



**NATIONAL COMMUNICATIONS FROM PARTIES INCLUDED
IN ANNEX I TO THE CONVENTION**

National greenhouse gas inventory data from Annex I Parties for 1990 to 2000

Note by the secretariat

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INTRODUCTION

1. The Conference of the Parties (COP), by its decisions 9/CP.2 and 3/CP.5, requested Parties included in Annex I to the Convention (Annex I Parties) to submit national inventory data on emissions of greenhouse gases (GHG) by sources and removals by sinks by 15 April of each year. By its decision 6/CP.3, the COP requested the secretariat to collect, process and publish, on a regular basis, information on national GHG inventories submitted annually by Annex I Parties in accordance with decision 9/CP.2. By its decision 6/CP.5, the COP requested the secretariat to prepare documentation, including a compilation of aggregate information and trends on GHG emissions and removals, in support of the technical review of GHG inventories outlined in that decision.¹
2. The Subsidiary Body for Implementation (SBI), at its sixteenth session, requested the secretariat to compile information on GHG emissions and removals for the period 1990–2000 and to make it accessible and searchable on the UNFCCC web site.
3. This note presents the latest available data on trends in GHG emissions and removals from Annex I Parties for the period 1990–2000. Summary information, including on the status of reporting, has been published separately.² Tables A.1–B.17 that follow are based on the latest GHG inventory information from Annex I Parties³ for those Parties that have already submitted inventories this year or on earlier submissions or national communications for those Parties that have not yet submitted their inventories in 2002. The tables included in this note provide GHG emissions and removals data from 39 out of 40 Annex I Parties⁴ for which data are available.
4. The table, Sources of GHG emission data, below provides an indication of which inventory submissions or national communications were the source of data for the relevant years.

¹ Full texts of decisions adopted by the Conference of the Parties at its second, third and fifth sessions are contained in FCCC/CP/1996/15/Add.1, FCCC/CP/1997/Add.1 and FCCC/CP/1999/6/Add.1, respectively.

² See FCCC/SB/2002/INF.2 for information on the status of reporting of annual GHG inventories by Annex I Parties.

³ Based on information submitted as at 31 August 2002.

⁴ Data for Belarus are not included as Belarus had not submitted an annual inventory or national communication by 31 August 2002.

Sources of GHG emissions data (by Party and type of submission)^a

Party	Base year other than 1990	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Australia		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Austria		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Belgium		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Bulgaria	INV01 (1988)	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	no data
Canada		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Croatia		NC1	NC1	NC1	NC1	NC1	NC1	no data	no data	no data	no data	no data
Czech Republic ^b		INV02	NC2 & INV99	NC2 & INV99	NC2 & INV99	NC2 & INV99	NC2 & INV99	NC2 & INV99	INV02	INV02	INV02	INV02
Denmark		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Estonia		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
European Community		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Finland		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
France		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Germany		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Greece		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Hungary	INV02 (1985-1987)	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Iceland		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Ireland		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Italy		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Japan		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Latvia		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Liechtenstein		NC3	no data	no data	no data	no data	no data	no data	no data	no data	NC3	no data
Lithuania		NC1	no data	no data	no data	no data	INV99	INV99	INV99	INV00	no data	no data
Luxembourg		NC2	no data	no data	no data	NC2	NC2	no data	no data	no data	INV01	INV02
Monaco		INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	INV01	no data
Netherlands		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
New Zealand		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Norway		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Poland	INV02 (1988)	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Portugal		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Romania	NC2 (1989)	NC2	NC2	NC2	NC2	NC2	no data	no data	no data	no data	no data	no data
Russian Federation		NC2	NC2	NC2	NC2	NC2	INV00	INV00	no data	no data	no data	no data
Slovakia		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Slovenia ^c	no data (1986)	NC1	no data	no data	no data	no data	no data	no data	no data	no data	no data	no data
Spain		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Sweden		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Switzerland		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
Ukraine ^d		INV99	INV99	INV99	INV99	INV99	INV99	INV99	INV99	INV99	no data	no data
United Kingdom of Great Britain and Northern Ireland		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02
United States of America		INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02	INV02

^a This table indicates the source of GHG emissions data and whether data were available for specific years. It does not indicate whether the submission for a year covers all gases, categories or CRF tables (i.e. some Parties did not report all the sectoral or background data tables of the CRF in their most recent submissions, but did report the CRF trend tables covering all years; in those instances the most recent submission is indicated in this table as the data source for the period).

^b The Czech Republic provided revised CH₄ data for 1990 to 1996 in the inventory submission of 1999.

^c A preliminary GHG inventory was submitted as part of the forthcoming first national communication.

^d Emissions of CO, NOX and MNVOC were not reported in the inventory submission of 1999, but were included in the first national communication and are included in this document.

Explanatory notes

The tables below contain numerical data on GHG inventories for 39 Annex I Parties for the period 1990–2000, as submitted in annual GHG emission inventories or national communications. As not all Annex I Parties provided recent submissions, or did not include data for all years in their most recent submissions, data have been compiled from various sources, and hence trends in emissions may not be consistent in all instances. In addition to not having data for all years, data were not always available for all gases or source and sink categories required in the guidelines. Where data were not available, the tables contain blank spaces.

The tables provide inventory data on carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆), ozone precursors and sulphur dioxide (SO₂), and include information on international bunkers. Information on land-use change and forestry is included in aggregate estimates, and separately from other CO₂ estimates, recognizing the ongoing methodological work by the Intergovernmental Panel on Climate Change (IPCC) in this sector. To present information on HFCs, PFCs, SF₆ and aggregate greenhouse gases in a comparable manner, the secretariat has used IPCC 1995 global warming potentials (GWPs) to present information in terms of CO₂ equivalents. The footnotes to the tables should be treated as an integral part of the tables.

Tables A.1 and A.2 contain information on aggregate emissions of all greenhouse gases combined (expressed as CO₂ equivalent) for the major source categories. Inventory data on the individual greenhouse gases are presented in tables A.3–A.19. As not all Annex I Parties provided data for 2000 (the most recent year included in this document), no totals or percentage contribution by sector are given for that year in tables A.2–A.12. The trends in total greenhouse gases and in emissions of the various gases, and for the most important source categories for the period 1990–2000, are given in tables B.1–B.17. Emission estimates of the European Community are presented at the bottom of the tables as these estimates are reported by the European Community separately from those reported individually by the various Annex I Parties that are member States of the European Community.

Figures may differ slightly from those submitted to the secretariat as a result of rounding or corrections of typographical and calculation errors or omissions, and the presentation (for consistency and comparability) of subtotals and totals not provided in the annual inventory submissions, communications or other submissions.

The IPCC 1996 Revised Guidelines for National Greenhouse Gas Inventories are referred to in this document as the IPCC Guidelines, and the guidelines for the preparation of national communications by Parties included in Annex I (FCCC/CP/1999/7) as the UNFCCC guidelines. Categories of sources of GHG emissions or their sinks corresponding to the IPCC Guidelines or UNFCCC guidelines nomenclature are given in *italics*.

The following chemical symbols and abbreviations have been used:

CF₄	perfluoromethane
C₂F₆	perfluoroethane
C₃F₈	perfluoropropane
C₄F₁₀	perfluorobutane
C₆F₁₄	perfluorohexane
CH₄	methane
CO	carbon monoxide
CO₂	carbon dioxide
HFCs	hydrofluorocarbons
N₂O	nitrous oxide
NO_x	nitrogen oxides
NMVOCs	non-methane volatile organic compounds
PFCs	perfluorocarbons
SF₆	sulphur hexafluoride
SO₂	sulphur dioxide

The following units of mass have been used:

Gg gigagram	(10 ⁹ grams)
Mg megagram	(10 ⁶ grams)

The following other abbreviations have been used:

CRF	common reporting format
GHG	greenhouse gas
GWP	global warming potential
NC1	first national communication
NC2	second national communication
NC3	third national communication
INV99	inventory submission 1999
INV00	inventory submission 2000
INV01	inventory submission 2001
INV02	inventory submission 2002
no data	data have not been provided

**Table A.1. Aggregate emissions and removals of all greenhouse gases^a (CO₂ equivalent) by source/sink category, including and excluding land-use change and forestry, 1990
(Gigagrams and percentage of total by Party)**

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other ^b		Total (excluding land-use change and forestry) ^c	Land-use change and forestry (CO ₂) ^d	Total (including land-use change and forestry) ^e	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	(Gg)	(Gg)	%
Australia	269,963	63.5	28,764	6.8	12,010	2.8	91,349	21.5	23,089	5.4	425,175	78,124	503,299	18.4
Austria	49,969	64.6	215	0.3	14,592	18.9	5,596	7.2	7,016	9.1	77,388	-9,215	68,173	-11.9
Belarus														
Belgium	111,871	78.4	772	0.5	11,280	7.9	13,962	9.8	4,854	3.4	142,741	-1,600	141,139	-1.1
Bulgaria^f	100,401	63.9	5,430	3.5	10,841	6.9	23,514	15.0	16,903	10.8	157,090	-4,657	152,433	-3.0
Canada	434,468	71.6	37,928	6.2	52,949	8.7	58,885	9.7	22,953	3.8	607,183	-61,498	545,684	-10.1
Croatia	20,812	65.1	1,651	5.2	4,227	13.2	4,321	13.5	933	2.9	31,944	-6,505	25,439	-20.4
Czech Republic	162,742	84.8	8,275	4.3	4,708	2.5	12,521	6.5	3,772	2.0	192,019	-2,128	189,891	-1.1
Denmark	52,066	75.1	503	0.7	1,049	1.5	14,309	20.6	1,434	2.1	69,360	-916	68,444	-1.3
Estonia	37,628	86.5	1,201	2.8	614	1.4	2,440	5.6	1,611	3.7	43,494	-6,320	37,174	-14.5
Finland	56,018	72.7	3,566	4.6	2,852	3.7	10,165	13.2	4,492	5.8	77,093	-23,798	53,295	-30.9
France	372,299	66.6	11,109	2.0	54,257	9.7	89,950	16.1	31,727	5.7	559,342	-56,232	503,110	-10.1
Germany	1,002,700	82.0	32,781	2.7	62,018	5.1	82,398	6.7	42,868	3.5	1,222,765	-33,719	1,189,046	-2.8
Greece	79,857	76.1	931	0.9	9,591	9.1	10,449	10.0	4,067	3.9	104,895	1,441	106,336	1.4
Hungary^f	82,842	81.5	9,414	9.3	3,587	3.5	5,790	5.7			101,633	-3,097	98,536	-3.0
Iceland	1,648	58.9			748	26.7	324	11.6	80	2.8	2,799	-5	2,794	-0.2
Ireland	30,678	57.1	127	0.2	2,966	5.5	17,997	33.5	1,931	3.6	53,700	-89	53,610	-0.2
Italy	417,420	80.2	7,781	1.5	36,598	7.0	43,355	8.3	15,417	3.0	520,571	-23,532	497,038	-4.5
Japan	1,054,120	89.0	3,019	0.3	125,996	10.1	37,584	3.2	26,006	2.2	1,246,724	-83,903	1,162,821	-6.7
Latvia	23,510	75.7	1,118	3.6	563	1.8	5,335	17.2	528	1.7	31,054	-10,826	20,229	-34.9
Liechtenstein	197	90.3					21	9.4	1	0.3	218			
Lithuania	37,737	73.2	548	1.1	2,641	5.1	7,143	13.9	3,480	6.8	51,548	-8,848	42,700	-17.2
Luxembourg	12,181	90.6	34	0.3	585	4.4	518	3.9	130	1.0	13,448	-295	13,153	-2.2
Monaco	99	99.1							1	0.9	100			
Netherlands	158,450	75.3	4,050	1.9	16,363	7.8	17,466	8.3	14,018	6.7	210,347	-1,422	208,920	-0.7
New Zealand	22,813	31.2	1,179	1.6	2,994	4.1	43,315	59.2	3,002	4.1	73,161	-21,845	51,316	-29.9

Norway	27,113	52.2	2,316	4.5	13,523	26.0	4,896	9.4	4,132	8.0	51,965	-9,765	42,215	-18.8
Poland^f	466,207	82.6	26,265	4.7	20,141	3.6	31,516	5.6	20,289	3.6	564,419	-34,746	529,673	-6.2
Portugal	40,983	63.1	265	0.4	4,743	7.3	12,299	18.9	6,659	10.3	64,948	-3,751	61,197	-5.8
Romania^f	191,757	72.4	29,742	11.2	17,150	6.5	21,170	8.0	5,061	1.9	264,879	-2,925	261,954	-1.1
Russian Federation	2,308,494	75.9	424,000	13.9	88,525	2.9	168,260	5.5	50,783	1.7	3,040,062	-392,000	2,648,062	-12.9
Slovakia	56,348	77.3	1,439	2.0	4,870	6.7	8,111	11.1	2,169	3.0	72,937	-2,427	70,510	-3.3
Slovenia	13,594	70.7	1,061	5.5	641	3.3	2,337	12.2	1,601	8.3	19,233	-2,293	16,940	-11.9
Spain	210,165	73.4	6,368	2.2	22,773	8.0	36,378	12.7	10,744	3.8	286,428	-29,252	257,176	-10.2
Sweden	53,993	76.5	276	0.4	5,640	8.0	7,992	11.3	2,665	3.8	70,566	-20,292	50,274	-28.8
Switzerland	40,205	75.5	363	0.7	3,685	6.9	6,032	11.3	2,933	5.5	53,219	-3,188	50,045	-6.0
Ukraine	674,904	73.4	130,616	14.2	38,816	4.2	56,018	6.1	18,836	2.0	919,189	-52,107	867,082	-5.7
United Kingdom	564,624	76.0	40,216	5.4	57,989	7.8	53,618	7.2	26,045	3.5	742,492	8,791	751,283	1.2
United States of America	4,870,923	79.5	271,018	4.4	295,719	4.8	448,363	7.3	244,700	4.0	6,130,724	-1,097,747	5,032,977	-17.9
Total	14,111,798	77.1	1,094,342	6.0	1,008,246.4	5.5	1,455,696.0	8.0	626,926.5	3.4	18,296,854.2	-1,922,587	16,373,969.1	-10.5
European Community	3,211,378	76.2	108,981	2.6	305,039	7.2	416,343	9.9	173,924	4.1	4,215,665	-199,004	4,016,664	-4.7

^a Aggregate emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆, using 1995 IPCC global warming potentials.

^b Includes *solvent use, waste, other* and CH₄ and N₂O from *land-use change and forestry*.

^c Aggregate emissions of all greenhouse gases excluding CO₂ emissions and removals from *land-use change and forestry*.

^d CO₂ estimates for *land-use change and forestry* as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B.8).

^e Aggregate emissions of all greenhouse gases including CO₂ emissions from *land-use change and forestry*.

^f In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table A.2. Aggregate emissions and removals of all greenhouse gases^a (CO₂ equivalent) by source/sink category, including and excluding land-use change and forestry, 2000 (Gigagrams and percentage of total by Party)

	Fuel combustion		Fugitive fuel		Industrial processes		Agriculture		Other ^b		Total (excluding land-use change and forestry) ^c	Land-use change and forestry (CO ₂) ^d	Total (including land-use change and forestry) ^e	Percentage increase or decrease in emissions with the inclusion of land-use change and forestry
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	(Gg)	(Gg)	%
Australia	340,288	67.9	31,537	6.3	10,289	2.1	98,440	19.7	21,852	4.4	500,942	32,846	535,252	6.8
Austria	54,662	68.5	215	0.3	14,105	17.7	4,812	6.0	5,960	7.5	79,754	-7,633	72,121	-9.6
Belarus														
Belgium	116,364	76.4	906	0.6	16,284	10.7	13,735	9.0	5,068	3.3	152,356	-1,823	150,533	-1.2
Bulgaria														
Canada	533,345	73.4	54,019	7.4	51,157	7.0	60,495	8.3	27,234	3.7	726,250	-16,489	709,761	-2.3
Croatia														
Czech Republic	126,310	86.0	6,163	4.2	3,447	2.3	7,542	5.1	4,221	2.9	146,792	-4,016	142,776	-2.7
Denmark	52,187	76.2	915	1.3	2,271	3.3	11,824	17.3	1,309	1.9	68,505	-995	67,510	-1.5
Estonia	16,644	84.3	664	3.4	354	1.8	887	4.5	1,196	6.1	19,746	-8,365	11,381	-42.4
Finland	57,200	77.3	3,554	4.8	2,949	4.0	7,696	10.4	2,560	3.5	73,958	-11,953	62,005	-16.2
France	386,206	70.2	8,557	1.6	38,119	6.9	86,826	15.8	30,326	5.5	550,033	-63,247	486,787	-11.5
Germany	843,729	85.1	17,326	1.7	44,089	4.4	66,503	6.7	19,774	2.0	991,421	-16,826	974,595	-1.7
Greece	99,887	76.8	1,172	0.9	12,874	9.9	10,229	7.9	5,891	4.5	130,053	3,840	133,893	3.0
Hungary	56,538	67.0	5,562	6.6	3,826	4.5	14,456	17.1	3,956	4.7	84,338	-4,011	80,328	-4.8
Iceland	1,947	65.1			616	20.6	295	9.9	64	2.1	2,991	-131	2,791	-6.7
Ireland	42,855	64.0	87	0.1	3,936	5.9	18,406	27.5	1,713	2.6	66,993	-33	66,961	0.0
Italy	445,652	81.5	6,868	1.3	36,242	6.6	42,639	7.8	15,504	2.8	546,905	-16,444	530,461	-3.0
Japan	1,169,309	84.8	1,178	0.1	147,767	10.7	33,020	2.4	35,031	2.5	1,386,306			
Latvia	7,003	65.6	336	3.1	101	0.9	1,746	16.4	1,486	13.9	10,672	-4,243	6,429	-39.8
Liechtenstein														
Lithuania														
Luxembourg	4,792	80.2	44	0.7	682	11.4	350	5.9	103	1.7	5,971	-295	5,676	-4.9
Monaco														
Netherlands	171,628	79.1	4,327	2.0	14,309	6.6	16,110	7.4	10,542	4.9	216,916	-1,413	215,503	-0.7
New Zealand	27,864	36.2	1,543	2.0	3,069	4.0	41,985	54.6	2,496	3.2	76,956	-23,515	52,949	-31.2

Norway	32,022	57.9	3,232	5.8	11,024	19.9	4,705	8.5	4,323	7.8	55,263	-18,743	36,563	-33.8
Poland	305,506	79.1	16,402	4.2	18,058	4.7	26,370	6.8	19,412	5.0	386,187	-43,094	343,093	-11.2
Portugal	58,767	69.4	431	0.5	5,842	6.9	11,755	13.9	7,905	9.3	84,700	-4,216	80,484	-5.0
Romania														
Russian Federation														
Slovakia	37,885	77.8	1,271	2.6	4,222	8.7	4,011	8.2	1,777	3.7	48,667	-2,443	46,722	-4.0
Slovenia														
Spain	288,608	74.8	5,747	1.5	32,773	8.5	42,569	11.0	16,290	4.2	385,987	-29,252	356,735	-7.6
Sweden	53,437	77.0	295	0.4	6,010	8.7	7,469	10.8	2,145	3.1	69,356	-27,306	42,051	-39.4
Switzerland	40,839	77.4	331	0.6	3,212	6.1	5,451	10.3	2,910	5.5	52,748	-1,821	50,927	-3.5
Ukraine														
United Kingdom	531,873	81.9	21,692	3.3	30,906	4.8	48,609	7.5	16,026	2.5	649,106	3,354	652,460	0.5
United States of America	5,731,270	81.9	231,324	3.3	312,840	4.5	485,150	6.9	240,641	3.4	7,001,225	-902,495	6,098,730	-12.9
European Community	3,204,714	78.8	72,027	1.8	260,547	6.4	389,535	9.6	140,943	3.5	4,067,767	-180,681	3,887,086	-4.4

^a Aggregate emissions of CO₂, CH₄, N₂O, HFCs, PFCs, SF₆, using 1995 IPCC global warming potentials.

