



**SUBSIDIARY BODY FOR IMPLEMENTATION**

**Thirty-first session**

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**Item 3 (a) of the provisional agenda**

**National communications and greenhouse gas inventory data from**

**Parties included in Annex I to the Convention**

**Report on national greenhouse gas inventory data from Parties included in**

**Annex I to the Convention for the period 1990–2007**

**National greenhouse gas inventory data for the period 1990–2007**

**Note by the secretariat\*\***

*Summary*

In 2009, all 41 Annex I Parties included in Annex I to the Convention (Annex I Parties) submitted their greenhouse gas (GHG) inventory common reporting format tables, 34 of them by the deadline of 15 April; all 41 Parties provided a national inventory report, 30 of them by the deadline.

Between 1990 and 2007, total aggregate GHG emissions excluding emissions/removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties decreased by 3.9 per cent; GHG emissions/removals including LULUCF decreased by 5.2 per cent. For Annex I Parties with economies in transition (Annex I EIT Parties), GHG emissions excluding LULUCF decreased by 37.0 per cent; GHG emissions including LULUCF decreased by 42.2 per cent. For Annex I non-EIT Parties, GHG emissions excluding LULUCF increased by 11.2 per cent and GHG emissions including LULUCF increased by 12.8 per cent.

\* Exact dates within the sessional period are subject to confirmation.

\*\* This document was submitted after the due date in order to take into account the latest submissions from Parties.

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## I. Introduction

### A. Mandate

1. The Conference of the Parties (COP), by its decisions 9/CP.2, 3/CP.5 and 18/CP.8, requested that Parties included in Annex I to the Convention (Annex I Parties) submit national inventory data on greenhouse gas (GHG) emissions by sources and removals by sinks by 15 April each year. Under the UNFCCC “Guidelines for the technical review of greenhouse gas inventories from Parties included in Annex I to the Convention” adopted by the COP in decision 19/CP.8, the secretariat is requested<sup>1</sup> to prepare annually a report on GHG inventory data submitted by Annex I Parties for consideration by the COP and the Subsidiary Body for Implementation (SBI).

### B. Scope of the note

2. Information provided in this document is based on the GHG inventories from Annex I Parties received by the secretariat by 15 September 2009. This document shows the status of reporting of GHG inventories by Annex I Parties in 2009 (chapter II) and provides a summary of the latest available data on GHG submissions and removals from Annex I Parties for the period 1990–2007 (chapter III).

3. Data are provided for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O), as well as for hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>) taken together. Data are also provided for total<sup>2</sup> aggregate<sup>3</sup> GHG emissions, both including and excluding net GHG emissions/removals from land use, land-use change and forestry (LULUCF).

### C. Possible action by the Subsidiary Body for Implementation

4. The SBI may wish to take note of the information contained in this document and seek further guidance from the COP, as appropriate.

## II. Status of reporting

### A. Timeliness and completeness of submissions

5. In accordance with the UNFCCC reporting guidelines on annual inventories,<sup>4</sup> Annex I Parties are required to submit annually a national inventory report (NIR) and common reporting format (CRF) tables containing data from the base year up to two years before the year of submission, that is, from 1990 up to 2007 in the 2009 submission.

6. Table 1 presents the status of reporting of GHG inventory submissions for 2009. All 41 Annex I Parties provided CRF tables, generated using CRF Reporter software, for all years from 1990<sup>5</sup> to 2007, as well as NIRs. Thirty-four sets of CRF tables and 30 NIRs were received by the due date of 15 April.

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<sup>1</sup> FCCC/CP/2002/8, annex II, paragraphs 42 and 43.

<sup>2</sup> The term ‘total’ implies that emissions from sectors of the common reporting format are summed; the inclusion of land use, land-use change and forestry into the sum is indicated separately.

<sup>3</sup> The term ‘aggregate’ implies that GHG emissions/removals are calculated as a weighted sum of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub>; the sum is made using the global warming potentials agreed under the Convention (1 for CO<sub>2</sub>, 21 for CH<sub>4</sub>, 310 for N<sub>2</sub>O, and specific values for individual HFCs, PFCs and SF<sub>6</sub>).

<sup>4</sup> “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories”.

<sup>5</sup> The Parties that may use a base year other than 1990, as stipulated in decisions 9/CP.2 and 11/CP.4, have also provided data for their respective base years. These Parties and their base years are Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

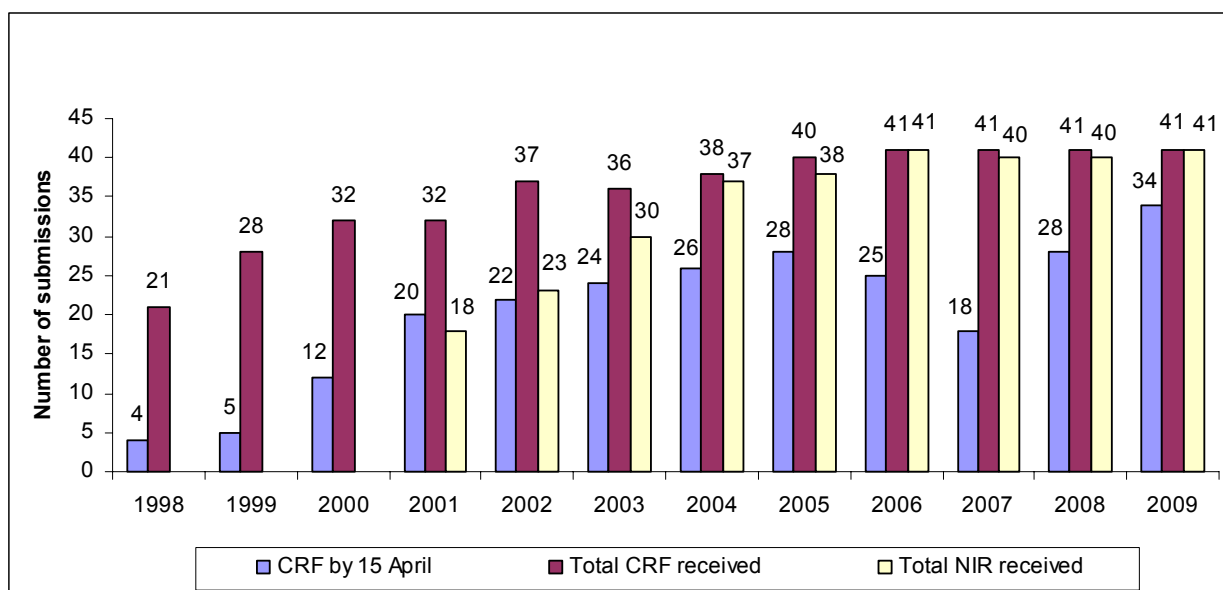
**Table 1. Greenhouse gas inventory submissions from Annex I Parties in 2009**

Party	CRF submission date <sup>a</sup>	Years reported
Australia	<i>26 May 2009</i>	1990–2007
Austria	15 April 2009	1990–2007
Belarus	15 April 2009	1990–2007
Belgium	15 April 2009	1990–2007
Bulgaria	13 April 2009	1988–2007
Canada	<i>17 April 2009</i>	1990–2007
Croatia	<i>26 May 2009</i>	1990–2007
Czech Republic	14 April 2009	1990–2007
Denmark	15 April 2009	1990–2007
Estonia	15 April 2009	1990–2007
European Community	15 April 2009	1990–2007
Finland	8 April 2009	1990–2007
France	6 April 2009	1990–2007
Germany	8 April 2009	1990–2007
Greece	14 April 2009	1990–2007
Hungary	15 April 2009	Average of 1985–1987, 1985–2007
Iceland	<i>27 April 2009</i>	1990–2007
Ireland	9 April 2009	1990–2007
Italy	15 April 2009	1990–2007
Japan	<i>30 April 2009</i>	1990–2007
Latvia	15 April 2009	1990–2007
Liechtenstein	2 April 2009	1990–2007
Lithuania	9 April 2009	1990–2007
Luxembourg	<i>19 May 2009</i>	1990–2007
Monaco	9 April 2009	1990–2007
Netherlands	15 April 2009	1990–2007
New Zealand	15 April 2009	1990–2007
Norway	15 April 2009	1990–2007
Poland	15 April 2009	1988–2007
Portugal	15 April 2009	1990–2007
Romania	13 April 2009	1989–2007
Russian Federation	15 April 2009	1990–2007
Slovakia	14 April 2009	1990–2007
Slovenia	15 April 2009	1986–2007
Spain	14 April 2009	1990–2007
Sweden	7 April 2009	1990–2007
Switzerland	15 April 2009	1990–2007
Turkey	13 April 2009	1990–2007
Ukraine	<i>25 May 2009</i>	1990–2007
United Kingdom	15 April 2009	1990–2007
United States	13 April 2009	1990–2007

*Abbreviation:* CRF = common reporting format.

<sup>a</sup> The date of submission of the national inventory report may be different. Dates after the submission deadline of 15 April 2009 are shown in italics.

7. After the initial submissions, five Parties sent a revised version of their CRF tables to include improvements made to the GHG estimates, and nine Parties resubmitted their NIR.
8. All Parties submitted their CRF tables within six weeks after the submission deadline. Two Parties (Luxembourg and Turkey) submitted their NIR more than six weeks late.
9. Figure 1 displays the number of national inventory submissions from Annex I Parties since 1998. It shows an almost continuous increase in the number of submissions. Since 2006, all Annex I Parties have submitted their CRF tables annually.

**Figure 1. Greenhouse gas inventory submissions from Annex I Parties, 1998–2009**

Abbreviations: CRF = common reporting format, NIR = national inventory report.

## B. Recalculations

10. In accordance with the UNFCCC reporting guidelines, Parties should conduct recalculations, when necessary, in order to improve the quality of emission estimates and ensure the consistency of the time series. All 41 Parties performed recalculations in 2009 reflecting changes in activity data, emission factors and methodologies used.

11. The impact of recalculation on GHG emissions in the base year varied widely (table 2). For total aggregate emissions excluding LULUCF, the change was less than 1 per cent for 37 Parties and more than 2 per cent for one Party. For total aggregate GHG emissions including LULUCF, the change was less than 1 per cent for 21 Parties and more than 3 per cent for nine Parties.

## III. Overview of emission trends and sources in Annex I Parties

### A. Total aggregate greenhouse gas emissions

12. From 1990<sup>6</sup> to 2007, the total aggregate GHG emissions excluding emissions/removals from LULUCF for all Annex I Parties decreased by 3.9 per cent, from 18,848.0 to 18,112.1 Tg<sup>7</sup> CO<sub>2</sub> equivalent (figures 2 and 3). Total aggregate emissions including LULUCF decreased by 5.2 per cent from 17,459.6 to 16,547.1 Tg CO<sub>2</sub> equivalent. Between 2000 and 2007, GHG emissions from Annex I Parties increased by 3.1 per cent (excluding LULUCF) and by 0.9 per cent (including LULUCF). From 2006 to 2007, emissions excluding LULUCF increased by 0.9 per cent and emissions including LULUCF increased by 1.4 per cent.

<sup>6</sup> Unless otherwise specified, base year data are used in totals instead of 1990 data (in accordance with decisions 9/CP.2 and 11/CP.4) for Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

<sup>7</sup> One teragram (Tg) equals one million tonnes.

