoral approach in document box of Table 1.A(c). Where possible, the calculations using the Sectoral approach should be used for estimating national totals. Do not include the results of both the Reference approach and the Sectoral approach in national totals.

⁽³⁾ See footnote 4 to Summary 1.A.

⁽⁴⁾ Please do not provide an estimate of both CO₂ emissions and CO₂ removals. "Net" emissions (emissions - removals) of CO₂ should be estimated and a single number placed in either the CO₂ emissions or CO₂ removals column, as appropriate. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

SUMMARY 2 SUMMARY REPORT FOR CO₂ EQUIVALENT EMISSIONS
(Sheet 1 of 1)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ ⁽¹⁾	CH ₄	N ₂ O	HFCs	PFCs	SF ₆	Total
	CO ₂ equivalent (Gg)						
Total (Net Emissions)⁽¹⁾	61 486.68	9 074.32	5 950.64	1 033.25	25.16	676.95	78 247.01
1. Energy	55 879.06	395.70	1 366.85				57 641.60
A. Fuel Combustion (Sectoral Approach)	55 672.17	269.45	1 366.85				57 308.46
1. Energy Industries	14 375.00	6.49	54.11				14 435.60
2. Manufacturing Industries and Construction	7 752.48	12.60	131.05				7 896.13
3. Transport	18 886.80	33.13	854.64				19 774.58
4. Other Sectors	14 657.89	217.24	327.04				15 202.16
5. Other	0.00	0.00	0.00				0.00
B. Fugitive Emissions from Fuels	206.89	126.25	0.00				333.14
1. Solid Fuels	0.00	0.19	0.00				0.19
2. Oil and Natural Gas	206.89	126.06	0.00				332.95
2. Industrial Processes	12 834.06	2.54	786.47	1 033.25	25.16	676.95	15 358.43
A. Mineral Products	3 073.62	0.71	0.00				3 074.33
B. Chemical Industry	462.37	1.76	786.47	0.00	0.00	0.00	1 250.61
C. Metal Production	9 245.00	0.07	0.00		0.00	7.65	9 252.72
D. Other Production	53.06						53.06
E. Production of Halocarbons and SF ₆				0.00	0.00	0.00	0.00
F. Consumption of Halocarbons and SF ₆				1 033.25	25.16	669.30	1 727.71
G. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3. Solvent and Other Product Use	395.64		232.50				628.14
4. Agriculture	0.00	4 060.94	3 540.97				7 601.91
A. Enteric Fermentation		3 149.88					3 149.88
B. Manure Management		909.55	708.77				1 618.32
C. Rice Cultivation		0.00					0.00
D. Agricultural Soils ⁽²⁾		0.00	2 831.03				2 831.03
E. Prescribed Burning of Savannas		0.00	0.00				0.00
F. Field Burning of Agricultural Residues		1.51	1.17				2.68
G. Other		0.00	0.00				0.00
5. Land-Use Change and Forestry⁽¹⁾	-7 633.36	0.00	0.00				-7 633.36
6. Waste	11.28	4 615.14	23.86				4 650.29
A. Solid Waste Disposal on Land	0.00	3 842.27					3 842.27
B. Wastewater Handling		300.79	23.84				324.63
C. Waste Incineration	11.28	0.00	0.02				11.31
D. Other	0.00	472.08	0.00				472.08
7. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Memo Items:							
International Bunkers	1 614.75	0.25	17.68				1 632.69
Aviation	1 614.75	0.25	17.68				1 632.69
Marine	NO	NO	NO				0.00
Multilateral Operations	IE	IE	IE				0.00
CO₂ Emissions from Biomass	12 477.05						12 477.05

⁽¹⁾ For CO₂ emissions from Land-Use Change and Forestry the net emissions are to be reported. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).

⁽²⁾ See footnote 4 to Summary 1.A of this common reporting format.

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂ emissions	CO ₂ removals	Net CO ₂ emissions / removals	CH ₄	N ₂ O	Total emissions
Land-Use Change and Forestry	CO ₂ equivalent (Gg)					
A. Changes in Forest and Other Woody Biomass Stocks	22 174.94	-29 808.30	-7 633.36			-7 633.36
B. Forest and Grassland Conversion	IE		IE	NE	NE	0.00
C. Abandonment of Managed Lands	IE	IE	IE			0.00
D. CO ₂ Emissions and Removals from Soil	NE	NE	NE			0.00
E. Other	0.00	0.00	0.00	0.00	0.00	0.00
Total CO₂ Equivalent Emissions from Land-Use Change and Forestry	22 174.94	-29 808.30	-7 633.36	0.00	0.00	-7 633.36

Total CO ₂ Equivalent Emissions without Land-Use Change and Forestry ^(a)	85 880.36
Total CO ₂ Equivalent Emissions with Land-Use Change and Forestry ^(a)	78 247.01

^(a) The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report emissions and removals from Land-Use Change and Forestry.

SUMMARY 3 SUMMARY REPORT FOR METHODS AND EMISSION FACTORS USED
(Sheet 1 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆	
	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾
1. Energy												
A. Fuel Combustion												
1. Energy Industries	C	CS	C	CS	C	CS						
2. Manufacturing Industries and Construction	C	CS	C	CS	C	CS						
3. Transport	M	CS	M	CS	M	CS						
4. Other Sectors	CS	CS	CS	CS	CS	CS						
5. Other												
B. Fugitive Emissions from Fuels												
1. Solid Fuels			C	CS								
2. Oil and Natural Gas	C, CS	CS, PS	C	CS	C	CS						
2. Industrial Processes												
A. Mineral Products	C, CS	CS	C	CS								
B. Chemical Industry	C	PS	C	PS	C	PS						
C. Metal Production	C	CS, PS	C	CS								
D. Other Production	C	CS										
E. Production of Halocarbons and SF ₆												
F. Consumption of Halocarbons and SF ₆							CS	CS	CS	CS	CS	CS
G. Other												

⁽¹⁾ Use the following notation keys to specify the method applied: D (IPCC default), RA (Reference Approach), T1 (IPCC Tier 1), T1a, T1b, T1c (IPCC Tier 1a, Tier 1b and Tier 1c, respectively), T2 (IPCC Tier 2, T3 (IPCC Tier 3), C (CORINAIR), CS (Country Specific), M (Model). If using more than one method, enumerate the relevant methods. Explanations of any modifications to the default IPCC methods, as well as information on the proper use of methods per source category where more than one method is indicated, and explanations on the country specific methods, should be provided in the documentation box of the relevant Sectoral background data table.

⁽²⁾ Use the following notation keys to specify the emission factor used: D (IPCC default), C (CORINAIR), CS (Country Specific), PS (Plant Specific), M (Model). Where a mix of emission factors has been used, use different notations in one and the same cells with further explanation in the documentation box of the relevant Sectoral background data table.

SUMMARY 3 SUMMARY REPORT FOR METHODS AND EMISSION FACTORS USED
(Sheet 2 of 2)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆	
	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾	Method applied ⁽¹⁾	Emission factor ⁽²⁾
3. Solvent and Other Product Use	C, CS	CS			CS	CS						
4. Agriculture												
A. Enteric Fermentation			T1, T2	D, CS								
B. Manure Management			T1, T2	D, CS								
C. Rice Cultivation												
D. Agricultural Soils					T1	D						
E. Prescribed Burning of Savannas												
F. Field Burning of Agricultural Residues			CS	CS	CS	CS						
G. Other												
5. Land-Use Change and Forestry												
A. Changes in Forest and Other Woody Biomass Stocks	D	CS										
B. Forest and Grassland Conversion												
C. Abandonment of Managed Lands												
D. CO ₂ Emissions and Removals from Soil												
E. Other												
6. Waste												
A. Solid Waste Disposal on Land			CS	CS								
B. Wastewater Handling			C	CS	T1	D, CS						
C. Waste Incineration	C	CS	C	CS	C	CS						
D. Other			C, CS	CS								
7. Other (please specify) 												

TABLE 7 OVERVIEW TABLE⁽¹⁾ FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 8A)
(Sheet 1 of 3)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆		NO _x		CO		NMVOC		SO ₂	
	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality
Total National Emissions and Removals																				
1 Energy																				
A. Fuel Combustion Activities																				
Reference Approach	ALL	H																		
Sectoral Approach	ALL	H	ALL	L	ALL	M							ALL	L	ALL	L	ALL	L	ALL	M
1. Energy Industries	ALL	H	ALL	L	ALL	L							ALL	M	ALL	M	ALL	L	ALL	H
2. Manufacturing Industries and Construction	ALL	H	ALL	L	ALL	L							ALL	L	ALL	L	ALL	L	ALL	H
3. Transport	ALL	H	ALL	M	ALL	M							ALL	M	ALL	M	ALL	M	ALL	H
4. Other Sectors	ALL	H	ALL	L	ALL	L							ALL	L	ALL	L	ALL	L	ALL	M
5. Other	NO	NO	NO	NO	NO	NO							NO	NO	NO	NO	NO	NO	NO	NO
B. Fugitive Emissions from Fuels																				
1. Solid Fuels	ALL	H	PART	L	PART	L														
2. Oil and Natural Gas	ALL	L	ALL	L	PART	L							PART	L	PART	L	PART	L	PART	L
2 Industrial Processes																				
A. Mineral Products	PART	M	PART	L	PART	M							PART	M	PART	H	PART	M	PART	H
B. Chemical Industry	PART	M	PART	L	PART	M	NE	NE	NE	NE			PART	M	PART	H	PART	M	PART	H
C. Metal Production	PART	M	PART	L	NE	NE			NO	NO	ALL	M	PART	M	PART	H	PART	M	PART	H
D. Other Production	ALL	M											ALL	M	ALL	H	ALL	M	NE	NE
E. Production of Halocarbons and SF ₆							NO	NO	NO	NO	NO	NO								

⁽¹⁾ This table is intended to be used by Parties to summarize their own assessment of completeness (e.g. partial, full estimate, not estimated) and quality (high, medium, low) of major source/sink inventory estimates. The latter could be understood as a quality assessment of the uncertainty of the estimates. This table might change once the IPCC completes its work on managing uncertainties of GHG inventories. The title of the table was kept for consistency with the current table in the IPCC Guidelines.