^b Includes *solvent use, waste, other* and CH₄ and N₂O from *land-use change and forestry*.

^c Aggregate emissions of all greenhouse gases excluding CO₂ emissions from *land-use change and forestry*.

^d CO₂ estimates for *land-use change and forestry* as reported in accordance with the present IPCC Guidelines for National Greenhouse Gas Inventories (see table B. 8).

^e Aggregate emissions of all greenhouse gases including CO₂ emissions from *land-use change and forestry*.

Table A.3. Anthropogenic CO₂ emissions by source category, excluding land-use change and forestry, 1990 (Gigagrams and percentage of total by Party)

	Energy										Total (Gg)
	Fuel combustion ^a		Fugitive fuel		Industrial processes		Waste		Other ^b		
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	
Australia	265,219	95.4	5,963	2.1	6,685	2.4					277,867
Austria	48,698	78.2	120	0.2	12,919	20.7	38	0.1	523	0.8	62,297
Belarus											
Belgium	109,210	92.6			7,673	6.5	1,084	0.9			117,966
Bulgaria^c	95,495	91.9			8,361	8.1					103,856
Canada	421,613	89.4	9,833	2.1	32,608	6.9	254	0.1	7,255	1.5	471,563
Croatia	20,543	88.2	416	1.8	2,345	10.1					23,305
Czech Republic	160,080	97.6			3,380	2.1			530	0.3	163,990
Denmark	51,266	97.4	240	0.5	1,005	1.9			124	0.2	52,635
Estonia	37,494	98.4			614	1.6					38,107
Finland	53,893	86.3	3,542	5.7	1,175	1.9			3,855	6.2	62,466
France	363,949	92.4	4,306	1.1	21,821	5.5	2,140	0.5	1,852	0.5	394,067
Germany	986,832	97.3			27,668	2.7					1,014,500
Greece	76,474	90.7			7,686	9.1			177	0.2	84,336
Hungary^c	80,089	95.7			3,587	4.3					83,676
Iceland	1,631	79.0			390	18.9	40	1.9	4	0.2	2,065
Ireland	29,577	93.6			1,931	6.1			92	0.3	31,599
Italy	407,074	92.6	999	0.2	28,813	6.6	912	0.2	1,680	0.4	439,478
Japan	1,047,285	93.6	0.5	0.0	56,638	5.1	15,395	1.4			1,119,319
Latvia	22,964	97.6			563	2.4					23,527
Liechtenstein	194	99.9					0	0.1			195
Lithuania	37,332	94.4			2,203	5.6					39,535
Luxembourg	12,133	95.2			585	4.6	20	0.2	12	0.1	12,750
Monaco	98	100.0									98
Netherlands	157,143	98.4	296	0.2	1,690	1.1	500	0.3	0	0.0	159,630
New Zealand	22,265	88.1	615	2.4	2,386	9.4					25,267

Norway	26,539	75.4	2,020	5.7	6,222	17.7	37	0.1	361	1.0	35,178
Poland^c	462,998	97.1	53	0.0	13,574	2.8					476,625
Portugal	39,533	89.6	163	0.4	4,133	9.4	9	0.0	271	0.6	44,109
Romania^c	185,575	95.3			9,244	4.7	7	0.0			194,826
Russian Federation	2,298,900	96.9	27,100	1.1	46,300	2.0					2,372,300
Slovakia	55,724	93.3			4,022	6.7					59,746
Slovenia	13,294	95.4			641	4.6					13,935
Spain	204,854	90.2	4,065	1.8	16,541	7.3	796	0.4	977	0.4	227,233
Sweden	51,439	91.7	275	0.5	4,241	7.6			111	0.2	56,065
Switzerland	39,669	89.3	56	0.1	3,363	7.6	1,317	3.0			44,405
Ukraine	672,075	95.5	0	0.0	31,717	4.5					703,792
United Kingdom	556,607	95.4	12,138	2.1	14,148	2.4	812	0.1			583,705
United States of America	4,794,093	95.9	36,256	0.7	168,165	3.4					4,998,515
Total	13,909,853	95.2	108,456	0.7	555,037	3.8	23,360	0.2	17,823	0.1	14,614,529
European Community	3,146,887	94.2	26,144	0.8	152,883	4.6	6,309	0.2	9,581	0.3	3,341,803

^a For further details on *fuel combustion* see table A. 5.

^b Includes *solvent use* and *agriculture*.

^c In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table A.4. Anthropogenic CO₂ emissions by source category, excluding land-use change and forestry, 2000 (Gigagrams and percentage of total by Party)

	Energy										Total (Gg)
	Fuel combustion ^a		Fugitive fuel		Industrial processes		Waste		Other ^b		
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	
Australia	332,716	95.9	6,487	1.9	7,787	2.2	16	0.0			347,006
Austria	53,319	80.7	95	0.1	12,187	18.4	106	0.2	396	0.6	66,102
Belarus											
Belgium	114,126	89.8			11,209	8.8	1,705	1.3			127,040
Bulgaria											
Canada	516,512	90.4	14,802	2.6	40,067	7.0	282	0.0	-236	0.0	571,427
Croatia											
Czech Republic	124,420	97.3	540	0.4	2,251	1.8	357	0.3	335	0.3	127,902
Denmark	50,694	95.9	593	1.1	1,453	2.7			112	0.2	52,852
Estonia	16,495	97.9			354	2.1					16,849
Finland	54,932	88.2	3,525	5.7	1,072	1.7			2,776	4.5	62,305
France	376,294	93.6	4,076	1.0	17,478	4.3	2,359	0.6	1,716	0.4	401,923
Germany	831,759	97.0			26,149	3.0					857,908
Greece	95,682	92.2			7,877	7.6			169	0.2	103,727
Hungary	55,734	93.8			2,826	4.8	856	1.4	29	0.0	59,445
Iceland	1,906	78.0			490	20.1	17	0.7	5	0.2	2,444
Ireland	41,239	93.9			2,576	5.9			109	0.2	43,925
Italy	433,984	93.7	1,291	0.3	25,802	5.6	1,011	0.2	1,293	0.3	463,381
Japan	1,159,683	93.7	1	0.0	53,178	4.3	24,245	2.0			1,237,107
Latvia	6,746	98.5			101	1.5					6,847
Liechtenstein											
Lithuania											
Luxembourg	4,707	87.2			682	12.6			10	0.2	5,399
Monaco											
Netherlands	170,142	98.0	1,572	0.9	1,360	0.8	453	0.3	0	0.0	173,527
New Zealand	27,395	88.8	635	2.1	2,822	9.1					30,852

Norway	31,000	75.0	2,705	6.5	7,251	17.5	125	0.3	235	0.6	41,316
Poland	302,282	96.0	184	0.1	11,907	3.8					314,812
Portugal	57,106	90.4	289	0.5	5,070	8.0	406	0.6	279	0.4	63,150
Romania											
Russian Federation											
Slovakia	37,502	90.4			3,970	9.6					41,472
Slovenia											
Spain	281,298	91.7	3,962	1.3	19,903	6.5	200	0.1	1,269	0.4	306,632
Sweden	50,851	91.0	293	0.5	4,600	8.2			111	0.2	55,855
Switzerland	40,014	91.2	74	0.2	2,373	5.4	1,393	3.2			43,853
Ukraine											
United Kingdom	521,612	96.1	7,812	1.4	13,111	2.4	208	0.0			542,743
United States of America	5,645,957	96.7	32,142	0.6	161,940	2.8					5,840,039
European Community	3,136,284	94	23,411	0.7	150,528	4.5	6,447	0.2	8,129	0.2	3,324,800

^a For further details on *fuel combustion* see table A.6.

^b Includes *solvent use* and *agriculture*.

Table A.5. Anthropogenic CO₂ emissions from fuel combustion, 1990 (Gigagrams and percentage of total by Party)

	Energy industries		Industry		Commercial, institutional, residential, agriculture, forestry, fishing		Transport		Other ^a		Total (Gg)
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	
Australia	141,806	53.5	50,029	18.9	12,486	4.7	59,218	22.3	1,681	0.6	265,219
Austria	14,395	29.6	8,450	17.4	13,908	28.6	11,944	24.5			48,698
Belarus											
Belgium	28,572	26.2	33,023	30.2	28,005	25.6	19,610	18.0			109,210
Bulgaria ^b	37,823	39.6	35,756	37.4	7,612	8.0	12,639	13.2	1,666	1.7	95,495
Canada	144,277	34.2	62,090	14.7	69,415	16.5	145,831	34.6			421,613
Croatia	5,897	28.7	6,546	31.9	3,616	17.6	4,046	19.7	439	2.1	20,543
Czech Republic	59,171	37.0	59,457	37.1	32,577	20.4	7,275	4.5	1,601	1.0	160,080
Denmark	26,202	51.1	5,605	10.9	8,959	17.5	10,381	20.2	119	0.2	51,266
Estonia	29,753	79.4	2,655	7.1	2,392	6.4	2,693	7.2			37,494
Finland	18,517	34.4	14,358	26.6	7,571	14.0	12,475	23.1	972	1.8	53,893
France	65,492	18.0	84,924	23.3	94,375	25.9	119,159	32.7			363,949
Germany	412,896	41.8	196,457	19.9	203,439	20.6	162,281	16.4	11,760	1.2	986,832
Greece	43,302	56.6	9,792	12.8	5,341	7.0	18,039	23.6			76,474
Hungary ^b	36,928	46.1	10,893	13.6	23,174	28.9	7,741	9.7	1,353	1.7	80,089
Iceland	4	0.3	200	12.2	704	43.2	721	44.2	2	0.1	1,631
Ireland	11,057	37.4	3,833	13.0	9,726	32.9	4,961	16.8			29,577
Italy	142,927	35.1	85,946	21.1	75,670	18.6	101,490	24.9	1,041	0.3	407,074
Japan	338,754	32.3	339,227	32.4	158,233	15.1	205,592	19.6	5,478	0.5	1,047,285
Latvia	8,288	36.1	2,683	11.7	5,957	25.9	6,011	26.2	25	0.1	22,964
Liechtenstein					143	73.3	52	26.7			194
Lithuania	16,425	44.0	5,396	14.5	6,810	18.2	5,791	15.5	2,910	7.8	37,332
Luxembourg	1,883	15.5	6,353	52.4	1,272	10.5	2,625	21.6			12,133
Monaco	28	28.4			29	30.2	40	41.4			98
Netherlands	51,513	32.8	41,889	26.7	34,643	22.0	29,085	18.5	12	0.0	157,143
New Zealand	6,032	27.1	4,757	21.4	2,812	12.6	8,664	38.9			22,265

Norway	7,263	27.4	3,465	13.1	4,269	16.1	11,086	41.8	457	1.7	26,539
Poland^b	260,537	56.3	62,994	13.6	111,229	24.0	28,238	6.1			462,998
Portugal	15,884	40.2	8,797	22.3	3,621	9.2	11,221	28.4	8	0.0	39,533
Romania^b	89,214	48.1	56,678	30.5	28,274	15.2	7,893	4.3	3,517	1.9	185,575
Russian Federation											2,298,900
Slovakia	50,654	90.9					5,070	9.1			55,724
Slovenia	6,483	48.8	2,488	18.7	1,144	8.6	3,179	23.9			13,294
Spain	76,717	37.4	44,530	21.7	25,953	12.7	57,656	28.1			204,854
Sweden	10,170	19.8	11,776	22.9	10,673	20.7	18,736	36.4	84	0.2	51,439
Switzerland	905	2.3	5,237	13.2	18,631	47.0	14,140	35.6	770	1.9	39,669
Ukraine											672,075
United Kingdom	228,089	41.0	94,133	16.9	112,538	20.2	116,581	20.9	5,265	0.9	556,607
United States of America^c	1,858,940	38.8	871,797	18.2	549,373	11.5	1,471,806	30.7	42,177	0.9	4,794,093
Total^d	4,246,800	38.8	2,232,211	20.4	1,674,573	15.3	2,703,970	24.7	81,338	0.7	13,909,853
European Community	1,147,013	36.4	649,732	20.6	635,943	20.2	694,767	22.1	19,431	0.6	3,146,887

^a All remaining emissions from non-specific fuel combustion including emissions from military fuel use

^b In accordance with decision 9/ CP. 2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

^c *Fuel combustion* emissions from territories of the United States of America are included *under other*.

^d The percentage of the total accounted for by each category has been calculated on the basis of the overall total excluding the Russian Federation and Ukraine (10 938 878 Gg) since data for the individual categories were not provided. However, the total for all the Parties given in the last column (13 909 853 Gg) does include the Russian Federation and Ukraine.

Table A.6. Anthropogenic CO₂ emissions from fuel combustion, 2000 (Gigagrams and percentage of total by Party)

	Energy industries		Industry		Commercial, institutional, residential, agriculture, forestry, fishing		Transport		Other ^a		Total (Gg)
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%	
Australia	191,290	57.5	52,128	15.7	15,208	4.6	71,693	21.5	2,397	0.7	332,716
Austria	12,137	22.8	10,607	19.9	13,638	25.6	16,937	31.8			53,319
Belarus											
Belgium	27,357	24.0	32,344	28.3	30,425	26.7	23,999	21.0			114,126
Bulgaria											
Canada	191,442	37.1	67,778	13.1	76,701	14.8	180,591	35.0			516,512
Croatia											
Czech Republic	60,160	48.4	36,130	29.0	15,874	12.8	11,110	8.9	1,146	0.9	124,420
Denmark	25,250	49.8	5,823	11.5	7,482	14.8	12,028	23.7	111	0.2	50,694
Estonia	13,945	84.5	483	2.9	1,036	6.3	1,030	6.2			16,495
Finland	19,815	36.1	15,956	29.0	5,796	10.6	12,379	22.5	986	1.8	54,932
France	60,173	16.0	81,081	21.5	97,258	25.8	137,783	36.6			376,294
Germany	337,466	40.6	139,425	16.8	170,159	20.5	182,910	22.0	1,798	0.2	831,759
Greece	55,058	57.5	10,415	10.9	8,530	8.9	21,678	22.7			95,682
Hungary	22,403	40.2	10,826	19.4	13,180	23.6	9,325	16.7			55,734
Iceland	3	0.2	320	16.8	748	39.3	830	43.5	5	0.3	1,906
Ireland	16,016	38.8	4,743	11.5	10,364	25.1	10,115	24.5			41,239
Italy	155,052	35.7	79,752	18.4	77,349	17.8	121,024	27.9	806	0.2	433,984
Japan	382,792	33.0	353,540	30.5	168,988	14.6	249,634	21.5	4,729	0.4	1,159,683
Latvia	2,705	40.1	1,003	14.9	862	12.8	2,120	31.4	56	0.8	6,746
Liechtenstein											
Lithuania											
Luxembourg	255	5.4	1,734	36.8	1,268	26.9	1,451	30.8			4,707
Monaco											
Netherlands	59,085	34.7	43,003	25.3	32,935	19.4	35,120	20.6	0	0.0	170,142
New Zealand	6,116	22.3	6,301	23.0	2,647	9.7	12,330	45.0			27,395

Norway	10,413	33.6	4,029	13.0	3,241	10.5	13,138	42.4	178	0.6	31,000
Poland	176,324	58.3	52,056	17.2	45,400	15.0	28,207	9.3	295	0.1	302,282
Portugal	22,377	39.2	10,056	17.6	5,040	8.8	19,633	34.4			57,106
Romania											
Russian Federation											
Slovakia	12,095	32.3	13,302	35.5	6,161	16.4	4,319	11.5	1,626	4.3	37,502
Slovenia											
Spain	103,542	36.8	58,203	20.7	34,436	12.2	85,118	30.3			281,298
Sweden	10,704	21.1	12,558	24.7	7,627	15.0	19,568	38.5	394	0.8	50,851
Switzerland	984	2.5	5,577	13.9	17,167	42.9	15,563	38.9	723	1.8	40,014
Ukraine											
United Kingdom	190,833	36.6	86,510	16.6	118,322	22.7	123,046	23.6	2,902	0.6	521,612
United States of America^b	2,352,492	41.7	829,417	14.7	614,089	10.9	1,789,522	31.7	60,436	1.1	5,645,957
European Community	1,092,146	34.8	594,615	19.0	619,478	19.8	822,954	26.2	7,091	0.2	3,136,284

^a All remaining emissions from non-specific fuel combustion including emissions from military fuel use

^b *Fuel combustion* emissions from territories of the United States of America are included under *Other*.

Table A.7. Anthropogenic CO₂ emissions and removals from land-use change and forestry^a, 1990 (Gigagrams)

	Changes in forest and other woody biomass stocks	Forest and grassland conversion	Abandonment of managed lands	CO ₂ emissions and removals from soil	Other	Total
Australia	-24,598	106,946		-4,224		78,124
Austria	-9,215					-9,215
Belarus						
Belgium	-1,600					-1,600
Bulgaria	-4,657					-4,657
Canada ^b	-68,069	1,419	-3,245	3,525	4,872	-61,498
Croatia	-6,505					-6,505
Czech Republic	-2,128					-2,128
Denmark	-916					-916
Estonia	-7,463	75	-1,985	3,053		-6,320
Finland	-23,798			3,215		-23,798
France	-68,086	8,763	-48	3,139		-56,232
Germany	-33,719					-33,719
Greece	18	1,423				1,441
Hungary	-3,097					-3,097
Iceland ^c	-2				-3	-5
Ireland	-450			361		-89
Italy	-28,605		-102	5,175		-23,532
Japan	-84,482	579				-83,903
Latvia	-10,960			134		-10,826
Liechtenstein						
Lithuania	-10,375	2,803	-1,276			-8,848
Luxembourg	-295					-295
Monaco						
Netherlands	-1,422					-1,422
New Zealand	-22,514	669				-21,845

Norway	-9,765						-9,765
Poland	-24,990	959	-10,715				-34,746
Portugal	-1,839	-1,912					-3,751
Romania	-2,925						-2,925
Russian Federation	-392,000						-392,000
Slovakia	-1,753	141		-815			-2,427
Slovenia	-3,072	1,480	-702				-2,293
Spain	-29,252						-29,252
Sweden	-24,100			3,808			-20,292
Switzerland	-3,188						-3,188
Ukraine^d							-52,107
United Kingdom^e	-7,304			16,404	-308		8,791
United States of America^f	-828,667			-249,975	-19,105		-1,097,747
Total	-1,741,793	123,345	-18,073	-216,200	-14,545		-1,922,587
European Community	-235,706	8,274	-150	28,887	-308		-199,004

^a In this table negative values indicate net removal of CO₂ from the respective category.

^b *Other* includes emissions from anthropogenic fires outside the wood production forest.

^c *Other* includes removals from revegetation.