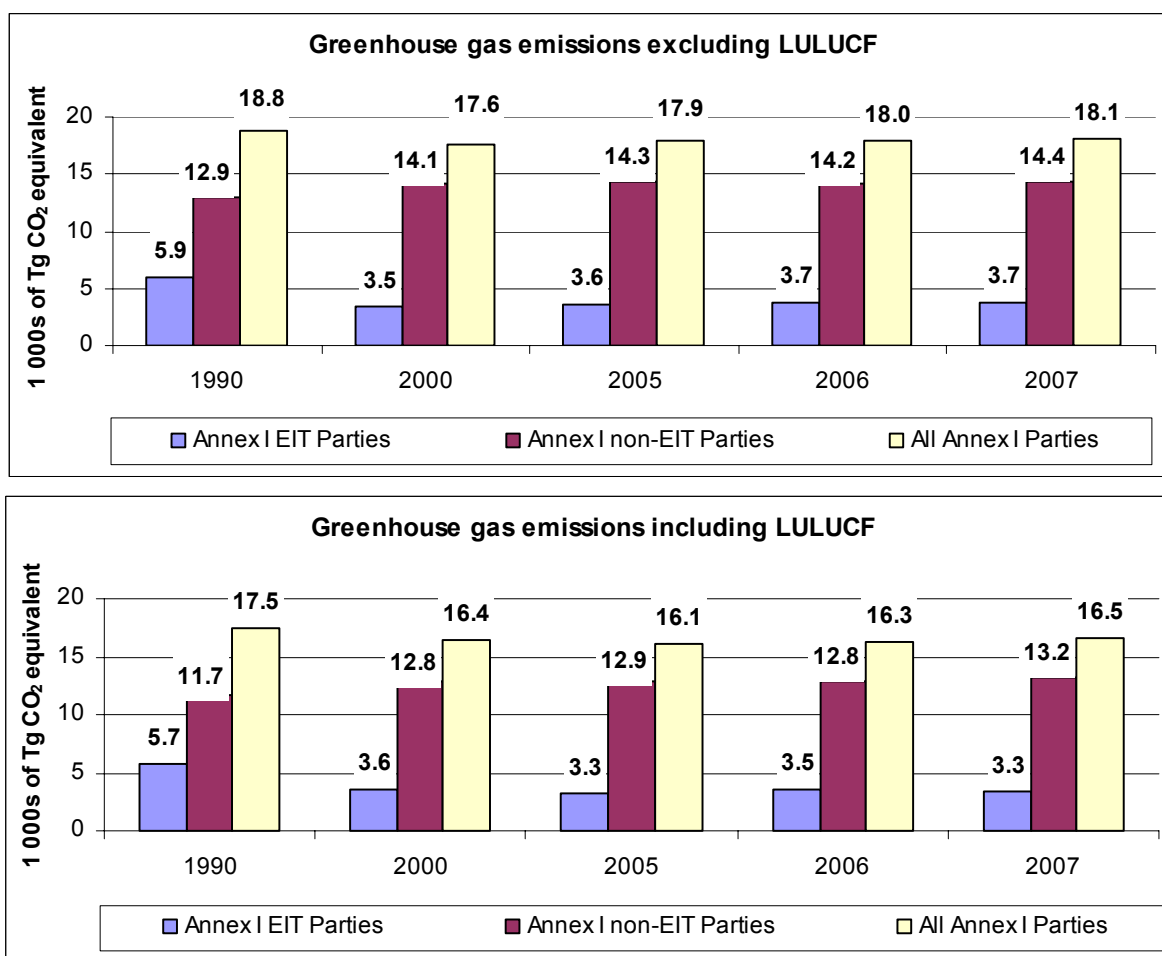
**Table 2. Inventory recalculations by Annex I Parties in 2009**

Party	Impact on base year GHG emissions excluding	Impact on base year GHG emissions including
	LULUCF (%)	LULUCF (%)
Australia	0.01	-12.03
Austria	-0.17	1.59
Belarus	1.39	1.68
Belgium	-0.53	-0.53
Bulgaria	0.01	18.89
Canada	-0.08	11.20
Croatia	0.09	0.11
Czech Republic	0.24	-0.08
Denmark	0.10	0.10
Estonia	0.82	-1.80
European Community	-0.26	0.90
Finland	-0.12	1.12
France	-0.16	-0.15
Germany	-1.02	-1.04
Greece	0.85	0.89
Hungary	0.52	0.99
Iceland	-0.25 <sup>a</sup>	0.44
Ireland	-0.26	-0.14
Italy	-0.11	2.53
Japan	-0.19 <sup>a</sup>	1.28
Latvia	0.84	-8.80
Liechtenstein	0.01	0.01
Lithuania	-0.60	0.05
Luxembourg	-0.52	3.37
Monaco	0.15 <sup>a</sup>	0.15
Netherlands	0.28	0.16
New Zealand	-0.15	5.49
Norway	-0.01	3.88
Poland	1.08	1.14
Portugal	0.27	0.26
Romania	-2.07	-2.26
Russian Federation	-0.21	-4.19
Slovakia	-0.57	-0.59
Slovenia	-0.002	-0.003
Spain	0.16	2.33
Sweden	-0.15	202.77
Switzerland	-0.17	0.28
Turkey	Less than $\pm 0.001^a$	-0.62
Ukraine	0.44	-0.26
United Kingdom	0.28	0.29
United States	-0.83	-2.83

*Abbreviations:* GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

<sup>a</sup> Due to a technical error in some common reporting format (CRF) tables, there is a discrepancy between the values for the impact on the base year GHG emissions excluding LULUCF presented in this report and the values presented in the relevant CRF tables.

13. For Annex I Parties with economies in transition (Annex I EIT Parties), total aggregate emissions excluding LULUCF decreased by 37.0 per cent, from 5,907.6 Tg CO<sub>2</sub> equivalent in 1990 to 3,721.5 Tg CO<sub>2</sub> equivalent in 2007; GHG emissions including LULUCF decreased by 42.2 per cent over the same period. From 2000 to 2007, GHG emissions from these Parties increased by 7.8 per cent excluding LULUCF and decreased by 7.5 per cent including LULUCF. Between 2006 and 2007, emissions increased by 0.3 per cent excluding LULUCF and decreased by 5.7 per cent including LULUCF.

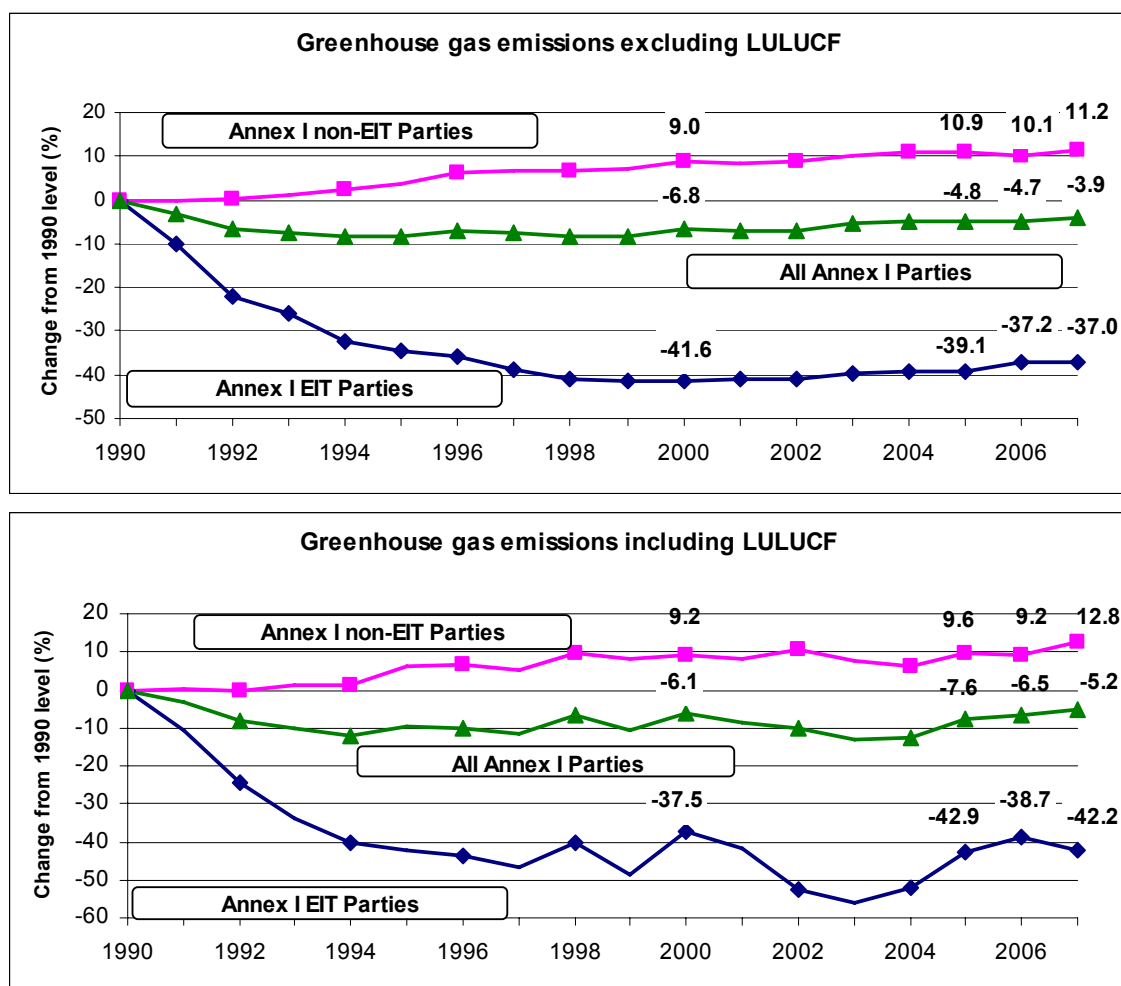
**Figure 2. Greenhouse gas emissions from Annex I Parties, 1990, 2000, 2005–2007**

*Abbreviations:* EIT Parties = Parties with economies in transition, LULUCF = land use, land-use change and forestry.

14. For Annex I non-EIT Parties, total aggregate emissions excluding LULUCF increased from 1990 to 2007 by 11.2 per cent and emissions including LULUCF increased by 12.8 per cent. From 2000 to 2007, emissions excluding LULUCF increased by 2.0 per cent and emissions including LULUCF increased by 3.3 per cent. Between 2006 and 2007, emissions increased by 1.0 per cent excluding LULUCF and increased by 3.3 per cent including LULUCF.

15. The changes in total aggregate GHG emissions from 1990 to 2007 varied considerably among countries (figure 4). Latvia has the largest decrease in emissions: 54.7 per cent for emissions excluding LULUCF and 478.3 per cent for emissions including LULUCF. On the other hand, Turkey has the greatest increase in emissions excluding LULUCF (by 119.1 per cent) and including LULUCF (by 136.7 per cent).

**Figure 3. Changes in greenhouse gas emissions from Annex I Parties, 1990–2007**



Abbreviations: EIT = Parties with economies in transition, LULUCF = land use, land-use change and forestry.