Note: To fill in the table use the notation key as given in the IPCC Guidelines (Volume 1. Reporting Instructions, Tables. 37)

TABLE 7 OVERVIEW TABLE FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 8A)
(Sheet 2 of 3)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆		NO _x		CO		NMVOC		SO ₂	
	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality
2 Industrial Processes (continued)																				
F. Consumption of Halocarbons and SF ₆																				
Potential ⁽²⁾							PART	M	PART	M	PART	M								
Actual ⁽³⁾							PART	M	PART	M	PART	M								
G. Other	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
3 Solvent and Other Product Use	ALL	L			ALL	L							NO	NO	NO	NO	ALL	L	NO	NO
4 Agriculture																				
A. Enteric Fermentation			ALL	M																
B. Manure Management			ALL	M	NE	NE											NE	NE		
C. Rice Cultivation			NO	NO													NO	NO		
D. Agricultural Soils	NE	NE	ALL	M	ALL	M											ALL	L		
E. Prescribed Burning of Savannas			NO	NO	NO	NO							NO	NO	NO	NO	NO	NO	NO	NO
F. Field Burning of Agricultural Residues			ALL	L	ALL	L							ALL	L	ALL	L	ALL	L	ALL	L
G. Other			NO	NO	NO	NO							NO	NO	NO	NO	NO	NO	NO	NO
5 Land-Use Change and Forestry	PART	H	NE	NE	NE	NE														
A. Changes in Forest and Other Woody Biomass Stocks	PART	H																		
B. Forest and Grassland Conversion	PART	H	NE	NE	NE	NE							NE	NE	NE	NE	NE	NE		

⁽²⁾ Potential emissions based on Tier 1 approach of the IPCC Guidelines.

⁽³⁾ Actual emissions based on Tier 2 approach of the IPCC Guidelines.

TABLE 7 OVERVIEW TABLE FOR NATIONAL GREENHOUSE GAS INVENTORIES (IPCC TABLE 8A)
(Sheet 3 of 3)

Austria
2001
submission 2003


GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂		CH ₄		N ₂ O		HFCs		PFCs		SF ₆		NO _x		CO		NMVOC		SO ₂	
	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality	Estimate	Quality
5 Land-Use Change and Forestry (continued)																				
C. Abandonment of Managed Lands	IE	IE																		
D. CO ₂ Emissions and Removals from Soil	NE	NE																		
E. Other	NE	NE	NE	NE	NE	NE							NE	NE	NE	NE	NE	NE	NE	NE
6 Waste																				
A. Solid Waste Disposal on Land	NE	NE	ALL	L											ALL	M	ALL	L		
B. Wastewater Handling			ALL	L	ALL	L							NE	NE	NE	NE	NE	NE		
C. Waste Incineration	ALL	L	PART	M	PART	L							PART	M	PART	M	PART	L	PART	H
D. Other	NE	NE	ALL	M	NE	NE							NE	NE	NE	NE	NE	NE	NE	NE
7 Other (please specify) 	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Memo Items:																				
International Bunkers	ALL	H	ALL	L	ALL	L							ALL	L	ALL	L	ALL	L	ALL	H
Aviation	ALL	H	ALL	L	ALL	L							ALL	L	ALL	L	ALL	L	ALL	H
Marine	NO	NO	NO	NO	NO	NO							NO	NO	NO	NO	NO	NO	NO	NO
Multilateral Operations	IE	IE	IE	IE	IE	IE							IE	IE	IE	IE	IE	IE	IE	IE
CO₂ Emissions from Biomass	ALL	L																		

TABLE 8(a) RECALCULATION - RECALCULATED DATA

Recalculated

year:

2001

(Sheet 1 of 2)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO ₂			CH ₄			N ₂ O		
	Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾
	CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)
Total National Emissions and Removals		69 120.04	0.00		9 074.32	0.00		5 950.64	0.00
1. Energy		55 879.06	0.00		395.70	0.00		1 366.85	0.00
1.A. Fuel Combustion Activities		55 672.17	0.00		269.45	0.00		1 366.85	0.00
1.A.1. Energy Industries		14 375.00	0.00		6.49	0.00		54.11	0.00
1.A.2. Manufacturing Industries and Construction		7 752.48	0.00		12.60	0.00		131.05	0.00
1.A.3. Transport		18 886.80	0.00		33.13	0.00		854.64	0.00
1.A.4. Other Sectors		14 657.89	0.00		217.24	0.00		327.04	0.00
1.A.5. Other		NE	0.00		NE	0.00		NE	0.00
1.B. Fugitive Emissions from Fuels		206.89	0.00		126.25	0.00		IE	0.00
1.B.1. Solid fuel		IE	0.00		0.19	0.00		NO	0.00
1.B.2. Oil and Natural Gas		206.89	0.00		126.06	0.00		IE	0.00
2. Industrial Processes		12 834.06	0.00		2.54	0.00		786.47	0.00
2.A. Mineral Products		3 073.62	0.00		0.71	0.00		NE	0.00
2.B. Chemical Industry		462.37	0.00		1.76	0.00		786.47	0.00
2.C. Metal Production		9 245.00	0.00		0.07	0.00		0.00	0.00
2.D. Other Production		53.06	0.00						
2.G. Other		NE	0.00		NE	0.00		NE	0.00
3. Solvent and Other Product Use		395.64	0.00					232.50	0.00
4. Agriculture		0.00	0.00		4 060.94	0.00		3 540.97	0.00
4.A. Enteric Fermentation		NE			3 149.88	0.00			
4.B. Manure Management		NE			909.55	0.00		708.77	0.00
4.C. Rice Cultivation		NO			NO	0.00			
4.D. Agricultural Soils ⁽²⁾		NE	0.00		NE	0.00		2 831.03	0.00
4.E. Prescribed Burning of Savannas		NO			NO	0.00		NO	0.00
4.F. Field Burning of Agricultural Residues		0.00			1.51	0.00		1.17	0.00
4.G. Other		NE			NE	0.00		NE	0.00
5. Land-Use Change and Forestry (net)		-7 633.36	0.00		NE	0.00		NE	0.00
5.A. Changes in Forest and Other Woody Biomass Stocks		-7 633.36	0.00						
5.B. Forest and Grassland Conversion		IE	0.00		NE	0.00		NE	0.00
5.C. Abandonment of Managed Lands		IE	0.00						
5.D. CO ₂ Emissions and Removals from Soil		NE	0.00						
5.E. Other		NE	0.00		NE	0.00		NE	0.00

⁽¹⁾ Estimate the percentage change due to recalculation with respect to the previous submission (Percentage change = 100% x [(LS-PS)/PS], where LS = Latest submission and PS = Previous submission.

All cases of recalculation of the estimate of the source/sink category, should be addressed and explained in Table 8(b) of this common reporting format.

⁽²⁾ See footnote 4 to Summary 1.A of this common reporting format.

TABLE 8(a) RECALCULATION - RECALCULATED DATA

Recalculated

year:

2001

(Sheet 2 of 2)

Austria

2001

submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES		CO ₂			CH ₄			N ₂ O		
		Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾
		CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)
6. Waste			11.28	0.00		4 615.14	0.00		23.86	0.00
6.A.	Solid Waste Disposal on Land		0.00	0.00		3 842.27	0.00			
6.B.	Wastewater Handling					300.79	0.00		23.84	0.00
6.C.	Waste Incineration		11.28	0.00		0.00	0.00		0.02	0.00
6.D.	Other		0.00	0.00		472.08	0.00		0.00	0.00
7. Other (please specify)			NE	0.00		NE	0.00		NE	0.00
				0.00			0.00			0.00
Memo Items:										
International Bunkers			1 614.75	0.00		0.25	0.00		17.68	0.00
Multilateral Operations			1E	0.00		1E	0.00		1E	0.00
CO ₂ Emissions from Biomass			13 139.35	0.00						


GREENHOUSE GAS SOURCE AND SINK CATEGORIES		HFCs			PFCs			SF ₆		
		Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾	Previous submission	Latest submission	Difference ⁽¹⁾
		CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)	CO ₂ equivalent (Gg)		(%)
Total Actual Emissions			1 033.25	0.00		25.16	0.00		676.95	0.00
2.C.3.	Aluminium Production					NE	0.00		NE	0.00
2.E.	Production of Halocarbons and SF ₆		NE	0.00		NE	0.00		NE	0.00
2.F.	Consumption of Halocarbons and SF ₆		1 033.25	0.00		25.16	0.00		676.95	0.00
	Other		NE	0.00		NE	0.00		NE	0.00
Potential Emissions from Consumption of HFCs/PFCs and SF ₆			5 090.46			NE			9 184.46	

		Previous submission	Latest submission	Difference ⁽¹⁾
		CO ₂ equivalent (Gg)		(%)
Total CO ₂ Equivalent Emissions with Land-Use Change and Forestry ⁽³⁾		0.00	78 247.01	0.00
Total CO ₂ Equivalent Emissions without Land-Use Change and Forestry ⁽³⁾		0.00	85 880.36	0.00

⁽³⁾ The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report emissions and removals from Land-Use Change and Forestry.

TABLE 8(b) RECALCULATION - EXPLANATORY INFORMATION
(Sheet 1 of 1)

Austria
2001
submission 2003

 Specify the sector and source/sink category ⁽¹⁾ where changes in estimates have occurred:	GHG	RECALCULATION DUE TO			
		CHANGES IN:			Addition/removal/ replacement of source/sink categories
		Methods ⁽²⁾	Emission factors ⁽²⁾	Activity data ⁽²⁾	

⁽¹⁾ Enter the identification code of the source/sink category (e.g. 1.B.1) in the first column and the name of the category (e.g. Fugitive Emissions from Solid Fuels) in the second column of the table (see Table 8(a)) .