^d Party only reported a total for the land- use change and forestry sector.

^e *Other* includes emissions from changes in crop biomass and peat extraction.

^f *Other* includes landfilled yard trimmings.

Table A.8. Anthropogenic CO₂ emissions and removals from land-use change and forestry^a, 2000 (Gigagrams)

	Changes in forest and other woody biomass stocks	Forest and grassland conversion	Abandonment of managed lands	CO ₂ emissions and removals from soil	Other	Total
Australia	-23,725	60,795		-4,224		32,846
Austria	-7,633					-7,633
Belarus						
Belgium	-1,823					-1,823
Bulgaria						
Canada ^b	-28,138	4,393	-4,195	5,259	6,192	-16,489
Croatia						
Czech Republic	-4,016					-4,016
Denmark	-995					-995
Estonia	-6,399	27	-2,456	463		-8,365
Finland	-11,953			2,046		-11,953
France	-76,140	9,820	-48	3,121		-63,247
Germany	-16,826					-16,826
Greece	-185	4,227		-202		3,840
Hungary	-5,286	1,316		-41		-4,011
Iceland ^c	-39				-92	-131
Ireland	-407			375		-33
Italy	-25,699		-160	9,415		-16,444
Japan						
Latvia	-4,338			95		-4,243
Liechtenstein						
Lithuania						
Luxembourg	-295					-295
Monaco						
Netherlands	-1,413					-1,413
New Zealand	-25,126	1,119		492		-23,515

Norway	-18,743					-18,743
Poland	-42,744	62		-412		-43,094
Portugal	-2,277	-1,939				-4,216
Romania						
Russian Federation						
Slovakia	-1,410	113		-1,146		-2,443
Slovenia						
Spain	-29,252					-29,252
Sweden	-31,100			3,794		-27,306
Switzerland	-1,821					-1,821
Ukraine						
United Kingdom^d	-8,309			11,947	-284	3,354
United States of America^e	-773,667			-122,445	-6,383	-902,495
European Community	-220,739	12,108	-208	28,442	-284	-180,681

^a In this table negative values indicate net removal of CO₂ from the respective category.

^b *Other* includes emissions from anthropogenic fires outside the wood production forest.

^c *Other* includes removals from revegetation.

^d *Other* includes emissions from changes in crop biomass and peat extraction.

^e *Other* includes landfilled yard trimmings.

Table A.9. Anthropogenic CH₄ emissions by source category, 1990 (Gigagrams and percentage of total by Party)

	Energy				Agriculture				Waste		Other ^c		Total (Gg)
	Fuel combustion		Fugitive fuel		Livestock ^a		Other ^b		(Gg)	%	(Gg)	%	
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%					
Australia	110	1.9424697	1,084	19.153	3,140	55.48	294	5.201	705	12.45	326	5.766	5,660
Austria	21	3.8	5	0.8	182	33.8	36	6.6	295	54.9	0	0.0	538
Belarus													
Belgium	10	1.9	37	6.7	333	60.6	7	1.3	155	28.2	7	1.3	550
Bulgaria ^d	8	0.6	259	19.4	265	19.9	8	0.6	791	59.3	3	0.2	1,334
Canada	213	6.1	1,338	38.3	980	28.0			900	25.7	66	1.9	3,498
Croatia	9	5.0	59	32.4	75	41.3	0	0.1	38	20.8	1	0.4	182
Czech Republic	59	7.4	394	49.4	204	25.6			133	16.6	8	1.0	798
Denmark	11	3.8	12	4.5	193	69.3			62	22.4			278
Estonia	4	2.0	57	27.5	70	33.6			77	36.9	0	0.1	208
Finland	19	6.6	1	0.4	96	32.9			175	59.9	0	0.1	292
France	192	6.1	324	10.2	1,636	51.6	32	1.0	887	28.0	99	3.1	3,169
Germany	214	4.1	1,561	29.6	1,605	30.4			1,894	35.9			5,273
Greece	15	3.6	44	10.6	165	39.7	7	1.8	179	42.9	6	1.4	416
Hungary ^d	8	1.2	448	67.5	205	30.8	4	0.6					664
Iceland	0	1.6			12	84.9			2	13.6			14
Ireland	7	1.2	6	1.0	514	84.0			85	13.8			612
Italy	75	4.0	323	17.2	839	44.7	74	3.9	559	29.8	5	0.3	1,876
Japan	28	2.2	144	11.3	396	31.1	345	27.1	353	27.7	7	0.6	1,273
Latvia	10	5.3	53	27.2	111	56.8			19	9.9	2	0.8	196
Liechtenstein ^e	0	6.4			1	93.4			0	0.1			1
Lithuania	5	1.4	26	6.9	181	47.8			166	43.8	0	0.1	378
Luxembourg	1	3.2	2	6.8	18	73.9			4	16.1			24
Monaco	0	56.3							0	43.7			0
Netherlands	34	2.7	179	13.8	505	39.1			569	44.0	5	0.4	1,293
New Zealand	11	0.6	27	1.6	1,511	89.7	1	0.1	131	7.8	4	0.3	1,685

Norway	13	4.1	14	4.5	96	31.4	1	0.4	182	59.2	1	0.3	307
Poland^d	47	1.5	1,248	39.7	862	27.4	1	0.0	966	30.7	17	0.5	3,141
Portugal	24	3.9	5	0.8	289	47.0	13	2.1	283	46.1	0	0.1	614
Romania^d	50	2.1	1,416	60.1	600	25.5	34	1.5	241	10.2	16	0.7	2,357
Russian Federation	200	0.8	18,900	71.3	4,930	18.6	130	0.5	1,940	7.3	400	1.5	26,500
Slovakia	17	5.4	69	21.2	135	41.9			98	30.5	3	1.0	323
Slovenia	7	3.8	51	28.7	44	24.8	0	0.1	76	42.9	1	0.3	176
Spain	57	4.1	110	7.8	872	61.8	14	1.0	356	25.2	3	0.2	1,412
Sweden	37	11.4	0	0.0	165	51.0			122	37.5	0	0.1	324
Switzerland	7	3.0	15	6.1	151	62.4			69	28.4	0	0.2	242
Ukraine^e	36	0.4	6,220	66.2	2,254	24.0			892	9.5	0	0.0	9,402
United Kingdom	121	3.3	1,332	36.6	1,019	28.0	13	0.3	1,150	31.6	9	0.2	3,645
United States of America	609	2.0	11,179	36.0	7,480	24.1	372	1.2	11,317	36.5	57	0.2	31,014
Total	2,290	2.1	46,940	42.8	32,137	29.3	1,385	1.3	25,870	23.6	1,048	1.0	109,670
European Community	831	4.1	3,940	19.4	8,433	41.5	195	1.0	6,776	33.4	136	0.7	20,310

^a Includes *enteric fermentation* and *manure management*.

^b Includes *rice cultivation*, *agricultural soils*, *prescribed burning of savannas* and *field burning of agricultural residues*.

^c Includes *industrial processes*, *solvent use* and *land-use change and forestry*.

^d In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

^e Total emissions from agriculture are reported under livestock since emissions were not further disaggregated by the Party

Table A.10. Anthropogenic CH₄ emissions by source category, 2000 (Gigagrams and percentage of total by Party)

	Energy				Agriculture				Waste	Other ^c	Total		
	Fuel combustion		Fugitive fuel		Livestock ^a		Other ^b						
	(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	%				(Gg)	%
Australia	115	2.0	1,192	20.7	3,005	52.1	469	8.1	768	13.3	216	3.7	5,764
Austria	12	2.7	6	1.3	148	33.0	34	7.7	248	55.3	0	0.0	448
Belarus													
Belgium	11	2.2	43	8.2	324	61.8	7	1.3	132	25.1	7	1.4	524
Bulgaria													
Canada	251	5.8	1,867	42.9	1,084	24.9			1,095	25.1	59	1.3	4,357
Croatia													
Czech Republic	19	3.8	268	52.5	114	22.3			104	20.3	6	1.1	510
Denmark	34	12.3	15	5.5	168	61.4			57	20.8			274
Estonia	5	4.4	32	26.7	24	20.7			57	48.2			118
Finland	21	11.5	1	0.7	83	44.6			80	42.8	1	0.4	187
France	164	5.7	213	7.4	1,560	54.3	31	1.1	800	27.9	102	3.6	2,871
Germany	60	2.1	825	28.6	1,205	41.8			794	27.5			2,885
Greece	22	4.2	56	10.8	162	31.2	9	1.7	253	48.9	17	3.4	518
Hungary	32	5.7	265	47.9	108	19.6	2	0.3	145	26.3	1	0.2	553
Iceland	0	1.3			11	81.7			2	17.0			13
Ireland	5	0.9	4	0.7	527	86.4			73	12.0			610
Italy	89	5.0	266	14.7	792	44.0	76	4.2	573	31.8	5	0.3	1,801
Japan	30	2.8	56	5.3	366	34.9	293	27.9	301	28.7	4	0.4	1,049
Latvia	8	6.2	16	13.2	31	25.3			63	52.1	4	3.1	121
Liechtenstein													
Lithuania													
Luxembourg	1	4.0	2	9.3	17	73.3			3	13.5			23
Monaco													
Netherlands	33	3.3	131	13.4	408	41.5			406	41.3	5	0.5	983
New Zealand	11	0.7	43	2.7	1,415	89.5	1	0.1	106	6.7	5	0.3	1,581

Norway	14	4.2	25	7.7	98	30.1	0	0.1	187	57.6	1	0.3	324
Poland	47	2.2	772	35.4	468	21.4	1	0.1	886	40.6	9	0.4	2,183
Portugal	20	3.1	7	1.1	270	43.2	9	1.5	319	51.0	0	0.1	625
Romania													
Russian Federation													
Slovakia	8	3.5	61	28.2	62	29.1			83	38.9	1	0.3	215
Slovenia													
Spain	50	2.8	85	4.7	1,043	57.1	17	0.9	628	34.4	3	0.2	1,827
Sweden	26	9.4	0	0.0	156	55.8			97	34.6	0	0.1	280
Switzerland	5	2.5	12	5.7	136	63.1			62	28.5	0	0.2	216
Ukraine													
United Kingdom	98	4.1	659	27.1	969	39.9			697	28.7	4	0.2	2,427
United States of America	565	1.9	9,485	32.4	7,682	26.3	395	1.3	11,056	37.8	79	0.3	29,262
European Community	641	3.9	2,313	14.2	7,833	48.1	182	1.1	5,161	31.7	145	0.9	16,275

^a Includes *enteric fermentation* and *manure management* .

^b Includes *rice cultivation*, *agricultural soils*, *prescribed burning of savannas* and *field burning of agricultural residues* .

^c Includes *industrial processes*, *solvent use* and *land-use change and forestry* .

Table A.11. Anthropogenic N₂O emissions by source category, 1990 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes (Gg)	%	Agriculture (Gg)	%	Waste (Gg)	%	Other ^b		Total (Gg)				
	Transport		Other ^a								(Gg)	%		(Gg)	%	(Gg)	%
	(Gg)	%	(Gg)	%													
Australia	5.3	7.0	2.6	3.5			62.0	82.9	1.6	2.1	3.3	4.4	74.8				
Austria	1.0	13.3	1.7	23.1	0.6	8.0	3.3	44.5	0.1	1.0	0.8	10.1	7.4				
Belarus																	
Belgium	0.9	2.0	7.0	16.5	11.5	26.9	22.0	51.5	0.5	1.3	0.8	1.8	42.6				
Bulgaria	0.2	0.3	15.0	18.5	7.8	9.6	57.4	70.5	0.9	1.1			81.4				
Canada	20.6	12.0	6.4	3.7	37.1	21.6	100.1	58.2	3.0	1.7	4.8	2.8	172.0				
Croatia	0.0	0.3	0.2	1.7	3.0	23.9	8.8	70.5	0.5	3.6			12.5				
Czech Republic	0.3	0.7	4.3	11.9	3.9	10.7	26.6	73.1	0.6	1.8	0.7	1.8	36.3				
Denmark	0.5	1.4	1.4	3.9			33.1	94.7					35.0				
Estonia	0.0	0.7	0.1	3.9			3.1	95.4					3.3				
Finland	2.0	7.5	3.5	12.9	5.1	19.0	15.9	58.6	0.4	1.3	0.2	0.7	27.1				
France	5.2	1.8	8.7	3.0	79.8	27.2	177.2	60.3	3.1	1.1	19.7	6.7	293.8				
Germany	10.3	3.6	26.4	9.2	82.0	28.7	157.1	55.0	4.0	1.4	6.0	2.1	285.8				
Greece	1.7	4.8	8.2	24.0	2.3	6.7	22.0	64.2			0.1	0.2	34.3				
Hungary ^d			8.4	64.7			4.6	35.3					12.9				
Iceland	0.0	4.8	0.0	4.7	0.2	37.1	0.2	53.4					0.4				
Ireland	0.3	0.9	2.8	9.4	3.3	11.2	23.2	77.9	0.2	0.7			29.8				
Italy	5.6	4.2	22.7	17.2	21.8	16.5	78.0	59.3	3.5	2.7			131.6				
Japan	16.2	12.9	3.9	3.1	23.9	19.1	71.0	56.7	9.2	7.4	0.9	0.8	125.3				
Latvia	0.9	7.8	0.2	1.8			9.7	87.9	0.3	2.5	0.0	0.1	11.0				
Liechtenstein	0.0	17.9	0.0	23.1			0.0	69.3	0.0	2.0			0.0				
Lithuania	0.2	1.4	0.8	5.8	1.4	10.6	10.8	82.1					13.2				
Luxembourg	0.0	6.9	0.1	9.3			0.5	74.9	0.0	3.5	0.0	5.4	0.6				
Monaco	0.0	24.8	0.0	43.5					0.0	31.7			0.005				
Netherlands	1.2	2.3	0.7	1.3	24.4	45.7	22.1	41.5	0.4	0.8	4.5	8.5	53.3				
New Zealand	0.4	0.9	0.2	0.6			37.3	97.2	0.5	1.2	0.0	0.1	38.4				

Norway	0.5	3.2	0.5	2.9	6.7	40.2	8.5	51.3	0.3	1.8	0.1	0.7	16.5
Poland	1.3	1.8	5.9	8.3	20.1	28.5	43.2	61.3					70.5
Portugal	0.4	1.7	2.6	10.3	1.9	7.6	19.2	75.0	1.4	5.4			25.6
Romania	0.3	0.4	16.3	24.6	24.4	36.9	25.3	38.1					66.3
Russian Federation^d			17.4	7.7	3.0	1.3	200.0	88.6	0.3	0.1	5.0	2.2	225.7
Slovakia	0.2	1.2	0.6	3.0	1.9	9.4	17.0	85.9	0.1	0.3	0.0	0.2	19.8
Slovenia	0.1	2.4	0.4	7.7			4.6	89.9			0.0	0.1	5.1
Spain	2.7	3.2	10.5	12.4	9.3	11.0	57.3	67.7	3.6	4.3	1.2	1.4	84.7
Sweden	1.5	6.3	4.3	18.5	2.8	12.1	14.6	63.1					23.1
Switzerland	1.0	8.7	0.2	2.2	0.3	2.8	9.2	81.3	0.2	1.9	0.3	3.1	11.4
Ukraine			6.7	11.6	22.9	39.5	28.0	48.3	0.1	0.2	0.2	0.3	58.0
United Kingdom	4.3	2.0	13.3	6.1	94.5	43.1	103.0	47.1	3.5	1.6			218.9
United States of America	164.3	13.1	42.3	3.4	105.6	8.5	914.5	73.2	22.7	1.8			1,249.4
Total	249.5	6.9	246.4	6.8	601.5	16.7	2,390.4	66.4	60.9	1.7	48.7	1.4	3,597.8
European Community	37.7	2.9	114.1	8.8	339.3	26.2	748.2	57.8	20.5	1.6	33.3	2.6	1,293.4

^a Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.

^b Includes *solvent use* and *land-use change and forestry*.

^c In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

^d Total emissions from *fuel combustion* are reported under other energy since emissions were not further disaggregated by the Party

Table A.12. Anthropogenic N₂O emissions by source category, 2000 (Gigagrams and percentage of total by Party)

	Energy				Industrial processes (Gg)	Agriculture		Waste		Other		Total	
	Transport	Other		%		(Gg)	%	(Gg)	%	(Gg)	%	(Gg)	
	(Gg)	(Gg)	(Gg)	(Gg)		(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	(Gg)	
Australia	13.3	13.0	3.3	3.2			82.2	79.9	1.7	1.7	2.2	2.2	102.9
Austria	1.8	22.2	1.7	21.0	0.6	7.1	3.2	39.3	0.1	1.0	0.8	9.2	8.1
Belarus													
Belgium	2.4	5.4	4.1	9.4	13.3	30.8	21.9	50.6	0.6	1.5	1.0	2.3	43.3
Bulgaria													
Canada	29.5	17.0	7.7	4.5	5.5	3.1	122.4	70.4	3.3	1.9	5.5	3.2	174.0
Croatia													
Czech Republic	1.7	6.3	3.1	11.8	3.6	13.8	16.6	63.0	0.6	2.5	0.7	2.6	26.4
Denmark	1.2	4.2	1.3	4.4			26.8	91.3					29.3
Estonia	0.0	0.7	0.1	8.9			1.2	90.4					1.3
Finland	2.2	9.5	3.7	15.8	4.3	18.4	12.6	54.3	0.3	1.2	0.2	0.9	23.2
France	11.8	4.8	9.0	3.6	31.2	12.6	172.3	69.5	3.5	1.4	20.2	8.1	248.0
Germany	16.7	8.6	17.8	9.2	16.4	8.5	132.9	68.6	4.0	2.1	6.0	3.1	193.8
Greece	2.2	6.1	9.9	27.9	1.8	5.2	21.5	60.5			0.1	0.3	35.5
Hungary	0.1	0.3	0.3	0.8	1.3	3.2	39.2	95.6	0.1	0.1	0.0	0.0	41.0
Iceland	0.1	24.6	0.0	5.3	0.1	15.0	0.2	55.2					0.4
Ireland	1.2	3.8	3.6	11.6	2.6	8.4	23.7	75.5	0.2	0.7			31.4
Italy	10.4	7.4	21.2	15.2	25.2	18.1	78.8	56.5	3.8	2.7			139.3
Japan	21.0	17.6	8.1	6.8	13.6	11.4	61.9	52.0	13.3	11.2	1.1	0.9	118.9
Latvia	0.2	3.6	0.2	4.0			3.6	85.7	0.2	5.8	0.0	0.9	4.2
Liechtenstein													
Lithuania													
Luxembourg	0.2	54.0	0.0	15.1					0.0	7.9	0.1	23.0	0.3
Monaco													
Netherlands	2.0	3.7	0.6	1.0	23.0	41.9	24.3	44.4	0.6	1.0	4.3	7.9	54.8
New Zealand	0.5	1.3	0.3	0.7			39.5	96.7	0.5	1.2	0.0	0.1	40.8

Norway	1.9	11.6	0.4	2.7	5.6	33.6	8.2	49.2	0.3	2.1	0.1	0.7	16.6
Poland	1.9	2.5	5.3	6.9	14.0	18.2	53.3	69.1	2.6	3.4			77.1
Portugal	1.6	6.2	2.4	9.0	2.0	7.3	19.0	71.2	1.7	6.3			26.6
Romania													
Russian Federation													
Slovakia	0.5	5.0	0.2	2.3	0.5	4.8	8.7	87.5	0.0	0.3	0.0	0.1	10.0
Slovenia													
Spain	6.7	6.8	13.5	13.7	7.4	7.6	65.5	66.6	3.8	3.9	1.4	1.4	98.4
Sweden	2.0	9.0	4.5	20.3	2.2	10.0	13.5	60.6					22.3
Switzerland	2.1	17.7	0.2	1.9	0.3	2.7	8.3	71.5	0.3	2.8	0.4	3.3	11.7
Ukraine													
United Kingdom	13.6	9.6	12.9	9.1	20.0	14.1	91.2	64.4	3.8	2.7			141.5
United States of America	188.0	13.7	48.9	3.6	90.0	6.6	1,017.9	74.2	27.3	2.0			1,372.1
European Community	76.5	7.016	100.8	9.241	149.9	13.75	707.0	64.82	22.2	2.035	34.1	3.122343	1090.7

^a Includes *fugitive fuel* emissions and *fuel combustion* emissions other than *transport*.

