United Nations FCCC/SBI/2012/31

Framework Convention on Climate Change

Distr.: General
16 November 2012

Original: English

Subsidiary Body for Implementation
Thirty-seventh session
Doha, 26 November to 1 December 2012

Item 3(b) of the provisional agenda
National communications 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 1990–2010

National greenhouse gas inventory data for the period 1990–2010

Note by the secretariat*

Summary

All 42 Parties included in Annex I to the Convention (Annex I Parties) submitted their greenhouse gas (GHG) inventory common reporting format (CRF) tables and national inventory reports (NIRs) in 2012. By the deadline of 15 April, 41 sets of CRF tables and 36 NIRs had been received. From 1990 to 2010, total aggregate GHG emissions excluding emissions/removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties decreased by 8.9 per cent, and total GHG emissions/removals including LULUCF decreased by 14.6 per cent. For Annex I Parties with economies in transition (Annex I EIT Parties), GHG emissions excluding and including LULUCF decreased by 39.2 per cent and 52.6 per cent, respectively. For Annex I non-EIT Parties, GHG emissions excluding and including LULUCF increased by 4.9 per cent and 4.1 per cent, respectively. Information in this document is based on national GHG inventory submissions received as at 22 October 2012. At the time of publication, the annual review process for GHG inventories from Annex I Parties was still ongoing, and therefore the data included in this document may not reflect the latest information provided by Parties. The latest inventory data are available on the UNFCCC website.

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

Contents

I. Introduction

A. Mandate

1. The Conference of the Parties (COP), by 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 "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[1] 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. This document shows the status of reporting of GHG inventories by Annex I Parties in 2012 (chapter II) and provides a summary of the latest available data on GHG emissions and removals for the period 1990–2010 (chapter III). Data are provided for carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O), and for hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6) taken together. Data are also provided for total[2] aggregate[3] GHG emissions, both including and excluding net GHG emissions/removals from land use, land-use change and forestry (LULUCF).

3. The information provided in this document is based on national GHG inventory submissions received from all 42 Annex I Parties as at 22 October 2012. At the time of publication, the annual review process was still ongoing, and therefore the data presented here may not reflect the latest information provided by Parties. The latest GHG inventory data are available on the UNFCCC website.[4]

C. Possible action by the Subsidiary Body for Implementation and the Conference of the Parties

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,[5] 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

[1] FCCC/CP/2002/8, annex II, paragraphs 42 and 43.

[2] 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 in the sum is indicated separately.

[3] The term 'aggregate' implies that GHG emissions/removals are calculated as a weighted sum of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 using the global warming potentials agreed under the Convention.

[4] <http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/6598.php>.

[5] "Updated UNFCCC reporting guidelines on annual inventories following incorporation of the provisions of decision 14/CP.11" (FCCC/SBSTA/2006/9).

prior to the year of submission. In 2012, all 42 Annex I Parties provided GHG data for all years from 1990[6] to 2010.

6. By the due date of 15 April, 41 sets of CRF tables and 36 NIRs were received, and, within six weeks of the deadline, all Parties had submitted their CRF tables and NIRs. The dates of the initial submissions of the CRF tables are shown in table 1.

Table 1
Greenhouse gas inventory submissions from Annex I Parties in 2012

Party	*CRF submission date*[a]	*Party*	*CRF submission date*[a]
Australia	14 April 2012	Liechtenstein	13 April 2012
Austria	12 April 2012	Lithuania	13 April 2012
Belarus	14 April 2012	Luxembourg	5 April 2012
Belgium	15 April 2012	Malta	13 April 2012
Bulgaria	12 April 2012	Monaco	29 March 2012
Canada	11 April 2012	Netherlands	14 April 2012
Croatia	13 April 2012	New Zealand	12 April 2012
Czech Republic	15 April 2012	Norway	15 April 2012
Denmark	13 April 2012	Poland	13 April 2012
Estonia	13 April 2012	Portugal	13 April 2012
European Union	13 April 2012	Romania	21 March 2012
Finland	12 April 2012	Russian Federation	13 April 2012
France	4 April 2012	Slovakia	14 April 2012
Germany	13 April 2012	Slovenia	12 April 2012
Greece	11 April 2012	Spain	*17 April 2012*
Hungary	14 April 2012	Sweden	26 March 2012
Iceland	14 April 2012	Switzerland	12 April 2012
Ireland	13 April 2012	Turkey	14 April 2012
Italy	11 April 2012	Ukraine	13 April 2012
Japan	12 April 2012	United Kingdom	13 April 2012
Latvia	14 April 2012	United States	13 April 2012

Abbreviation: CRF = common reporting format.

[a] Dates after the submission deadline of 15 April 2012 are shown in italics. The date of submission of the national inventory report may be different.

7. After the initial submissions, nine Parties submitted revised versions of their CRF tables, and 12 Parties resubmitted their NIRs.

B. Recalculations

8. In accordance with the UNFCCC reporting guidelines on annual inventories, Parties should, when necessary, conduct recalculations in order to improve the quality of their emission estimates and to ensure the consistency of the time series.

9. In 2012, the recalculations resulting from changes in activity data, emission factors and methodologies used had a varied impact on the 1990 GHG emissions of 41 Parties

[6] Unless otherwise specified, base year data are used instead of 1990 data. The Parties that may use a base year other than 1990, as stipulated in decisions 9/CP.2 and 11/CP.4, 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 2). For total aggregate GHG emissions excluding LULUCF, the change was less than 1 per cent for 32 Parties and more than 2 per cent for three Parties. For total aggregate GHG emissions including LULUCF, the change was less than 1 per cent for 18 Parties and more than 3 per cent for 14 Parties.

Table 2
Inventory recalculations by Annex I Parties in 2012

Party	*Impact on 1990 GHG emissions excluding LULUCF (%)*	*Impact on 1990 GHG emissions including LULUCF (%)*
Australia	–0.11	10.70
Austria	–0.01	5.75
Belarus	Less than ±0.001[a]	Less than ±0.001[a]
Belgium	–0.12	0.10
Bulgaria	3.25	3.63
Canada	–0.33	–0.38
Croatia	0.09	5.59
Czech Republic	–0.06	–0.06
Denmark	0.84	2.55
Estonia	–1.25	1.82
European Union	–0.10	1.01
Finland	–0.005	–1.23
France	–0.69	3.11
Germany	–0.14	0.14
Greece	0.42	0.39
Hungary	0.56	0.56
Iceland	2.53	3.76
Ireland	0.62	2.04
Italy	0.02	5.99
Japan	0.01	–0.03
Latvia	–0.25	–7.71
Liechtenstein	0.47	0.49
Lithuania	0.57	–3.70
Luxembourg	0.05	0.05
Malta	–1.43	–1.47
Monaco	–	–
Netherlands	0.01	0.15
New Zealand	1.16	–9.12
Norway	0.07	–0.21
Poland	–0.06	–0.25
Portugal	1.10	6.17
Romania	1.80	1.97
Russian Federation	–0.58	–0.57
Slovakia	–3.20	–13.64
Slovenia	–0.03	0.60

Party	*Impact on 1990 GHG emissions excluding LULUCF (%)*	*Impact on 1990 GHG emissions including LULUCF (%)*
Spain	–0.12	–0.15
Sweden	0.37	13.42
Switzerland	–0.12	–2.36
Turkey	Less than ±0.001[a]	–8.15
Ukraine	–0.40	–0.41
United Kingdom	–1.56	–1.55
United States	–0.09	–0.51

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

[a] Due to a technical error in some common reporting format (CRF) tables, there is a discrepancy between the values presented in this table and the values presented in the relevant CRF tables.

10. Table 3 presents a comparison of the estimates of total aggregate GHG emissions in 1990 reported in document FCCC/SBI/2011/9, containing information based on Annex I Parties' 2011 GHG inventory submissions, and those reported in the present document, based on Parties' 2012 submissions.