(2) Explain changes in methods, emission factors and activity data that have resulted in recalculation of the estimate of the source/sink as indicated in Table 8(a). Include relevant changes in the assumptions and coefficients under the "Methods" column.

Documentation box: Use the documentation box to report the justifications of the changes as to improvements in the accuracy, completeness and consistency of the inventory.

TABLE 9 COMPLETENESS
(Sheet 1 of 2)

Austria
2001
submission 2003

Sources and sinks not reported (NE) ⁽¹⁾			
GHG	Sector ⁽²⁾	Source/sink category ⁽²⁾	Explanation
CO ₂			
	2 A 3	Limestone and Dolomite Use	Emission data from this source are planned to be provided in the
	2 A 4 a	Soda Ash Production	Emission data from this source are planned to be provided in the
	2 B 4	Carbide Production	Emission data from this source are planned to be provided in the
	5 A 2 c	5 A 2 c Plantations	The Austrian area of temperate forest plantations is very small (<2000 ha). Therefore the C stock changes at these plantations are negligible.
	5 A 2 d	5 A 2 d Other	There are not sufficient data which would allow to estimate accurately the emissions and removals from other wooded land like vineyards, orchards, parks, forest nurseries and christmas tree cultures.
	5 A 2 d	5 A 2 d Harvested Wood	Estimates on this sector will be made in the near future.
	5 A 4	5 A 4 Emissions and removals from grasslands	There are not sufficient data which would allow to estimate accurately the emissions and removals from grasslands. However, it is assumed that figures for this category are of minor relevance for the Austrian GHG balance.
	5 B 4	5 B 4 Emissions from grassland conversion	There are not sufficient data which would allow to estimate accurately the emissions from grassland conversion.
	5 B 5	5 B 5 Other	There are not sufficient data which would allow to estimate accurately the emissions from conversion of other wooded land like vineyards, orchards, parks, forest nurseries and christmas tree cultures.
	5 C 4	5 C 4 Removals by abandonment of managed land and regrowth by grasslands	There are not sufficient data which would allow to estimate accurately the removals from abandonment of managed land and regrowth by grasslands (biomass). However, it is assumed that figures for this category are of minor relevance for the Austrian GHG balance.
CH ₄	5 D	5 D CO ₂ emissions and removals from soil	Up to now there were no reassessments of the soil inventories in Austria. Therefore it is not possible to give estimates on the C stock changes in the soils which are based on measured data. It is planned to carry out such reassessments in the near future which will allow to provide figures for this sector.
	5 E	5 E Other	There are not sufficient data which would allow estimates for this sector.
N ₂ O	2 B 5	2 B 5 Other: Carbon Black/ Ethylene/ Dichloroethylene/ Styrene / Methanol	In the Austrian Inventory all CH ₄ emissions of the chemical industry (thus including the production of Carbon Black/ Ethylene/ Dichloroethylene/ Styrene / Methanol) are not estimated separately but as a sum and together with NMVOC emissions (total emissions are reported as NMVOC emissions). The share of methane in these emissions is not known.
	2 B 4	Carbide Production	Emission data from this source are planned to be provided in the 2004 submission
HFCs			
PFCs			
SF ₆			

TABLE 9 COMPLETENESS
(Sheet 1 of 2)

Austria
2001
submission 2003

Sources and sinks reported elsewhere (IE) ⁽³⁾				
GHG	Source/sink category	Allocation as per IPCC Guidelines	Allocation used by the Party	Explanation
CO ₂				
	a) Emissions from fuel combustion in the cement Industry	1 A 2 f Industry / Other	2 A 1 Cement Production	Emissions of cement industry are reported as total emissions and not for the different fuel types.
	b) Iron and Steel	1 A 2 a Iron and Steel	2 C 1 Iron and Steel Production	The emission declaration of the iron and steel industry includes emissions of all activities of the this sector which are allocated under SNAP 040202. The standard transformation of SNAP to IPCC allocates the emissions to sector 2 C 1
	c) Coke Oven	1 B 1 a Solid Fuel Transformation	2 C 1 Iron and Steel Production	see explanation b)
	d) Multilateral Operations	Memo Item: Multilateral Operations	1 A 4 Other Sectors	No explicit information in the national energy statistics about multilateral operations. Since the emissions of this sector are very low they are included in the residential/commercial sector.
	g) Oil Exploration, Production, Transport, Distribution	1 B 2 a i, ii, iii, v	1 B 2 a iv Oil Refining / Storage	Total emissions of oil exploration ,production ,transport and distribution are reported by the <i>Association of Oil Refineries</i>
	h) Transmission, Other Leakage	1 B 2 b ii, iii	1 B 2 b ii Natural Gas Distribution	Total emissions of gas transmission , leakages and distribution are reported by the energy statistics as "natural gas leakages".
	i) Venting and Flaring	1 B 2 c	1 A 1 b Petroleum Refining	The emission declaration of the refinery includes all emissions from the plant.
	l) Solvent Use - Degreasing and Dry Cleaning	3 B Solvent Use - Degreasing and Dry Cleaning	3 D Solvent Use - Other	The top down approach which was used to estimate total emissions from solvent use is not able to disaggregate the emissions to this sector.
	q) CO ₂ emissions of Changes in Forest and Other Woody Biomass Stocks	5 A CO ₂ emissions of Changes in Forest and Other Woody Biomass Stocks	5 A CO ₂ Removals of Changes in Forest and Other Woody Biomass Stocks	The national method provides only total CO ₂ emissions/removals.
	Biomass increment by abandonment of managed land and regrowth by forests	5 C 2 Abandonment of managed lands and regrowth by temperate forests	5 A 2 a,b Total biomass increment in Commercial Harvest	The basis for the estimated figures for "Total annual growth increment in Commercial Harvest" are at-site-measured data by the Austrian forest inventory. These data include all possible reasons for biomass increments in the forests. Therefore the figures for "Total biomass increment in Commercial Harvest" include also the biomass increments due to abandonment of managed land and regrowth by forests
	Biomass losses by forest conversion	5 B 2 a,b Biomass losses by forest conversion	5 A 2 a,b Total biomass removed in Commercial Harvest	The basis for the estimated figures for "Total biomass removed in Commercial Harvest" are at-site-measured data by the Austrian forest inventory. These data include all possible reasons for biomass losses in the forests. Therefore the figures for "Total biomass removed in Commercial Harvest" include also the biomass losses due to forest conversion
	Traditional Fuelwood Consumed	5 A 2 a,b Traditional Fuelwood Consumed	5 A 2 a,b Total biomass removed in Commercial Harvest	The basis for the estimated figures for "Total biomass removed in Commercial Harvest" are at-site-measured data by the Austrian forest inventory. These data include all possible reasons for biomass losses in the forests. Therefore the figures for "Total biomass removed in Commercial Harvest" include also for instance traditional fuelwood consumption, biomass losses by forest fires (in the 90-ies at areas <135 ha per year) and biomass losses due to other damages
CH ₄				
	b) Iron and Steel	1 A 2 a Iron and Steel	2 C 1 Iron and Steel Production	
	c) Coke Oven	1 B 1 a Solid Fuel Transformation	2 C 1 Iron and Steel Production	
	d) Multilateral Operations	Memo Item: Multilateral Operations	1 A 4 Other Sectors	
	g) Oil Exploration, Production, Transport, Distribution	1 B 2 a i, ii, iii, v	1 B 2 a iv Oil Refining / Storage	
	h) Transmission, Other Leakage	1 B 2 b ii, iii	1 B 2 b ii Natural Gas Distribution	
	i) Venting and Flaring	1 B 2 c	1 A 1 b Petroleum Refining	
	m) Enteric Fermentation - Mules and Asses	4 A 7 Enteric Fermentation - Mules and Asses	4 A 6 Enteric Fermentation - Horses	In the national statistics mules, asses and horses are published together.
	n) Manure Management - Mules and Asses	4 B 7 Manure Management - Mules and Asses	4 B 6 Manure Management - Horses	see explanation m)
N ₂ O				
	a) Petroleum Refining	1 A 1 b Petroleum Refining	1 B 2 a Fugitive Emissions from Fuels - Oil	

TABLE 9 COMPLETENESS
(Sheet 1 of 2)

Austria
2001
submission 2003

	b) Iron and Steel	1 A 2 a Iron and Steel	2 C 1 Iron and Steel Production	
	c) Coke Oven	1 B 1 a Solid Fuel Transformation	2 C 1 Iron and Steel Production	
	d) Multilateral Operations	Memo Item: Multilateral Operations	1 A 4 Other Sectors	
	i) Venting and Flaring	1 B 2 c	1 A 1 b Petroleum Refining	
	l) Solvent Use - Degreasing and Dry Cleaning	3 B Solvent Use - Degreasing and Dry Cleaning	3 D Solvent Use - Other	
HFCs				
HFCs	j) Consumption of HFCs - Potential Emissions By Sectors	2 F 1 to 2 F 8	2 F Consumption of Halocarbons and SF6	No detailed information about potential emissions of HFCs.
HFCs	k) Potential Emissions of HFCs - Import in Products	2 F(p) Import in Products	2 F(p) Import in Bulk	No detailed information about import of HFCs in bulk.
PFCs				
PFCs	j) Consumption of PFCs - Potential Emissions By Sectors	2 F 1 to 2 F 8	2 F Consumption of Halocarbons and SF6	
PFCs	k) Potential Emissions of PFCs - Import in Products	2 F(p) Import in Products	2 F(p) Import in Bulk	
SF ₆				
	j) Consumption of SF ₆ - Potential Emissions By Sectors	2 F 1 to 2 F 8	2 F Consumption of Halocarbons and SF6	
	k) Potential Emissions of SF ₆ - Import in Products	2 F(p) Import in Products	2 F(p) Import in Bulk	


⁽¹⁾ Please, clearly indicate sources and sinks which are considered in the IPCC Guidelines but are not considered in the submitted inventory. Explain the reason for excluding these sources and sinks, in order to avoid arbitrary interpretations. An entry should be made for each source/sink category for which the indicator "NE" is entered in the sectoral tables.