^b Includes *solvent use* and *land- use change and forestry*.

Table A.13. Emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride^a, (CO₂ equivalent) 1990, 1995 and 2000, and percentage change by Party (Gigagrams of CO₂ equivalent using IPCC 1995 GWP values with a time horizon of 100 years)

	HFC			PFC			SF ₆			Total		
	1990	1995	2000	1990	1995	2000	1990	1995	2000	1990	1995	2000
Australia				4,092.8	1,367.7	973.1			2.4	4,092.8	1,367.7	975.5
Austria	3.7	546.1	1,033.2	963.2	15.6	25.2	517.7	1,174.7	677.0	1,484.6	1,736.4	1,735.4
Belarus												
Belgium		332	804					239	96		571	900
Bulgaria												
Canada		479	917	5,975	6,044	6,160	2,870	1,879	2,313	8,845	8,403	9,390
Croatia		8		939						939	8	
Czech Republic		2	674		0.35	9		167	206			890
Denmark		237	730		1	28	43	107	59	43	345	818
Estonia												
Finland	0	30	502	1	1	22	71	14	17	72	45	541
France	2,252	1,302	6,973	3,192	1,331	1,672	2,195	2,314	2,279	7,639	4,947	10,924
Germany	2,340	3,130	7,700	2,694	1,764	1,709	3,896	6,238	3,442	8,930	11,132	12,851
Greece	935	3,369	4,281	258	83	148				1,193	3,452	4,429
Hungary			135			215			232			582
Iceland		25	32	304	57	107	5	5	5	309	87	145
Ireland		21	190		75	305		83	52		179	547
Italy	351	671	1,962	237	272	232	334	470	328	922	1,414	2,521
Japan		20,027	18,340		11,504			16,730	5,734		48,261	35,562
Latvia									0.02			0.02
Liechtenstein												
Lithuania												
Luxembourg												
Monaco												
Netherlands	4,432	5,978	3,917	2,432	1,867	1,526	187	361	327	7,050	8,206	5,771
New Zealand		98	171	603	183	57	3	19	16	605	300	245

Norway	0.02	26	232	3,032	1,562	899	2,186	578	891	5,218	2,166	2,022
Poland		22	890		820	720		2	17		845	1,627
Portugal					157	157		1	1		158	158
Romania												
Russian Federation	9,659	7,553		31,906	26,638					41,565	34,191	
Slovakia		25	78	272	114	12	0.03	10	13	272	148	103
Slovenia												
Spain	2,403	4,645	9,878	828	790	409	56	94	209	3,287	5,529	10,495
Sweden	3	124	369	440	389	266	81	120	77	524	633	713
Switzerland	0.02	92	480	102	14	65	113	90	188	215	195	733
Ukraine												
United Kingdom	11,374	15,205	9,316	2,281	1,094	668	724	1,133	1,540	14,379	17,433	11,525
United States of America	36,023	49,043	87,814	20,465	16,671	14,022	37,138	32,816	19,496	93,625	98,530	121,331
European Community	24,426	35,830	47,285	13,545	7,765	6,846	8,440	12,271	8,955	46,411	55,866	63,086

^a Estimates given in this table refer to actual emissions, except for the Czech Republic as only potential emissions were reported

Table A.14a. Emissions of hydrofluorocarbons, 1990, 1995 and 2000 (Megagrams)^a

	HFC-23 (Megagrams)			HFC-32 (Megagrams)			HFC-125 (Megagrams)			HFC-134a (Megagrams)		
	1990	1995	2000	1990	1995	2000	1990	1995	2000	1990	1995	2000
Australia												
Austria	0.2	0.2	0.6		0.1	1.7		1.4	21.9	1.4	414.3	653.1
Belarus												
Belgium								0.9	33.0		248.3	405.0
Bulgaria												
Canada		0.1	0.1		0.0	0.2		18.1	42.1		284.7	522.7
Croatia											6.0	
Czech Republic			0.2			3.7			47.6		0.0	255.7
Denmark					0.2	9.0		4.7	57.7		154.9	281.2
Estonia												
Finland	0.0	0.1			0.1	1.2		1.6	32.8		14.6	240.4
France	167.9	18.1	22.9			16.0	11.7	82.9	321.7		523.4	2,554.8
Germany	2,340.0	2,200.0	5.0									2,650.0
Greece	79.9	278.0	320.0		22.1	88.5		22.8	90.7		29.1	173.6
Hungary			0.1			0.9			12.7			34.9
Iceland						0.2		3.9	5.2		3.1	4.6
Ireland		0.2	1.0		0.1	2.0		0.6	17.4		7.3	43.9
Italy	30.0	30.1	0.9			77.4		10.7	137.3		202.6	982.8
Japan		1,460.3	1,072.2			23.1			23.1		1,922.9	4,133.7
Latvia												
Liechtenstein												
Lithuania												
Luxembourg												
Monaco												
Netherlands	378.8	492.2	206.9		2.4	0.6		3.8	66.4		152.4	638.0
New Zealand									4.1			103.9

Norway		0.0	0.1	0.0	1.0	2.4	25.9		10.2	61.1
Poland			0.2		1.2		29.2	17.3	17.3	538.3
Portugal										
Romania										
Russian Federation	820.0	640.0						50.0	50.0	
Slovakia		0.0	0.1		0.3	0.0	1.9		11.0	47.7
Slovenia										
Spain	205.4	396.7	573.6				41.8		1.6	2,119.8
Sweden		0.1	0.0	0.4	0.4	1.4	3.1	2.0	87.7	252.8
Switzerland				0.1	4.1	3.2	25.6	0.0	52.9	239.0
Ukraine										
United Kingdom										
United States of America	2,998.2	2,335.3	2,611.9		93.8	478.1	1,559.2	564.1	12,232.2	28,905.9
European Community										

^a Estimates given in this table refer to actual emissions, except for the Czech Republic as only potential emissions were reported

Table A.14b. Emissions of hydrofluorocarbons, 1990, 1995 and 2000 (Megagrams)

	HFC-152a (Megagrams)			HFC-143a (Megagrams)			HFC-227ea (Megagrams)			Other HFCs		
	1990	1995	2000	1990	1995	2000	1990	1995	2000	1990	1995	2000
Australia												
Austria		0.1	452.2		0.4	13.6			0.2			
Belarus												
Belgium		20.0	74.0		1.1	46.0						
Bulgaria												
Canada		4.0	31.4		10.6	29.9		5.8				
Croatia												
Czech Republic			3.5			52.8						
Denmark		43.4	17.2		4.3	51.2						
Estonia												
Finland	0.1	17.0	22.7		0.9	24.5						
France ^a	11.7	5.0	0.9	66.7	38.4	611.1		0.4	6.3	23.2	101.4	
Germany			2,700.0			8.0						
Greece												
Hungary			0.7			13.8						
Iceland		0.9	0.6		2.6	3.0						
Ireland					0.7	16.5		1.7	2.9			
Italy					6.7	62.8			0.04			
Japan			18.0						3.6			
Latvia												
Liechtenstein												
Lithuania												
Luxembourg												
Monaco												
Netherlands			21.9		1.7	83.1						
New Zealand ^b						6.4						0.2

Norway	0.1	1.0	7.7	1.5	20.3	0.2	
Poland			6.5		26.9	0.8	
Portugal							
Romania							
Russian Federation							
Slovakia^c			0.8		1.9	3.5	0.8
Slovenia							
Spain^c					62.6	0.8	18.5
Sweden		1.3	151.5	1.1	2.6		0.4
Switzerland			1.9	3.6	24.5	0.6	
Ukraine							
United Kingdom							
United States of America^c				110.8	902.8		296.1
European Community							

^a Emissions of HFC 43-10mee are given under *Other*.

^b Emissions of HFC-227a are given under *Other*.

^c Emissions of HFC 236fa are given under *Other*.

Table A.15. Emissions of perfluorocarbons and sulphur hexafluoride, 1990, 1995 and 2000 (Megagrams)^a

	CF ₄			C ₂ F ₆			SF ₆		
	1990	1995	2000	1990	1995	2000	1990	1995	2000
Australia	531.9	177.7	126.5	69.1	23.1	16.4			0.1
Austria	132.8	0.8	1.5	10.9	1.1	1.7	21.7	49.2	28.3
Belarus									
Belgium								8.6	4.0
Bulgaria									
Canada	813.9	827.1	844.3	74.4	71.8	72.6	120.1	78.6	96.8
Croatia									
Czech Republic			0.4			0.0		7.0	8.6
Denmark							1.8	4.5	2.5
Estonia									
Finland	0.025	0.025					3.0	0.6	0.7
France	316.9	102.2	144.8	80.4	27.5	56.5	91.8	96.8	95.3
Germany	355.0	224.0	186.0	42.0	32.0	46.0	163.0	261.0	144.0
Greece	34.7	11.2	20.0	3.5	1.1	2.0			
Hungary			28.9			2.9			9.7
Iceland	40.4	7.6	14.3	4.5	0.8	1.6	0.2	0.2	0.2
Ireland		1.9	5.9		6.8	29.0		3.5	2.2
Italy	28.9	29.4	21.4	5.4	8.8	10.1	14.0	19.7	13.7
Japan		9.4	2.4		0.9	0.2		700.2	240.1
Latvia									0.001
Liechtenstein									
Lithuania									
Luxembourg									
Monaco									
Netherlands	301.0	223.0	160.4	48.0	38.0	37.8	7.8	15.1	13.7
New Zealand	80.1	24.3	7.6	8.9	2.7	0.8	0.1	0.8	0.7

Norway	441.0	229.1	131.1	18.0	7.9	5.1	91.5	24.2	37.3
Poland		110.6	93.9		11.1	9.4		0.1	0.7
Portugal		20.1	20.1		2.9	2.9		0.038	0.042
Romania									
Russian Federation	4,300.0	3,590.0		430.0	359.0				
Slovakia	36.6	15.4	1.6	3.7	1.5	0.2	0.0013	0.4	0.5
Slovenia									
Spain	114.3	108.0	50.7	9.3	9.5	4.1	2.3	3.9	8.7
Sweden	58.5	50.9	35.5	6.5	6.3	3.9	3.4	5.0	3.2
Switzerland	13.7	1.6	7.7	1.4	0.2	1.5	4.7	3.8	7.9
Ukraine									
United Kingdom							30.3	47.4	64.4
United States of America	2,544.8	1,842.8	1,382.8	416.0	488.5	520.2	1,553.9	1,373.0	815.7
European Community							353.12	513.42	374.69

^a Estimates given in this table refer to actual emissions, except for the Czech Republic as only potential emissions were reported

Table A.16. Anthropogenic emissions of CO, NO_x, NMVOCs and SO₂, 1990 and 2000 (Gigagrams)

	CO		NO _x		NMVOC		SO ₂	
	1990	2000	1990	2000	1990	2000	1990	2000
Australia	22,558	24,850	2,312	2,878	2,534	2,578	1,624	2,389
Austria	1,353	906	202	184	360	239	91	41
Belarus								
Belgium	1,107	996	308	298	282	249	288	159
Bulgaria ^a	827		486		132			
Canada	1,339	1,499	21	28				
Croatia								
Czech Republic	1,053	664	741	396	311	244	1,876	264
Denmark	663	643	271	206	171	130	181	27
Estonia		130		37		22		124
Finland	549	535	311	236	236	162	237	76
France	10,988	6,771	1,962	1,508	2,887	2,150	1,383	715
Germany	11,213	4,768	2,729	1,600	3,221	1,602	5,321	795
Greece	1,298	1,531	290	321	255	305	493	483
Hungary		639		203		173		492
Iceland		26		25		8		11
Ireland	397	275	116	123	106	85	183	131
Italy		5,207		1,372		1,512		758
Japan	4,114	3,706	2,017	2,032	1,961	1,852	976	820
Latvia		284		37		108		18
Liechtenstein	2		0				0	
Lithuania	644		178		94			
Luxembourg	175	49	23	17	20	13		3
Monaco	3		1		1		0	
Netherlands	1,164	701	574	421	504	281	202	91
New Zealand	755	898	140	193	158	193	61	57

Norway	875	570	226	223	300	363	53	26
Poland		3,463		838		599		1,511
Portugal	1,110	1,033	282	394	381	496	338	339
Romania^a	2,421		554		529			
Russian Federation	8,140		3,040		5,990		9,440	
Slovakia		290		106		89		120
Slovenia	174		64		37			
Spain	3,995	3,012	1,270	1,405	2,532	2,480	2,162	1,493
Sweden	1,113	830	349	247	517	418	111	58
Switzerland		393		95		149		18
Ukraine	7,481		1,243		656			
United Kingdom	7,219	4,178	2,767	1,520	2,509	1,499	3,721	1,166
United States of America	85,994	97,300	21,955	25,116	18,851	18,267	21,481	16,499
European Community	50,205	30,817	13,389	9,497	16,231	11,562	16,363	5,750

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988) and Romania (1989)

Table A.17. Anthropogenic emissions of CO₂, CH₄ and N₂O from international bunkers, 1990 and 2000 (Gigagrams)

	CO ₂ 1990			CO ₂ 2000			CH ₄ 1990			CH ₄ 2000			N ₂ O 1990			N ₂ O 2000		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	4,345	2,056	6,401	7,648	2,549	10,197	0.0	0.1	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.3
Austria	941		941	1,672		1,672	0.0		0.0	0.0		0.0	0.0		0.0			0.0
Belarus																		
Belgium	3,095	13,303	16,398	3,675	16,046	19,720				0.0							0.0	
Bulgaria ^a	892	874	1,766				0.0	0.0	0.1				0.0	0.0	0.0			
Canada	2,729	2,995	5,724	3,026	3,446	6,472	0.1	0.3	0.3	0.1	0.3	0.4	0.3	0.3	0.6	0.3	0.3	0.6
Croatia																		
Czech Republic	617		617	343		343	0.2		0.2	0.1		0.1	0.0		0.0	0.0		0.0
Denmark	1,786	3,095	4,881	2,366	4,281	6,647	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.4
Estonia					329	329												
Finland	974	1,800	2,774	1,027	2,032	3,059	1.2	0.0	1.3	0.0	0.1	0.2	0.4	0.7	1.2	0.0	0.2	0.3
France	8,618	8,137	16,755	14,343	9,619	23,962								0.3	0.3		0.3	0.3
Germany	11,589	7,980	19,569	17,526	6,684	24,210	0.2	0.3	0.4	0.2	0.3	0.5	0.2	0.4	0.6	0.4	0.3	0.7
Greece	2,840	8,028	10,868	3,139	11,359	14,498	0.0	0.8	0.8	0.0	1.1	1.1	0.1	0.2	0.3	0.1	0.3	0.4
Hungary					634	634												
Iceland	220	99	319	408	601	1,009	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ireland	1,116	56	1,173	1,659	477	2,136												
Italy	4,195	4,396	8,591	7,778	3,857	11,635	0.1	0.4	0.5	0.3	0.4	0.6	0.1	0.1	0.2	0.1	0.1	0.2
Japan	13,178	17,611	30,789				0.4	1.6	2.0				0.4	0.5	0.8			
Latvia																		
Liechtenstein																		
Lithuania																		
Luxembourg			111	971		971												
Monaco																		
Netherlands	4,497	35,267	39,765	10,071	43,429	53,500												
New Zealand	1,359	1,031	2,390	1,780	746	2,526	0.0	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.1

Norway	619	1,478	2,098	913	2,712	3,624	0.0	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.1	0.0	0.1	0.1
Poland				358	1,265	1,624				0.0	0.2	0.2				0.0	0.1	0.1
Portugal	883	1,173	2,057	930	1,596	2,526	0.1	1.9	2.0	0.1	2.5	2.6	0.0	0.0	0.0	0.0	0.0	0.1
Romania																		
Russian Federation	2,900	9,500	12,400				0.0	0.6	0.7				0.1	0.1	0.2			
Slovakia																		
Slovenia																		
Spain	3,161	11,780	14,940	8,314	19,496	27,810	0.0	0.6	0.6	0.1	1.0	1.1	0.1	0.3	0.4	0.3	0.5	0.8
Sweden	1,826	2,163	3,989	1,919	4,622	6,542				0.0	0.4	0.4				0.1	0.2	0.3
Switzerland	3,207		3,207	4,743		4,743	0.3		0.3	0.2		0.2	0.1		0.1	0.2		0.2
Ukraine																		
United Kingdom	14,791	6,559	21,349	28,544	5,594	34,137	2.9	0.6	3.5	4.5	0.5	5.0	0.5	0.4	0.9	0.9	0.4	1.2
United States of America	46,591	67,272	113,863	57,274	42,954	100,228	1.3	6.5	7.8	1.6	4.2	5.8	1.5	1.7	3.1	1.8	1.1	2.9
European Community	56,516	99,341	155,857	103,156	129,092	232,247	4.4	4.2	8.6	5.2	6.2	11.4	1.4	2.5	3.9	1.9	2.7	4.6

^a In accordance with decision 9/CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988)

Table A.18. Anthropogenic emissions of CO and NO_x from international bunkers, 1990 and 2000 (Gigagrams)

	CO 1990			CO 2000			NO _x 1990			NO _x 2000		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	7.2	1.9	9.1	12.6	2.1	14.7	23.3	54.7	78.0	40.9	68.6	109.5
Austria	0.8		0.8	1.3		1.3	3.3		3.3	5.8		5.8
Belarus												
Belgium	2.0		2.0	0.1		0.1	1.0		1.0	0.1		0.1
Bulgaria ^a			1.8						22.4			
Canada												
Croatia												
Czech Republic	11.3		11.3	6.3		6.3	3.7		3.7	2.1		2.1
Denmark	1.6	7.2	8.8	1.8	10.0	11.8	7.3	84.6	92.0	9.6	117.2	126.8
Estonia				4.4		4.4				6.6		6.6
Finland	5.5	4.0	9.5	1.4	3.1	4.4	2.8	32.8	35.6	3.3	49.2	52.5
France	7.9	2.1	10.0	8.4	2.5	10.9	21.1	154.8	175.9	35.5	183.1	218.6
Germany	56.6	37.3	93.9	92.4	31.2	123.6	50.6	155.3	205.9	92.4	130.1	222.5
Greece	2.1	19.0	21.1	4.3	27.0	31.3	13.6	185.3	198.8	15.7	262.7	278.3
Hungary				0.1		0.1						
Iceland				1.0	0.5	1.5				1.4	5.3	6.7
Ireland	4.1	0.1	4.3	4.9	1.1	6.0	5.3	1.0	6.3	3.6	8.5	12.2
Italy				6.5	8.8	15.3				41.7	67.6	109.3
Japan	22.4	42.1	64.5				54.1	421.4	475.5			
Latvia												
Liechtenstein												
Lithuania												
Luxembourg			0.3	0.4		0.4			0.1	0.4		0.4
Monaco												
Netherlands												
New Zealand	2.2	2.5	4.7	2.9	1.8	4.6	5.6	24.9	30.4	7.3	17.7	25.0