Table 3
Comparison of 2012 and 2011 estimates of total aggregate greenhouse gas emissions from Annex I Parties in 1990

	2011	*2012*	*Explanation of the difference between 2012 and 2011 estimates*
Total aggregate GHG emissions excluding LULUCF (thousands of Tg CO_2 eq)			
All Annex I Parties	19.04	19.00	Aggregate impacts of inventory recalculations by individual Annex I Parties
Annex I EIT Parties	5.97	5.95	Inventory recalculations, for example, in the Russian Federation, Slovakia and Ukraine
Annex I non-EIT Parties	13.07	13.05	Inventory recalculations, for example, in the United Kingdom and the United States
Total aggregate GHG emissions including LULUCF (thousands of Tg CO_2 eq)			
All Annex I Parties	17.67	17.70	Aggregate impacts of inventory recalculations by individual Annex I Parties
Annex I EIT Parties	5.85	5.83	Inventory recalculations, for example, in Lithuania, the Russian Federation and Slovakia
Annex I non-EIT Parties	11.82	11.87	Inventory recalculations, for example, in Australia, France and Italy

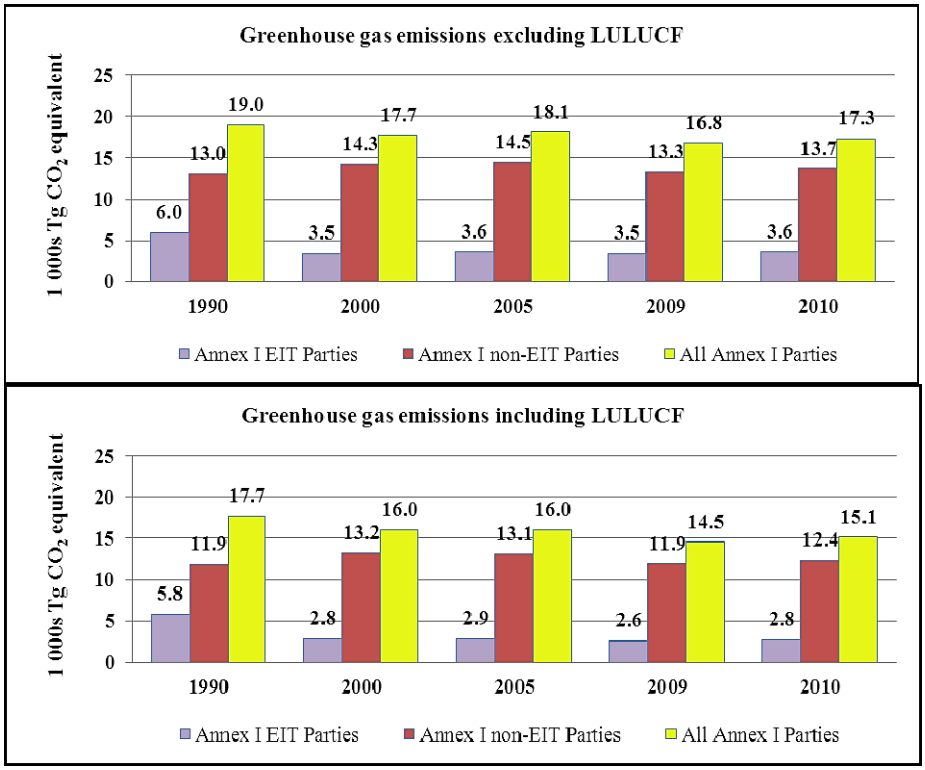
Abbreviations: EIT = economies in transition, GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

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

A. Total aggregate greenhouse gas emissions

11. From 1990 to 2010, total aggregate GHG emissions excluding emissions/removals from LULUCF for all Annex I Parties decreased by 8.9 per cent, from 19,001.4 Tg[7] CO_2 eq to 17,314.9 Tg CO_2 eq (figures 1 and 2). Total aggregate GHG emissions including LULUCF decreased by 14.6 per cent, from 17,700.5 Tg CO_2 eq to 15,124.4 Tg CO_2 eq. Compared with 2000, GHG emissions in 2010 decreased by 2.3 per cent excluding LULUCF and by 5.7 per cent including LULUCF. Between 2009 and 2010, GHG emissions excluding and including LULUCF increased by 3.1 and 4.1 per cent, respectively.

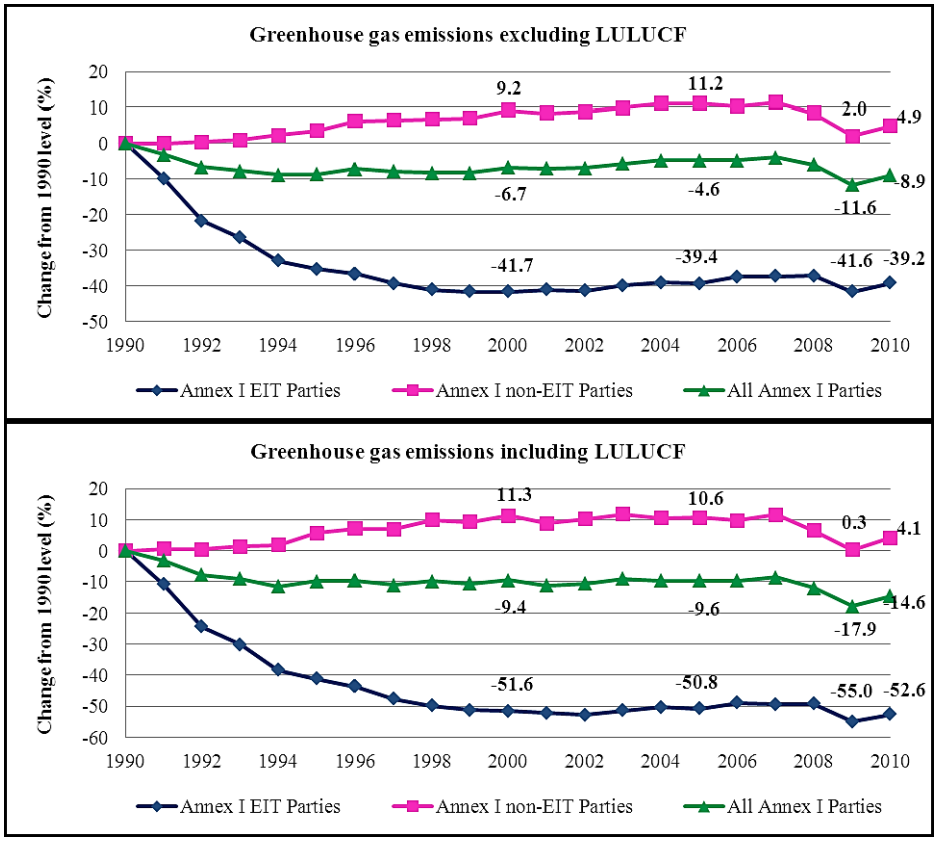
Figure 1
Greenhouse gas emissions from Annex I Parties, 1990, 2000, 2005, 2009 and 2010



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

[7] One teragram (Tg) equals one million tonnes.