⁽²⁾ Indicate omitted source/sink following the IPCC source/sink category structure (e.g. sector: Waste, source category: Wastewater Handling).

⁽³⁾ Please clearly indicate sources and sinks in the submitted inventory that are allocated to a sector other than that indicated by the IPCC Guidelines. Show the sector indicated in the IPCC Guidelines and the sector to which the source or sink is allocated in the submitted inventory. Explain the reason for reporting these sources and sinks in a different sector. An entry should be made for each source/sink for which the indicator "IE" is used in the sectoral tables.

TABLE 9 COMPLETENESS
(Sheet 2 of 2)

Austria
2001
submission 2003

Additional GHG emissions reported ⁽⁴⁾						
GHG 	Source category	Emissions (Gg)	Estimated GWP value (100-year horizon)	Emissions CO ₂ equivalent (Gg)	Reference to the data source of GWP value	Explanation

⁽⁴⁾ Parties are encouraged to provide information on emissions of greenhouse gases whose GWP values have not yet been agreed upon by the COP. Please include such gases in this table if they are considered in the submitted inventory. Provide additional information on the estimation methods used.

TABLE 10 EMISSIONS TRENDS (CO₂)

(Sheet 1 of 5)

Austria
2001
submission 2003

	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
GREENHOUSE GAS SOURCE AND SINK CATEGORIES	(Gg)												
1. Energy	46 648.52	46 648.52	50 763.13	46 767.96	47 478.84	47 278.32	49 878.02	54 390.78	52 792.11	53 855.30	52 499.14	52 333.27	55 879.06
A. Fuel Combustion (Sectoral Approach)	46 528.56	46 528.56	50 633.13	46 629.31	47 347.17	47 130.59	49 728.93	54 296.27	52 648.97	53 690.24	52 304.86	52 145.79	55 672.17
1. Energy Industries	13 224.77	13 224.77	14 092.99	10 965.91	10 909.58	11 261.93	12 427.05	13 700.38	13 681.13	12 851.37	12 899.19	12 235.98	14 375.00
2. Manufacturing Industries and Construction	6 926.93	6 926.93	7 466.08	7 381.39	8 098.02	8 566.19	8 729.93	8 959.38	9 815.50	9 600.75	8 772.24	9 061.21	7 752.48
3. Transport	12 738.70	12 738.70	14 166.58	14 109.93	14 264.11	14 369.31	14 450.84	16 102.72	15 051.05	17 136.21	16 496.87	17 480.70	18 886.80
4. Other Sectors	13 638.15	13 638.15	14 907.50	14 172.09	14 075.45	12 933.16	14 121.11	15 533.78	14 101.30	14 101.91	14 136.57	13 367.91	14 657.89
5. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Fugitive Emissions from Fuels	119.97	119.97	129.99	138.65	131.67	147.73	149.09	94.51	143.14	165.07	194.27	187.48	206.89
1. Solid Fuels	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2. Oil and Natural Gas	119.97	119.97	129.99	138.65	131.67	147.73	149.09	94.51	143.14	165.07	194.27	187.48	206.89
2. Industrial Processes	12 920.65	12 920.65	12 376.97	11 297.57	11 458.75	12 094.04	12 358.04	11 848.32	13 000.07	12 071.46	12 114.33	12 187.61	12 834.06
A. Mineral Products	3 974.56	3 974.56	3 837.99	3 899.58	3 728.86	3 863.85	3 232.09	3 229.23	3 370.08	3 109.53	3 108.15	3 059.87	3 073.62
B. Chemical Industry	423.84	423.84	433.63	394.85	428.03	406.05	488.64	484.09	475.03	520.59	492.46	484.18	462.37
C. Metal Production	8 461.04	8 461.04	8 040.82	6 948.63	7 254.29	7 771.03	8 585.41	8 084.35	9 107.32	8 384.63	8 456.00	8 590.51	9 245.00
D. Other Production	61.21	61.21	64.52	54.51	47.57	53.11	51.89	50.65	47.64	56.70	57.71	53.06	53.06
E. Production of Halocarbons and SF ₆													
F. Consumption of Halocarbons and SF ₆													NO
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
3. Solvent and Other Product Use	522.65	522.65	436.44	381.45	360.87	361.41	380.64	379.09	405.46	395.64	395.64	395.64	395.64
4. Agriculture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A. Enteric Fermentation	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Manure Management	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
C. Rice Cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Agricultural Soils ⁽²⁾	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
E. Prescribed Burning of Savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field Burning of Agricultural Residues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
5. Land-Use Change and Forestry⁽³⁾	-9 214.81	-9 214.81	-13 503.89	-8 656.47	-8 982.36	-7 861.58	-7 254.00	-5 385.22	-7 633.36	-7 633.36	-7 633.36	-7 633.36	-7 633.36
A. Changes in Forest and Other Woody Biomass Stocks	-9 214.81	-9 214.81	-13 503.89	-8 656.47	-8 982.36	-7 861.58	-7 254.00	-5 385.22	-7 633.36	-7 633.36	-7 633.36	-7 633.36	-7 633.36
B. Forest and Grassland Conversion	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
C. Abandonment of Managed Lands	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
D. CO ₂ Emissions and Removals from Soil	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
E. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6. Waste	20.70	20.70	18.45	7.55	8.50	9.75	10.09	10.40	10.70	10.99	11.31	11.28	11.28
A. Solid Waste Disposal on Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B. Waste-water Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C. Waste Incineration	20.70	20.70	18.45	7.55	8.50	9.75	10.09	10.40	10.70	10.99	11.31	11.28	11.28
D. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions/Removals with LUCF⁽⁴⁾	50 897.71	50 897.71	50 091.11	49 798.06	50 324.60	51 881.95	55 372.79	61 243.37	58 574.98	58 700.04	57 387.06	57 294.45	61 486.68
Total Emissions without LUCF⁽⁴⁾	60 112.52	60 112.52	63 595.00	58 454.53	59 306.96	59 743.53	62 626.79	66 628.59	66 208.33	66 333.40	65 020.42	64 927.81	69 120.04
Memo Items:													
International Bunkers	885.97	885.97	993.88	1 077.44	1 139.98	1 185.65	1 327.42	1 466.42	1 525.57	1 578.21	1 541.67	1 674.93	1 614.75
Aviation	885.97	885.97	993.88	1 077.44	1 139.98	1 185.65	1 327.42	1 466.42	1 525.57	1 578.21	1 541.67	1 674.93	1 614.75
Marine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Multilateral Operations	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
CO₂ Emissions from Biomass	10 300.99	10 300.99	11 217.66	11 058.63	11 404.75	11 093.90	11 759.00	12 584.53	12 589.14	11 879.94	12 600.44	12 178.93	13 139.35

⁽¹⁾ Fill in the base year adopted by the Party under the Convention, if different from 1990.⁽²⁾ See footnote 4 to Summary 1.A of this common reporting format.⁽³⁾ Take the net emissions as reported in Summary 1.A of this common reporting format. Please note that for the purposes of reporting, the signs for uptake are always (-) and for emissions (+).⁽⁴⁾ The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report CO₂ emissions and removals from Land-Use Change and Forestry.

TABLE 10 EMISSIONS TRENDS (CH₄)
(Sheet 2 of 5)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	(Gg)												
Total Emissions	508.17	508.17	502.46	489.50	491.31	484.21	479.73	474.07	457.57	449.60	442.84	434.97	432.11
1. Energy	26.47	26.47	28.38	26.10	26.18	24.48	25.41	26.66	19.12	18.83	18.73	17.85	18.84
A. Fuel Combustion (Sectoral Approach)	21.95	21.95	23.60	21.39	21.25	19.40	19.90	20.80	13.45	13.01	12.81	12.13	12.83
1. Energy Industries	0.15	0.15	0.17	0.15	0.16	0.15	0.16	0.18	0.20	0.18	0.19	0.22	0.31
2. Manufacturing Industries and Construction	0.55	0.55	0.57	0.58	0.56	0.59	0.60	0.61	0.64	0.63	0.64	0.65	0.60
3. Transport	2.87	2.87	2.97	2.78	2.63	2.51	2.31	2.10	1.92	1.92	1.73	1.63	1.58
4. Other Sectors	18.39	18.39	19.89	17.88	17.89	16.14	16.84	17.90	10.69	10.28	10.26	9.63	10.34
5. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Fugitive Emissions from Fuels	4.52	4.52	4.78	4.71	4.94	5.08	5.51	5.86	5.67	5.82	5.92	5.72	6.01
1. Solid Fuels	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
2. Oil and Natural Gas	4.50	4.50	4.76	4.69	4.93	5.07	5.50	5.85	5.67	5.81	5.91	5.71	6.00
2. Industrial Processes	0.14	0.14	0.14	0.14	0.15	0.15	0.16	0.16	0.18	0.19	0.14	0.13	0.12
A. Mineral Products	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03
B. Chemical Industry	0.10	0.10	0.11	0.09	0.11	0.12	0.12	0.13	0.16	0.16	0.10	0.09	0.08
C. Metal Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Other Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
E. Production of Halocarbons and SF ₆													
F. Consumption of Halocarbons and SF ₆													
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
3. Solvent and Other Product Use	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
4. Agriculture	210.64	210.64	207.69	199.70	206.78	206.29	206.18	203.52	201.46	201.52	197.96	195.17	193.38
A. Enteric Fermentation	169.28	169.28	166.98	159.69	159.71	159.19	159.44	157.59	155.49	154.95	153.78	152.21	149.99
B. Manure Management	41.29	41.29	40.63	39.94	47.00	47.03	46.67	45.85	45.90	46.50	44.10	42.88	43.31
C. Rice Cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Agricultural Soils	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
E. Prescribed Burning of Savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field Burning of Agricultural Residues	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
5. Land-Use Change and Forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A. Changes in Forest and Other Woody Biomass Stocks	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Forest and Grassland Conversion	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
C. Abandonment of Managed Lands	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
D. CO ₂ Emissions and Removals from Soil	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
E. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6. Waste	270.91	270.91	266.25	263.57	258.20	253.28	247.98	243.73	236.81	229.06	226.01	221.82	219.77
A. Solid Waste Disposal on Land	234.70	234.70	229.89	227.03	221.53	216.54	211.21	206.94	200.00	192.23	189.16	184.93	182.97
B. Waste-water Handling	13.73	13.73	13.88	14.06	14.19	14.26	14.29	14.31	14.34	14.35	14.37	14.40	14.32
C. Waste Incineration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Other	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48	22.48
7. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Memo Items:													
International Bunkers	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Aviation	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Marine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Multilateral Operations	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
CO₂ Emissions from Biomass													