### B. Greenhouse gas emissions by gas

16. For both 1990 and 2007, CO<sub>2</sub> accounted for the largest share of total emissions (80.0 per cent in 1990 and 82.8 per cent in 2007). Figure 5 illustrates the share of each GHG in total emissions excluding LULUCF for both years. It also illustrates the changes in total emissions of each GHG from 1990 to 2007. Emissions of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O decreased, whereas emissions of HFCs, PFCs and SF<sub>6</sub> taken together increased by 14.8 per cent.

17. Between 2006 and 2007, emissions of all GHGs increased: CO<sub>2</sub> emissions by 0.9 per cent, CH<sub>4</sub> emissions by 0.3 per cent, N<sub>2</sub>O emissions by 0.5 per cent and emissions of HFCs, PFCs and SF<sub>6</sub> taken together by 3.9 per cent.



Figure 4. Changes in total aggregate emissions of individual Annex I Parties, 1990–2007

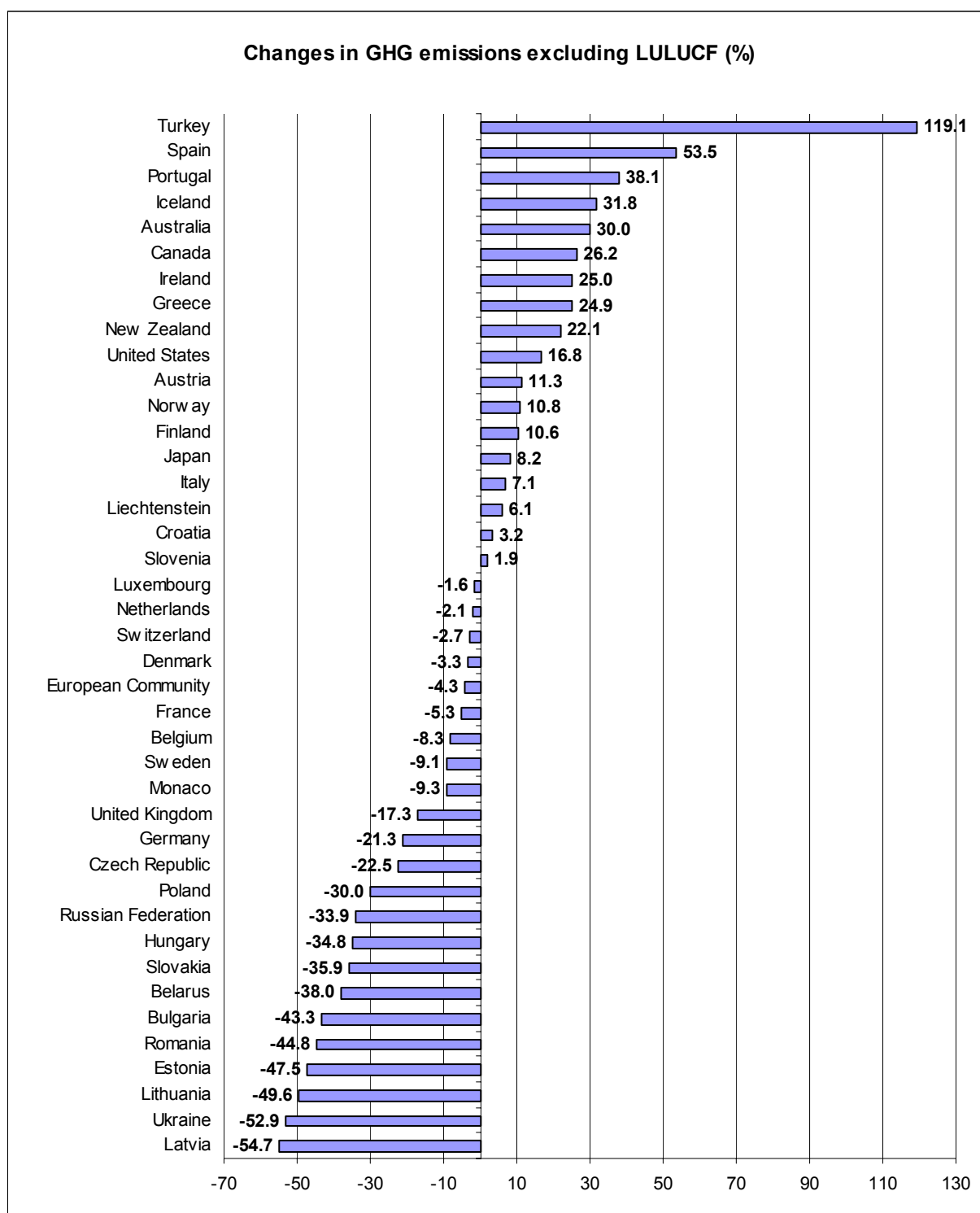
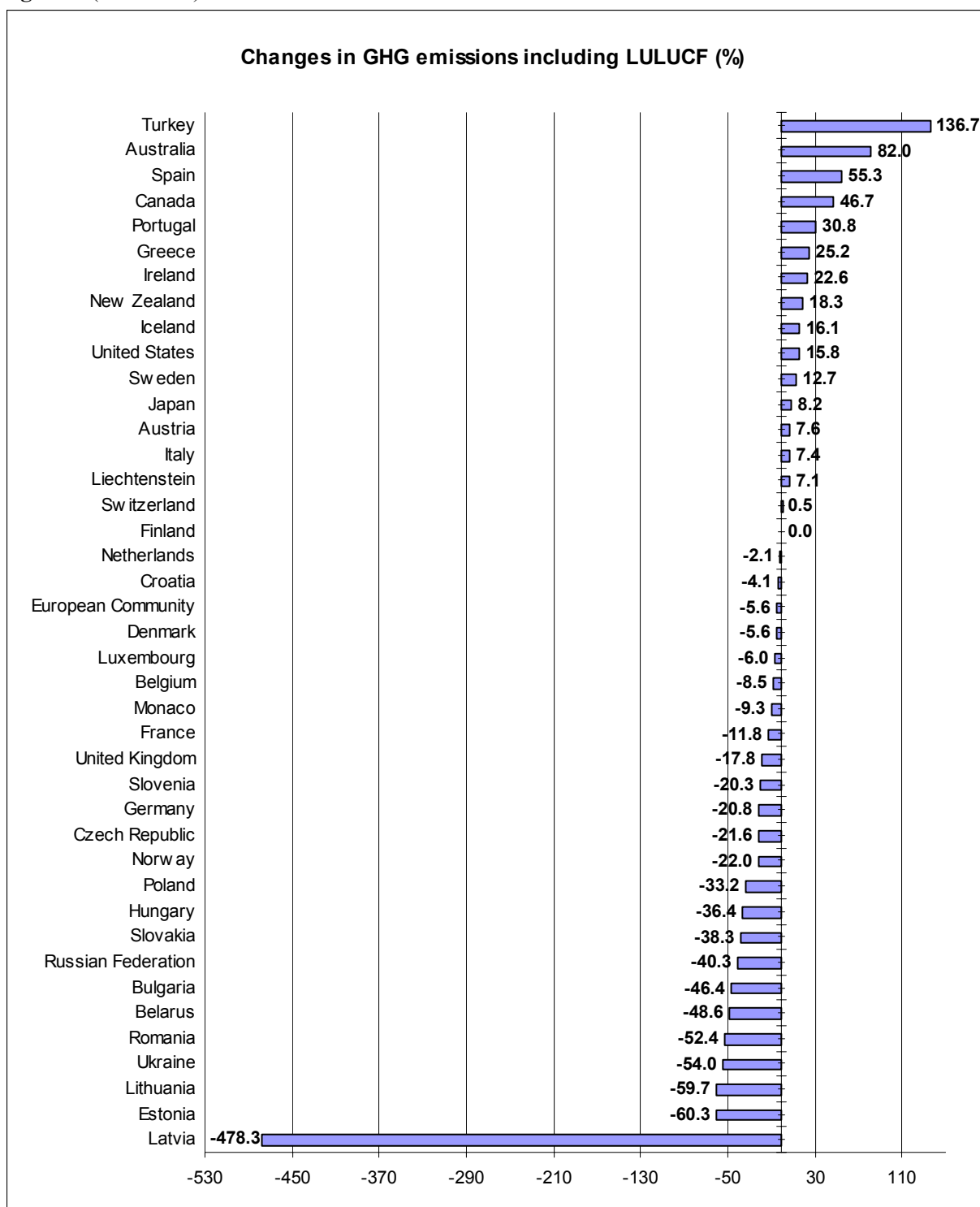
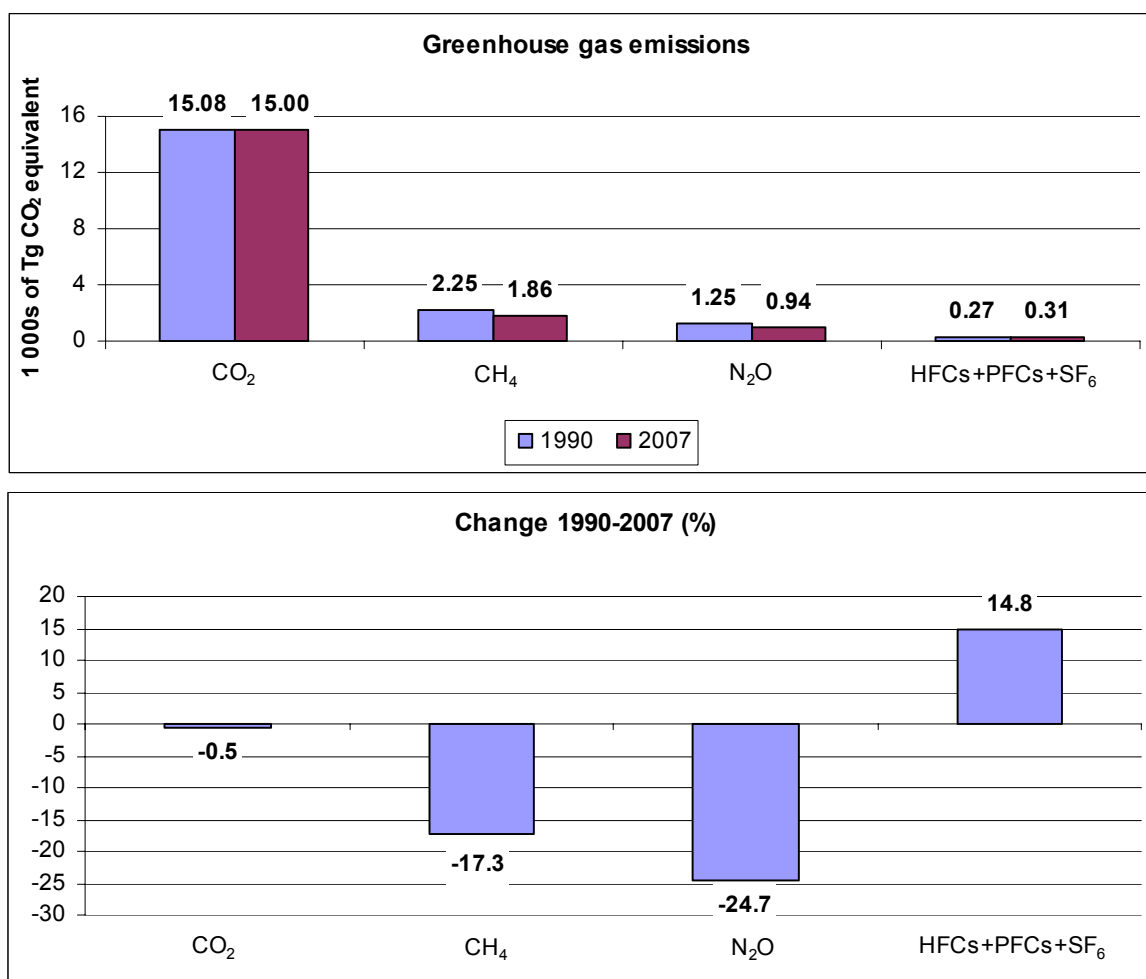