Figure 2
Changes in greenhouse gas emissions from Annex I Parties, 1990–2010



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

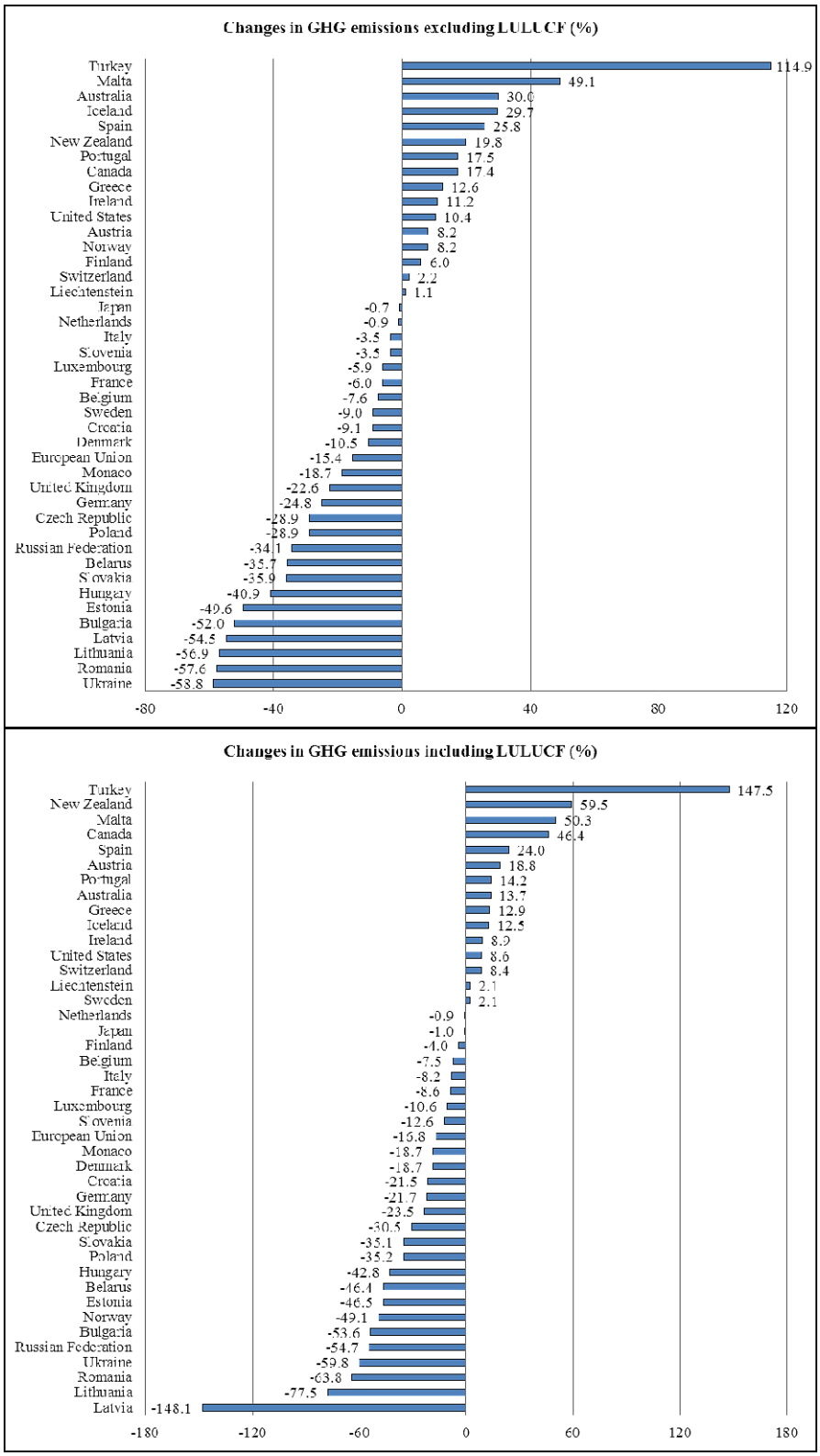
12. For Annex I Parties with economies in transition (Annex I EIT Parties), GHG emissions excluding and including LULUCF over the period 1990–2010 decreased by 39.2 per cent and 52.6 per cent, respectively. In the 2000–2010 period, GHG emissions excluding LULUCF from these Parties increased by 4.4 per cent, whereas GHG emissions including LULUCF decreased by 2.2 per cent. Between 2009 and 2010, emissions increased by 4.2 per cent (excluding LULUCF) and by 5.2 per cent (including LULUCF).

13. For Annex I non-EIT Parties, GHG emissions from 1990 to 2010 increased by 4.9 per cent excluding LULUCF and by 4.1 per cent including LULUCF. From 2000 to 2010, GHG emissions decreased by 3.9 per cent excluding LULUCF and by 6.4 per cent including LULUCF. Compared with 2009, GHG emissions in 2010 increased by 2.8 per cent excluding LULUCF and by 3.8 per cent including LULUCF.

14. The changes in total aggregate GHG emissions over the period 1990–2010 varied considerably among countries (figure 3). For emissions excluding LULUCF, Ukraine has the largest decrease (58.8 per cent) and Turkey has the greatest increase (114.9 per cent). For emissions including LULUCF, Latvia has the largest decrease (148.1 per cent) and again the greatest increase occurred in Turkey (147.5 per cent).

Figure 3

Changes in total aggregate emissions of individual Annex I Parties, 1990–2010



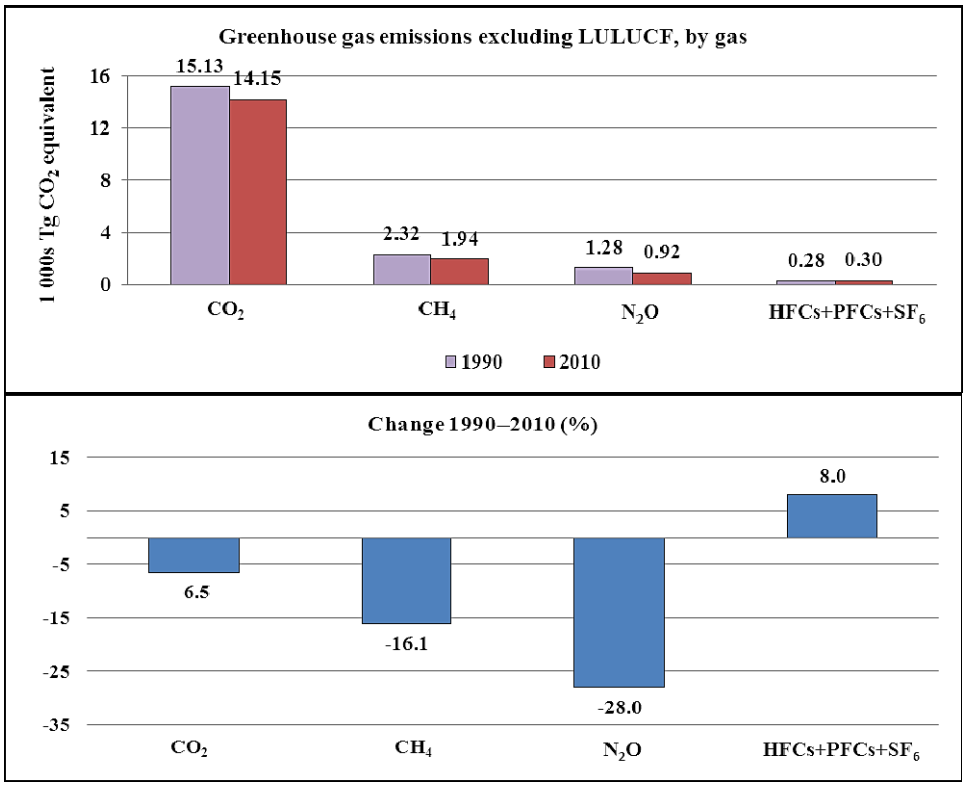
Abbreviations: GHG = greenhouse gas, LULUCF = land use, land-use change and forestry.

B. Greenhouse gas emissions by gas

15. CO_2 accounted for the largest share of total emissions over the period 1990–2010, contributing 79.6 per cent in 1990 and 81.7 per cent in 2010. CH_4 was the second highest contributor to total emissions (12.2 per cent in 1990 and 11.2 per cent in 2010), followed by N_2O. The emissions of HFCs, PFCs and SF_6 taken together contributed less than 2.0 per cent in both years.

16. Figure 4 illustrates the share of each GHG in total emissions excluding LULUCF for 1990 and 2010, and the changes in total emissions of each GHG over the period 1990–2010. Emissions of CO_2, CH_4 and N_2O decreased, while emissions of HFCs, PFCs and SF_6 taken together increased by 8.0 per cent.

Figure 4
Greenhouse gas emissions excluding LULUCF from Annex I Parties by gas, 1990 and 2010



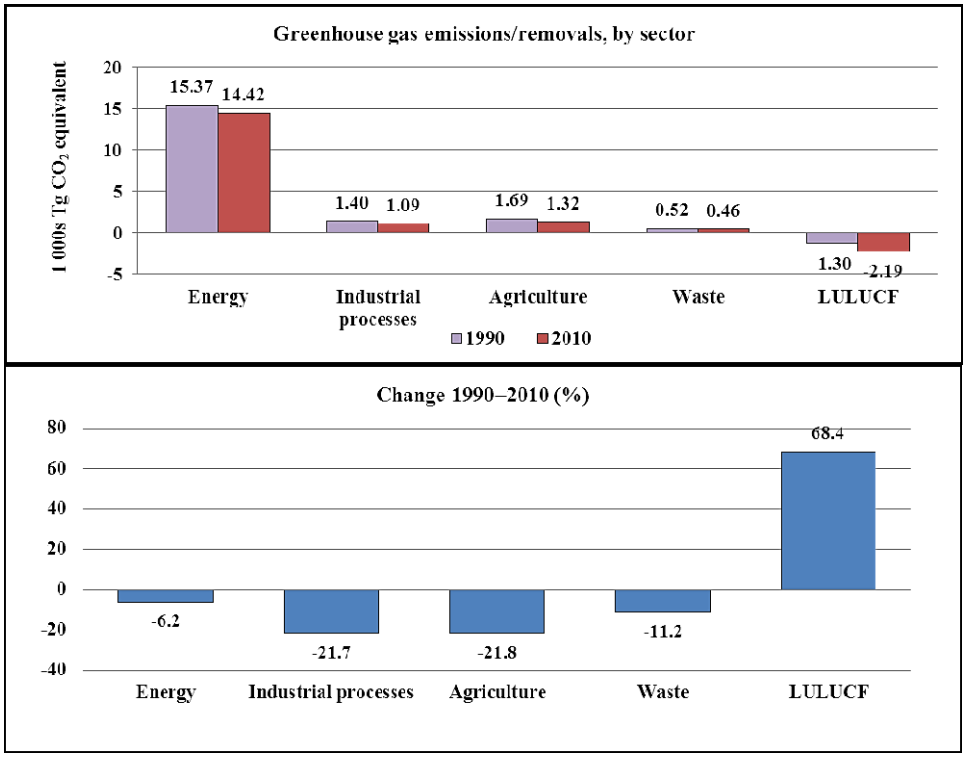
Abbreviation: LULUCF = land use, land-use change and forestry.