TABLE 10 EMISSIONS TRENDS (N₂O)
(Sheet 3 of 5)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	(Gg)												
Total Emissions	18.72	18.72	20.75	16.92	19.59	21.78	20.51	19.85	20.79	20.17	19.93	19.85	19.20
1. Energy	2.98	2.98	3.61	3.88	4.16	4.47	4.61	4.62	4.51	4.70	4.49	4.40	4.41
A. Fuel Combustion (Sectoral Approach)	2.98	2.98	3.61	3.88	4.16	4.47	4.61	4.62	4.51	4.70	4.49	4.40	4.41
1. Energy Industries	0.14	0.14	0.16	0.13	0.14	0.14	0.16	0.15	0.15	0.16	0.16	0.15	0.17
2. Manufacturing Industries and Construction	0.39	0.39	0.41	0.42	0.43	0.45	0.45	0.45	0.49	0.47	0.47	0.47	0.42
3. Transport	1.57	1.57	2.10	2.40	2.66	2.96	3.03	2.97	2.85	3.04	2.83	2.77	2.76
4. Other Sectors	0.88	0.88	0.94	0.93	0.94	0.92	0.97	1.04	1.03	1.03	1.04	1.01	1.05
5. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Fugitive Emissions from Fuels	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1. Solid Fuels	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
2. Oil and Natural Gas	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
2. Industrial Processes	2.93	2.93	2.98	1.84	2.58	2.66	2.76	2.81	2.78	2.89	2.97	3.07	2.54
A. Mineral Products	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Chemical Industry	2.93	2.93	2.98	1.84	2.58	2.66	2.76	2.81	2.78	2.89	2.97	3.07	2.54
C. Metal Production	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Other Production	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
E. Production of Halocarbons and SF ₆													
F. Consumption of Halocarbons and SF ₆													
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
3. Solvent and Other Product Use	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
4. Agriculture	12.00	12.00	13.33	10.38	12.03	13.83	12.32	11.59	12.67	11.75	11.63	11.55	11.42
A. Enteric Fermentation	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Manure Management	2.41	2.41	2.38	2.29	2.43	2.42	2.44	2.40	2.39	2.39	2.35	2.32	2.29
C. Rice Cultivation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
D. Agricultural Soils	9.58	9.58	10.95	8.08	9.59	11.40	9.88	9.19	10.28	9.36	9.28	9.23	9.13
E. Prescribed Burning of Savannas	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
F. Field Burning of Agricultural Residues	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
G. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
5. Land-Use Change and Forestry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A. Changes in Forest and Other Woody Biomass Stocks	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
B. Forest and Grassland Conversion	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
C. Abandonment of Managed Lands	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
D. CO ₂ Emissions and Removals from Soil	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
E. Other	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
6. Waste	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
A. Solid Waste Disposal on Land	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B. Waste-water Handling	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.08	0.08	0.08	0.08	0.08
C. Waste Incineration	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
D. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7. Other (please specify)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Memo Items:													
International Bunkers	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.06	0.06
Aviation	0.03	0.03	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.06	0.05	0.06	0.06
Marine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Multilateral Operations	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
CO₂ Emissions from Biomass													

TABLE 10 EMISSION TRENDS (HFCs, PFCs and SF₆)
(Sheet 4 of 5)

Austria
2001
submission 2003

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	Chemical	GWP
	(Gg)														
Emissions of HFCs ⁽⁵⁾ - CO ₂ equivalent (Gg)	546.07	3.69	5.85	8.54	12.15	16.89	546.07	624.83	718.02	815.61	870.46	#####	#####	HFCs	
HFC-23	0.0002	0.0002	0.0003	0.0004	0.0005	0.0007	0.0002	0.0003	0.0003	0.0004	0.0005	0.0006	0.0006	HFC-23	11700
HFC-32	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0002	0.0004	0.0006	0.0009	0.0017	0.0017	HFC-32	650
HFC-41	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-41	150
HFC-43-10mee	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-43-10mee	1300
HFC-125	0.0014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0014	0.0057	0.0110	0.0148	0.0162	0.0219	0.0219	HFC-125	2800
HFC-134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-134	1000
HFC-134a	0.4143	0.0014	0.0021	0.0032	0.0046	0.0067	0.4143	0.4578	0.5089	0.5677	0.6020	0.6531	0.6531	HFC-134a	1300
HFC-152a	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0003	0.0006	0.0008	0.0007	0.4522	0.4522	HFC-152a	140
HFC-143	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-143	300
HFC-143a	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004	0.0025	0.0056	0.0081	0.0095	0.0136	0.0136	HFC-143a	3800
HFC-227ea	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0002	0.0002	HFC-227ea	2900
HFC-236fa	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-236fa	6300
HFC-245ca	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	HFC-245ca	560
Emissions of PFCs ⁽⁵⁾ - CO ₂ equivalent (Gg)	15.62	963.17	974.33	576.19	48.13	53.63	15.62	14.79	18.26	20.85	25.32	25.16	25.16	PFCs	
CF ₄	0.0008	0.1328	0.1338	0.0793	0.0048	0.0050	0.0008	0.0007	0.0009	0.0009	0.0015	0.0015	0.0015	CF ₄	6500
C ₂ F ₆	0.0011	0.0109	0.0114	0.0066	0.0018	0.0023	0.0011	0.0011	0.0014	0.0016	0.0017	0.0017	0.0017	C ₂ F ₆	9200
C ₃ F ₈	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C ₃ F ₈	7000
C ₄ F ₁₀	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C ₄ F ₁₀	7000
c-C ₄ F ₈	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	c-C ₄ F ₈	8700
C ₅ F ₁₂	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C ₅ F ₁₂	7500
C ₆ F ₁₄	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	C ₆ F ₁₄	7400
Emissions of SF ₆ ⁽⁵⁾ - CO ₂ equivalent (Gg)	1 174.74	517.74	682.90	725.40	822.84	1 032.81	1 174.74	1 246.13	1 148.06	954.90	729.90	676.95	676.95	SF ₆	23900
SF ₆	0.05	0.02	0.03	0.03	0.03	0.04	0.05	0.05	0.05	0.04	0.03	0.03	0.03		

⁽⁵⁾ Enter information on the actual emissions. Where estimates are only available for the potential emissions, specify this in a comment to the corresponding cell. Only in this row the emissions are expressed as CO₂ equivalent emissions in order to facilitate data flow among spreadsheets.

TABLE 10 EMISSION TRENDS (SUMMARY)
(Sheet 5 of 5)

Austria
2001
submission 2003

GREENHOUSE GAS EMISSIONS	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	CO ₂ equivalent (Gg)												
Net CO ₂ emissions/removals	50 897.71	50 897.71	50 091.11	49 798.06	50 324.60	51 881.95	55 372.79	61 243.37	58 574.98	58 700.04	57 387.06	57 294.45	61 486.68
CO ₂ emissions (without LUCF) ⁽⁶⁾	60 112.52	60 112.52	63 595.00	58 454.53	59 306.96	59 743.53	62 626.79	66 628.59	66 208.33	66 333.40	65 020.42	64 927.81	69 120.04
CH ₄	10 671.57	10 671.57	10 551.75	10 279.58	10 317.56	10 168.44	10 074.34	9 955.42	9 609.06	9 441.65	9 299.64	9 134.32	9 074.32
N ₂ O	5 804.27	5 804.27	6 431.42	5 246.65	6 072.31	6 752.38	6 359.52	6 154.20	6 444.64	6 252.33	6 177.40	6 153.25	5 950.64
HFCs	546.07	3.69	5.85	8.54	12.15	16.89	546.07	624.83	718.02	815.61	870.46	1 033.25	1 033.25
PFCs	15.62	963.17	974.33	576.19	48.13	53.63	15.62	14.79	18.26	20.85	25.32	25.16	25.16
SF ₆	1 174.74	517.74	682.90	725.40	822.84	1 032.81	1 174.74	1 246.13	1 148.06	954.90	729.90	676.95	676.95
Total (with net CO₂ emissions/removals)	69 109.99	68 858.15	68 737.35	66 634.43	67 597.60	69 906.09	73 543.09	79 238.75	76 513.03	76 185.39	74 489.79	74 317.38	78 247.01
Total (without CO₂ from LUCF) ⁽⁶⁾	78 324.81	78 072.96	82 241.24	75 290.89	76 579.96	77 767.66	80 797.09	84 623.97	84 146.38	83 818.75	82 123.15	81 950.74	85 880.36

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	Base year ⁽¹⁾	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
	CO ₂ equivalent (Gg)												
1. Energy	48 128.30	48 128.30	52 479.68	48 519.70	49 319.83	49 179.45	51 841.37	56 382.86	54 593.12	55 707.53	54 285.67	54 072.14	57 641.60
2. Industrial Processes	15 567.10	15 315.25	14 965.32	13 180.63	13 143.24	14 023.96	14 953.12	14 609.73	15 748.66	14 761.57	14 664.19	14 877.41	15 358.43
3. Solvent and Other Product Use	755.15	755.15	668.94	613.95	593.37	593.91	613.14	611.59	637.96	628.14	628.14	628.14	628.14
4. Agriculture	8 142.47	8 142.47	8 495.17	7 411.37	8 070.12	8 618.63	8 148.37	7 867.16	8 159.16	7 875.90	7 763.78	7 679.73	7 601.91
5. Land-Use Change and Forestry ⁽⁷⁾	-9 214.81	-9 214.81	-13 503.89	-8 656.47	-8 982.36	-7 861.58	-7 254.00	-5 385.22	-7 633.36	-7 633.36	-7 633.36	-7 633.36	-7 633.36
6. Waste	5 731.79	5 731.79	5 632.13	5 565.25	5 453.39	5 351.71	5 241.07	5 152.63	5 007.48	4 845.61	4 781.37	4 693.32	4 650.29
7. Other	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

⁽⁶⁾ The information in these rows is requested to facilitate comparison of data, since Parties differ in the way they report CO₂ emissions and removals from Land-Use Change and Forestry.