Norway	1.3	1.4	2.7	0.9	2.5	3.4	2.0	30.3	32.3	3.3	57.8	61.1
Poland												
Portugal	3.1	0.7	3.8	3.0	1.0	4.0	3.7	33.0	36.7	3.9	44.9	48.8
Romania												
Russian Federation												
Slovakia												
Slovenia												
Spain	5.9	7.2	13.1	15.1	12.1	27.2	16.5	249.3	265.8	44.4	429.4	473.8
Sweden	4.0	3.0	7.0	4.5	10.5	15.0	4.0	48.0	52.0	8.6	99.6	108.2
Switzerland				4.2		4.2				9.2		9.2
Ukraine												
United Kingdom	60.1	15.5	75.6	103.4	13.2	116.7	72.8	119.6	192.4	142.9	101.9	244.8
United States of America	76.5	39.4	115.9	94.4	25.2	119.5	183.9	1,802.9	1,986.8	226.9	1,151.9	1,378.8
European Community	157.6	116.2	273.8	247.4	120.4	367.9	215.4	1,257.9	1,473.4	407.7	1,494.3	1,902.1

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988)

Table A.19. Anthropogenic emissions of NMVOCs and SO₂ from international bunkers, 1990 and 2000 (Gigagrams)

	NMVOC 1990			NMVOC 2000			SO ₂ 1990			SO ₂ 2000		
	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total	Aviation	Marine	Total
Australia	3.6	1.7	5.3	6.3	2.1	8.4	0.8	31.8	32.6	1.4	50.4	51.9
Austria	0.3		0.3	0.5		0.5	0.8		0.8	0.5		0.5
Belarus												
Belgium	3.2		3.2	0.0		0.0	0.1		0.1	0.0		0.0
Bulgaria ^a			0.3									
Canada												
Croatia												
Czech Republic	4.4		4.4	2.4		2.4	0.4		0.4	0.2		0.2
Denmark	0.4	2.3	2.6	0.4	3.1	3.5	0.1	54.5	54.6	0.2	65.2	65.4
Estonia				0.9		0.9					2.2	2.2
Finland	0.3	5.2	5.5	0.4	1.3	1.6	0.5	18.5	19.1	0.3	12.9	13.1
France	2.9	70.8	73.7	2.6	83.8	86.4	2.7	150.8	153.5	4.6	156.6	161.2
Germany	9.3	15.2	24.5	14.0	12.8	26.7	3.9	126.3	130.2	1.1	104.9	106.0
Greece	0.1	6.2	6.3	0.4	8.8	9.2	0.9	147.5	148.4	1.0	205.9	206.9
Hungary												
Iceland				0.1	0.2	0.3				0.1	0.5	0.5
Ireland	1.0	0.0	1.0	1.2	0.4	1.6	0.4	0.6	0.9	0.5	2.4	2.9
Italy				2.4	2.8	5.2				2.8	71.2	74.0
Japan	3.4	12.2	15.5									
Latvia												
Liechtenstein												
Lithuania												
Luxembourg			0.1	0.2		0.2				0.0		0.0
Monaco												
Netherlands												
New Zealand	0.3	0.7	1.1	0.4	0.5	1.0	0.1	9.4	9.5	0.1	8.8	8.9

Norway	0.7	1.1	1.8	0.2	2.0	2.3	0.1	9.9	10.0	0.1	11.5	11.6
Poland												
Portugal	1.0	0.1	1.1	1.0	0.1	1.1	0.2	18.7	18.9	0.2	25.5	25.7
Romania												
Russian Federation												
Slovakia												
Slovenia												
Spain	2.8	11.2	14.0	7.2	20.5	27.7	1.0	182.9	183.9	2.6	363.6	366.2
Sweden	1.0	1.0	2.0	0.7	3.5	4.1		17.0	17.0	0.6	13.1	13.7
Switzerland				0.2		0.2				0.2		0.2
Ukraine												
United Kingdom	36.9	4.4	41.3	62.9	3.8	66.7	2.8	92.5	95.3	6.5	69.4	75.9
United States of America	11.5	47.9	59.4	14.2	30.7	44.8						
European Community	61.7	122.2	183.9	93.9	140.7	234.6	14.6	940.4	955.0	21.0	1,090.5	1,111.5

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988)

Table B.1. Aggregate emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆^a (CO₂ equivalent) 1990-2000, excluding CO₂ emissions/removals from land-use change and forestry (Gigagrams of CO₂ equivalent and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	425,175	425,924	427,368	429,808	434,055	444,742	454,697	465,349	484,860	491,079	502,406	18.2
Austria	77,388	81,314	74,893	74,770	76,159	78,606	79,951	81,319	79,458	79,731	79,754	3.1
Belarus												
Belgium	142,741	148,057	146,967	145,348	149,259	153,848	156,138	151,259	154,624	151,630	152,356	6.7
Bulgaria^b	157,090	115,679	103,710	102,084	92,586	98,083	101,894	89,811	81,360	77,697		-50.5
Canada	607,183	599,697	616,143	618,768	641,068	657,772	671,972	681,600	689,403	703,406	726,250	19.6
Croatia	31,944	24,915	23,082	22,783	21,862	22,259						-30.3
Czech Republic	192,019	175,323	161,221	154,710	147,291	148,272	154,907	158,879	148,602	140,421	146,792	-23.6
Denmark	69,360	80,157	73,591	76,332	80,152	77,379	90,937	81,106	75,982	72,916	68,505	-1.2
Estonia	43,494	40,585	29,934	23,490	24,482	22,287	23,454	23,663	21,502	19,659	19,746	-54.6
Finland	77,093	74,809	71,369	71,667	77,751	75,168	80,536	79,377	76,833	76,131	73,958	-4.1
France	559,342	581,852	570,875	548,622	544,840	554,691	570,353	561,299	574,708	556,288	550,033	-1.7
Germany	1,222,765	1,169,013	1,116,027	1,095,819	1,074,128	1,071,177	1,084,343	1,048,155	1,026,475	993,819	991,421	-18.9
Greece	104,895	104,821	106,407	106,886	109,402	110,488	114,298	119,576	124,740	123,739	130,053	24.0
Hungary^b	101,633	87,905	79,078	78,974	77,161	77,916	79,184	76,853	83,687	86,546	84,338	-17.0
Iceland	2,799	2,665	2,645	2,697	2,654	2,728	2,796	2,911	2,973	3,119	2,991	6.9
Ireland	53,700	54,312	54,872	54,644	56,417	57,594	59,195	61,823	64,091	65,868	66,993	24.8
Italy	520,571	520,568	517,721	506,218	499,620	527,178	520,443	525,111	536,715	540,023	546,905	5.1
Japan^c	1,246,724	1,271,810	1,288,030	1,276,909	1,346,672	1,373,244	1,385,056	1,388,378	1,353,667	1,379,478	1,386,306	11.2
Latvia	31,054	24,908	20,478	16,831	15,350	13,435	12,715	11,986	12,149	11,384	10,672	-65.6
Liechtenstein	218									218		0.1
Lithuania^d	51,548								23,851			-53.7
Luxembourg	13,448				12,674	10,223				6,004	5,971	-55.6
Monaco	100	116	123	125	127	124	130	130	125	133		33.3
Netherlands	210,347	221,528	218,515	220,672	222,607	223,608	234,215	223,951	226,545	217,830	217,830	3.1
New Zealand	73,161	73,018	73,963	72,857	73,373	73,609	74,827	75,845	74,272	76,322	76,956	5.2

Norway	51,965	49,538	47,880	49,896	51,821	51,636	54,769	54,998	55,345	56,003	55,263	6.3
Poland^b	564,419	437,450	439,110	429,624	438,973	417,353	437,388	427,243	403,516	401,584	386,187	-31.6
Portugal	64,948	66,781	70,010	68,653	68,957	73,299	71,672	73,800	77,780	85,605	84,700	30.4
Romania^b	264,879	179,762	172,168	167,187	164,026							-38.1
Russian Federation	3,040,332				2,149,221	2,068,045	1,965,346					-35.4
Slovakia	72,937	64,293	59,609	55,433	52,464	54,284	54,017	54,134	52,812	51,462	48,667	-33.3
Slovenia	19,233											
Spain	286,428	293,570	302,773	287,638	304,672	318,135	310,899	331,168	341,930	370,920	385,987	34.8
Sweden	70,573	70,945	69,127	69,183	73,637	72,771	76,421	71,393	72,544	70,508	69,356	-1.7
Switzerland	53,233	55,149	54,797	52,309	51,594	52,506	52,892	52,269	53,587	53,602	52,748	-0.9
Ukraine	919,189	784,111	765,090	678,301	572,045	538,833	499,634	466,471	454,934			-50.5
United Kingdom	742,492	743,041	719,771	699,384	695,493	685,474	706,699	683,752	682,597	646,514	649,106	-12.6
United States of America	6,130,724	6,075,176	6,194,771	6,302,156	6,435,708	6,481,809	6,669,758	6,748,063	6,756,190	6,829,489	7,001,225	14.2
European Community	4,215,668	4,225,330	4,126,647	4,038,658	4,047,478	4,087,764	4,164,930	4,100,168	4,120,048	4,056,333	4,067,767	-3.5

^a Aggregate emissions of CO₂, CH₄, N₂O, and HFCs, PFCs and SF₆. See tables B3, B4, B9, and B13 for gases separately.

^b In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

^c As actual emissions for HFCs, PFCs and SF₆ were only reported by the Party for 1995-2000, for consistency over years the emissions shown here are based on potential emissions of HFCs, PFCs and SF₆ which were provided for the entire period 1990-2000.

^d Party reported only emissions of CO₂ and CH₄, not N₂O, for 1995-1997, so no aggregate emissions for these years are provided here.

Table B.2. Aggregate emissions of CO₂, CH₄, N₂O, HFCs, PFCs and SF₆^a (CO₂ equivalent) 1990-2000, including CO₂ emissions/removals from land-use change and forestry^b (Gigagrams of CO₂ equivalent and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	503,299	477,799	460,086	467,792	474,506	479,905	487,074	499,267	519,646	523,993	535,252	6.3
Austria	68,173	67,810	66,236	65,788	68,298	71,352	74,565	73,686	71,825	72,098	72,121	5.8
Belarus												
Belgium	141,139	146,456	145,147	143,471	147,326	151,969	154,248	149,394	152,787	149,815	150,533	6.7
Bulgaria^c	152,433	107,800	96,074	95,063	85,612	90,562	94,704	83,959	75,127	70,987		-53.4
Canada	545,684	535,225	568,212	579,774	606,497	640,126	648,352	662,544	662,520	692,725	709,761	30.1
Croatia	25,439	18,410	16,576	16,278	15,357	15,754						-38.1
Czech Republic	189,891	170,296	155,180	149,067	143,348	142,987	150,421	154,240	144,844	137,020	142,776	-24.8
Denmark	68,444	79,239	72,670	75,408	79,224	76,448	89,996	80,155	75,018	71,940	67,510	-1.4
Estonia	37,174	33,422	22,118	13,794	16,877	14,505	13,846	14,557	12,980	11,552	11,381	-69.4
Finland	53,295	36,602	39,475	42,551	60,492	60,481	59,503	66,740	67,120	65,310	62,005	16.3
France	503,110	529,645	514,198	486,489	479,412	491,896	504,894	492,448	506,282	486,561	486,787	-3.2
Germany	1,189,046	1,135,294	1,082,308	1,062,100	1,040,409	1,037,747	1,050,913	1,014,725	993,045	960,389	974,595	-18.0
Greece	106,336	105,430	108,585	108,488	110,808	110,122	114,223	119,176	127,277	123,805	133,893	25.9
Hungary^c	98,536	84,667	75,255	74,277	72,341	73,119	75,253	72,649	79,277	82,046	80,328	-18.5
Iceland	2,794	2,651	2,621	2,660	2,608	2,672	2,730	2,831	2,879	3,007	2,791	-0.1
Ireland	53,610	54,198	54,861	54,558	56,384	57,576	59,244	61,737	63,896	65,727	66,961	24.9
Italy	497,038	497,392	495,904	485,526	480,174	507,580	500,220	507,347	519,289	522,306	530,461	6.7
Japan^d	1,162,821	1,187,945	1,202,462	1,186,824	1,253,127	1,276,539						9.8
Latvia	20,229	14,082	9,603	5,963	4,504	2,951	2,219	1,478	1,640	6,154	6,429	-68.2
Liechtenstein												
Lithuania^e	42,700								16,139			-62.2
Luxembourg	13,153				12,379	9,928				5,709	5,676	-56.8
Monaco^f												
Netherlands	208,925	220,001	217,027	218,866	220,677	222,376	232,818	222,771	225,165	216,594	215,502	3.1
New Zealand	51,316	52,406	55,458	55,284	57,445	57,206	58,130	57,567	53,288	53,558	52,949	3.2

Norway	42,215	37,838	34,630	36,386	36,141	37,996	37,158	38,499	37,803	38,235	36,563	-13.4
Poland^c	529,673	394,693	398,295	389,445	397,020	374,473	394,772	386,722	373,695	358,120	343,093	-35.2
Portugal	61,197	62,946	66,091	64,651	64,871	69,130	67,493	69,612	73,582	81,398	80,484	31.5
Romania^c	261,954	173,172	165,578	160,597	157,436							-39.9
Russian Federation	3,040,332				2,149,221	2,068,045	1,965,346					-35.4
Slovakia	70,510	60,818	55,481	51,167	49,176	51,601	51,589	52,723	50,876	49,811	46,722	-33.7
Slovenia	16,940											
Spain	257,176	264,318	273,521	258,386	275,420	288,882	281,647	301,915	312,677	341,668	356,735	38.7
Sweden	50,274	41,617	45,774	39,851	47,329	51,451	54,154	44,105	48,214	43,200	42,051	-16.4
Switzerland	50,045	51,892	51,442	47,984	47,254	48,196	48,432	47,633	49,017	49,376	50,927	1.8
Ukraine	867,082	731,147	712,432	625,383	519,324	485,893	433,483	397,664	386,225			-55.5
United Kingdom	751,283	751,910	728,099	705,994	700,877	690,162	711,668	688,525	687,592	651,342	652,460	-13.2
United States of America	5,032,977	4,989,573	5,103,637	5,188,404	5,317,885	5,371,792	5,561,692	5,860,532	5,870,307	5,933,097	6,098,730	21.2
European Community	4,016,664	4,001,889	3,917,720	3,818,989	3,840,143	3,889,614	3,958,011	3,893,060	3,922,075	3,850,199	3,887,086	-3.2

^a Aggregate emissions of CO₂, CH₄, N₂O and HFCs, PFCs and SF₆. See tables B3, B4, B8, B9, and B13 for gases separately.

^b Estimates for land-use change and forestry are as reported in accordance with the present IPCC Guidelines (see table B. 8)

^c In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

^d As the Party did not provide estimates from the land-use change and forestry sector for 1996-2000, no estimates for these years are provided here

^e Party reported only emissions of CO₂ and CH₄, not N₂O, for 1995-1997, so no aggregate emissions are provided here.

^f As the Party did not provide estimates from the land-use change and forestry sector, no estimates are given in this table

Table B.3. Aggregate emissions of hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride^a, (CO₂ equivalent) 1990-2000 (Gigagrams)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia^b	4,093	4,096	4,089	3,035	1,986	1,368	1,301	1,128	1,470	1,009	976	-76.2
Austria	1,485	1,663	1,310	883	1,103	1,736	1,886	1,884	1,791	1,626	1,735	16.9
Belarus												
Belgium^c						571	624	733	735	908	900	
Bulgaria^d									646	146		
Canada	8,845	9,579	8,773	9,409	8,949	8,403	8,149	8,236	8,496	8,793	9,390	6.2
Croatia^d	939	648				8						-99.2
Czech Republic						169	322	626	523	525	890	
Denmark	43	62	93	230	263	345	440	482	577	701	818	1800.7
Estonia												
Finland	72	49	34	27	34	45	93	185	259	378	541	651.7
France	7,639	6,198	5,447	4,710	4,524	4,947	5,987	6,966	7,705	9,018	10,924	43.0
Germany	8,930	9,042	9,484	11,163	11,440	11,132	10,232	10,692	11,460	10,496	12,851	43.9
Greece^d	1,193	1,364	1,161	1,791	2,303	3,452	3,988	4,359	4,257	4,288	4,429	271.4
Hungary									953	829	582	
Iceland	309	255	116	60	50	87	56	103	151	199	145	-53.1
Ireland						179	262	342	257	411	547	
Italy	922	945	925	932	1,082	1,414	1,153	1,497	1,794	1,864	2,521	173.4
Japan	61,840	67,938	73,920	75,580	86,524	100,341	100,440	104,252	99,338	90,166	90,291	46.0
Latvia^c										0	0	
Liechtenstein												
Lithuania												
Luxembourg												
Monaco												
Netherlands	7,050	7,358	6,745	7,294	8,377	8,206	9,616	10,753	11,309	6,614	5,771	-18.1
New Zealand	605	653	647	243	296	306	402	359	362	284	245	-59.6

Norway	5,218	4,590	2,704	2,702	2,574	2,166	2,036	2,013	2,094	2,142	2,022	-61.2
Poland						845	843	1,024	1,040	1,349	1,627	
Portugal^f						158	158	158	158	158	158	
Romania												
Russian Federation^d	41,565	39,339	39,339	39,339	37,855	34,191	39,082					-6.0
Slovakia	272	267	249	156	144	148	91	114	80	93	103	-62.1
Slovenia												
Spain	3,287	3,027	3,608	3,120	4,319	5,529	6,194	7,414	7,533	9,393	10,495	219.3
Sweden	524	517	506	522	559	633	625	735	692	766	713	36.0
Switzerland	215	199	187	147	133	195	247	384	466	550	733	241.5
Ukraine												
United Kingdom	14,379	14,425	14,138	14,604	15,855	17,433	18,466	20,371	22,319	10,789	11,525	-19.9
United States of America	93,625	88,130	89,450	93,971	92,757	98,530	111,881	116,908	127,654	119,973	121,331	29.6
European Community	46,411	45,538	44,337	46,165	50,893	55,866	59,801	66,632	70,709	57,048	63,086	35.9

^a Estimates given in this table refer to actual emissions, except for the Czech Republic, which reported only potential emissions, and Japan, for which potential emissions have been given as the Party did not report actual emissions for the entire period 1990-2000.

^b Estimates include emissions of PFCs only.

^c Estimates include emissions of HFCs and SF₆ only.

^d Estimates include emissions of HFCs and PFCs only.

^e Estimates include emissions of SF₆ only.

^f Estimates include emissions of PFCs and SF₆ only.