17. Between 2009 and 2010, emissions of CO_2 and CH_4 increased by 3.6 per cent and 1.0 per cent, respectively, while N_2O emissions decreased by 0.9 per cent. Emissions of HFCs, PFCs and SF_6 taken together increased by 7.4 per cent.

C. Greenhouse gas emissions by sector

18. From 1990 to 2010, the agriculture sector had the largest decrease in emissions (21.8 per cent), followed by industrial processes, waste and energy. Over the same period, net GHG removals by LULUCF increased by 68.4 per cent, from –1,300.8 Tg CO_2 eq to –2,190.5 Tg CO_2 eq. Figure 5 shows the trends in Annex I Parties' total aggregate GHG emissions by sector.

Figure 5
Greenhouse gas emissions/removals from Annex I Parties by sector, 1990 and 2010[a]



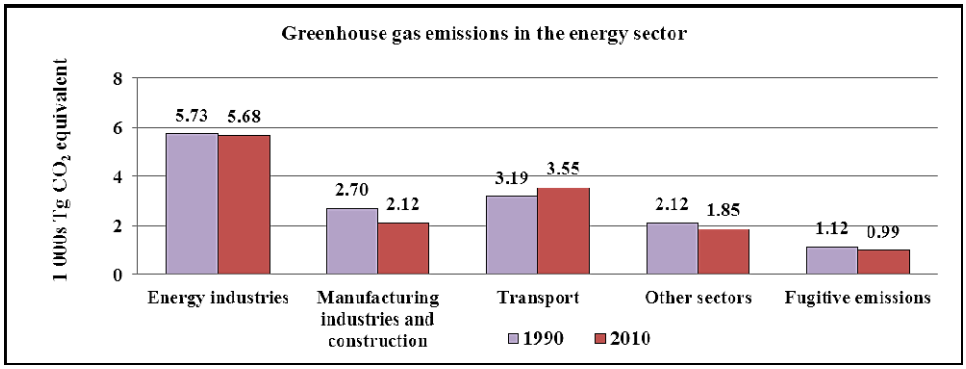
Abbreviation: LULUCF = land use, land-use change and forestry.

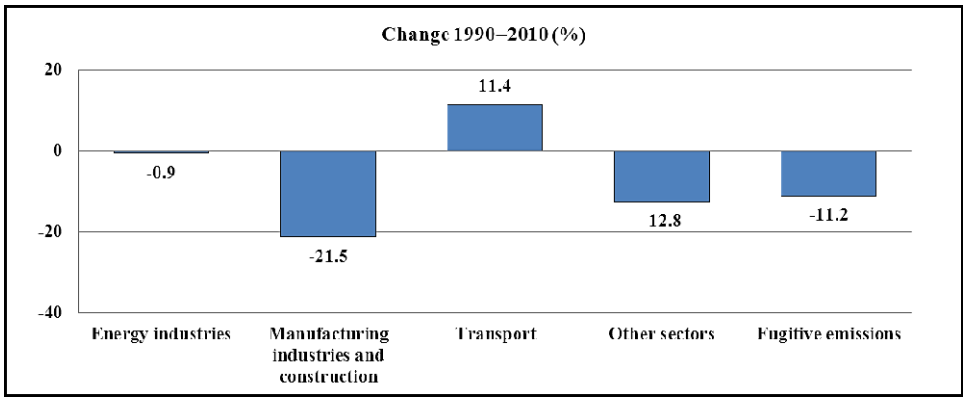
[a] The sector solvent and other product use is not included in the figure because its contribution to total emissions is very marginal. Emissions from this sector decreased by 26.1 per cent.

19. Between 2009 and 2010, emissions from the energy and industrial processes sectors increased by 3.1 per cent and 9.7 per cent, respectively. Emissions from the agriculture and waste sectors decreased by 0.6 per cent and 0.7 per cent, respectively. Net GHG removals by LULUCF decreased by 2.9 per cent.

20. Within the energy sector, emissions from 1990 to 2010 decreased in all subsectors, except transport, where emissions increased by 11.4 per cent (figure 6). The largest reduction occurred in manufacturing industries and construction (21.5 per cent).

Figure 6
Greenhouse gas emissions from Annex I Parties in the energy sector, 1990 and 2010

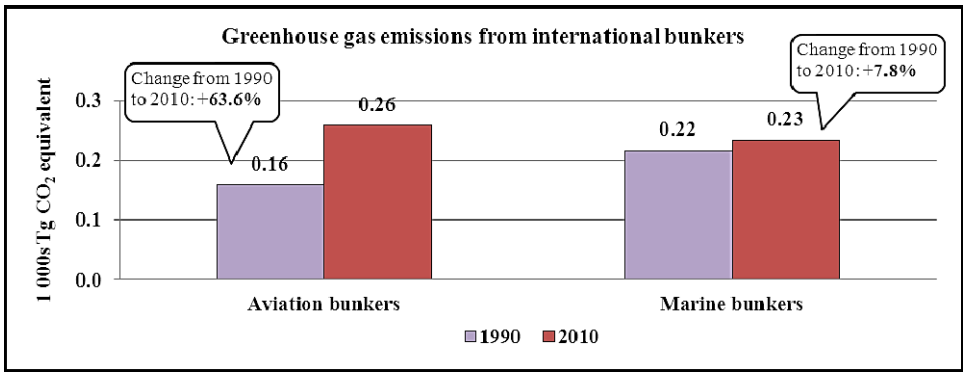




21. From 2009 to 2010, emissions from all activities within the energy sector increased, with emissions from manufacturing industries and construction having the largest increase (6.8 per cent).

22. Emissions from international bunkers increased over the period 1990–2010 (figure 7). GHG emissions increased by 63.6 per cent for aviation and by 7.8 per cent for marine transportation.

Figure 7
Greenhouse gas emissions from Annex I Parties from international bunker fuels, 1990 and 2010



23. Between 2009 and 2010, emissions from aviation increased by 2.5 per cent and emissions from marine transportation decreased by 3.1 per cent.

24. A comparison between the percentage changes in total aggregate emissions from 1990 to the latest available year reported in document FCCC/SBI/2011/9, based on Parties' 2011 submissions, and those reported in the present document, based on Parties' 2012 submissions, is presented in table 4. It also provides explanations for the differences in the estimates.

D. Emissions data for individual Annex I Parties

25. Tables 5–16 show detailed GHG data for individual Annex I Parties. Total aggregate GHG emissions excluding and including emissions/removals from LULUCF are provided in tables 5 and 6; emissions of CO_2, CH_4 and N_2O (excluding and including emissions/removals from LULUCF) in tables 7–12; emissions of HFCs, PFCs and SF_6 taken together in table 13; and emissions/removals from LULUCF in tables 14–16.

26. Blank cells in the tables denote that either data were not available or notation keys, such as "NO" (not occurring), "NE" (not estimated), "NA" (not applicable), "IE" (included

elsewhere) or "C" (confidential), were used to report emissions data. Negative values denote removals; positive values denote emissions.

27. The changes in emissions from 1990 to 2010 were calculated using the exact (not rounded) values and may differ from a ratio calculated with the rounded numbers provided in the tables. An en dash (–) signifies percentage changes exceeding 10,000 per cent.