Figure 4 (continued)



Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

**Figure 5. Greenhouse gas emissions from Annex I Parties by gas, 1990 and 2007**

### C. Greenhouse gas emissions by sector

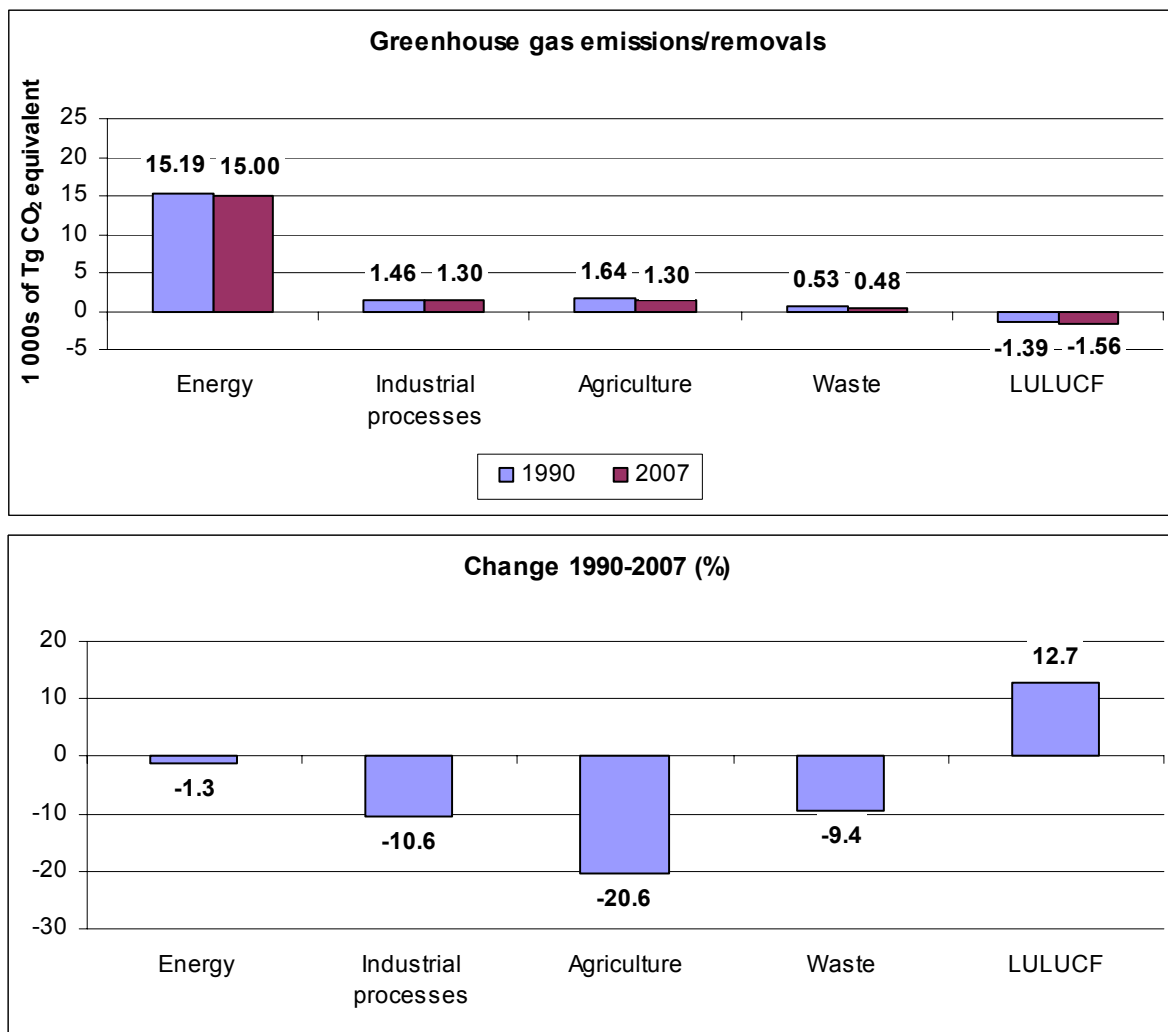
18. Figure 6 shows the trends in aggregate GHG emissions from Annex I Parties by sector. For all Annex I Parties taken together, emissions from all sectors decreased between 1990 and 2007. Net GHG removals by LULUCF increased by 12.7 per cent.

19. Between 2006 and 2007, emissions from all sectors increased. Net GHG removals by LULUCF decreased by 4.3 per cent.

20. Figure 7 shows the profile and trend of emissions within the energy sector from 1990 to 2007. The greatest increase occurred in transport (17.9 per cent) and the greatest decline occurred in other sectors (17.3 per cent). Emissions from energy industries increased by 5.6 per cent, whereas emissions from manufacturing industries and construction, and from fugitive emissions, decreased.

21. From 2006 to 2007, the greatest increase resulted from energy industries (2.7 per cent) and the greatest decrease from other sectors (3.6 per cent). Increases occurred in transport and fugitive emissions (by 0.7 and 0.8 per cent, respectively), while emissions from manufacturing industries and construction decreased (by 0.3 per cent).

**Figure 6. Greenhouse gas emissions/removals from Annex I Parties by sector, 1990 and 2007<sup>a</sup>**



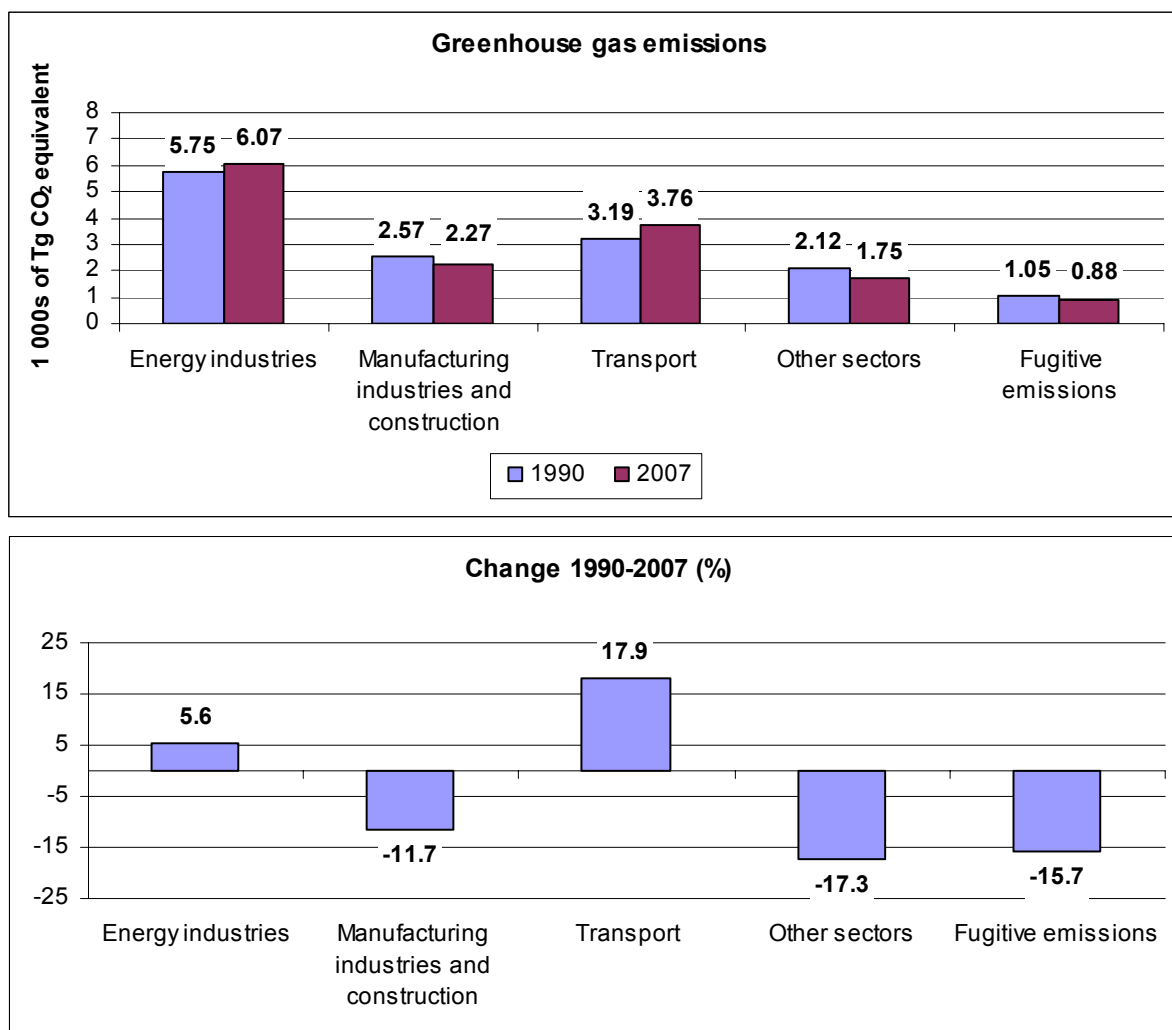
Abbreviation: LULUCF = land use, land-use change and forestry.

<sup>a</sup> The sector solvent and other product use is not included in the figure because its contribution to total emissions is very small. Emissions from this sector decreased by 19.6 per cent.

22. Increases over the period 1990–2007 in emissions relating to fuels sold for use in international aviation and marine transportation are presented in figure 8. GHG emissions increased by 65.6 per cent for aviation and by 19.5 per cent for marine transportation.

23. Emissions from international bunkers also increased between 2006 and 2007. The increase was 0.7 per cent for aviation and 0.6 per cent for marine transportation.