Table B.4. Total anthropogenic CO₂ emissions, excluding land-use change and forestry, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	277,867	279,599	282,038	285,480	291,431	301,101	310,586	318,222	334,904	339,385	347,006	24.9
Austria	62,297	66,174	60,349	60,717	61,995	64,015	65,386	67,012	65,464	66,025	66,102	6.1
Belarus												
Belgium	117,966	123,571	122,714	120,887	124,072	127,647	130,367	125,579	128,607	125,639	127,040	7.7
Bulgaria^a	103,856	66,043	59,183	61,859	59,178	62,332	66,825	58,742	52,277	48,440		-53.4
Canada	471,563	461,886	475,414	473,976	488,138	500,626	513,343	524,505	534,224	550,073	571,427	21.2
Croatia	23,305	16,812	15,764	16,399	15,674	16,251						-30.3
Czech Republic	163,990	153,142	140,220	134,851	127,745	128,817	132,780	137,357	128,268	121,093	127,902	-22.0
Denmark	52,635	63,460	57,523	59,884	63,855	61,001	74,514	65,161	60,006	57,245	52,852	0.4
Estonia	38,107	35,915	26,142	20,553	21,378	19,315	20,264	20,225	18,318	16,771	16,849	-55.8
Finland	62,466	61,071	58,670	59,172	65,468	62,684	68,130	66,842	64,601	64,073	62,305	-0.3
France	394,067	417,406	408,233	388,491	384,050	390,492	404,177	398,310	419,453	407,004	401,923	2.0
Germany	1,014,500	975,951	928,307	918,268	904,111	903,665	923,085	892,649	885,963	859,246	857,908	-15.4
Greece	84,336	84,230	85,774	85,847	87,479	87,644	90,163	94,668	99,419	98,626	103,727	23.0
Hungary^a	83,676	67,391	60,557	60,826	59,196	59,758	60,475	58,893	57,601	60,117	59,445	-29.0
Iceland	2,065	1,992	2,126	2,228	2,193	2,228	2,313	2,388	2,411	2,494	2,444	18.4
Ireland	31,599	32,334	32,915	32,458	33,893	34,529	35,729	38,102	40,062	41,932	43,925	39.0
Italy	439,478	437,677	437,293	425,929	419,673	445,009	439,066	442,116	454,352	457,202	463,381	5.4
Japan	1,119,319	1,138,544	1,148,939	1,136,427	1,194,757	1,207,994	1,219,442	1,219,422	1,191,671	1,232,770	1,237,107	10.5
Latvia	23,527	18,491	14,924	12,861	11,911	10,145	9,550	8,619	8,287	7,545	6,847	-70.9
Liechtenstein	195									196		0.8
Lithuania	39,535					15,200	16,200	16,200	16,694			-57.8
Luxembourg	12,750				11,998	9,545				5,432	5,399	-57.7
Monaco	98	113	120	121	123	120	126	125	121	129		32.3
Netherlands	159,630	167,489	165,702	167,934	168,764	172,659	179,706	168,973	175,057	172,061	173,527	8.7
New Zealand	25,267	25,882	27,763	27,136	27,199	27,206	28,223	30,210	28,684	30,331	30,852	22.1

Norway	35,163	33,499	34,289	35,822	37,659	37,756	40,940	41,193	41,313	41,743	41,273	17.4
Poland^a	476,625	366,959	371,591	363,133	371,588	348,172	372,530	361,626	337,448	329,697	314,812	-33.9
Portugal	44,109	45,951	49,569	48,620	48,713	52,688	50,986	53,102	56,894	64,062	63,150	43.2
Romania^a	194,826	135,660	130,160	127,086	125,597							-35.5
Russian Federation	2,372,300	2,193,203	2,006,502	1,855,302	1,660,000	1,590,420	1,495,920					-36.9
Slovakia	59,746	52,658	49,179	46,232	43,365	44,898	45,156	45,556	44,811	43,600	41,472	-30.6
Slovenia	13,935											
Spain	227,233	234,518	243,023	229,942	242,657	254,411	242,215	261,369	270,130	295,233	306,632	34.9
Sweden	56,065	56,735	54,958	54,879	59,233	58,574	62,062	57,056	58,142	56,458	55,855	-0.4
Switzerland	44,420	46,297	45,988	43,570	42,946	43,825	44,227	43,561	44,833	44,843	43,853	-1.3
Ukraine	703,792	586,478	577,916	504,222	406,838	380,928	346,768	322,907	314,445			-55.3
United Kingdom	583,705	587,299	572,975	558,945	555,933	547,374	566,961	542,718	545,116	536,490	542,743	-7.0
United States of America	4,998,515	4,943,166	5,045,918	5,157,298	5,260,956	5,305,895	5,483,670	5,567,981	5,575,083	5,665,472	5,840,039	16.8
European Community	3,341,803	3,366,897	3,290,290	3,223,445	3,232,829	3,270,286	3,340,775	3,280,294	3,330,477	3,308,494	3,324,800	-0.5

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.5. CO₂ emissions from fuel combustion, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	265,219	267,476	270,002	273,139	278,525	288,405	298,206	306,013	321,768	325,723	332,716	25.4
Austria	48,698	53,196	48,441	48,673	49,278	51,003	52,949	53,343	52,731	53,242	53,319	9.5
Belarus												
Belgium	109,210	113,143	112,239	110,344	111,951	114,470	117,520	112,895	116,521	113,122	114,126	4.5
Bulgaria^a	95,495	61,170	55,064	57,678	54,239	56,609	61,215	53,560	48,515	44,513		-53.4
Canada	421,613	411,468	425,723	422,945	436,117	447,878	459,857	471,074	480,525	495,048	516,512	22.5
Croatia	20,543	14,745	13,709	14,470	13,630	14,385						-30.0
Czech Republic	160,080	148,807	135,629	130,661	123,631	124,647	129,516	133,925	124,486	117,501	124,420	-22.3
Denmark	51,266	61,665	55,591	58,002	61,965	59,230	72,609	62,942	58,033	54,827	50,694	-1.1
Estonia	37,494	35,300	25,828	20,360	21,163	19,094	20,057	19,999	17,950	16,424	16,495	-56.0
Finland	53,893	53,070	51,259	52,035	58,331	55,882	61,220	59,815	57,404	56,781	54,932	1.9
France	363,949	388,910	381,443	362,426	356,854	363,415	378,325	372,271	392,979	381,525	376,294	3.4
Germany	986,832	951,137	902,918	893,006	877,157	877,353	898,582	867,511	860,315	833,225	831,759	-15.7
Greece	76,474	76,450	78,085	78,191	80,052	79,778	82,059	86,518	91,288	90,593	95,682	25.1
Hungary^a	80,089	65,255	58,636	58,754	57,046	57,567	58,174	56,552	54,621	56,490	55,734	-30.4
Iceland	1,631	1,592	1,722	1,782	1,753	1,777	1,865	1,884	1,877	1,930	1,906	16.9
Ireland	29,577	30,287	30,857	30,486	31,655	32,390	33,626	35,736	37,707	39,603	41,239	39.4
Italy	407,074	405,839	405,103	398,107	392,815	417,500	412,246	415,189	426,488	428,937	433,984	6.6
Japan	1,047,285	1,064,284	1,072,600	1,060,484	1,114,986	1,127,331	1,138,168	1,138,337	1,115,399	1,156,949	1,159,683	10.7
Latvia	22,964	17,907	14,638	12,772	11,757	10,018	9,364	8,465	8,051	7,385	6,746	-70.6
Liechtenstein	195									196		0.8
Lithuania	37,332					14,800	15,800	15,800	13,982			-62.5
Luxembourg	12,133				11,520	9,109				4,740	4,707	-61.2
Monaco	98	113	120	121	123	120	126	125	121	129		32.3
Netherlands	157,143	165,429	163,962	166,374	167,134	170,300	177,003	166,084	171,627	168,724	170,142	8.3
New Zealand	22,265	22,670	24,449	23,735	23,847	23,842	24,809	26,824	25,265	26,795	27,395	23.0

Norway	26,539	25,879	26,529	27,521	28,889	28,634	31,344	31,729	31,827	32,006	31,000	16.8
Poland^a	462,998	357,661	360,927	353,814	362,083	337,942	363,498	350,876	326,857	318,963	302,282	-34.7
Portugal	39,533	41,296	45,166	44,093	44,159	47,949	45,916	47,623	51,531	58,436	57,106	44.5
Romania^a	185,575	130,465	125,498	122,644	121,327							-34.6
Russian Federation	2,298,900	2,123,000	1,948,000	1,805,000	1,601,100	1,550,000	1,463,000					-36.4
Slovakia	55,724	49,487	45,731	42,907	39,802	41,062	41,628	41,803	40,089	38,886	37,502	-32.7
Slovenia	13,294											
Spain	204,854	212,672	222,593	210,410	221,353	232,986	220,731	238,518	245,762	270,472	281,298	37.3
Sweden	51,439	52,207	50,434	50,281	54,360	53,390	56,896	52,114	53,311	51,722	50,851	-1.1
Switzerland	39,669	41,866	41,844	39,615	38,807	39,783	40,569	39,906	41,151	41,114	40,014	0.9
Ukraine	672,075	557,747	549,439	484,956	390,118	365,333	331,976	307,091	298,489			-55.6
United Kingdom	556,607	564,988	551,445	537,828	531,608	525,091	543,678	521,207	524,224	514,839	521,612	-6.3
United States of America	4,794,093	4,748,986	4,852,515	4,968,306	5,065,241	5,103,851	5,286,397	5,361,120	5,376,628	5,470,653	5,645,957	17.8
European Community	3,146,887	3,181,942	3,110,444	3,050,317	3,051,119	3,088,442	3,161,380	3,097,815	3,146,705	3,122,673	3,136,284	-0.3

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.6. CO₂ emissions from transport, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	59,218	58,575	60,024	60,757	62,300	64,790	66,829	68,395	68,425	69,501	71,693	21.1
Austria	11,944	13,396	13,377	13,700	14,602	13,791	13,785	14,185	15,155	15,996	16,937	41.8
Belarus												
Belgium	19,610	20,340	21,719	21,608	21,535	21,727	22,195	22,903	23,276	23,832	23,999	22.4
Bulgaria^a	12,639	6,525	6,435	7,444	6,547	6,845	6,306	5,315	6,475	6,212		-45.8
Canada	145,831	140,612	144,676	147,836	155,251	159,470	163,962	170,373	174,291	179,052	180,591	23.8
Croatia	4,046	2,917	2,781	2,949	3,124	3,337						-17.5
Czech Republic	7,275	6,869	8,143	8,314	8,260	8,912	9,896	11,392	10,779	12,016	11,110	52.7
Denmark	10,381	10,974	11,006	11,183	11,619	11,764	11,960	12,080	12,102	12,184	12,028	15.9
Estonia	2,693	3,078	1,498	1,713	1,522	1,103	1,047	1,212	1,352	1,203	1,030	-61.7
Finland	12,475	11,610	11,583	10,963	11,366	11,125	10,994	11,531	12,299	12,734	12,379	-0.8
France	119,159	121,677	126,243	126,201	127,407	129,345	130,800	133,021	135,191	138,279	137,783	15.6
Germany	162,281	165,953	171,661	176,532	172,899	176,549	176,632	177,174	180,451	186,108	182,910	12.7
Greece	18,039	19,051	19,251	19,403	19,446	19,435	19,925	20,523	22,149	22,908	21,678	20.2
Hungary^a	7,741	7,383	7,189	7,141	7,212	7,001	6,612	7,741	8,381	9,568	9,325	20.5
Iceland	721	727	729	738	743	749	735	776	781	819	830	15.1
Ireland	4,961	5,206	5,625	5,605	5,824	6,306	7,063	7,684	8,768	9,734	10,115	103.9
Italy	101,490	103,984	108,298	110,022	109,905	111,626	112,696	114,424	118,212	119,223	121,024	19.2
Japan	205,592	215,113	220,363	222,439	233,194	240,243	246,896	251,571	251,149	255,205	249,634	21.4
Latvia	6,011	3,267	2,931	2,667	2,229	1,749	1,612	2,178	2,126	2,087	2,120	-64.7
Liechtenstein	52									51		-1.3
Lithuania	5,791					3,500	3,800	4,100	3,754			-35.2
Luxembourg	2,625				3,685	3,426				1,337	1,451	-44.7
Monaco	40	46	52	48	50	48	48	48	46	49		21.9
Netherlands	29,085	29,119	30,362	30,944	31,184	32,130	32,610	33,047	33,984	34,682	35,120	20.7
New Zealand	8,664	8,662	9,047	9,458	10,160	10,869	10,989	11,242	11,439	11,732	12,330	42.3

Norway	11,086	10,988	11,194	11,846	11,632	12,067	12,706	12,944	13,342	13,937	13,138	18.5
Poland^a	28,238	27,815	30,475	27,675	29,533	25,285	28,098	26,662	28,126	31,382	28,207	-0.1
Portugal	11,221	11,948	12,931	13,512	13,900	14,459	15,263	16,118	17,273	18,520	19,633	75.0
Romania^a	7,893	7,521	6,834	7,498	7,744							-1.9
Russian Federation												
Slovakia	5,070	4,229	3,947	3,892	4,118	4,378	4,434	4,591	4,950	4,821	4,319	-14.8
Slovenia	3,179											
Spain	57,656	60,068	63,693	60,106	64,476	65,412	70,181	70,803	77,831	82,314	85,118	47.6
Sweden	18,736	18,807	19,032	18,237	18,561	18,993	18,834	18,966	19,481	19,886	19,568	4.4
Switzerland	14,140	14,657	14,958	13,913	14,107	13,809	13,870	14,446	14,672	15,297	15,563	10.1
Ukraine												
United Kingdom	116,581	116,058	117,503	118,690	119,035	117,928	122,554	123,624	122,763	123,488	123,046	5.5
United States of America	1,471,806	1,437,749	1,472,984	1,502,583	1,551,377	1,579,355	1,618,680	1,628,819	1,654,989	1,728,238	1,789,522	21.6
European Community	694,767	709,478	733,572	738,008	745,853	752,232	767,183	777,733	802,565	823,166	822,954	18.5

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.7. CO₂ emissions from industrial processes, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	6,685	6,378	6,195	6,493	7,334	6,965	7,115	7,143	7,830	7,910	7,787	16.5
Austria	12,919	12,371	11,297	11,458	12,093	12,357	11,847	12,999	12,063	12,104	12,187	-5.7
Belarus												
Belgium	7,673	9,336	9,371	9,445	10,994	11,983	11,226	11,165	10,816	10,812	11,209	46.1
Bulgaria ^a	8,361	4,873	4,118	4,181	4,939	5,723	5,610	5,182	3,762	3,927		-53.0
Canada	32,608	33,394	33,004	34,773	35,671	36,338	37,943	38,282	38,922	40,173	40,067	22.9
Croatia	2,345	1,612	1,578	1,253	1,439	1,169						-50.1
Czech Republic	3,380	4,335	4,591	4,190	4,114	4,170	2,479	2,498	2,661	2,362	2,251	-33.4
Denmark	1,005	1,178	1,300	1,311	1,318	1,311	1,388	1,539	1,436	1,402	1,453	44.5
Estonia	614	615	313	193	215	221	207	226	368	347	354	-42.3
Finland	1,175	1,037	937	793	836	836	863	878	921	1,002	1,072	-8.8
France	21,821	19,962	18,407	17,589	18,639	19,098	17,815	17,933	18,361	17,513	17,478	-19.9
Germany	27,668	24,814	25,389	25,262	26,954	26,312	24,502	25,138	25,648	26,021	26,149	-5.5
Greece	7,686	7,599	7,511	7,482	7,260	7,709	7,947	7,991	7,973	7,867	7,877	2.5
Hungary ^a	3,587	1,382	1,168	1,318	1,397	1,438	1,547	1,587	2,152	2,709	2,826	-21.2
Iceland	390	357	361	408	409	425	424	483	510	541	490	25.6
Ireland	1,931	1,954	1,965	1,878	2,141	2,041	2,003	2,264	2,250	2,222	2,576	33.4
Italy	28,813	28,507	28,888	24,393	23,310	23,926	23,370	23,451	24,270	24,742	25,802	-10.5
Japan	56,638	58,210	58,829	58,156	59,171	59,111	59,017	57,577	52,269	51,884	53,178	-6.1
Latvia	563	584	286	89	154	127	185	154	236	161	101	-82.1
Liechtenstein												
Lithuania	2,203					400	400	400	2,525			14.6
Luxembourg	585				447	406				671	682	16.5
Monaco												
Netherlands	1,690	1,500	1,270	1,210	1,440	1,442	1,700	1,727	1,319	1,316	1,360	-19.5
New Zealand	2,386	2,511	2,647	2,770	2,672	2,737	2,742	2,627	2,755	2,867	2,822	18.3

Norway	6,222	5,724	5,794	6,189	6,542	6,789	7,050	6,949	7,066	6,854	7,251	16.5
Poland^a	13,574	9,248	10,603	9,249	9,422	10,144	8,938	10,664	10,486	10,609	11,907	-12.3
Portugal	4,133	4,206	3,937	4,067	4,032	4,226	4,565	4,961	4,825	4,948	5,070	22.7
Romania^a	9,244	5,188	4,655	4,435	4,263							-53.9
Russian Federation	46,300	43,603	35,702	29,802	24,000	23,080	18,920					-59.1
Slovakia	4,022	3,171	3,447	3,324	3,563	3,836	3,527	3,753	4,722	4,714	3,970	-1.3
Slovenia	641											
Spain	16,541	15,998	14,543	13,847	16,011	17,038	16,705	17,666	18,889	19,583	19,903	20.3
Sweden	4,241	4,153	4,198	4,235	4,383	4,733	4,788	4,602	4,423	4,325	4,600	8.5
Switzerland	3,363	3,034	2,736	2,548	2,731	2,622	2,220	2,207	2,212	2,245	2,373	-29.4
Ukraine	31,717	28,731	28,477	19,266	16,720	15,595	14,792	15,816	15,956			-49.7
United Kingdom	14,148	11,772	11,156	11,286	12,461	12,504	13,314	12,585	12,352	13,157	13,111	-7.3
United States of America	168,165	158,054	157,997	153,151	159,995	164,057	160,358	171,156	164,238	161,356	161,940	-3.7
European Community	152,883	145,825	141,609	135,694	142,319	145,788	142,269	145,533	146,055	147,684	150,528	-1.5

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989).