Table 4
Comparison of 2012 and 2011 changes in total aggregate greenhouse gas emissions from Annex I Parties

	2011	*2012*	*Explanation of the difference between 2012 and 2011 estimates*
Changes in total aggregate GHG emissions excluding LULUCF from 1990 to the latest available year (%)			
All Annex I Parties	–11.5	–8.9	Combined impact of changes for individual Annex I Parties
Annex I EIT Parties	–41.4	–39.2	Increases in emissions of most Annex I EIT Parties between 2009 and 2010
Annex I non-EIT Parties	2.1	4.9	Increases in emissions between 2009 and 2010, for example, in Germany, Japan and the United States
Changes in total aggregate GHG emissions including LULUCF from 1990 to the latest available year (%)			
All Annex I Parties	–17.6	–14.6	Combined impact of changes for individual Annex I Parties
Annex I EIT Parties	–54.4	–52.6	Increases in emissions of most Annex I EIT Parties between 2009 and 2010
Annex I non-EIT Parties	0.6	4.1	Increases in emissions between 2009 and 2010, for example, in Canada, Japan and the United States

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

Table 5

Total aggregate anthropogenic emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 excluding emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	417 993	494 269	527 759	547 478	543 263	30.0
Austria	78 162	80 470	92 880	79 739	84 594	8.2
Belarus*	139 179	79 174	84 182	87 887	89 444	–35.7
Belgium	143 281	146 154	143 623	125 187	132 459	–7.6
Bulgaria*[a]	128 556	63 067	66 538	59 189	61 704	–52.0
Canada	589 294	717 610	739 801	690 023	691 718	17.4
Croatia*	31 469	26 094	30 244	29 056	28 597	–9.1
Czech Republic*	196 323	146 230	146 735	135 101	139 523	–28.9
Denmark	69 972	69 504	65 201	62 094	62 625	–10.5
Estonia*	40 721	17 228	18 581	16 425	20 542	–49.6
European Union[b]	5 583 135	5 078 135	5 148 712	4 609 880	4 720 878	–15.4
Finland	70 365	69 239	68 623	66 119	74 556	6.0
France	562 062	568 875	571 887	519 768	528 176	–6.0
Germany	1 246 138	1 038 999	997 277	911 802	936 544	–24.8
Greece	105 005	127 054	135 661	124 693	118 287	12.6
Hungary*[a]	114 756	77 270	79 625	66 983	67 785	–40.9
Iceland	3 501	3 845	3 819	4 700	4 542	29.7
Ireland	55 163	68 103	69 315	61 742	61 314	11.2
Italy	519 246	551 570	574 749	491 528	501 318	–3.5
Japan	1 266 716	1 341 922	1 351 504	1 207 380	1 257 982	–0.7
Latvia*	26 556	10 238	11 247	10 962	12 077	–54.5
Liechtenstein	231	256	272	249	233	1.1
Lithuania*	49 934	20 140	23 777	20 673	21 521	–56.9
Luxembourg	12 834	9 596	12 950	11 515	12 075	–5.9
Malta	2 036	2 602	3 027	3 016	3 035	49.1
Monaco	108	120	104	91	88	–18.7
Netherlands	212 020	213 201	210 964	198 931	210 053	–0.9
New Zealand	59 797	69 303	76 508	71 483	71 657	19.8
Norway	49 803	53 443	53 765	51 470	53 896	8.2
Poland*[a]	564 153	384 745	388 917	381 770	400 865	–28.9
Portugal	60 077	82 293	86 540	74 372	70 599	17.5
Romania*[a]	290 150	141 692	150 743	125 264	123 001	–57.6
Russian Federation*	3 349 761	2 040 448	2 120 681	2 112 053	2 207 596	–34.1
Slovakia*	71 775	49 339	51 213	44 191	45 982	–35.9
Slovenia*[a]	20 222	18 823	20 344	19 469	19 522	–3.5
Spain	282 821	380 831	435 428	366 266	355 898	25.8
Sweden	72 805	68 995	67 421	59 710	66 271	–9.0
Switzerland	53 057	51 884	54 398	52 461	54 247	2.2
Turkey[c]	187 029	297 006	329 897	369 648	401 925	114.9
Ukraine*	929 577	395 751	417 379	365 276	383 182	–58.8
United Kingdom	767 260	673 530	657 656	576 127	594 021	–22.6
United States	6 161 461	7 072 447	7 178 658	6 587 687	6 802 225	10.4
Number of Parties showing decrease in emissions by more than 1 per cent:						*24*
Number of Parties showing change in emissions within 1 per cent:						*2*
Number of Parties showing increase in emissions by more than 1 per cent:						*16*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 6