**Figure 7. Greenhouse gas emissions from Annex I Parties in the energy sector, 1990 and 2007**

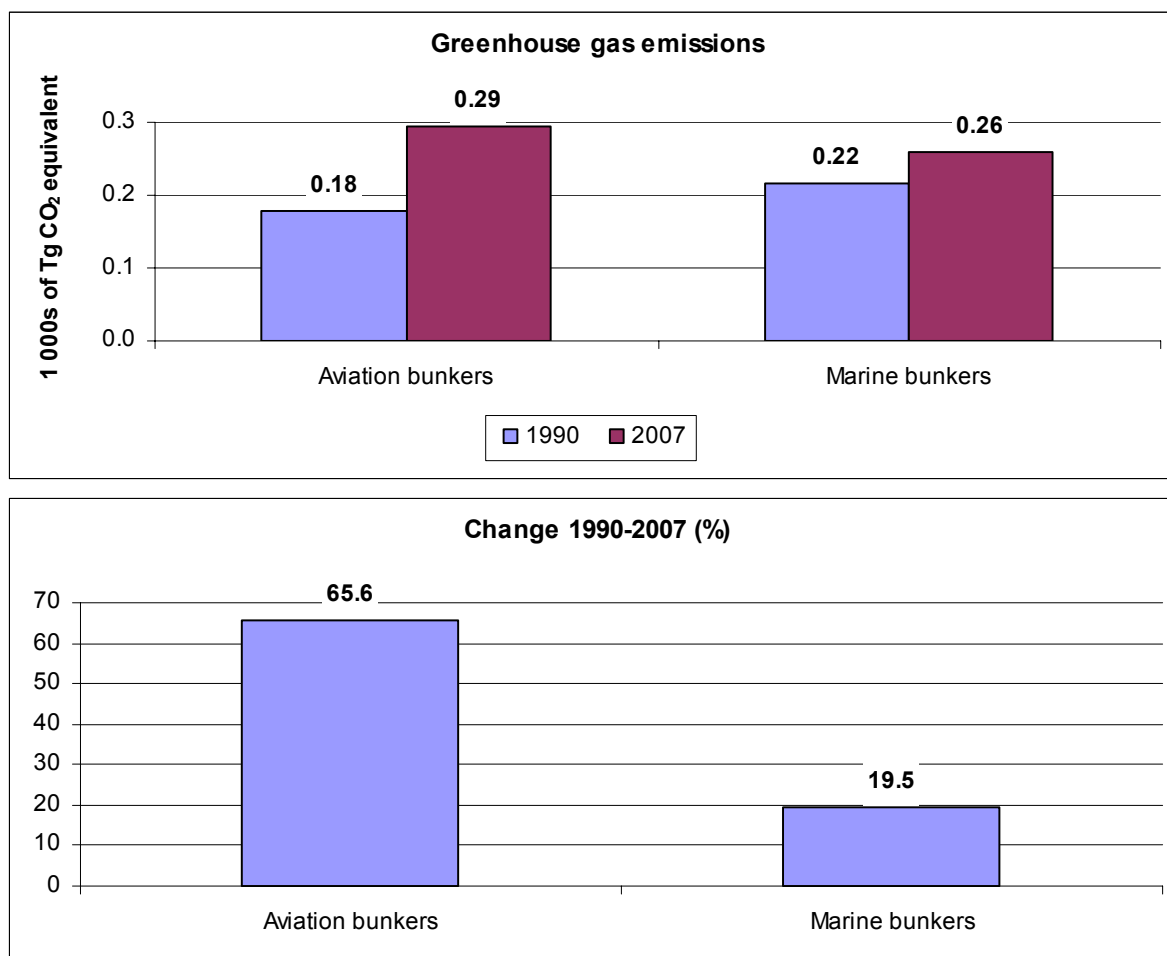


#### D. Comparison of emission estimates in 2008 and 2009 reports

24. The secretariat published in 2008 a document containing summary information on GHG emissions from Annex I Parties based on 2008 submissions.<sup>8</sup> A comparison of the estimates for total aggregate GHG emissions reported in that document with those reported in this document, based on 2009 inventory submissions, is provided in table 3. The table also provides explanations for the differences in estimates.

<sup>8</sup> FCCC/SBI/2008/12 and Corr.1.

**Figure 8. Greenhouse gas emissions from Annex I Parties from international bunker fuels, 1990 and 2007**



**E. Emissions data for individual Annex I Parties**

25. Detailed GHG data for Annex I Parties are presented in tables 4–15. Total aggregate anthropogenic GHG emissions excluding and including emissions/removals from LULUCF are provided in tables 4 and 5; emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O (excluding and including emissions/removals from LULUCF) in tables 6–11; emissions of HFCs, PFCs and SF<sub>6</sub> taken together in table 12; and emissions/removals from LULUCF in tables 13–15.

26. Blank spaces in the tables denote that either data were not available or notation keys, such as, “not occurring” (NO), “not estimated” (NE), “not applicable” (NA), “included elsewhere” (IE) or “confidential” (C), were used to report emissions data. Negative values mean removals; positive values mean emissions.

27. The changes in emissions from 1990 to 2007 were calculated using the exact (not rounded) values and they may differ from a ratio calculated with the rounded numbers provided in the tables. In these tables, an en dash (–) has been inserted to denote percentage changes exceeding 10,000 per cent.

**Table 3. Comparison of the 2009 and 2008 estimates of total aggregate GHG emissions from Annex I Parties**

	2008 document (FCCC/SBI/2008/12 and Corr.1)	This document (FCCC/SBI/2009/12)	Explanation of the difference between 2009 and 2008 estimates
<b>Total aggregate GHG emissions excluding LULUCF in 1990 (thousands of Tg CO<sub>2</sub> equivalent)</b>			
All Annex I Parties	18.9	18.8	Impact of inventory recalculations for Annex I EIT and Annex I non-EIT Parties
Annex I EIT Parties	5.91	5.91	Increases in emissions following inventory recalculations (in particular for Belarus and Poland) were offset by decreases in emissions following inventory recalculations (in particular for Croatia and Romania)
Annex I non-EIT Parties	13.0	12.9	Inventory recalculations, in particular for Germany and the United States of America
<b>Total aggregate GHG emissions including LULUCF in 1990 (thousands of Tg CO<sub>2</sub> equivalent)</b>			
All Annex I Parties	17.7	17.5	Impact of inventory recalculations for Annex I EIT and Annex I non-EIT Parties
Annex I EIT Parties	5.85	5.73	Inventory recalculations, in particular for Romania, the Russian Federation and Ukraine
Annex I non-EIT Parties	11.8	11.7	Inventory recalculations, in particular for Australia, Germany and the United States of America
<b>Changes in total aggregate GHG emissions excluding LULUCF from 1990 to the latest available year (%)</b>			
All Annex I Parties	-4.7	-3.9	A combination of changes for Annex I EIT and Annex I non-EIT Parties
Annex I EIT Parties	-37.0	-37.0	Inventory recalculations, and decreases in emissions between 2006 and 2007 (for example, in Hungary and Slovakia) offset by increases in emissions from 2006 to 2007 (for example, in Bulgaria and Estonia)
Annex I non-EIT Parties	9.9	11.2	Inventory recalculations and increases in emissions (for example, in Canada, Japan and Spain)
<b>Changes in total aggregate GHG emissions including LULUCF from 1990 to the latest available year (%)</b>			
All Annex I Parties	-5.5	-5.2	A combination of changes for Annex I EIT and Annex I non-EIT Parties
Annex I EIT Parties	-35.0	-42.2	Decreases in emissions between 2006 and 2007 (for example, in Hungary, the Russian Federation and Ukraine)
Annex I non-EIT Parties	9.1	12.8	Increases in emissions between 2006 and 2007 (for example, in Australia, Greece and Turkey)

*Abbreviations:* EIT Parties = Parties with economies in transition, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

**Table 4. Total aggregate anthropogenic emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub> excluding emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	416 214	494 855	524 635	534 471	541 179	30.0
Austria	79 037	81 078	92 832	91 518	87 958	11.3
Belarus*	129 129	70 995	77 435	81 332	80 010	-38.0
Belgium	143 249	145 100	141 919	136 612	131 301	-8.3
Bulgaria* <sup>a</sup>	133 747	69 223	71 027	71 936	75 793	-43.3
Canada	591 793	717 101	730 967	718 178	747 041	26.2
Croatia*	31 374	25 955	30 433	30 769	32 385	3.2
Czech Republic*	194 712	147 234	146 249	149 107	150 823	-22.5
Denmark	70 414	69 167	64 902	72 500	68 092	-3.3
Estonia*	41 935	18 379	19 637	19 180	22 019	-47.5
European Community <sup>b</sup>	4 232 900	4 107 639	4 141 348	4 115 962	4 051 964	-4.3
Finland	70 862	69 544	68 696	79 935	78 345	10.6
France	565 495	560 581	558 445	546 371	535 772	-5.3
Germany	1 215 209	1 008 164	968 893	980 005	956 113	-21.3
Greece	105 562	127 126	131 831	128 089	131 854	24.9
Hungary* <sup>a</sup>	116 453	78 016	80 382	78 865	75 944	-34.8
Iceland	3 400	3 730	3 694	4 236	4 482	31.8
Ireland	55 383	68 951	70 258	69 682	69 205	25.0
Italy	516 318	549 509	573 685	562 982	552 771	7.1
Japan	1 269 657	1 345 997	1 357 844	1 342 109	1 374 256	8.2
Latvia*	26 679	10 103	11 213	11 671	12 083	-54.7
Liechtenstein	230	255	271	273	243	6.1
Lithuania*	49 075	19 186	22 563	22 874	24 738	-49.6
Luxembourg	13 118	9 971	13 391	13 304	12 914	-1.6
Monaco	108	120	104	93	98	-9.3
Netherlands	211 997	214 427	212 182	208 508	207 504	-2.1
New Zealand	61 853	70 598	77 175	77 599	75 550	22.1
Norway	49 695	53 358	53 701	53 470	55 050	10.8
Poland* <sup>a</sup>	569 510	389 011	386 608	399 292	398 881	-30.0
Portugal	59 269	81 710	89 229	84 694	81 841	38.1
Romania* <sup>a</sup>	276 050	135 524	149 380	153 840	152 290	-44.8
Russian Federation*	3 319 327	2 030 431	2 117 821	2 185 883	2 192 818	-33.9
Slovakia*	73 255	48 424	49 375	48 938	46 951	-35.9
Slovenia* <sup>a</sup>	20 340	18 912	20 377	20 570	20 722	1.9
Spain	288 135	385 768	441 150	433 070	442 322	53.5
Sweden	71 934	68 159	67 200	66 870	65 412	-9.1
Switzerland	52 709	51 648	53 665	53 173	51 265	-2.7
Turkey**	170 059	279 956	312 420	332 675	372 638	119.1
Ukraine*	926 033	389 714	417 529	436 767	436 005	-52.9
United Kingdom	774 164	677 138	656 140	651 444	640 273	-17.3
United States	6 084 490	6 975 180	7 082 213	7 006 049	7 107 162	16.8
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 23</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 0</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 18</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.