⁽⁷⁾ Net emissions.

TABLE 11 CHECK LIST OF REPORTED INVENTORY INFORMATION⁽¹⁾

Party: Austria **Year:** 2001

Contact info:	Focal point for national GHG inventories:	Mr. Manfred Ritter		
	Address:	Spittelauer Lände 5, A-1090 Vienna, Austria		
	Telephone:	++43+1-31304-5951	Fax: ++43+1-31304-5400	E-mail: ritterm@ubavie.gv.at
	Main institution preparing the inventory:	Federal Environment Agency Ltd.		

General info:	Date of submission:			
	Base years:	1990	PFCs, HFCs, SF ₆ :	1995
	Year covered in the submission:	2001		
	Gases covered:	CO ₂ , CH ₄ , N ₂ O, PFCs, HFCs, SF ₆ , NOX, CO, NMVOC, SO ₂		
	Omissions in geographic coverage:			

Tables:		Energy	Ind. Processes	Solvent Use	LUCF	Agriculture	Waste
	Sectoral report tables:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Sectoral background data tables:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Summary 1 (IPCC Summary tables):	IPCC Table 7A:		<input checked="" type="checkbox"/>	IPCC Table 7B:		<input checked="" type="checkbox"/>
	Summary 2 (CO ₂ equivalent emissions):			<input checked="" type="checkbox"/>			
	Summary 3 (Methods/Emission factors):			<input checked="" type="checkbox"/>			
	Uncertainty:	IPCC Table 8A:		<input type="checkbox"/>	National information:		<input type="checkbox"/>
	Recalculation tables:			<input checked="" type="checkbox"/>			
	Completeness table:			<input checked="" type="checkbox"/>			
	Trend table:			<input checked="" type="checkbox"/>			

CO₂	Comparison of CO ₂ from fuel combustion:	Worksheet 1-1	Percentage of difference	Explanation of differences
		<input checked="" type="checkbox"/>	10.76	<input checked="" type="checkbox"/>

Recalculation:		Energy	Ind. Processes	Solvent Use	LUCF	Agriculture	Waste
	CO ₂	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	CH ₄	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	N ₂ O	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	HFCs, PFCs, SF ₆	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Explanations:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Recalculation tables for all recalculated years			<input type="checkbox"/>			
	Full CRF for the recalculated base year			<input type="checkbox"/>			

HFCs, PFCs, SF₆		HFCs		PFCs		SF ₆	
	Disaggregation by species:	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			
	Production of Halocarbons/SF ₆ :	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
	Consumption of Halocarbons/SF ₆ :	Actual	Potential	Actual	Potential	Actual	Potential
	Potential/Actual emission ratio:	4.93		0.00		13.72	

Reference to National Inventory Report and/or national inventory web site: Umweltbundesamt, OLI 2002
<http://www.ubavie.gv.at>

CRF - Common Reporting Format.
LUCF - Land-Use Change and Forestry.

⁽¹⁾ For each omission, give an explanation for the reasons by inserting a comment to the corresponding cell.

ANNEX 6: EXTRACTS FROM AUSTRIAN LEGISLATION

Extracts from Austrian legislation, which regulate monitoring, reporting and verification of emissions at plant level

Cement production:

BGBI 1993/ 63 Verordnung für Anlagen zur Zementerzeugung

§ 5. Der Betriebsanlageninhaber hat

1. kontinuierliche Messungen der Emissionskonzentrationen an Gesamtstaub, SO₂ und Stickstoffoxiden (berechnet als NO₂) der Ofenanlage entsprechend der Z 1 der Anlage zu dieser Verordnung durchzuführen ...

Zur Durchführung der Messungen gemäß Z 2 und 3 sind Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, heranzuziehen.

§ 6 Die Ergebnisse der Messungen gemäß § 5 sind in einem Messbericht festzuhalten, welcher

1. bei Messungen gemäß § 5 Z 1 die Messwerte in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes und die gemäß § 4 Abs. 1 zu führenden Aufzeichnungen über Grenzwertüberschreitungen,

zu enthalten hat. Der Messbericht ist mindestens fünf Jahre in der Betriebsanlage derart aufzubewahren, dass er den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden kann.

Anlage

(§ 5)

Emissionsmessungen

1. Kontinuierliche Messungen

a) Die Datenaufzeichnung hat durch automatisch registrierende Messgeräte in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat.

b) Registrierende Emissionsmessgeräte sind im Abnahmeversuch und alle drei Jahre durch einen Sachverständigen aus dem im § 5 letzter Satz angeführten Personenkreis zu kalibrieren.

c) Jährlich ist eine Funktionskontrolle an registrierenden Emissionsmessgeräten durch Sachverständige aus dem im § 5 letzter Satz angeführten Personenkreis vorzunehmen.

Foundries:

BGBI 1994/ 447 Verordnung für Gießereien

§ 5 (1) Der Betriebsanlageninhaber hat Einzelmessungen der Emissionskonzentration der im § 3 Abs. 1 angeführten Stoffe entsprechend der Z 1 lit. A bis c der Anlage 2 dieser Verord-

nung in regelmäßigen, drei Jahre nicht übersteigenden Zeitabständen durchführen zu lassen (wiederkehrende Emissionsmessungen).

(2) Der Betriebsanlageninhaber hat kontinuierliche Messungen der Emissionskonzentrationen ... entsprechend der Z2 der Anlage 2 zu dieser Verordnung durchzuführen.

(3) Zur Durchführung der Messungen gemäß Abs. 1 sowie zur Funktionskontrolle und Kalibrierung von Messgeräten für Messungen gemäß Abs. 2 sind Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, oder akkreditierte Stellen im Rahmen des fachlichen Umfangs ihrer Akkreditierung (§ 11 Abs. 2 des Akkreditierungsgesetzes, BGBl Nr 468/ 1992) heranzuziehen.

§ 6 Die Ergebnisse der Messungen gemäß § 5 sind in einem Messbericht festzuhalten, welcher

1. bei Messungen gemäß § 5 Abs. 1 die Messwerte und die Betriebsbedingungen während der Messungen (Betriebszustand, Verbrauch an Brennstoff, Rohmaterial und Zuschlagstoffen),

2. bei Messungen gemäß § 5 Abs. 2 die Messwerte in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes und die gemäß § 4 Abs. 2 zu führenden Aufzeichnungen über Grenzwertüberschreitungen, zu enthalten hat. Der Messbericht ist mindestens drei Jahre, bei Messungen gemäß § 5 Abs. 1 jedenfalls bis zur jeweils nächsten Messung, in der Betriebsanlage derart aufzubewahren, dass er den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden kann.

Anlage 2

(§ 5)

Emissionsmessungen

1. Einzelmessungen

a) Einzelmessungen sind für alle im § 3 Abs. 1 angeführten Stoffe bei jenem Betriebszustand durchzuführen, in dem nachweislich die Anlagen vorwiegend betrieben werden. Die Durchführung der Messungen hat nach den Regeln der Technik zu erfolgen.

c) Die Abgasmessungen sind an einer repräsentativen Entnahmestelle im Kanalquerschnitt, die vor Aufnahme der Messungen zu bestimmen ist, vorzunehmen. Es sind innerhalb eines Zeitraumes von drei Stunden drei Messwerte als Halbstundenmittelwerte zu bilden, deren einzelne Ergebnisse zu beurteilen sind.

2. Kontinuierliche Messungen

a) Die Datenaufzeichnung hat durch automatisch registrierende Messgeräte in Form von Halbstundenmittelwerte unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat.

b) Registrierende Emissionsmessgeräte sind im Abnahmeversuch und alle drei Jahre durch einen Sachverständigen aus dem im § 5 Abs. 3 angeführten Personenkreis zu kalibrieren.

c) Jährlich ist eine Funktionskontrolle an registrierenden Emissionsmessgeräten durch Sachverständige aus dem im § 5 Abs. 3 angeführten Personenkreis vorzunehmen.

Glass production:**BGBI 1994/ 498 Verordnung für Anlagen zur Glaserzeugung**

§ 5 (2) Zur Kontrolle der Einhaltung der im § 3 festgelegten Emissionsgrenzwerte sind unter Beachtung des § 4 jeweils mindestens drei Messwerte als Halbstundenmittelwerte zu bestimmen.

(4) Die Durchführung der Emissionsmessungen hat nach den Regeln der Technik (z.B. nach den vom Verein deutscher Ingenieure herausgegebenen und beim Österreichischen Normungsinstitut, Heinestraße 38, 1021 Wien, erhältlichen Richtlinien VDI 2268, Blätter 1, 2 und 4, VDI 2462, Blätter 1 bis 5 und 8, und VDI 2456, Blätter 1, 2, 8 und 10) zu erfolgen.