Total aggregate anthropogenic emissions of CO_2, CH_4, N_2O, HFCs, PFCs and SF_6 including emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	511 034	554 167	534 005	593 298	581 219	13.7
Austria	68 140	65 434	85 484	76 095	80 983	18.8
Belarus*	110 605	48 271	57 972	57 843	59 265	–46.4
Belgium	142 037	145 198	142 666	124 177	131 417	–7.5
Bulgaria*[a]	114 379	54 200	57 460	50 373	53 073	–53.6
Canada	521 808	655 502	793 336	677 936	763 682	46.4
Croatia*	25 877	24 218	22 582	21 304	20 314	–21.5
Czech Republic*	192 705	138 706	140 050	128 238	134 005	–30.5
Denmark	74 395	75 398	69 838	61 218	60 455	–18.7
Estonia*	31 372	21 361	9 490	9 298	16 784	–46.5
European Union[b]	5 297 109	4 780 386	4 848 362	4 268 118	4 409 255	–16.8
Finland	54 647	49 160	40 011	30 027	52 474	–4.0
France	542 673	544 367	531 688	483 615	495 952	–8.6
Germany	1 218 439	1 012 473	1 013 075	929 024	953 827	–21.7
Greece	102 464	124 223	132 770	121 879	115 645	12.9
Hungary*[a]	112 585	76 880	75 212	63 667	64 413	–42.8
Iceland	4 690	4 848	4 696	5 459	5 276	12.5
Ireland	55 364	68 496	69 099	60 706	60 284	8.9
Italy	484 761	508 504	521 174	435 583	444 787	–8.2
Japan	1 196 640	1 254 183	1 260 787	1 135 523	1 184 803	–1.0
Latvia*	10 544	–4 251	–6 121	–9 627	–5 070	–148.1
Liechtenstein	222	252	266	243	227	2.1
Lithuania*	43 643	12 557	20 990	9 746	9 807	–77.5
Luxembourg	13 182	9 211	12 565	11 219	11 780	–10.6
Malta	1 979	2 545	2 968	2 955	2 973	50.3
Monaco	108	120	104	91	88	–18.7
Netherlands	215 020	216 125	214 001	201 797	213 054	–0.9
New Zealand	32 409	42 732	51 695	45 249	51 677	59.5
Norway	41 126	34 373	23 875	24 485	20 951	–49.1
Poland*[a]	552 445	366 503	352 328	339 797	357 985	–35.2
Portugal	53 190	70 254	83 190	62 529	60 719	14.2
Romania*[a]	268 709	112 544	122 745	97 000	97 219	–63.8
Russian Federation*	3 429 827	1 575 702	1 577 722	1 460 346	1 555 159	–54.7
Slovakia*	61 480	39 056	45 931	36 963	39 893	–35.1
Slovenia*[a]	12 616	11 629	11 940	11 078	11 031	–12.6
Spain	263 715	357 568	410 883	337 722	326 944	24.0
Sweden	31 545	30 084	36 531	23 962	32 216	2.1
Switzerland	49 210	52 137	52 539	51 362	53 367	8.4
Turkey[c]	130 576	234 827	271 626	295 996	323 201	147.5
Ukraine*	859 840	344 911	378 938	347 008	345 226	–59.8
United Kingdom	771 153	673 907	654 711	571 919	590 179	–23.5
United States	5 293 369	6 424 130	6 118 282	5 545 717	5 747 137	8.6
Number of Parties showing decrease in emissions by more than 1 per cent:						*25*
Number of Parties showing change in emissions within 1 per cent:						*2*
Number of Parties showing increase in emissions by more than 1 per cent:						*15*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 7
Total anthropogenic CO_2 emissions excluding emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	278 223	349 737	382 394	402 874	401 787	44.4
Austria	62 060	65 972	79 724	67 226	72 290	16.5
Belarus*	103 807	53 319	56 670	56 828	58 318	–43.8
Belgium	118 784	124 937	125 261	108 552	115 094	–3.1
Bulgaria*[a]	95 130	47 643	51 918	45 731	48 108	–49.4
Canada	457 377	563 807	580 257	542 348	544 878	19.1
Croatia*	23 093	19 935	23 336	21 892	21 179	–8.3
Czech Republic*	165 097	126 052	127 212	116 013	120 039	–27.3
Denmark	54 101	54 999	52 375	49 687	50 252	–7.1
Estonia*	36 620	15 150	16 436	14 185	18 219	–50.2
European Union[b]	4 419 839	4 116 848	4 254 693	3 772 716	3 891 336	–12.0
Finland	56 633	56 814	56 520	55 192	63 689	12.5
France	397 442	414 379	426 713	379 131	387 623	–2.5
Germany	1 042 161	891 624	865 959	784 297	818 962	–21.4
Greece	83 301	103 210	113 408	104 472	97 469	17.0
Hungary*[a]	84 911	58 723	60 702	50 596	51 393	–39.5
Iceland	2 154	2 752	2 844	3 546	3 405	58.1
Ireland	32 341	44 627	47 673	41 649	41 268	27.6
Italy	435 012	462 485	488 163	415 434	426 087	–2.1
Japan	1 141 196	1 251 557	1 282 257	1 142 254	1 191 947	4.4
Latvia*	19 058	7 069	7 779	7 389	8 480	–55.5
Liechtenstein	202	227	239	214	199	–1.3
Lithuania*	36 479	12 074	14 205	12 952	13 848	–62.0
Luxembourg	11 879	8 614	11 960	10 521	11 072	–6.8
Malta	1 859	2 345	2 704	2 628	2 641	42.0
Monaco	105	113	99	85	82	–21.8
Netherlands	159 249	169 936	175 943	169 895	181 191	13.8
New Zealand	25 014	31 322	36 409	33 592	33 199	32.7
Norway	34 806	41 744	43 052	42 894	45 455	30.6
Poland*[a]	471 736	316 114	317 893	312 248	332 067	–29.6
Portugal	44 317	64 669	68 573	56 766	52 619	18.7
Romania*[a]	212 348	100 146	108 111	88 226	86 859	–59.1
Russian Federation*	2 498 582	1 471 363	1 524 800	1 526 261	1 598 281	–36.0
Slovakia*	60 745	41 367	42 660	36 031	38 025	–37.4
Slovenia*[a]	16 357	15 226	16 688	16 047	16 122	–1.4
Spain	225 815	306 596	366 690	297 225	284 450	26.0
Sweden	56 890	54 133	53 282	46 664	52 884	–7.0
Switzerland	44 631	44 032	46 354	44 257	45 963	3.0
Turkey[c]	141 362	225 432	259 605	299 106	326 472	130.9
Ukraine*	718 951	293 542	320 603	274 633	289 708	–59.7
United Kingdom	588 699	552 488	556 733	484 725	502 383	–14.7
United States	5 092 382	5 966 192	6 098 654	5 492 182	5 697 337	11.9
Number of Parties showing decrease in emissions by more than 1 per cent:						*25*
Number of Parties showing change in emissions within 1 per cent:						*0*
Number of Parties showing increase in emissions by more than 1 per cent:						*17*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 8
Total anthropogenic CO_2 emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	364 316	405 419	382 905	444 209	434 349	19.2
Austria	51 995	50 899	72 292	63 532	68 630	32.0
Belarus*	75 207	22 387	30 438	26 752	28 116	–62.6
Belgium	117 529	123 931	124 232	107 453	113 959	–3.0
Bulgaria*[a]	80 788	38 402	42 672	36 743	39 290	–51.4
Canada	384 524	499 252	624 521	520 853	598 045	55.5
Croatia*	16 348	13 397	15 565	13 956	12 766	–21.9
Czech Republic*	161 348	118 416	120 394	109 009	114 373	–29.1
Denmark	58 505	60 873	56 998	48 798	48 070	–17.8
Estonia*	27 270	19 279	7 344	7 057	14 460	–47.0
European Union[b]	4 125 722	3 810 019	3 945 674	3 422 996	3 571 558	–13.4
Finland	40 775	36 597	27 764	18 924	41 429	1.6
France	375 070	386 076	383 208	339 733	352 129	–6.1
Germany	1 014 192	864 834	881 490	801 257	835 991	–17.6
Greece	80 730	100 274	110 511	101 636	94 819	17.5
Hungary*[a]	82 703	58 268	56 217	47 226	47 970	–42.0
Iceland	3 271	3 674	3 638	4 218	4 051	23.8
Ireland	32 519	44 979	47 405	40 548	40 165	23.5
Italy	400 254	419 281	434 508	359 413	369 428	–7.7
Japan	1 071 021	1 163 777	1 191 515	1 070 381	1 118 760	4.5
Latvia*	2 808	–7 660	–9 798	–13 397	–8 856	–415.4
Liechtenstein	193	223	233	208	193	–0.2
Lithuania*	30 161	4 463	11 394	1 972	2 107	–93.0
Luxembourg	12 224	8 226	11 571	10 221	10 774	–11.9
Malta	1 802	2 287	2 645	2 568	2 579	43.1
Monaco	105	113	99	85	82	–21.8
Netherlands	162 249	172 860	178 980	172 761	184 193	13.5
New Zealand	–2 448	4 687	11 533	7 290	13 150	–637.2
Norway	26 114	22 660	13 148	15 893	12 496	–52.1
Poland*[a]	457 820	295 649	279 066	268 034	286 944	–37.3
Portugal	37 158	52 377	64 566	44 788	42 471	14.3