Table B.8. Anthropogenic CO₂ emissions and removals from land-use change and forestry,^a 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	78,124	51,876	32,718	37,984	40,452	35,164	32,377	33,918	34,786	32,914	32,846	-58.0
Austria	-9,215	-13,504	-8,656	-8,982	-7,862	-7,254	-5,385	-7,633	-7,633	-7,633	-7,633	-17.2
Belarus												
Belgium	-1,600	-1,600	-1,818	-1,876	-1,933	-1,911	-1,889	-1,867	-1,845	-1,823	-1,823	13.9
Bulgaria^b	-4,657	-7,880	-7,636	-7,022	-6,974	-7,520	-7,190	-5,852	-6,233	-6,608		41.9
Canada	-61,498	-64,472	-47,931	-38,994	-34,571	-17,646	-23,620	-19,056	-26,883	-10,681	-16,489	-73.2
Croatia	-6,505	-6,505	-6,505	-6,505	-6,505	-6,505						0.0
Czech Republic	-2,128	-5,027	-6,041	-5,643	-3,943	-5,454	-4,486	-4,639	-3,757	-3,401	-4,016	88.7
Denmark	-916	-918	-921	-924	-928	-931	-941	-951	-964	-976	-995	8.6
Estonia	-6,320	-7,163	-7,817	-9,696	-7,605	-7,782	-9,607	-9,107	-8,522	-8,107	-8,365	32.4
Finland	-23,798	-38,207	-31,894	-29,116	-17,259	-14,687	-21,032	-12,637	-9,713	-10,821	-11,953	-49.8
France	-56,232	-52,207	-56,677	-62,133	-65,428	-62,795	-65,459	-68,851	-68,426	-69,727	-63,247	12.5
Germany	-33,719	-33,719	-33,719	-33,719	-33,719	-33,430	-33,430	-33,430	-33,430	-33,430	-16,826	-50.1
Greece	1,441	610	2,177	1,602	1,406	-366	-75	-400	2,538	66	3,840	166.5
Hungary^b	-3,097	-3,239	-3,823	-4,697	-4,820	-4,797	-3,931	-4,205	-4,411	-4,500	-4,011	29.5
Iceland	-5	-14	-25	-37	-47	-56	-66	-80	-94	-112	-131	2,318.7
Ireland	-89	-114	-9	-87	-33	-13	47	-85	-195	-141	-33	-63.4
Italy	-23,532	-23,176	-21,817	-20,692	-19,446	-19,598	-20,222	-17,764	-17,426	-17,717	-16,444	-30.1
Japan	-83,903	-83,865	-85,568	-90,084	-93,545	-96,705						15.3
Latvia	-10,826	-10,826	-10,875	-10,868	-10,846	-10,484	-10,496	-10,508	-10,508	-5,229	-4,243	-60.8
Liechtenstein												
Lithuania	-8,848					2,800	2,800	2,800	-7,712			-12.8
Luxembourg	-295				-295	-295				-295	-295	0.0
Monaco												
Netherlands	-1,422	-1,528	-1,487	-1,806	-1,929	-1,232	-1,398	-1,180	-1,380	-1,236	-1,413	-0.6
New Zealand	-21,845	-20,612	-18,504	-17,573	-15,927	-16,404	-16,697	-18,279	-20,984	-22,764	-23,515	7.6

Norway	-9,765	-11,700	-13,250	-13,510	-15,680	-13,640	-17,611	-16,499	-17,588	-17,767	-18,743	91.9
Poland^b	-34,746	-42,757	-40,815	-40,179	-41,953	-42,880	-42,616	-40,521	-29,821	-43,464	-43,094	24.0
Portugal	-3,751	-3,835	-3,918	-4,002	-4,086	-4,169	-4,179	-4,188	-4,198	-4,207	-4,216	12.4
Romania^b	-2,925	-6,590	-6,590	-6,590	-6,590							125.3
Russian Federation	-392,000				-568,000	-840,000	-840,000					114.3
Slovakia	-2,427	-3,475	-4,128	-4,266	-3,287	-2,683	-2,427	-1,411	-1,936	-1,651	-2,443	0.7
Slovenia	-2,293											
Spain	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	-29,252	0.0
Sweden	-20,292	-29,328	-23,353	-29,332	-26,305	-21,293	-22,269	-27,288	-24,331	-27,305	-27,306	34.6
Switzerland	-3,188	-3,257	-3,355	-4,325	-4,340	-4,310	-4,460	-4,636	-4,570	-4,226	-1,821	-42.9
Ukraine	-52,107	-52,964	-52,658	-52,917	-52,721	-52,940	-66,151	-68,806	-68,708			31.9
United Kingdom	8,791	8,869	8,327	6,610	5,384	4,687	4,969	4,773	4,995	4,828	3,354	-61.8
United States of America	-1,097,747	-1,085,604	-1,091,134	-1,113,753	-1,117,824	-1,110,016	-1,108,066	-887,531	-885,883	-896,392	-902,495	-17.8
European Community	-199,004	-223,441	-208,927	-219,669	-207,335	-198,149	-206,919	-207,107	-197,973	-206,134	-180,681	-9.2

^a In this table negative values in gigagrams indicate net removal of CO₂ from the land-use change and forestry sector. In the percentage change column negative values indicate a decrease in removals in relation to the year 1990 and positive values indicate an increase in removals, except for Australia and the United Kingdom where the negative values indicate less emissions.

^b In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.9. Total anthropogenic CH₄ emissions, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	5,660	5,603	5,549	5,509	5,443	5,502	5,514	5,592	5,647	5,676	5,764	1.8
Austria	538	528	515	509	501	490	482	470	459	454	448	-16.8
Belarus												
Belgium	550	552	555	553	559	552	548	543	543	537	524	-4.9
Bulgaria^a	1,334	1,353	1,247	1,121	818	888	828	704	654	483		-63.8
Canada	3,498	3,612	3,748	3,853	4,016	4,173	4,225	4,225	4,274	4,298	4,357	24.6
Croatia	182	172	163	157	148	148	148	144	131	120	118	-18.6
Czech Republic	798	711	668	633	613	600	600	575	544	509	510	-36.1
Denmark	278	281	282	287	289	292	297	292	287	269	274	-1.6
Estonia	208	175	142	115	125	122	133	144	131	120	118	-43.1
Finland	292	275	256	238	222	221	213	204	193	187	187	-36.0
France	3,169	3,218	3,239	3,276	3,295	3,339	3,309	3,062	3,027	2,946	2,871	-9.4
Germany	5,273	4,743	4,400	4,017	3,772	3,616	3,285	3,208	3,107	3,041	2,885	-45.3
Greece	416	415	429	434	446	452	467	472	497	496	518	24.5
Hungary^a	664	914	808	792	776	792	815	790	680	683	553	-16.8
Iceland	14	14	14	14	14	14	14	14	14	14	13	-5.8
Ireland	612	619	621	624	627	634	646	655	649	634	610	-0.4
Italy	1,876	1,894	1,810	1,791	1,815	1,845	1,837	1,840	1,816	1,797	1,801	-4.0
Japan	1,273	1,282	1,261	1,258	1,236	1,203	1,173	1,129	1,094	1,075	1,049	-17.6
Latvia	196	191	159	114	99	101	95	104	125	124	121	-38.3
Liechtenstein	1									1		-13.1
Lithuania	378					299	285	302	177			-53.2
Luxembourg	24				22	22				23	23	-4.7
Monaco	0	0	0	0	0	0	0	0	0	0		17.8
Netherlands	1,293	1,309	1,257	1,226	1,203	1,170	1,173	1,101	1,065	1,038	983	-24.0
New Zealand	1,685	1,653	1,613	1,604	1,613	1,619	1,624	1,578	1,577	1,583	1,581	-6.2

Norway	307	309	314	320	326	328	332	334	329	326	324	5.6
Poland^a	3,141	2,589	2,474	2,432	2,467	2,457	2,252	2,279	2,335	2,250	2,183	-30.5
Portugal	614	615	608	594	606	604	605	609	608	625	625	1.8
Romania^a	2,357	1,734	1,603	1,523	1,461							-38.0
Russian Federation	26,500				19,610	19,064	18,544					-30.0
Slovakia	323	295	269	251	244	249	254	241	224	221	215	-33.5
Slovenia	176											
Spain	1,412	1,430	1,470	1,490	1,528	1,563	1,655	1,688	1,741	1,776	1,827	29.4
Sweden	324	321	328	325	320	316	316	311	304	294	280	-13.8
Switzerland	242	243	241	238	234	233	230	227	222	219	216	-10.7
Ukraine	9,402	8,654	8,348	7,932	7,570	7,295	7,059	6,606	6,457			-31.3
United Kingdom	3,645	3,589	3,503	3,354	3,044	3,028	2,960	2,852	2,724	2,589	2,427	-33.4
United States of America	31,014	31,002	31,274	30,901	31,111	31,314	30,654	30,159	29,863	29,548	29,262	-5.6
European Community	20,310	19,806	19,289	18,736	18,242	18,138	17,808	17,321	17,039	16,702	16,275	-19.9

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.10. CH₄ fugitive fuel emissions, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	1,084	1,059	1,108	1,067	1,046	1,138	1,148	1,150	1,231	1,161	1,192	9.9
Austria	5	5	5	5	5	6	6	6	6	6	6	26.6
Belarus												
Belgium	37	39	40	42	43	34	36	36	40	44	43	17.2
Bulgaria ^a	259	216	205	196	192	220	221	182	171	129		-50.2
Canada	1,338	1,405	1,511	1,573	1,656	1,753	1,869	1,865	1,839	1,828	1,867	39.6
Croatia	59	56	54	59	53	53						-9.2
Czech Republic	394	356	342	333	317	315	301	298	281	258	268	-32.1
Denmark	12	14	14	14	17	17	17	18	15	16	15	21.7
Estonia	57	55	38	24	29	30	33	32	29	27	32	-44.7
Finland	1	1	1	1	1	1	2	1	2	1	1	17.2
France	324	305	309	313	313	307	253	229	225	218	213	-34.1
Germany	1,561	1,472	1,463	1,349	1,219	1,197	1,114	1,055	998	942	825	-47.1
Greece	44	45	47	47	48	49	51	50	52	54	56	25.9
Hungary ^a	448	453	383	385	379	398	425	407	400	379	265	-40.9
Iceland												
Ireland	6	6	6	5	5	5	5	5	4	4	4	-31.2
Italy	323	316	308	294	289	277	274	270	269	266	266	-17.8
Japan	144	145	120	111	93	76	74	60	54	60	56	-61.0
Latvia	53	51	36	25	18	22	19	23	23	15	16	-70.0
Liechtenstein												
Lithuania	26								17			-33.4
Luxembourg	2				2	2				2	2	29.4
Monaco												
Netherlands	179	188	163	158	169	170	188	156	147	144	131	-26.6
New Zealand	27	25	25	24	27	33	45	36	42	43	43	61.2

Norway	14	16	20	23	25	25	25	28	25	24	25	79.0
Poland^a	1,248	925	793	877	896	927	943	937	822	777	772	-38.1
Portugal	5	5	5	4	4	2	2	2	5	10	7	39.8
Romania^a	1,416	975	917	897	847							-40.2
Russian Federation	18,900				13,300	13,050	12,860					-32.0
Slovakia	69	63	56	57	57	61	63	64	62	62	61	-11.7
Slovenia	51											
Spain	110	96	95	91	86	88	95	93	86	82	85	-22.5
Sweden	0.003	0.003	0.002	0.003	0.004	0.004	0.003	0.003	0.003	0.003	0.003	3.8
Switzerland	15	15	14	14	13	13	13	13	12	12	12	-16.1
Ukraine	6,220	5,541	5,315	5,014	4,727	4,624	4,562	4,318	4,387			-29.5
United Kingdom	1,332	1,329	1,293	1,201	932	975	932	884	806	722	659	-50.6
United States of America	11,179	11,104	11,034	10,652	10,582	10,639	10,430	10,233	10,169	9,740	9,485	-15.2
European Community	3,940	3,821	3,748	3,527	3,133	3,130	2,976	2,807	2,655	2,511	2,313	-41.3

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.11. CH₄ emissions from agriculture, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	3,435	3,441	3,382	3,340	3,291	3,291	3,293	3,332	3,335	3,396	3,474	1.1
Austria	218	214	207	205	203	197	194	192	192	187	182	-16.3
Belarus												
Belgium	341	337	337	342	342	346	343	337	337	336	330	-3.0
Bulgaria ^a	273	233	189	147	123	119	112	107	114	115		-57.7
Canada	980	988	1,011	1,016	1,065	1,099	1,108	1,111	1,097	1,092	1,084	10.6
Croatia	75	72	67	56	51	48						-36.2
Czech Republic	204	186	169	148	139	139	134	129	121	121	114	-44.3
Denmark	193	192	190	195	187	187	186	182	184	168	168	-12.8
Estonia	70	65	60	47	44	36	32	33	29	26	24	-64.9
Finland	96	92	90	90	90	86	87	88	86	84	83	-13.4
France	1,667	1,642	1,617	1,607	1,608	1,618	1,619	1,603	1,604	1,590	1,591	-4.6
Germany	1,605	1,409	1,345	1,322	1,320	1,309	1,304	1,280	1,247	1,239	1,205	-24.9
Greece	173	171	170	171	173	174	175	174	173	171	170	-1.5
Hungary ^a	208	168	144	127	121	118	116	111	118	116	110	-47.0
Iceland	12	12	11	11	11	11	11	11	11	11	11	-9.3
Ireland	514	519	521	524	527	534	545	557	564	552	527	2.4
Italy	913	921	890	881	888	903	894	894	883	869	868	-4.9
Japan	741	746	750	756	751	737	718	696	681	666	659	-11.1
Latvia	111	107	89	55	46	45	42	39	36	31	31	-72.5
Liechtenstein	1									1		-16.1
Lithuania	181					95	89	88	83			-54.1
Luxembourg	18				17	17				17	17	-5.5
Monaco												
Netherlands	505	517	506	498	483	477	464	446	435	425	408	-19.3
New Zealand	1,512	1,480	1,447	1,435	1,442	1,445	1,438	1,416	1,410	1,416	1,416	-6.3

Norway	98	96	97	96	98	99	100	100	102	101	98	0.4
Poland^a	863	773	704	656	647	615	591	598	582	509	469	-45.6
Portugal	302	299	287	270	279	278	276	277	274	282	280	-7.4
Romania^a	635	488	431	370	357							-43.7
Russian Federation	5,060	4,920	4,740	4,510	3,830	3,676	3,362					-33.6
Slovakia	135	118	103	88	83	85	81	75	67	64	62	-53.8
Slovenia	44											
Spain	886	894	900	902	917	924	977	985	1,021	1,040	1,060	19.7
Sweden	165	160	167	170	170	167	167	167	163	161	156	-5.6
Switzerland	151	153	151	150	147	147	145	144	139	137	136	-9.7
Ukraine	2,254	2,200	2,118	2,006	1,938	1,774	1,608	1,414	1,196			-47.0
United Kingdom	1,032	1,016	1,018	1,011	1,018	1,007	1,016	1,004	1,005	1,003	969	-6.1
United States of America	7,851	7,905	8,072	7,987	8,236	8,392	8,166	8,136	8,172	8,149	8,076	2.9
European Community	8,628	8,402	8,263	8,205	8,222	8,222	8,263	8,203	8,184	8,125	8,015	-7.1

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.12. CH₄ emissions from waste, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	705	721	729	745	742	726	731	742	734	757	768	9.0
Austria	295	290	287	281	276	270	265	258	248	248	248	-16.1
Belarus												
Belgium	155	157	160	150	156	154	150	152	146	138	132	-15.3
Bulgaria ^a	791	896	846	770	494	540	486	406	362	233		-70.6
Canada	900	930	950	973	984	988	991	1,015	1,037	1,072	1,095	21.7
Croatia	38	37	37	37	38	41						9.0
Czech Republic	133	105	104	100	101	101	124	111	113	103	104	-21.9
Denmark	62	64	65	65	65	63	62	59	55	53	57	-8.7
Estonia	77	49	40	41	49	50	61	71	67	62	57	-25.6
Finland	175	163	149	131	114	111	101	92	83	79	80	-54.2
France	887	946	1,002	1,048	1,092	1,130	1,141	953	915	862	800	-9.8
Germany	1,894	1,695	1,453	1,216	1,114	1,029	792	794	794	794	794	-58.1
Greece	179	181	188	194	203	211	218	224	235	248	253	41.9
Hungary ^a		257	256	256	255	255	254	253	128	155	145	
Iceland	2	2	2	2	2	2	2	2	2	2	2	18.2
Ireland	85	86	88	89	90	91	92	88	76	72	73	-13.5
Italy	559	575	526	529	548	572	575	580	572	569	573	2.5
Japan	353	354	352	354	355	353	348	339	328	316	301	-14.6
Latvia	19	23	23	24	25	26	26	28	53	64	63	224.5
Liechtenstein	0									0		50.0
Lithuania	166					139	130	145	68			-58.7
Luxembourg	4				3	3				3	3	-19.8
Monaco	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02		7.3
Netherlands	569	562	547	529	510	481	476	464	448	431	406	-28.6
New Zealand	131	133	126	127	126	123	123	108	109	108	106	-19.0

Norway	182	185	184	187	188	190	192	191	187	187	187	2.7
Poland^a	966	855	941	833	855	848	652	677	870	905	886	-8.3
Portugal	283	288	292	297	300	302	306	309	308	313	319	12.5
Romania^a	241	229	227	227	228							-5.4
Russian Federation	1,940	1,950	1,950	1,950	1,950	1,770	1,770					-8.8
Slovakia	98	96	94	90	91	91	100	91	85	86	83	-15.3
Slovenia	76											
Spain	356	377	409	435	464	496	527	554	579	600	628	76.4
Sweden	122	124	124	120	115	114	113	111	109	102	97	-20.3
Switzerland	69	68	68	67	67	67	66	65	64	63	62	-10.3
Ukraine	892	890	891	892	889	881	873	859	859			-3.7
United Kingdom	1,150	1,111	1,066	1,018	981	946	907	862	811	752	697	-39.4
United States of America	11,317	11,322	11,478	11,591	11,618	11,591	11,359	11,138	10,897	11,021	11,056	-2.3
European Community	6,776	6,623	6,359	6,104	6,031	5,973	5,729	5,505	5,383	5,263	5,161	-23.8

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.13. Total anthropogenic N₂O emissions, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	74.8	75.6	75.9	78.8	80.8	82.1	82.8	87.8	91.6	97.0	102.9	37.6
Austria	7.4	7.7	7.8	8.0	8.2	8.3	8.3	8.2	8.3	8.2	8.1	9.0
Belarus												
Belgium	42.6	41.6	40.6	41.5	43.4	45.4	44.0	43.7	44.8	44.6	43.3	1.6
Bulgaria ^a	81.4	68.4	59.2	53.8	52.4	55.2	57.1	52.6	47.4	61.2		-24.8
Canada	172.0	169.0	171.7	175.7	192.4	197.1	199.2	194.0	183.7	175.1	174.0	1.2
Croatia	12.5	12.4	12.6	10.0	10.0	9.3						-25.5
Czech Republic	36.3	23.4	22.5	21.2	21.5	21.6	29.7	28.4	27.1	26.2	26.4	-27.4
Denmark	35.0	34.6	32.5	32.9	32.1	31.9	31.4	30.1	30.2	30.1	29.3	-16.2
Estonia	3.3	3.2	2.6	1.7	1.5	1.3	1.2	1.4	1.4	1.2	1.3	-59.5
Finland	27.1	25.5	23.5	24.1	24.5	25.1	25.3	26.0	25.5	25.0	23.2	-14.6
France	293.8	292.5	287.7	279.4	280.9	287.5	292.6	295.9	270.9	252.9	248.0	-15.6
Germany	285.8	272.3	276.9	264.6	256.0	259.5	264.7	249.9	205.8	194.2	193.8	-32.2
Greece	34.3	33.9	33.8	32.7	33.1	31.9	33.3	34.3	34.3	33.6	35.5	3.6
Hungary ^a	12.9	4.3	5.0	4.9	5.4	4.9	5.1	4.4	35.0	36.3	41.0	217.0
Iceland	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	-4.6
Ireland	29.8	29.0	28.8	29.3	30.2	30.9	31.1	31.1	32.7	32.9	31.4	5.2
Italy	131.6	136.0	133.8	134.7	131.5	135.5	134.4	138.3	136.9	139.4	139.3	5.9
Japan	125.3	123.9	124.8	124.1	127.2	127.9	130.8	132.3	128.0	109.6	118.9	-5.1
Latvia	11.0	7.7	7.2	5.1	4.4	3.7	3.8	3.8	4.0	4.0	4.2	-62.3
Liechtenstein	0.0									0.0		12.5
Lithuania	13.2								11.1			-15.5
Luxembourg	0.6				0.7	0.7				0.3	0.3	-51.9
Monaco	0.005	0.006	0.006	0.007	0.008	0.008	0.009	0.009	0.010	0.010		107.7
Netherlands	53.3	61.9	63.4	63.5	65.2	58.6	65.3	68.1	57.5	56.0	54.8	2.8
New Zealand	38.4	38.0	37.7	38.1	38.7	39.0	39.0	39.1	39.0	40.2	40.8	6.4