§ 7 (1) Der Betriebsanlageninhaber hat in regelmäßigen, ein Jahr, bei Schmelzeinrichtungen gemäß § 3 Z 5 lit. D drei Jahre, nicht übersteigenden Zeitabständen Messungen zur Kontrolle der Einhaltung der im § 3 festgelegten Emissionsgrenzwerte entsprechend den §§ 4 bis 6 durchführen zu lassen.

(2) Zur Durchführung der Messungen sind Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, oder akkreditierte Stellen im Rahmen des fachlichen Umfangs ihrer Akkreditierung (§ 11 Abs. 2 des Akkreditierungsgesetzes, BGBl Nr 468/ 1992) heranzuziehen.

(3) Die Messwerte für die im § 3 angeführten Stoffe sowie der während der Messung herrschenden Betriebszustände sind zusammen mit den Kriterien, nach denen der Zeitraum für die Messung, der stärksten Emission festgelegt worden ist, in einem Messbericht festzuhalten. Im Messbericht sind auch die verwendeten Messverfahren zu beschreiben. Der Messbericht und sonstige zum Nachweis der Einhaltung der im § 3 festgelegten Emissionsgrenzwerte dienende Unterlagen sind bis zur nächsten Messung in der Betriebsanlage derart aufzubewahren, dass sie den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden können.

Iron and steel production:**BGBI II 1997/ 160 Verordnung für Anlagen zur Erzeugung von Eisen und Stahl**

§ 6 (1) Der Betriebsanlageninhaber hat, soweit die Absätze 3 und 4 nicht anderes bestimmen, Einzelmessungen der Emissionskonzentrationen der im § 3 Abs. 1 und im § 4 (mit Ausnahme des § 4 Abs. 3 lit. c) angeführten Stoffe entsprechend der Z 1 lit. a bis c der Anlage zu dieser Verordnung in regelmäßigen, drei Jahre nicht übersteigenden Zeitabständen, durchführen zu lassen (wiederkehrende Emissionsmessungen).

(3) Der Betriebsinhaber hat, soweit Abs. 4 oder 5 nicht anderes bestimmt. Entweder kontinuierliche Messungen der Emissionskonzentrationen ... entsprechend der Z 2 der Anlage zu dieser Verordnung durchzuführen oder kontinuierliche Funktionsprüfungen der rauchgas- und bzw. oder Abluftfilteranlagen von Einrichtungen gemäß § 4 durchzuführen, wenn sich durch diese Prüfungen mit hinreichender Sicherheit die Einhaltung der vorgeschriebenen Emissionsgrenzwerte für Staub festgestellt werden kann.

§ 6 (6) Zur Durchführung der Messungen gemäß Abs. 1 und 2 sowie zur Funktionskontrolle und Kalibrierung von Messgeräten für Messungen gemäß Abs. 3 sind akkreditierte Stellen im Rahmen des fachlichen Umfangs ihrer Akkreditierung (§ 11 Abs. 2 des Akkreditierungsgesetzes, BGBl Nr 468/ 1992), Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, heranzuziehen.

§ 7 Die Ergebnisse der Messungen gemäß § 6 sind in einem Messbericht festzuhalten, der zu enthalten hat:

1. bei Messungen gemäß § 6 Abs. 1 und 2 die Messwerte und die Betriebsbedingungen während der Messungen (Betriebszustand, Verbrauch Brennstoff, Rohmaterial und Zuschlagstoffen),
2. bei Messungen gemäß § 6 Abs. 3 und 4 die Messwerte in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes,
3. bei Funktionsprüfungen gemäß § 6 Abs. 3 die gemessenen Parameter in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes.

Der Messbericht ist mindestens drei Jahre, bei Messungen gemäß § 6 Abs. 1 und 2 jedenfalls bis zur jeweils nächsten Messung, in der Betriebsanlage derart aufzubewahren, dass er den behördlichen Organen zur Einsicht vorgewiesen werden kann.

Anlage

(§ 6)

Emissionsmessungen

1. Einzelmessungen

a) Einzelmessungen sind für alle im § 3 Abs. 1 und 3 und im § 4 angeführten Stoffe bei jenem Betriebszustand durchzuführen, in dem nachweislich die Anlagen vorwiegend betrieben werden. Die Durchführung der Messungen hat nach den Regeln der Technik zu erfolgen.

2. Kontinuierliche Messungen

a) Die Datenaufzeichnung hat durch ein automatisch registrierendes Messgerät in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die Verfügbarkeit der Daten hat mindestens 90% zu betragen. Als Bezugszeitraum gilt ein Monat.

b) Das registrierende Messgerät ist im Abnahmeversuch und alle drei Jahre durch einen Sachverständigen aus dem im § 6 Abs. 5 angeführten Personenkreis zu kalibrieren.

c) Jährlich ist eine Funktionskontrolle des registrierenden Messgerätes durch einen Sachverständigen aus dem im § 6 Abs. 5 angeführten Personenkreis vorzunehmen.

Sinter plants:

BGBI II 1997/ 163 Verordnung für Anlagen zum Sintern von Eisenerzen

§ 5 (1) Der Betriebsanlageninhaber hat Einzelmessungen der Emissionskonzentration der im § 3 Abs. 1 Z 2 lit. a und b und Z 3 angeführten Stoffe entsprechend der Z 1 in der Anlage zu dieser Verordnung in regelmäßigen, drei Jahre nicht übersteigenden Zeitabständen, durchzuführen zu lassen (wiederkehrende Emissionsmessungen).

(2) Der Betriebsanlageninhaber hat kontinuierliche Messungen der Emissionskonzentrationen von Staub, Stickstoffoxiden und Schwefeldioxid entsprechend der Z 2 der Anlage dieser Verordnung durchzuführen.

(3) Zur Durchführung der Messungen gemäß Abs. 1 sowie zur Funktionskontrolle und Kalibrierung von Messgeräten für Messungen gemäß Abs. 2 sind akkreditierte Stellen im Rahmen des fachlichen Umfangs ihrer Akkreditierung (§ 11 Abs. 2 des Akkreditierungsgesetzes, BGBI Nr 468/ 1992), Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, heranzuziehen.

§ 6 Die Ergebnisse der Messungen gemäß § 5 sind in einem Messbericht festzuhalten, der zu enthalten hat:

1. bei Messungen gemäß § 5 Abs. 1 die Messwerte und die Betriebsbedingungen während der Messungen (Betriebszustand, Verbrauch an Brennstoff und Einsatzmaterial),
2. bei Messungen gemäß § 5 Abs. 2 die Messwerte in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes.

Der Messbericht ist mindestens drei Jahre, bei Messungen gemäß § 5 Abs. 1 jedenfalls bis zur jeweils nächsten Messung, in der Betriebsanlage derart aufzubewahren, dass er den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden kann.

Anlage

(§ 5)

Emissionsmessungen

1. Einzelmessungen

a) Einzelmessungen sind für die im § 3 Abs. 1 Z 2 lit. a und b und Z 3 angeführten Stoffe bei jenem Betriebszustand durchzuführen, in dem nachweislich die Anlagen vorwiegend betrieben werden. Die Durchführung der Messungen hat nach den Regeln der Technik zu erfolgen.

2. Kontinuierliche Messungen

a) Die Datenaufzeichnung hat durch ein automatisch registrierendes Messgerät in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat.

b) Das registrierende Messgerät ist im Abnahmeversuch und alle drei Jahre durch einen Sachverständigen aus dem im § 5 Abs. 3 angeführten Personenkreis zu kalibrieren. Die Kalibrierung hat nach den Regeln der Technik zu erfolgen.

c) Jährlich ist eine Funktionskontrolle des registrierenden Messgerätes durch einen Sachverständigen aus dem im § 5 Abs. 3 angeführten Personenkreis vorzunehmen.

Combustion plants:

BGBl II 1997/ 331 Feuerungsanlagen-Verordnung

Emissionsmessungen

§ 4 (1) Der Betriebsanlageninhaber hat Emissionsmessungen sowie die Bestimmung des Abgasverlustes entsprechend der Anlage 1 zu dieser Verordnung durchzuführen bzw. durchführen zu lassen.

(2) Zur Durchführung der Emissionseinzelmessungen sowie zur Bestimmung des Abgasverlustes ist ein Sachverständiger aus dem im § 2 Abs. 2 zweiter Satz genannten Personenkreis heranzuziehen.

§ 5 (1) Der Betriebsanlageninhaber hat, sofern in dieser Verordnung nicht anderes bestimmt ist,

1. kontinuierliche Messungen der Emissionskonzentrationen, abhängig von der jeweiligen Brennstoffwärmeleistung und dem eingesetzten Brennstoff, entsprechende der folgenden Tabelle durchzuführen

Brennstoff	Staub	CO	SO ₂	NO _x	
fest	> 10	> 10	> 30	> 30	MW
flüssig	> 10	> 10	> 50	> 30	MW
gasförmig	-	> 10	-	> 30	MW

Prüfungen

Erstmalige Prüfung

§ 23 (1) Feuerungsanlagen sind anlässlich ihrer Inbetriebnahme einer erstmaligen Prüfung zu unterziehen.

(2) Die erstmalige Prüfung hat in der Erbringung des Nachweises zu bestehen, dass die Feuerungsanlage den Anforderungen dieser Verordnung entspricht.

Wiederkehrende Prüfungen

§ 25 (1) Feuerungsanlagen sind jährlich zu prüfen. Bei dieser jährlichen Prüfung sind die Feuerungsanlagen hinsichtlich jener Anlagenteile, die für die Emissionen oder deren Begrenzung von Bedeutung sind, zu besichtigen und auf etwaige Mängel zu kontrollieren... Weiters sind jährlich die Ergebnisse der gemäß § 5 durchgeführten kontinuierlichen Messungen zu beurteilen.