Romania*[a]	190 907	70 998	80 112	59 962	61 076	–68.0
Russian Federation*	2 559 672	987 586	963 659	852 506	926 082	–63.8
Slovakia*	50 424	31 036	37 350	28 775	31 909	–36.7
Slovenia*[a]	8 667	7 945	8 197	7 570	7 546	–12.9
Spain	206 519	283 157	341 885	268 613	255 430	23.7
Sweden	15 548	15 144	22 292	10 795	18 690	20.2
Switzerland	40 764	44 280	44 489	43 153	45 078	10.6
Turkey[c]	84 909	163 253	201 335	225 454	247 748	191.8
Ukraine*	649 194	242 688	282 146	256 337	251 714	–61.2
United Kingdom	591 781	552 063	553 075	479 853	497 883	–15.9
United States	4 218 651	5 295 317	5 021 658	4 437 958	4 631 685	9.8
Number of Parties showing decrease in emissions by more than 1 per cent:						*25*
Number of Parties showing change in emissions within 1 per cent:						*1*
Number of Parties showing increase in emissions by more than 1 per cent:						*16*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 9
Total anthropogenic CH_4 emissions excluding emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	116 089	115 928	113 170	112 880	110 600	–4.7
Austria	8 305	6 626	6 095	5 663	5 575	–32.9
Belarus*	15 217	11 422	13 116	14 969	15 222	0.0
Belgium	9 971	8 411	7 052	6 664	6 764	–32.2
Bulgaria*[a]	19 216	10 293	9 412	8 609	8 529	–55.6
Canada	71 976	94 806	99 032	91 633	90 553	25.8
Croatia*	3 483	2 691	3 075	3 464	3 589	3.0
Czech Republic*	17 815	11 087	10 406	10 089	10 290	–42.2
Denmark	6 073	5 898	5 669	5 547	5 566	–8.3
Estonia*	1 856	1 088	1 101	1 083	1 111	–40.2
European Union[b]	590 343	480 266	430 547	404 075	400 699	–32.1
Finland	6 315	5 406	4 527	4 282	4 327	–31.5
France	63 248	65 725	63 020	62 859	62 826	–0.7
Germany	107 100	73 440	55 586	48 548	47 696	–55.5
Greece	10 322	10 818	10 148	9 731	9 795	–5.1
Hungary*[a]	12 504	9 693	8 990	8 453	8 479	–32.2
Iceland	409	449	458	468	460	12.5
Ireland	13 673	13 411	12 808	11 924	11 605	–15.1
Italy	43 695	45 799	41 255	38 259	37 554	–14.1
Japan	32 030	25 892	22 855	20 881	20 443	–36.2
Latvia*	3 694	1 757	1 819	1 777	1 736	–53.0
Liechtenstein	16	14	16	17	15	–6.4
Lithuania*	5 807	3 171	3 382	3 245	3 209	–44.7
Luxembourg	467	472	455	448	457	–2.2
Malta	121	191	218	242	248	104.1
Monaco	0.66	0.81	0.63	0.57	0.55	–16.3
Netherlands	25 694	19 911	17 362	17 066	16 794	–34.6
New Zealand	25 826	27 856	28 228	26 822	26 855	4.0
Norway	4 667	4 733	4 460	4 324	4 346	–6.9
Poland*[a]	51 887	38 236	37 224	34 553	34 976	–32.6
Portugal	10 217	11 311	11 975	11 660	11 984	17.3
Romania*[a]	46 561	26 675	26 679	23 921	22 569	–51.5
Russian Federation*	589 938	431 308	470 091	459 928	485 764	–17.7
Slovakia*	4 444	4 324	4 521	4 306	4 210	–5.3
Slovenia*[a]	2 187	2 127	2 165	2 035	2 036	–6.9
Spain	26 043	32 824	34 328	35 062	35 012	34.4
Sweden	7 050	6 365	5 887	5 278	5 255	–25.5
Switzerland	4 699	3 934	3 790	3 816	3 816	–18.8
Turkey[c]	33 498	53 300	52 384	54 368	57 542	71.8
Ukraine*	151 379	75 633	70 332	62 999	63 865	–57.8
United Kingdom	97 646	64 178	47 240	42 107	41 418	–57.6
United States	665 741	639 010	617 612	666 406	661 699	–0.6
Number of Parties showing decrease in emissions by more than 1 per cent:						*31*
Number of Parties showing change in emissions within 1 per cent:						*3*
Number of Parties showing increase in emissions by more than 1 per cent:						*8*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 10
Total anthropogenic CH_4 emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	120 919	118 729	117 235	115 949	114 196	–5.6
Austria	8 305	6 626	6 095	5 664	5 575	–32.9
Belarus*	15 224	11 430	13 120	14 978	15 227	0.0
Belgium	9 972	8 411	7 052	6 664	6 764	–32.2
Bulgaria*[a]	19 218	10 464	9 416	8 616	8 548	–55.5
Canada	75 293	96 316	104 752	97 438	102 151	35.7
Croatia*	3 745	3 756	3 099	3 504	3 617	–3.4
Czech Republic*	17 915	11 180	10 519	10 211	10 418	–41.8
Denmark	6 073	5 898	5 669	5 547	5 566	–8.4
Estonia*	1 856	1 090	1 101	1 083	1 111	–40.2
European Union[b]	594 563	485 620	435 681	408 562	405 335	–31.8
Finland	6 354	5 448	4 571	4 331	4 377	–31.1
France	64 430	67 878	64 844	64 597	64 608	0.3
Germany	107 109	73 444	55 587	48 553	47 699	–55.5
Greece	10 349	10 913	10 153	9 752	9 802	–5.3
Hungary*[a]	12 535	9 724	9 026	8 476	8 502	–32.2
Iceland	411	457	466	476	469	14.1
Ireland	13 676	13 413	12 809	11 925	11 612	–15.1
Italy	43 878	45 905	41 303	38 327	37 597	–14.3
Japan	32 039	25 900	22 864	20 889	20 445	–36.2
Latvia*	3 713	1 816	1 853	1 812	1 776	–52.2
Liechtenstein	16	14	16	17	15	–6.4
Lithuania*	5 810	3 174	3 383	3 248	3 210	–44.7
Luxembourg	467	472	455	448	457	–2.2
Malta	121	191	218	242	248	104.1
Monaco	0.66	0.81	0.63	0.57	0.55	–16.3
Netherlands	25 694	19 911	17 362	17 066	16 794	–34.6
New Zealand	25 876	27 902	28 275	26 876	26 909	4.0
Norway	4 669	4 734	4 461	4 327	4 347	–6.9
Poland*[a]	54 077	40 443	39 446	36 784	37 210	–31.2
Portugal	10 430	11 493	12 487	11 734	12 167	16.7
Romania*[a]	46 561	26 675	26 679	23 921	22 569	–51.5
Russian Federation*	600 121	441 492	479 880	471 829	496 414	–17.3
Slovakia*	4 458	4 336	4 544	4 327	4 233	–5.0
Slovenia*[a]	2 187	2 129	2 168	2 037	2 037	–6.9
Spain	26 216	32 985	34 564	35 124	35 073	33.8
Sweden	7 052	6 368	5 892	5 281	5 255	–25.5
Switzerland	4 707	3 935	3 790	3 816	3 816	–18.9
Turkey[c]	33 498	53 300	52 384	54 368	57 542	71.8
Ukraine*	151 387	75 637	70 337	63 014	63 888	–57.8
United Kingdom	97 664	64 205	47 261	42 131	41 447	–57.6
United States	668 267	650 575	625 752	672 205	666 543	–0.3
Number of Parties showing decrease in emissions by more than 1 per cent:						*32*
Number of Parties showing change in emissions within 1 per cent:						*3*
Number of Parties showing increase in emissions by more than 1 per cent:						*7*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 11
Total anthropogenic N_2O excluding emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	18 383	25 522	25 900	25 008	23 828	29.6
Austria	6 198	6 289	5 434	5 410	5 153	–16.9
Belarus*	20 155	14 423	14 368	16 055	15 889	–21.2
Belgium	11 110	11 417	9 656	7 989	8 610	–22.5
Bulgaria*[a]	14 207	5 107	5 099	4 571	4 773	–66.4
Canada	49 242	48 697	50 406	47 171	47 141	–4.3
Croatia*	3 946	3 285	3 485	3 257	3 349	–15.1
Czech Republic*	13 334	8 678	8 427	7 881	7 645	–42.7
Denmark	9 753	7 918	6 303	5 993	5 937	–39.1
Estonia*	2 245	918	924	1 017	1 054	–53.0
European Union[b]	513 685	413 140	386 037	343 833	334 475	–34.9
Finland	7 322	6 453	6 667	5 705	5 344	–27.0
France	91 322	77 574	67 738	61 971	59 833	–34.5
Germany	85 016	61 844	61 297	63 410	54 730	–35.6
Greece	10 281	8 572	7 943	7 058	7 358	–28.4
Hungary*[a]	16 999	8 225	8 745	6 738	6 658	–60.8
Iceland	518	495	452	472	457	–11.7
Ireland	9 111	9 447	8 090	7 544	7 806	–14.3
Italy	37 368	39 589	37 751	28 211	27 217	–27.2
Japan	31 649	28 965	24 065	22 572	22 067	–30.3
Latvia*	3 804	1 406	1 608	1 682	1 744	–54.2
Liechtenstein	13	12	12	13	12	–4.2
Lithuania*	7 648	4 881	6 128	4 320	4 281	–44.0
Luxembourg	475	480	477	474	472	–0.5