Norway	16.5	16.0	13.8	15.0	15.3	15.6	15.6	15.4	16.2	17.0	16.6	0.5
Poland^a	70.5	52.0	50.2	49.8	50.2	54.0	53.9	54.0	51.6	75.1	77.1	9.4
Portugal	25.6	25.5	24.8	24.4	24.3	25.0	25.2	25.0	25.7	26.7	26.6	4.1
Romania^a	66.3	24.8	26.9	26.2	25.0							-62.3
Russian Federation	225.7				127.6	139.0	132.0					-41.5
Slovakia	19.8	16.7	14.6	12.2	12.4	12.9	11.1	11.0	10.4	10.1	10.0	-49.8
Slovenia	5.1											
Spain	84.7	83.8	81.6	75.1	82.6	81.8	89.5	86.9	89.4	93.5	98.4	16.1
Sweden	23.1	22.4	21.9	22.4	23.0	22.2	22.9	22.8	23.7	22.9	22.3	-3.5
Switzerland	11.4	11.5	11.5	11.6	11.6	11.6	11.6	11.5	11.7	11.7	11.7	2.8
Ukraine	58.0	51.3	38.3	24.2	20.1	15.2	14.9	15.6	15.8			-72.8
United Kingdom	218.9	212.8	190.7	178.7	192.8	184.1	190.7	196.0	187.0	144.8	141.5	-35.4
United States of America	1,249.4	1,267.2	1,298.9	1,296.7	1,382.8	1,354.1	1,388.6	1,386.6	1,375.3	1,366.3	1,372.1	9.8
European Community	1,293.4	1,280.5	1,248.2	1,211.6	1,228.0	1,228.1	1,259.3	1,256.4	1,164.7	1,096.9	1,090.7	-15.7

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.14. N₂O emissions from fuel combustion, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	7.9	8.6	9.8	10.8	11.7	12.7	13.5	14.4	15.2	15.9	16.7	112.2
Austria	2.7	3.0	3.1	3.3	3.5	3.6	3.6	3.6	3.6	3.6	3.5	29.4
Belarus												
Belgium	7.9	7.7	7.9	7.8	8.0	8.8	6.1	6.2	6.2	6.4	6.4	-18.3
Bulgaria ^a	15.3	10.2	9.8	9.7	9.4	9.7	13.0	9.7	8.5	7.9		-48.2
Canada	27.0	27.3	29.3	31.4	34.0	35.1	35.2	35.9	36.0	36.7	37.3	37.9
Croatia	0.3	0.2	0.2	0.2	0.2	0.2						-39.1
Czech Republic	4.6	18.5	17.1	16.6	16.6	16.4	4.2	4.3	4.5	4.5	4.8	4.6
Denmark	1.9	2.2	2.1	2.2	2.5	2.4	2.9	2.7	2.6	2.6	2.5	36.6
Estonia	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	-15.7
Finland	5.5	5.7	5.4	5.6	5.9	6.3	6.9	7.9	8.0	7.9	5.9	5.8
France	13.9	15.7	16.0	15.9	16.3	17.3	18.8	19.1	20.5	20.9	20.9	49.7
Germany	36.7	37.7	37.7	38.7	38.7	36.8	37.3	36.8	36.4	35.6	34.5	-5.9
Greece	9.9	10.0	10.7	10.2	10.5	10.4	11.0	11.4	11.8	11.5	12.1	22.2
Hungary ^a	8.4	2.6	3.3	3.4	3.6	3.3	3.4	2.7	0.5	0.5	0.5	-94.5
Iceland	0.040	0.041	0.042	0.043	0.043	0.066	0.067	0.090	0.091	0.122	0.120	198.1
Ireland	3.1	3.2	3.3	3.4	3.6	3.6	3.8	4.2	4.5	4.9	4.8	58.1
Italy	28.3	28.2	27.7	27.8	26.7	29.0	29.6	29.9	30.6	32.6	31.6	11.7
Japan	20.1	21.1	21.9	22.2	23.4	25.5	26.5	27.1	27.0	28.6	29.0	44.2
Latvia	1.1	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.3	0.3	-69.8
Liechtenstein	0.0									0.0		50.0
Lithuania	1.0								0.2			-80.0
Luxembourg	0.1				0.2	0.2				0.2	0.2	104.5
Monaco	0.003	0.004	0.004	0.005	0.005	0.006	0.006	0.007	0.007	0.008		130.1
Netherlands	1.9	2.1	2.3	2.4	2.2	2.7	2.3	2.2	2.7	2.6	2.6	36.6
New Zealand	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	35.4

Norway	1.0	1.0	1.1	1.2	1.3	1.5	1.7	1.8	1.9	2.3	2.4	137.8
Poland^a	7.2	6.3	5.8	6.6	6.2	6.7	7.2	7.1	7.4	7.4	7.2	0.1
Portugal	3.1	3.1	3.1	3.2	3.2	3.3	3.4	3.5	3.7	3.9	4.0	31.1
Romania^a	16.6	11.6	13.3	12.9	12.6							-24.0
Russian Federation	17.4	16.3	14.2	13.5	11.1	11.1	9.8					-43.9
Slovakia	0.8	0.7	0.6	0.6	0.7	0.8	0.8	0.8	0.9	0.9	0.7	-12.7
Slovenia	0.5											
Spain	13.3	13.9	14.6	13.7	15.2	16.6	15.8	16.9	18.1	19.8	20.2	52.2
Sweden	5.7	5.7	5.5	5.7	6.2	5.9	6.6	6.1	6.7	6.7	6.6	14.4
Switzerland	1.2	1.4	1.5	1.6	1.8	1.9	1.9	2.0	2.3	2.3	2.3	84.8
Ukraine	6.7	0.6	0.8	0.8	0.7	0.7	0.5	0.4	0.4			-94.0
United Kingdom	17.7	18.0	18.1	18.4	19.6	20.7	22.3	23.2	24.5	25.4	26.4	49.6
United States of America	206.6	213.4	224.6	232.0	237.6	239.2	240.2	239.2	237.7	237.1	236.9	14.7
European Community	151.7	156.6	157.9	158.1	162.1	167.3	170.5	173.6	171.7	176.7	177.3	16.8

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.15. N₂O emissions from industrial processes, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia												
Austria	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6	-3.2
Belarus												
Belgium	11.5	11.2	10.1	10.9	12.6	13.8	15.1	14.5	15.1	14.4	13.3	16.0
Bulgaria^a	7.8	5.2	4.3	3.7	4.3	6.2	6.3	5.2	3.1	2.4		-69.8
Canada	37.1	34.7	34.6	31.8	37.9	37.1	39.6	34.4	18.8	8.2	5.5	-85.2
Croatia	3.0	2.6	3.4	2.6	2.8	2.7						-10.0
Czech Republic	3.9	2.8	3.5	2.7	3.0	3.4	3.3	3.6	3.9	3.2	3.6	-7.1
Denmark												
Estonia												
Finland	5.1	4.5	4.0	4.2	4.4	4.5	4.5	4.5	4.3	4.3	4.3	-17.2
France	79.8	79.1	76.7	75.2	74.7	78.9	79.9	80.6	53.6	35.8	31.2	-61.0
Germany	82.0	83.0	93.0	84.0	81.0	82.3	87.2	74.2	29.9	16.6	16.4	-80.0
Greece	2.3	1.9	2.0	1.9	1.8	1.8	2.1	1.8	1.8	1.8	1.8	-20.4
Hungary^a		0.004	0.003	0.003	0.003	0.003	0.004	0.004	0.003	1.1	1.3	
Iceland	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	-61.5
Ireland	3.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	-21.5
Italy	21.8	23.0	21.3	21.4	20.1	23.1	22.3	22.4	22.8	23.4	25.2	15.6
Japan	23.9	21.8	21.6	21.2	24.0	23.8	26.6	28.1	24.8	5.0	13.6	-43.2
Latvia												
Liechtenstein												
Lithuania	1.4								9.3			562.1
Luxembourg												
Monaco												
Netherlands	24.4	32.3	30.4	30.0	31.6	24.2	31.7	35.0	24.7	23.2	23.0	-5.8
New Zealand												

Norway	6.7	6.1	4.2	5.0	5.4	5.3	5.2	4.8	5.4	6.1	5.6	-15.9
Poland^a	20.1	13.1	12.9	13.1	14.3	15.8	16.2	15.7	12.9	12.1	14.0	-30.2
Portugal	1.9	1.9	2.0	1.6	1.2	2.0	2.0	2.0	2.0	2.0	2.0	0.6
Romania^a	24.4	6.4	6.8	6.5	5.6							-77.1
Russian Federation	3.0				1.2	1.0	1.0					-66.7
Slovakia	1.9	1.8	1.6	1.3	2.1	2.3	0.5	0.5	0.5	0.5	0.5	-74.1
Slovenia												
Spain	9.3	8.3	7.1	5.9	7.0	7.7	7.9	7.5	7.0	7.6	7.4	-20.0
Sweden	2.8	2.7	2.7	2.7	2.5	2.5	2.4	2.4	2.6	2.7	2.2	-20.5
Switzerland	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	-1.9
Ukraine	22.9	23.1	15.3	7.5	9.1	4.7	7.4	8.5	8.6			-62.6
United Kingdom	94.5	88.5	71.6	61.1	71.5	61.3	65.5	67.0	59.4	18.2	20.0	-78.9
United States of America	105.6	104.9	99.8	104.8	112.9	121.8	124.1	105.6	92.3	89.7	90.0	-14.8
European Community	339.3	339.7	324.0	302.1	311.5	305.1	323.5	315.0	226.4	153.1	149.9	-55.8

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.16. N₂O emissions from agriculture, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	62.0	62.5	62.0	63.7	64.7	65.1	65.1	69.2	72.3	77.0	82.2	32.6
Austria	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	-3.6
Belarus												
Belgium	22.0	21.7	21.5	21.7	21.5	21.6	21.5	21.7	21.8	22.2	21.9	-0.2
Bulgaria^a	57.4	52.2	44.4	39.8	38.0	38.6	37.1	37.0	35.2	50.4		-12.2
Canada	100.1	98.0	99.8	103.4	109.2	111.5	117.3	117.6	119.0	121.7	122.4	22.3
Croatia	8.8	9.1	8.6	6.8	6.6	6.1						-31.3
Czech Republic	26.6	2.0	1.7	1.8	1.8	1.7	20.6	19.3	17.4	17.1	16.6	-37.4
Denmark	33.1	32.4	30.3	30.6	29.7	29.5	28.5	27.4	27.6	27.4	26.8	-19.2
Estonia	3.1	3.1	2.5	1.6	1.4	1.2	1.1	1.2	1.2	1.0	1.2	-61.7
Finland	15.9	14.8	13.5	13.8	13.7	13.8	13.4	13.1	12.8	12.3	12.6	-20.9
France	177.2	174.6	171.7	165.0	166.6	168.1	170.6	172.8	173.2	172.5	172.3	-2.8
Germany	157.1	141.6	136.2	131.9	126.3	130.4	130.2	128.9	129.5	132.1	132.9	-15.4
Greece	22.0	22.0	20.9	20.5	20.7	19.6	20.2	20.9	20.4	20.3	21.5	-2.4
Hungary^a	4.6	1.7	1.6	1.5	1.8	1.6	1.7	1.7	34.5	34.7	39.2	758.6
Iceland	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.3
Ireland	23.2	22.9	22.6	23.1	23.7	24.4	24.5	24.1	25.3	25.2	23.7	2.1
Italy	78.0	81.1	81.2	81.8	81.0	79.7	78.8	82.2	79.7	79.5	78.8	0.9
Japan	71.0	70.3	69.9	69.2	67.7	65.8	64.3	63.2	62.5	62.0	61.9	-12.9
Latvia	9.7	7.0	6.5	4.5	3.8	3.2	3.1	3.2	3.4	3.4	3.6	-63.2
Liechtenstein	0.0									0.0		-0.3
Lithuania	10.8								1.7			-84.7
Luxembourg	0.5				0.5	0.5						0.0
Monaco												
Netherlands	22.1	22.7	25.9	26.2	26.1	26.9	26.4	26.0	25.2	25.2	24.3	10.1
New Zealand	37.3	36.8	36.6	36.9	37.5	37.8	37.7	37.8	37.7	38.9	39.5	5.9

Norway	8.5	8.5	8.2	8.4	8.2	8.4	8.2	8.3	8.3	8.2	8.2	-3.5
Poland^a	43.2	32.6	31.5	30.0	29.7	31.4	30.5	31.2	31.2	55.6	53.3	23.4
Portugal	19.2	19.1	18.2	18.0	18.3	18.2	18.3	17.9	18.5	19.2	19.0	-1.3
Romania^a	25.3	6.7	6.8	6.8	6.8							-73.1
Russian Federation	200.0				110.0	111.0	105.0					-47.5
Slovakia	17.0	14.1	12.3	10.2	9.5	9.8	9.7	9.5	9.0	8.6	8.7	-48.8
Slovenia	4.6											
Spain	57.3	56.7	54.8	50.5	55.3	52.5	60.6	57.3	59.0	60.9	65.5	14.3
Sweden	14.6	14.0	13.7	14.1	14.3	13.8	13.9	14.3	14.3	13.6	13.5	-7.3
Switzerland	9.2	9.2	9.1	9.0	8.9	8.7	8.6	8.5	8.4	8.3	8.3	-9.6
Ukraine	28.0	27.4	21.3	15.7	9.6	9.4	5.9	6.5	6.4			-77.1
United Kingdom	103.0	102.6	97.2	95.5	97.9	98.4	99.0	102.0	99.2	97.3	91.2	-11.5
United States of America	914.5	925.7	950.8	935.8	1,007.4	968.3	999.3	1,016.2	1,019.3	1,012.5	1,017.9	11.3
European Community	748.2	730.0	711.7	696.5	698.9	700.7	709.9	712.3	710.4	711.1	707.0	-5.5

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)

Table B.17. N₂O emissions from agricultural soils, 1990-2000 (Gigagrams and percentage change)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Change 1990 to latest reported estimate (%)
Australia	47.3	47.8	47.5	48.5	48.8	48.0	47.5	50.5	53.3	56.1	58.3	23.2
Austria	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.2	3.2	3.2	-3.6
Belarus												
Belgium	15.8	15.5	15.4	15.5	15.3	15.5	15.4	15.7	15.8	16.0	15.8	-0.4
Bulgaria^a	53.9	49.2	41.9	37.8	36.3	37.0	35.6	35.6	33.7	48.8		-9.4
Canada	88.3	86.0	87.4	90.9	96.0	97.9	103.5	103.6	105.2	107.8	108.6	23.0
Croatia	7.6	8.0	7.5	5.9	5.8	5.3						-30.8
Czech Republic	24.4	2.0	1.7	1.8	1.8	1.7	19.0	17.7	15.9	15.7	15.3	-37.5
Denmark	31.6	30.8	28.8	29.0	28.1	27.9	27.0	25.9	26.1	26.0	25.3	-19.8
Estonia	3.1	3.0	2.5	1.6	1.4	1.1	1.1	1.2	1.2	1.0	1.2	-61.6
Finland	14.1	13.1	11.8	12.1	12.0	12.3	11.9	11.6	11.4	11.0	11.3	-20.0
France	167.7	165.3	160.2	155.8	157.5	158.8	161.3	163.6	163.9	163.4	163.1	-2.7
Germany	99.8	91.6	87.9	84.4	79.2	83.9	83.6	82.5	83.7	86.4	88.2	-11.6
Greece	21.0	20.9	19.9	19.6	19.7	18.7	19.2	20.0	19.5	19.4	20.5	-2.0
Hungary^a	4.6	1.7	1.6	1.5	1.8	1.6	1.7	1.7	32.9	33.2	36.6	702.2
Iceland	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	-1.3
Ireland	21.1	20.8	20.5	21.0	21.6	22.2	22.2	21.7	23.0	22.9	21.5	1.7
Italy	65.6	68.2	68.8	69.7	68.6	66.9	66.0	69.2	66.8	66.7	66.3	1.1
Japan	31.0	30.3	30.1	29.9	29.3	28.2	27.1	26.5	26.1	26.0	26.0	-16.2
Latvia	9.7	7.0	6.5	4.5	3.8	3.2	3.1	3.2	2.8	2.9	3.1	-68.2
Liechtenstein										0.0		
Lithuania									1.7			
Luxembourg	0.5				0.5	0.5						0.0
Monaco												
Netherlands	21.5	22.0	25.2	25.4	25.3	26.1	25.7	25.3	24.6	24.6	23.7	10.6
New Zealand	36.9	36.5	36.2	36.5	37.1	37.3	37.3	37.4	37.3	38.5	39.0	5.6

Norway	8.5	8.5	8.2	8.4	8.2	8.3	8.2	8.2	8.3	8.1	8.2	-3.3
Poland^a	43.1	32.5	31.4	30.0	29.7	31.4	30.4	31.2	31.2	35.5	34.6	-19.8
Portugal	15.5	15.3	14.5	14.4	14.6	14.5	14.6	14.3	14.7	15.1	14.9	-3.3
Romania^a	25.1	6.5										-74.0
Russian Federation						111.0	105.0					
Slovakia	13.4	10.9	9.5	7.7	7.2	7.5	7.5	7.5	7.2	6.9	7.0	-47.5
Slovenia	4.6											
Spain	51.7	51.1	49.3	45.1	49.7	47.0	54.9	51.7	53.4	55.5	59.9	15.9
Sweden	12.2	11.7	11.4	11.9	12.1	11.9	11.9	12.3	12.3	11.7	11.6	-5.0
Switzerland	7.8	7.7	7.6	7.6	7.5	7.3	7.3	7.1	7.1	7.0	7.0	-10.0
Ukraine												
United Kingdom	97.9	97.5	92.3	90.7	93.1	93.6	94.2	97.1	94.3	92.4	86.5	-11.6
United States of America	861.6	871.2	896.9	880.8	952.0	914.2	943.8	959.6	962.6	955.7	959.9	11.4
European Community	638.8	627.7	609.8	598.4	600.6	603.1	611.9	614.6	613.1	614.2	612.0	-4.2

^a In accordance with decision 9/ CP.2, some Parties with economies in transition use base years other than 1990: Bulgaria (1988); Hungary (average of 1985-1987); Poland (1988) and Romania (1989)