Prüfbescheinigung

§ 27 Das Ergebnis jeder Prüfung muss in einer Prüfbescheinigung festgehalten sein, die insbesondere festgestellte Mängel sowie Vorschläge zu deren Behebung zu enthalten hat. Die Prüfbescheinigung ist im Original in der Betriebsanlage zumindest fünf Jahre so aufzubewahren, dass sie den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden kann.

Anlage 1
(§§ 4 und 25)

Emissionsmessungen

1. Die Messungen sind

1.3 für gasförmige Emissionen nach den Regeln der Technik, oder nach einem diesen Verfahren gleichwertigen Verfahren durchzuführen.

2. Die Messstellen sind so festzulegen, dass eine repräsentative und messtechnisch einwandfreie Emissionsmessung gewährleistet ist.

3. Einzelmessungen

3.2 Die Einzelmessungen sind an einer repräsentativen Entnahmestelle im Kanalquerschnitt vorzunehmen. Es sind innerhalb eines Zeitraumes von drei Stunden drei messwerte als Halbstundenmittelwerte zu bilden.

4. Kontinuierliche Messungen

4.1 Die Datenaufzeichnung hat durch automatisch registrierende Messgeräte in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat. Die Messergebnisse müssen mit dem einzuhaltenden Grenzwert vergleichbar sein.

4.2 Registrierende Emissionsmessgeräte sind im Abnahmeversuch und mindestens alle drei Jahre durch einen Sachverständigen aus dem im § 2 Abs. 2 zweiter Satz angeführten Personenkreis zu kalibrieren. Die Kalibrierung hat nach den Regeln der Technik (z.B. nach den vom Verein Deutscher Ingenieure herausgegebenen und beim Österreichischen Normungsinstitut, Heinestraße 38, 1021 Wien, erhältlichen Richtlinien VDI 2066, Blatt 4 und Blatt 6, und VDI 3950, Blatt 1E) zu erfolgen.

4.3 Jährlich ist eine Funktionskontrolle an registrierenden Emissionsmessgeräten durch Sachverständige aus dem im § 2 Abs. 2 zweiter Satz angeführten Personenkreis vorzunehmen.

Non-ferrous metal production:

BGBI II 1998/ 1 Verordnung zur Erzeugung von Nichteisenmetallen

§ 6 (1) Der Betriebsanlageninhaber hat Einzelmessungen der Emissionskonzentration der im § 3 Abs. 1 und im § 4 angeführten Stoffe entsprechend der Z 1 lit. a bis c der Anlage zu dieser Verordnung in regelmäßigen, drei Jahre nicht übersteigenden Zeitabständen durchführen zu lassen (wiederkehrende Emissionsmessungen).

(2) Der Betriebsanlageninhaber hat kontinuierliche Messungen ... entsprechend der Z 2 der Anlage zu dieser Verordnung reingasseitig (im Kamin) durchzuführen.

(3) Zur Durchführung der Messungen gemäß Abs. 1 sowie zur Funktionskontrolle und Kalibrierung von Messgeräten für Messungen gemäß Abs. 2 sind akkreditierte Stellen im Rahmen des fachlichen Umfangs ihrer Akkreditierung (§ 11 Abs. 2 des Akkreditierungsgesetzes, BGBl Nr 468/ 1992), Anstalten des Bundes oder eines Bundeslandes, staatlich autorisierte Anstalten, Ziviltechniker oder Gewerbebetreibende, jeweils im Rahmen ihrer Befugnisse, heranzuziehen.

§ 7 Die Ergebnisse der Messungen gemäß § 6 sind in einem Messbericht festzuhalten, der zu enthalten hat:

1. bei Messungen gemäß § 6 Abs. 1 die Messwerte und die Betriebsbedingungen während der Messungen (Betriebszustand, Verbrauch an Brennstoff, Rohmaterial und Zuschlagstoffen),

2. bei Messungen gemäß § 6 Abs. 2 die Messwerte in Form von Aufzeichnungen eines kontinuierlich registrierenden Messgerätes und die gemäß § 5 Abs. 2 zu führenden Aufzeichnungen über Grenzwertüberschreitungen.

Der Messbericht ist mindestens drei Jahre, bei Messungen gemäß § 6 Abs. 1 jedenfalls bis zur jeweils nächsten Messung, in der Betriebsanlage derart aufzubewahren, dass er den behördlichen Organen jederzeit zur Einsicht vorgewiesen werden kann.

Anlage

(§ 6)

Emissionsmessungen

1. Einzelmessungen

a) Einzelmessungen sind für alle im § 3 Abs. 1 und 4 angeführten Stoffe bei jenem Betriebszustand durchzuführen, in dem nachweislich die Anlagen vorwiegend betrieben werden. Die Durchführung der Messungen hat nach den Regeln der Technik zu erfolgen.

2. Kontinuierliche Messungen

a) Die Datenaufzeichnung hat durch ein automatisch registrierendes Messgerät in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle zu erfolgen. Die

Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat.

b) Das registrierende Messgerät ist im Abnahmeversuch und alle drei Jahre durch einen Sachverständigen aus dem im § 6 Abs. 3 angeführten Personenkreis zu kalibrieren.

c) Die Wartung des registrierenden Messgerätes ist durch einen Sachverständigen aus dem im § 6 Abs. 3 angeführten Personenkreis mindestens einmal jährlich vornehmen zu lassen.

Steam boilers:

BGBI 1988/ 380 idF (BGBI 1993/ 185, BGBI I 1997/ 115, BGBI I 1998/ 158) Luftreinhaltegesetz für Kesselanlagen

Überwachung

§ 7 (1) Die in Betrieb befindlichen Dampfkesselanlagen ... sind einmal jährlich durch einen befugten Sachverständigen auf die Einhaltung der Bestimmungen dieses Bundesgesetzes zu überprüfen. Die Überprüfung umfasst die Besichtigung der Anlage und deren Komponenten, soweit sie für die Emissionen oder deren Begrenzung von Bedeutung sind, verbunden mit der Kontrolle vorhandener Messergebnisse oder Messregistrierungen.

§ 8 (1) Die Behörde hat im Genehmigungsbescheid festzulegen, ob und in welchem Umfang Abnahmemessungen sowie wiederkehrende Emissionsmessungen an der Dampfkesselanlage durchzuführen sind. Emissionsmessungen sind ferner durchzuführen, wenn der befugte Sachverständige anlässlich einer Überprüfung gemäß § 7 Grund zur Annahme hat, dass die einzuhaltenden Emissionsgrenzwerte im Betrieb überschritten werden.

Pflichten des Betreibers

§ 10 (3) Der Betreiber hat der Behörde oder dem hierzu beauftragten Sachverständigen während der Betriebszeit den Zutritt zu der Anlage zu gestatten und Einsicht in alle die Emissionen der Dampfkesselanlage betreffenden Aufzeichnungen zu gewähren, die in einem Dampfkesselanlagenbuch zusammenzufassen sind.

BGBI 1989/ 19 idF (BGBI 1990/ 134, BGBI 1994/ 785, BGBI II 1997/ 324) Luftreinhalteverordnung für Kesselanlagen

Emissionseinzelmessungen

§ 2 a (1) Die Durchführung der Emissionsmessungen hat nach den Regeln der Technik zu erfolgen.

(2) Die in Anlage 7 wiedergegebene ÖNORM M 9415-1, Ausgabe Mai 1991, und die in Anlage 8 wiedergegebene ÖNORM 9415-3, Ausgabe Mai 1991, sind verbindlich anzuwenden.

§ 3 (1) Emissionseinzelmessungen sind für jede Schadstoffkomponente bei jenem feuerungstechnisch stationären Betriebszustand durchzuführen, bei dem nachweislich die Anlage vorwiegend betrieben wird.

(2) Für die Durchführung der Emissionseinzelmessungen ist die in Anlage 9 wiedergegebene ÖNORM M 9415-2, Ausgabe Mai 1991, verbindlich anzuwenden.

Kontinuierliche Emissionsmessungen

§ 4 (3) Kontinuierliche Emissionsmessungen der Massekonzentration einer Emission (§ 8 Abs. 1 LRG-K) haben in der Regel in Halbstundenmittelwerten zu erfolgen.

(5) Die Messstellen sind auf Grund des Gutachtens eines befugten Sachverständigen (§ 7 Abs. 2 LRG-K) von der Behörde derart festzulegen, dass eine repräsentative und messtechnisch einwandfreie Emissionsmessung gewährleistet ist.

§ 5. Für kontinuierliche Emissionsmessungen hat die Datenaufzeichnung zu erfolgen:

1. Durch automatisch registrierende Messgeräte in Form von Halbstundenmittelwerten unter Angabe von Datum, Uhrzeit und Messstelle. Die Verfügbarkeit der Daten hat mindestens 90 % zu betragen. Als Bezugszeitraum gilt ein Monat.

3. Die Auswertung der Messdaten aus registrierenden Messgeräten hat mittels Auswertegeräten zu erfolgen, die dafür geeignet sind und die dem Stand der Technik entsprechen.

5. Registrierende Emissionsmessgeräte und Auswertegeräte sind im Abnahmeversuch und danach alle drei Jahre durch einen Sachverständigen zu kalibrieren. Die Kalibrierung hat nach den geltenden einschlägigen technischen Regelwerken zu erfolgen.

6. Jährlich ist eine Funktionskontrolle an registrierenden Emissionsmessgeräten durch Sachverständige vorzunehmen.

§ 7 (1) Der Betreiber hat während des Betriebes der Anlage an den Messgeräten mindestens einmal wöchentlich zu kontrollieren, ob der Nullpunkt einjustiert ist und die erforderliche Messfunktion gegeben ist.

(2) Die Messgeräte und alle dazuhörenden Komponenten sind mindestens alle drei Monate zu warten. Hierüber hat der Betreiber Aufzeichnungen zu führen.

(3) Der Sachverständige hat im Rahmen der Überwachung die Aufzeichnungen gemäß Abs. 2 zu kontrollieren und in begründeten Fällen die Richtigkeit der Anzeige der Messgeräte zu überprüfen.