**Table 5. Total aggregate anthropogenic emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, PFCs and SF<sub>6</sub> including emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	453 794	404 392	596 239	551 058	825 888	82.0
Austria	65 859	64 104	75 679	74 352	70 835	7.6
Belarus*	107 101	43 747	52 346	55 323	55 068	-48.6
Belgium	141 827	143 568	141 549	135 552	129 827	-8.5
Bulgaria**a	128 697	60 314	64 241	65 146	68 991	-46.4
Canada	540 227	636 781	772 380	759 545	792 495	46.7
Croatia*	27 189	20 675	22 707	23 279	26 082	-4.1
Czech Republic*	190 148	138 661	138 541	144 654	149 103	-21.6
Denmark	70 965	70 797	65 063	71 624	66 965	-5.6
Estonia*	35 567	16 920	12 077	10 246	14 116	-60.3
European Community <sup>b</sup>	4 016 307	3 847 717	3 845 217	3 828 150	3 792 548	-5.6
Finland	53 089	51 126	40 390	47 727	53 080	0.0
France	525 450	515 697	487 510	475 510	463 433	-11.8
Germany	1 186 959	976 065	947 043	964 433	939 985	-20.8
Greece	102 369	124 673	126 837	123 014	128 203	25.2
Hungary**a	112 857	77 188	75 766	74 756	71 806	-36.4
Iceland	4 906	5 085	4 945	5 462	5 694	16.1
Ireland	55 635	69 093	69 768	69 188	68 220	22.6
Italy	448 825	470 279	478 349	473 178	481 862	7.4
Japan	1 195 370	1 265 360	1 272 256	1 260 385	1 292 903	8.2
Latvia*	5 261	-14 290	-17 031	-20 874	-19 902	-478.3
Liechtenstein	221	250	264	266	237	7.1
Lithuania*	38 336	10 496	13 462	13 606	15 450	-59.7
Luxembourg	13 326	9 500	12 897	12 915	12 523	-6.0
Monaco	108	120	104	93	98	-9.3
Netherlands	214 594	216 939	214 562	210 909	210 041	-2.1
New Zealand	43 714	50 626	51 901	53 722	51 714	18.3
Norway	37 406	36 280	25 781	30 932	29 168	-22.0
Poland**a	536 584	364 775	351 234	358 787	358 384	-33.2
Portugal	60 812	75 732	88 949	82 701	79 517	30.8
Romania**a	243 617	97 525	112 199	116 640	116 068	-52.4
Russian Federation*	3 359 567	2 368 009	1 997 884	2 208 089	2 005 776	-40.3
Slovakia*	70 867	46 038	48 525	45 909	43 754	-38.3
Slovenia**a	18 750	13 736	14 947	15 837	14 948	-20.3
Spain	266 844	359 515	413 735	405 725	414 325	55.3
Sweden	39 881	32 555	38 061	41 283	44 952	12.7
Switzerland	50 369	52 399	54 530	54 250	50 617	0.5
Turkey**	125 188	212 398	242 888	256 739	296 364	136.7
Ukraine*	852 887	338 093	382 655	401 528	392 549	-54.0
United Kingdom	777 118	676 829	654 230	649 663	638 493	-17.8
United States	5 257 278	6 290 721	5 985 872	6 000 560	6 087 487	15.8
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 24</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 2</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 15</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 6. Total anthropogenic carbon dioxide emissions excluding emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	277 815	349 837	382 663	390 609	396 280	42.6
Austria	62 082	65 951	79 009	77 586	74 177	19.5
Belarus*	102 090	51 919	55 329	57 701	56 583	-44.6
Belgium	118 627	123 678	123 432	119 085	114 545	-3.4
Bulgaria* <sup>a</sup>	98 815	50 482	54 028	55 144	58 890	-40.4
Canada	455 844	559 878	569 068	558 318	590 204	29.5
Croatia*	23 105	19 955	23 424	23 528	24 865	7.6
Czech Republic*	164 332	127 138	126 375	128 615	129 950	-20.9
Denmark	54 079	54 236	51 571	59 442	54 594	1.0
Estonia*	37 283	15 556	16 848	16 341	19 093	-48.8
European Community <sup>b</sup>	3 360 247	3 353 536	3 458 892	3 452 009	3 391 148	0.9
Finland	56 613	56 688	56 347	67 705	66 103	16.8
France	398 005	409 466	420 538	410 948	401 007	0.8
Germany	1 035 580	883 683	851 708	867 021	841 152	-18.8
Greece	83 150	103 439	111 047	109 625	113 566	36.6
Hungary* <sup>a</sup>	84 863	58 492	61 099	59 757	57 752	-31.9
Iceland	2 160	2 761	2 864	3 038	3 289	52.3
Ireland	32 400	44 748	47 638	47 243	47 499	46.6
Italy	434 688	462 715	490 056	485 754	475 302	9.3
Japan	1 143 201	1 254 636	1 287 335	1 270 177	1 303 781	14.0
Latvia*	19 222	7 054	7 800	8 287	8 608	-55.2
Liechtenstein	203	228	240	242	211	4.0
Lithuania*	36 109	12 049	14 371	14 594	15 915	-55.9
Luxembourg	12 136	8 897	12 331	12 246	11 844	-2.4
Monaco	105	113	99	89	92	-12.6
Netherlands	159 312	169 619	175 780	172 510	172 657	8.4
New Zealand	25 338	31 088	35 852	36 244	35 231	39.0
Norway	34 792	41 591	42 907	43 337	44 962	29.2
Poland* <sup>a</sup>	469 604	320 588	318 216	329 599	328 275	-30.1
Portugal	43 583	63 751	69 678	65 228	62 793	44.1
Romania* <sup>a</sup>	193 308	95 307	105 874	111 118	110 883	-42.6
Russian Federation*	2 499 098	1 471 149	1 525 743	1 582 638	1 579 823	-36.8
Slovakia*	61 962	40 319	40 741	39 981	38 141	-38.4
Slovenia* <sup>a</sup>	16 293	15 211	16 671	16 854	16 989	4.3
Spain	228 447	307 692	367 997	358 418	366 366	60.4
Sweden	56 257	53 370	52 950	52 727	51 621	-8.2
Switzerland	44 504	43 900	46 038	45 575	43 636	-1.9
Turkey**	139 594	223 806	256 434	273 705	304 475	118.1
Ukraine*	715 609	289 133	320 689	338 890	340 147	-52.5
United Kingdom	591 265	553 106	557 009	554 872	546 425	-7.6
United States	5 068 576	5 946 409	6 081 905	6 006 104	6 094 390	20.2
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 19</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 3</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 19</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 7. Total anthropogenic carbon dioxide emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	308 287	255 157	449 137	401 146	674 932	118.9
Austria	48 651	48 717	61 587	60 152	56 779	16.7
Belarus*	80 054	24 657	30 229	31 676	31 627	-60.5
Belgium	117 204	122 147	123 062	118 025	113 071	-3.5
Bulgaria**a	93 766	41 574	47 243	48 355	52 088	-44.4
Canada	398 214	476 945	600 723	589 066	625 628	57.1
Croatia*	18 920	14 674	15 698	16 038	18 562	-1.9
Czech Republic*	159 639	118 458	118 541	124 008	128 031	-19.8
Denmark	54 631	55 867	51 732	58 567	53 467	-2.1
Estonia*	30 910	14 092	9 286	7 395	11 188	-63.8
European Community <sup>b</sup>	3 137 562	3 087 180	3 156 424	3 157 671	3 125 916	-0.4
Finland	38 653	38 059	27 818	35 267	40 614	5.1
France	353 064	359 418	345 242	335 930	324 657	-8.0
Germany	1 007 274	851 528	829 106	850 787	824 362	-18.2
Greece	79 902	100 803	106 045	104 532	109 758	37.4
Hungary**a	81 234	57 635	56 454	55 620	53 587	-34.0
Iceland	3 340	3 784	3 781	3 928	4 163	24.6
Ireland	32 635	44 866	47 114	46 714	46 480	42.4
Italy	367 037	383 389	394 682	395 617	404 176	10.1
Japan	1 068 837	1 173 970	1 201 728	1 188 442	1 222 419	14.4
Latvia*	-2 217	-17 403	-20 483	-24 300	-23 411	956.0
Liechtenstein	195	223	233	235	205	5.1
Lithuania*	25 352	3 339	5 253	5 300	6 608	-73.9
Luxembourg	12 344	8 426	11 837	11 857	11 453	-7.2
Monaco	105	113	99	89	92	-12.6
Netherlands	161 909	172 131	178 160	174 910	175 194	8.2
New Zealand	7 144	11 062	10 514	12 304	11 316	58.4
Norway	22 488	24 499	14 973	20 778	19 067	-15.2
Poland**a	436 670	294 091	280 491	286 717	285 390	-34.6
Portugal	44 949	57 616	69 135	63 135	60 422	34.4
Romania**a	160 875	57 298	68 693	73 916	74 654	-53.6
Russian Federation*	2 535 336	1 805 089	1 404 076	1 601 786	1 390 205	-45.2
Slovakia*	59 555	37 915	39 863	36 930	34 922	-41.4
Slovenia**a	14 703	10 036	11 240	12 121	11 215	-23.7
Spain	206 968	281 264	340 322	330 510	338 331	63.5
Sweden	24 123	17 690	23 703	27 013	31 043	28.7
Switzerland	42 144	44 645	46 897	46 646	42 982	2.0
Turkey**	94 724	156 248	186 901	197 769	228 201	140.9
Ukraine*	642 452	237 508	285 808	303 640	296 558	-53.8
United Kingdom	594 194	552 766	555 075	553 055	544 610	-8.3
United States	4 235 263	5 237 671	4 968 092	4 964 331	5 040 842	19.0
<i>Number of Parties showing decrease in emissions by more than 1 per cent:</i>						21
<i>Number of Parties showing change in emissions within 1 per cent:</i>						1
<i>Number of Parties showing increase in emissions by more than 1 per cent:</i>						19

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 8. Total anthropogenic methane emissions excluding emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	114 699	116 356	111 891	113 676	115 290	0.5
Austria	9 183	7 621	7 178	7 080	6 956	-24.3
Belarus*	15 412	11 422	13 249	13 930	14 231	-7.7
Belgium	9 993	8 472	6 925	6 765	6 658	-33.4
Bulgaria* <sup>a</sup>	21 986	13 421	11 925	11 693	11 604	-47.2
Canada	73 845	97 575	101 222	101 433	99 968	35.4
Croatia*	3 419	2 658	3 124	3 338	3 481	1.8
Czech Republic*	18 461	12 085	11 645	12 094	11 702	-36.6
Denmark	5 731	5 923	5 712	5 658	5 781	0.9
Estonia*	2 726	1 714	1 721	1 723	1 724	-36.8
European Community <sup>b</sup>	433 580	362 716	311 169	305 931	302 507	-30.2
Finland	6 303	5 431	4 507	4 572	4 443	-29.5
France	65 325	61 355	54 860	54 154	53 881	-17.5
Germany	97 805	63 834	46 223	44 103	42 552	-56.5
Greece	9 004	8 934	8 146	8 128	8 128	-9.7
Hungary* <sup>a</sup>	11 891	9 368	8 798	8 710	8 545	-28.1
Iceland	452	455	442	467	484	7.2
Ireland	13 469	13 536	13 249	13 278	12 962	-3.8
Italy	41 739	44 197	39 645	38 044	38 217	-8.4
Japan	32 622	26 365	23 421	23 037	22 604	-30.7
Latvia*	3 651	1 797	1 870	1 782	1 837	-49.7
Liechtenstein	13	12	14	14	15	9.7
Lithuania*	5 898	3 107	3 121	3 192	3 159	-46.4
Luxembourg	466	476	459	456	454	-2.7
Monaco	0.65	0.80	0.62	0.52	0.61	-5.1
Netherlands	25 546	19 794	17 228	16 832	16 963	-33.6
New Zealand	25 429	27 035	27 232	27 406	26 560	4.4
Norway	4 615	4 759	4 434	4 259	4 411	-4.4
Poland* <sup>a</sup>	58 943	37 992	36 189	36 393	36 225	-38.5
Portugal	10 120	11 364	13 007	13 057	12 815	26.6
Romania* <sup>a</sup>	46 421	25 093	26 343	26 569	25 722	-44.6
Russian Federation*	568 111	420 229	459 623	470 524	474 877	-16.4
Slovakia*	4 787	4 423	4 578	4 633	4 532	-5.3
Slovenia* <sup>a</sup>	2 384	2 229	2 184	2 160	2 172	-8.9
Spain	28 587	36 658	37 944	38 511	39 059	36.6
Sweden	6 709	6 072	5 624	5 530	5 357	-20.1
Switzerland	4 348	3 669	3 516	3 505	3 511	-19.2
Turkey**	29 207	49 269	49 317	50 330	54 384	86.2
Ukraine*	151 373	77 344	73 866	74 348	72 027	-52.4
United Kingdom	104 477	69 814	51 128	50 439	48 939	-53.2
United States	611 971	570 469	547 508	550 716	556 313	-9.1
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 31</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 2</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 8</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 9. Total anthropogenic methane emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	119 799	119 261	115 581	118 200	119 774	0.0
Austria	9 183	7 621	7 178	7 080	6 956	-24.3
Belarus*	15 416	11 427	13 253	13 935	14 235	-7.7
Belgium	9 993	8 472	6 925	6 765	6 658	-33.4
Bulgaria**a	21 986	13 421	11 925	11 693	11 604	-47.2
Canada	77 589	99 188	107 245	107 986	106 158	36.8
Croatia*	3 419	2 659	3 124	3 338	3 481	1.8
Czech Republic*	18 559	12 173	11 753	12 229	11 876	-36.0
Denmark	5 730	5 923	5 711	5 658	5 781	0.9
Estonia*	2 731	1 717	1 722	1 733	1 726	-36.8
European Community <sup>b</sup>	435 552	365 759	313 818	308 647	304 941	-30.0
Finland	6 405	5 558	4 640	4 706	4 573	-28.6
France	66 675	63 711	56 857	56 068	55 758	-16.4
Germany	97 805	63 834	46 223	44 103	42 552	-56.5
Greece	9 054	9 100	8 153	8 145	8 271	-8.6
Hungary**a	11 921	9 395	8 825	8 736	8 570	-28.1
Iceland	454	463	450	476	498	9.8
Ireland	13 470	13 537	13 250	13 280	12 963	-3.8
Italy	41 882	44 284	39 679	38 075	38 414	-8.3
Japan	32 631	26 372	23 430	23 039	22 606	-30.7
Latvia*	3 670	1 856	1 905	1 819	1 869	-49.1
Liechtenstein	13	12	14	14	15	9.7
Lithuania*	5 899	3 109	3 121	3 199	3 159	-46.4
Luxembourg	466	476	459	456	454	-2.7
Monaco	0.65	0.80	0.62	0.52	0.61	-5.1
Netherlands	25 546	19 794	17 228	16 832	16 963	-33.6
New Zealand	25 478	27 079	27 281	27 454	26 622	4.5
Norway	4 616	4 759	4 434	4 267	4 412	-4.4
Poland**a	58 950	40 249	38 537	38 768	38 611	-34.5
Portugal	10 257	11 482	13 222	13 124	12 834	25.1
Romania**a	46 421	25 101	26 343	26 571	25 728	-44.6
Russian Federation*	571 744	423 533	461 195	473 299	477 214	-16.5
Slovakia*	4 802	4 437	4 601	4 652	4 551	-5.2
Slovenia**a	2 384	2 229	2 184	2 160	2 172	-8.9
Spain	28 758	36 817	38 180	39 022	39 093	35.9
Sweden	6 711	6 075	5 629	5 543	5 360	-20.1
Switzerland	4 356	3 669	3 516	3 506	3 513	-19.4
Turkey**	29 207	49 269	49 317	50 330	54 384	86.2
Ukraine*	151 382	77 347	73 871	74 357	72 132	-52.4
United Kingdom	104 494	69 839	51 148	50 469	48 970	-53.1
United States	616 557	591 104	561 709	581 976	585 317	-5.1
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 31</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 2</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 8</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 10. Total anthropogenic nitrous oxide emissions excluding emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	18 102	24 990	23 923	24 306	23 468	29.6
Austria	6 167	6 204	5 326	5 376	5 373	-12.9
Belarus*	11 628	7 644	8 828	9 669	9 162	-21.2
Belgium	10 775	11 525	9 840	8 934	8 079	-25.0
Bulgaria* <sup>a</sup>	12 946	5 221	4 682	4 483	5 049	-61.0
Canada	50 093	48 011	49 622	47 906	47 958	-4.3
Croatia*	3 903	3 307	3 520	3 456	3 557	-8.9
Czech Republic*	11 841	7 598	7 539	7 419	7 470	-36.9
Denmark	10 559	8 320	6 772	6 515	6 813	-35.5
Estonia*	1 926	1 036	948	975	1 055	-45.2
European Community <sup>b</sup>	383 328	327 156	304 841	290 830	289 115	-24.6
Finland	7 852	6 849	6 949	6 854	6 864	-12.6
France	92 187	77 203	67 291	64 969	64 477	-30.1
Germany	69 962	48 311	55 380	52 285	55 216	-21.1
Greece	12 213	10 782	9 932	9 660	9 426	-22.8
Hungary* <sup>a</sup>	19 349	9 599	9 558	9 544	8 858	-54.2
Iceland	368	357	310	338	359	-2.5
Ireland	9 478	10 075	8 672	8 438	8 043	-15.1
Italy	37 400	39 772	37 899	32 540	31 836	-14.9
Japan	31 994	29 276	24 846	24 739	23 792	-25.6
Latvia*	3 805	1 242	1 513	1 554	1 577	-58.6
Liechtenstein	13	13	13	13	13	-1.4
Lithuania*	7 068	4 025	5 054	5 068	5 639	-20.2
Luxembourg	499	551	515	511	525	5.3
Monaco	1.64	3.29	3.02	2.79	3.07	87.5
Netherlands	20 225	19 286	17 312	17 142	15 605	-22.8
New Zealand	10 429	12 102	13 337	13 231	12 846	23.2
Norway	4 718	4 518	4 738	4 398	4 233	-10.3
Poland* <sup>a</sup>	40 665	29 555	28 897	30 156	30 746	-24.4
Portugal	5 565	6 279	5 739	5 541	5 278	-5.2
Romania* <sup>a</sup>	32 971	14 708	16 587	15 521	15 040	-54.4
Russian Federation*	221 763	107 483	101 851	101 071	103 903	-53.1
Slovakia*	6 235	3 582	3 847	4 072	4 008	-35.7
Slovenia* <sup>a</sup>	1 376	1 319	1 284	1 309	1 319	-4.1
Spain	27 747	32 631	29 687	30 020	30 470	9.8
Sweden	8 480	7 818	7 430	7 431	7 181	-15.3
Switzerland	3 613	3 360	3 220	3 228	3 235	-10.5
Turkey**	1 257	5 740	3 432	4 594	9 652	667.6
Ukraine*	58 848	23 131	22 775	23 391	23 652	-59.8
United Kingdom	64 605	41 934	36 461	34 977	34 289	-46.9
United States	313 471	325 525	312 639	307 099	306 989	-2.1
<i>Number of Parties showing decrease in emissions by more than 1 per cent:</i>						35
<i>Number of Parties showing change in emissions within 1 per cent:</i>						0
<i>Number of Parties showing increase in emissions by more than 1 per cent:</i>						6

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 11. Total anthropogenic nitrous oxide emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	20 110	26 302	25 362	25 831	25 042	24.5
Austria	6 420	6 464	5 595	5 643	5 648	-12.0
Belarus*	11 631	7 653	8 837	9 680	9 172	-21.1
Belgium	10 775	11 525	9 840	8 934	8 079	-25.0
Bulgaria**a	12 946	5 221	4 682	4 483	5 049	-61.0
Canada	52 413	49 010	53 357	51 972	51 799	-1.2
Croatia*	3 903	3 307	3 520	3 456	3 557	-8.9
Czech Republic*	11 872	7 617	7 557	7 440	7 495	-36.9
Denmark	10 559	8 320	6 772	6 515	6 813	-35.5
Estonia*	1 927	1 037	949	977	1 056	-45.2
European Community <sup>b</sup>	387 448	330 548	308 530	294 639	292 498	-24.5
Finland	7 937	6 934	7 039	6 951	6 958	-12.3
France	95 733	80 011	69 654	67 212	66 611	-30.4
Germany	70 019	48 368	56 132	52 948	55 878	-20.2
Greece	12 218	10 799	9 932	9 662	9 440	-22.7
Hungary**a	19 352	9 601	9 560	9 547	8 860	-54.2
Iceland	691	680	636	664	682	-1.3
Ireland	9 493	10 098	8 704	8 471	8 076	-14.9
Italy	37 415	39 781	37 902	32 842	31 856	-14.9
Japan	32 063	29 297	24 857	24 748	23 800	-25.8
Latvia*	3 807	1 248	1 517	1 560	1 580	-58.5
Liechtenstein	13	13	13	13	13	-1.4
Lithuania*	7 085	4 043	5 072	5 086	5 658	-20.1
Luxembourg	499	551	515	511	525	5.3
Monaco	1.64	3.29	3.02	2.79	3.07	87.5
Netherlands	20 225	19 286	17 312	17 142	15 605	-22.8
New Zealand	10 435	12 113	13 352	13 246	12 863	23.3
Norway	4 732	4 531	4 750	4 411	4 246	-10.3
Poland**a	40 666	29 558	28 900	30 158	30 748	-24.4
Portugal	5 605	6 318	5 787	5 574	5 306	-5.3
Romania**a	32 971	14 709	16 587	15 521	15 041	-54.4
Russian Federation*	222 132	107 818	102 009	101 353	104 142	-53.1
Slovakia*	6 238	3 585	3 852	4 075	4 012	-35.7
Slovenia**a	1 376	1 319	1 284	1 309	1 319	-4.1
Spain	27 765	32 647	29 711	30 072	30 474	9.8
Sweden	8 559	7 892	7 533	7 545	7 296	-14.8
Switzerland	3 624	3 366	3 225	3 233	3 241	-10.6
Turkey**	1 257	5 740	3 432	4 594	9 652	667.6
Ukraine*	58 850	23 132	22 776	23 394	23 679	-59.8
United Kingdom	64 613	41 940	36 465	34 982	34 293	-46.9
United States	314 986	329 168	315 910	312 124	311 858	-1.0
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 34</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 1</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 6</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 12. Total aggregate anthropogenic emissions of hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	5 597	3 672	6 159	5 881	6 141	9.7
Austria	1 605	1 302	1 320	1 477	1 453	-9.5
Belarus*		10	28	32	33	
Belgium	3 855	1 424	1 721	1 828	2 019	-47.6
Bulgaria* <sup>a</sup>		98	391	616	250	
Canada	12 010	11 638	11 055	10 521	8 910	-25.8
Croatia*	948	35	365	447	482	-49.2
Czech Republic*	78	413	690	978	1 702	2 090.7
Denmark	44	688	847	884	904	1 933.2
Estonia*		74	120	141	146	
European Community <sup>b</sup>	55 745	64 231	66 446	67 193	69 193	24.1
Finland	94	576	893	804	935	889.6
France	9 978	12 557	15 756	16 300	16 407	64.4
Germany	11 861	12 335	15 582	16 596	17 192	44.9
Greece	1 196	3 971	2 706	676	734	-38.6
Hungary* <sup>a</sup>	350	557	928	853	789	125.6
Iceland	421	158	79	393	350	-16.7
Ireland	36	592	699	724	701	1 838.1
Italy	2 492	2 825	6 085	6 644	7 416	197.6
Japan	61 840	35 721	22 241	24 155	24 079	-61.1
Latvia*		9	30	48	60	
Liechtenstein	0.00	2.36	4.22	4.21	4.59	-
Lithuania*		4	16	20	25	
Luxembourg	17	47	86	91	91	431.6
Monaco	0.16	2.69	1.91	0.76	2.04	1 170.1
Netherlands	6 914	5 729	1 862	2 025	2 279	-67.0
New Zealand	657	372	753	718	913	38.9
Norway	5 570	2 491	1 623	1 476	1 443	-74.1
Poland* <sup>a</sup>	298	876	3 306	3 144	3 636	1 118.0
Portugal		316	804	867	955	
Romania* <sup>a</sup>	3 350	417	576	632	645	-80.7
Russian Federation*	30 355	31 569	30 603	31 651	34 216	12.7
Slovakia*	271	100	209	252	269	-0.8
Slovenia* <sup>a</sup>	287	152	238	246	241	-15.7
Spain	3 353	8 786	5 522	6 121	6 426	91.7
Sweden	488	899	1 197	1 182	1 253	156.8
Switzerland	244	718	891	865	882	261.7
Turkey**		1 141	3 238	4 045	4 126	
Ukraine*	203	106	199	137	180	-11.6
United Kingdom	13 817	12 284	11 542	11 156	10 620	-23.1
United States	90 472	132 777	140 161	142 130	149 470	65.2
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 13</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 1</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 20</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.



**Table 13. Net anthropogenic carbon dioxide emissions and removals from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	30 472	-94 680	66 474	10 538	278 652	814.4
Austria	-13 430	-17 235	-17 422	-17 434	-17 398	29.5
Belarus*	-22 035	-27 262	-25 100	-26 025	-24 956	13.3
Belgium	-1 422	-1 532	-370	-1 061	-1 473	3.6
Bulgaria**a	-5 050	-8 908	-6 785	-6 790	-6 802	34.7
Canada	-57 630	-82 932	31 655	30 748	35 424	-161.5
Croatia*	-4 185	-5 281	-7 726	-7 490	-6 303	50.6
Czech Republic*	-4 693	-8 680	-7 835	-4 607	-1 919	-59.1
Denmark	552	1 631	161	-875	-1 127	-304.3
Estonia*	-6 374	-1 463	-7 562	-8 946	-7 905	24.0
European Community <sup>b</sup>	-222 685	-266 356	-302 468	-294 338	-265 233	19.1
Finland	-17 960	-18 629	-28 529	-32 438	-25 489	41.9
France	-44 941	-50 049	-75 295	-75 019	-76 350	69.9
Germany	-28 306	-32 155	-22 602	-16 234	-16 790	-40.7
Greece	-3 248	-2 636	-5 001	-5 093	-3 808	17.2
Hungary**a	-3 629	-857	-4 645	-4 138	-4 165	14.8
Iceland	1 180	1 023	917	891	874	-25.9
Ireland	235	118	-524	-529	-1 019	-533.3
Italy	-67 651	-79 326	-95 374	-90 136	-71 127	5.1
Japan	-74 364	-80 666	-85 608	-81 735	-81 363	9.4
Latvia*	-21 439	-24 457	-28 283	-32 588	-32 019	49.3
Liechtenstein	-8.32	-4.92	-6.53	-6.55	-6.57	-21.1
Lithuania*	-10 757	-8 710	-9 119	-9 294	-9 307	-13.5
Luxembourg	208	-472	-494	-389	-391	-287.6
Monaco	-0.03	-0.04	-0.04	-0.04	-0.04	12.6
Netherlands	2 597	2 512	2 380	2 400	2 537	-2.3
New Zealand	-18 194	-20 026	-25 338	-23 940	-23 915	31.4
Norway	-12 304	-17 092	-27 934	-22 558	-25 895	110.5
Poland**a	-32 935	-26 497	-37 725	-42 882	-42 885	30.2
Portugal	1 366	-6 135	-543	-2 093	-2 370	-273.5
Romania**a	-32 433	-38 008	-37 182	-37 202	-36 229	11.7
Russian Federation*	36 239	333 940	-121 667	19 148	-189 618	-623.2
Slovakia*	-2 407	-2 403	-877	-3 051	-3 219	33.8
Slovenia**a	-1 589	-5 175	-5 430	-4 733	-5 774	263.3
Spain	-21 479	-26 428	-27 675	-27 908	-28 035	30.5
Sweden	-32 134	-35 680	-29 247	-25 713	-20 578	-36.0
Switzerland	-2 360	745	859	1 070	-655	-72.3
Turkey**	-44 871	-67 558	-69 533	-75 935	-76 274	70.0
Ukraine*	-73 157	-51 625	-34 881	-35 250	-43 590	-40.4
United Kingdom	2 929	-339	-1 934	-1 816	-1 815	-162.0
United States	-833 313	-708 737	-1 113 813	-1 041 773	-1 053 548	26.4
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 16</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 0</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 25</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 14. Anthropogenic methane emissions from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	5 099	2 905	3 691	4 524	4 484	-12.1
Austria	0.26	0.06	0.04	0.10	0.05	-81.5
Belarus*	4.10	4.91	3.20	5.61	3.56	-13.3
Belgium						
Bulgaria* <sup>a</sup>						
Canada	3 744	1 613	6 023	6 553	6 189	65.3
Croatia*	0.01	0.04	0.00	0.00	0.01	-9.0
Czech Republic*	97	88	108	134	175	79.3
Denmark	-0.60	-0.50	-0.49	-0.49	-0.49	-17.3
Estonia*	4.76	3.11	0.41	10.01	1.28	-73.2
European Community <sup>b</sup>	1 973	3 043	2 649	2 717	2 434	23.4
Finland	102	127	133	133	130	27.6
France	1 350	2 357	1 997	1 914	1 878	39.1
Germany						
Greece	50	166	7	17	143	186.1
Hungary* <sup>a</sup>	30	27	27	26	25	-18.2
Iceland	1.81	7.97	7.97	9.45	13.92	668.3
Ireland	1.80	1.27	0.66	1.89	0.94	-47.8
Italy	143	87	34	31	197	37.7
Japan	8.31	7.75	9.14	2.44	1.91	-77.0
Latvia*	19	58	35	37	31	62.1
Liechtenstein						
Lithuania*	0.64	1.76	0.28	6.67	0.22	-65.5
Luxembourg						
Monaco						
Netherlands						
New Zealand	50	44	50	48	62	24.5
Norway	1.77	0.33	0.65	7.24	0.24	-86.3
Poland* <sup>a</sup>	7	2 258	2 349	2 375	2 385	-
Portugal	137	118	215	67	18	-86.5
Romania* <sup>a</sup>	0.21	8.19	0.48	2.15	6.69	3 070.6
Russian Federation*	3 633	3 304	1 572	2 775	2 337	-35.7
Slovakia*	15	14	22	19	19	29.6
Slovenia* <sup>a</sup>						
Spain	171	159	236	511	35	-79.7
Sweden	1.72	2.95	4.99	12.21	2.39	38.6
Switzerland	8.19	0.27	0.35	0.75	1.74	-78.8
Turkey**	0.04	0.07	0.00	0.03	0.04	16.0
Ukraine*	8.39	3.44	5.25	8.94	105.60	1 158.8
United Kingdom	17	25	20	30	31	84.1
United States	4 586	20 635	14 200	31 259	29 004	532.5
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 15</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 0</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 18</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

\* A Party undergoing the process of transition to a market economy.

\*\* Decision 26/CP.7 invited Parties to recognize the special circumstances of Turkey, which place Turkey in a situation different from that of other Annex I Parties.

**Table 15. Anthropogenic nitrous oxide emissions from land use, land-use change and forestry, 1990, 2000 and 2005–2007**

Party	Gg CO <sub>2</sub> equivalent					Change from 1990 to 2007 (%)
	1990	2000	2005	2006	2007	
Australia	2 008	1 313	1 439	1 526	1 574	-21.6
Austria	252	260	268	268	275	9.0
Belarus*	2.90	8.80	8.62	10.79	10.60	265.8
Belgium						
Bulgaria**a						
Canada	2 320	999	3 735	4 066	3 840	65.5
Croatia*	0.00	0.01	0.00	0.00	0.00	-9.0
Czech Republic*	31	19	18	21	25	-21.1
Denmark	0.09	0.07	0.07	0.07	0.07	-17.3
Estonia*	1.07	1.29	1.02	1.99	1.10	3.4
European Community <sup>b</sup>	4 119	3 392	3 689	3 809	3 383	-17.9
Finland	85	85	90	97	94	10.0
France	3 546	2 808	2 363	2 243	2 133	-39.8
Germany	56	56	752	662	662	1 072.1
Greece	5.06	16.86	0.74	1.70	14.48	186.1
Hungary**a	3.06	2.73	2.73	2.64	2.49	-18.5
Iceland	324	323	325	326	324	-0.1
Ireland	15	23	33	33	33	116.4
Italy	15	9	3	302	20	37.7
Japan	69	21	11	9	8	-88.3
Latvia*	2.01	6.29	3.62	5.33	3.36	66.9
Liechtenstein		0.02	0.03			
Lithuania*	18	18	18	18	19	4.3
Luxembourg	0.13	0.13	0.13	0.13	0.13	0.0
Monaco						
Netherlands						
New Zealand	6	11	15	15	17	200.8
Norway	13	13	13	13	13	-6.2
Poland**a	0.76	2.86	2.79	2.81	2.42	218.6
Portugal	40	38	48	33	28	-29.9
Romania**a	0.02	0.83	0.05	0.22	0.68	3 070.6
Russian Federation*	369	335	158	282	239	-35.3
Slovakia*	3.41	3.10	5.34	3.17	3.88	13.9
Slovenia**a						
Spain	17	16	24	52	3	-80.4
Sweden	79	74	103	114	116	45.9
Switzerland	11.33	5.95	5.24	5.23	5.59	-50.6
Turkey**	0.00	0.01	0.00	0.00	0.00	16.7
Ukraine*	2.17	0.89	1.36	2.31	27.28	1 158.8
United Kingdom	8.11	5.33	3.63	4.39	4.36	-46.3
United States	1 515	3 644	3 271	5 025	4 869	221.4
<i>Number of Parties showing decrease in emissions by more than 1 per cent: 14</i>						
<i>Number of Parties showing change in emissions within 1 per cent: 2</i>						
<i>Number of Parties showing increase in emissions by more than 1 per cent: 19</i>						

<sup>a</sup> Data for the base year defined by decisions 9/CP.2 and 11/CP.4 (Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989), Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>b</sup> Emission estimates of the European Community are reported separately from those of its member States.

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