Malta	48	59	55	50	48	–0.7
Monaco	1.75	3.41	3.14	2.91	2.73	55.9
Netherlands	20 162	17 584	15 629	9 592	9 392	–53.4
New Zealand	8 312	9 796	11 057	10 133	10 455	25.8
Norway	4 759	4 475	4 631	3 107	3 068	–35.5
Poland*[a]	40 314	29 257	29 363	27 436	26 936	–33.2
Portugal	5 543	6 000	5 213	4 792	4 757	–14.2
Romania*[a]	27 891	13 415	15 335	12 399	12 865	–53.9
Russian Federation*	219 948	108 744	104 277	112 403	109 287	–50.3
Slovakia*	6 315	3 541	3 814	3 508	3 385	–46.4
Slovenia*[a]	1 392	1 307	1 207	1 167	1 135	–18.4
Spain	27 610	32 404	28 447	26 111	27 626	0.1
Sweden	8 376	7 596	7 062	6 784	7 052	–15.8
Switzerland	3 484	3 194	3 136	3 143	3 204	–8.0
Turkey[c]	11 566	16 617	14 182	12 531	13 026	12.6
Ukraine*	59 043	26 462	26 063	27 001	28 917	–51.0
United Kingdom	67 098	45 280	40 252	34 523	34 995	–47.8
United States	313 136	329 651	323 383	297 579	300 523	–4.0
Number of Parties showing decrease in emissions by more than 1 per cent:						*35*
Number of Parties showing change in emissions within 1 per cent:						*3*
Number of Parties showing increase in emissions by more than 1 per cent:						*4*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 12
Total anthropogenic N_2O emissions including emissions/removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	20 501	26 938	27 570	26 425	25 627	25.0
Austria	6 239	6 326	5 470	5 458	5 203	–16.6
Belarus*	20 173	14 444	14 385	16 079	15 907	–21.1
Belgium	11 121	11 468	9 729	8 078	8 702	–21.8
Bulgaria*[a]	14 370	5 309	5 262	4 735	4 940	–65.6
Canada	51 293	49 634	53 957	50 774	54 340	5.9
Croatia*	4 837	6 883	3 571	3 400	3 450	–28.7
Czech Republic*	13 365	8 697	8 446	7 899	7 665	–42.6
Denmark	9 773	7 937	6 316	6 005	5 950	–39.1
Estonia*	2 246	919	925	1 018	1 055	–53.0
European Union[b]	517 557	416 866	389 572	347 305	337 995	–34.7
Finland	7 423	6 549	6 768	5 832	5 473	–26.3
France	93 124	79 215	69 221	63 478	61 320	–34.2
Germany	85 276	62 105	61 563	63 667	54 982	–35.5
Greece	10 284	8 581	7 943	7 060	7 358	–28.4
Hungary*[a]	17 006	8 258	8 781	6 768	6 686	–60.7
Iceland	587	568	527	551	536	–8.6
Ireland	9 132	9 485	8 140	7 608	7 872	–13.8
Italy	37 459	39 621	37 782	28 218	27 302	–27.1
Japan	31 740	28 997	24 081	22 580	22 074	–30.5
Latvia*	4 023	1 586	1 782	1 845	1 892	–53.0
Liechtenstein	13	12	12	13	12	–4.2
Lithuania*	7 672	4 906	6 151	4 370	4 307	–43.9
Luxembourg	478	482	480	476	475	–0.5
Malta	48	59	55	50	48	–0.7
Monaco	1.77	3.44	3.17	2.93	2.75	55.0
Netherlands	20 162	17 584	15 629	9 592	9 392	–53.4
New Zealand	8 336	9 815	11 073	10 147	10 469	25.6
Norway	4 773	4 488	4 643	3 120	3 081	–35.5
Poland*[a]	40 332	29 274	29 379	27 447	26 945	–33.2
Portugal	5 602	6 071	5 358	4 854	4 842	–13.6
Romania*[a]	27 891	13 416	15 335	12 399	12 865	–53.9
Russian Federation*	228 742	117 590	112 671	122 550	118 400	–48.2
Slovakia*	6 327	3 579	3 820	3 515	3 389	–46.4
Slovenia*[a]	1 476	1 392	1 291	1 252	1 219	–17.4
Spain	27 627	32 420	28 471	26 118	27 633	0.0
Sweden	8 457	7 670	7 158	6 902	7 190	–15.0
Switzerland	3 495	3 200	3 140	3 148	3 209	–8.2
Turkey[c]	11 566	16 617	14 182	12 531	13 026	12.6
Ukraine*	59 055	26 473	26 074	27 015	28 933	–51.0
United Kingdom	67 890	46 054	40 944	35 163	35 624	–47.5
United States	316 249	340 645	331 864	304 034	306 243	–3.2
Number of Parties showing decrease in emissions by more than 1 per cent:						*34*
Number of Parties showing change in emissions within 1 per cent:						*3*
Number of Parties showing increase in emissions by more than 1 per cent:						*5*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 13
Total aggregate anthropogenic emissions of HFCs, PFCs and SF_6, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	5 298	3 082	6 295	6 715	7 047	33.0
Austria	1 600	1 582	1 628	1 441	1 575	–1.5
Belarus*		10	28	35	16	
Belgium	3 416	1 389	1 654	1 981	1 992	–41.7
Bulgaria*[a]	3	25	110	279	294	8 400.6
Canada	10 698	10 299	10 106	8 871	9 146	–14.5
Croatia*	948	183	347	443	480	–49.3
Czech Republic*	78	413	690	1 118	1 549	1 894.2
Denmark	44	690	854	868	870	1 858.1
Estonia*		73	120	141	158	
European Union[b]	59 267	67 882	77 435	89 256	94 367	59.2
Finland	94	566	908	939	1 196	1 166.0
France	10 049	11 198	14 415	15 806	17 894	78.1
Germany	11 861	12 091	14 436	15 547	15 155	27.8
Greece	1 102	4 454	4 163	3 431	3 666	232.8
Hungary*[a]	342	630	1 189	1 197	1 255	267.5
Iceland	421	149	65	214	220	–47.8
Ireland	37	619	744	625	635	1 619.0
Italy	3 171	3 697	7 581	9 625	10 459	229.9
Japan	61 840	35 508	22 328	21 673	23 524	–62.0
Latvia*		7	42	114	117	
Liechtenstein	0.00	2.41	4.68	5.53	6.74	–
Lithuania*		14	62	156	183	
Luxembourg	13	31	58	73	74	463.8
Malta	8	7	50	95	99	1 221.5
Monaco	0.16	2.69	1.91	2.12	2.13	1 228.8
Netherlands	6 915	5 770	2 029	2 378	2 675	–61.3
New Zealand	645	328	815	936	1 148	78.0
Norway	5 570	2 491	1 622	1 146	1 027	–81.6
Poland*[a]	216	1 138	4 437	7 532	6 886	3 088.1
Portugal		313	779	1 154	1 239	
Romania*[a]	3 350	1 456	619	717	708	–78.9
Russian Federation*	41 293	29 032	21 513	13 461	14 264	–65.5
Slovakia*	271	106	217	346	362	33.5
Slovenia*[a]	287	162	285	220	229	–20.2
Spain	3 353	9 006	5 964	7 868	8 809	162.7
Sweden	488	902	1 189	984	1 081	121.3
Switzerland	244	724	1 119	1 245	1 265	418.6
Turkey[c]	603	1 656	3 725	3 643	4 885	709.5
Ukraine*	203	114	381	642	691	240.1
United Kingdom	13 817	11 585	13 431	14 772	15 225	10.2
United States	90 202	137 594	139 009	131 520	142 665	58.2
Number of Parties showing decrease in emissions by more than 1 per cent:						*11*
Number of Parties showing change in emissions within 1 per cent:						*0*
Number of Parties showing increase in emissions by more than 1 per cent:						*26*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 14
Net anthropogenic CO_2 emissions and removals from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	86 093	55 682	511	41 335	32 561	–62.2
Austria	–10 064	–15 073	–7 431	–3 694	–3 661	–63.6
Belarus*	–28 599	–30 932	–26 231	–30 076	–30 203	5.6
Belgium	–1 255	–1 006	–1 029	–1 099	–1 134	–9.6
Bulgaria*[a]	–14 342	–9 241	–9 246	–8 987	–8 818	–38.5
Canada	–72 853	–64 555	44 264	–21 495	53 167	–173.0
Croatia*	–6 746	–6 538	–7 772	–7 936	–8 413	24.7
Czech Republic*	–3 749	–7 636	–6 817	–7 003	–5 666	51.1
Denmark	4 403	5 874	4 624	–889	–2 182	–149.6
Estonia*	–9 350	4 129	–9 092	–7 128	–3 759	–59.8
European Union[b]	–294 117	–306 830	–309 018	–349 721	–319 779	8.7
Finland	–15 859	–20 217	–28 756	–36 268	–22 260	40.4
France	–22 372	–28 303	–43 505	–39 398	–35 494	58.6
Germany	–27 968	–26 791	15 531	16 959	17 028	–160.9
Greece	–2 571	–2 936	–2 897	–2 837	–2 650	3.1
Hungary*[a]	–2 209	–455	–4 485	–3 370	–3 423	55.0
Iceland	1 118	922	794	672	647	–42.2
Ireland	178	351	–268	–1 101	–1 103	–719.1
Italy	–34 758	–43 204	–53 655	–56 022	–56 659	63.0
Japan	–70 175	–87 780	–90 742	–71 873	–73 188	4.3
Latvia*	–16 250	–14 729	–17 576	–20 786	–17 336	6.7
Liechtenstein	–8.22	–3.43	–6.06	–6.02	–6.00	–26.9
Lithuania*	–6 318	–7 611	–2 811	–10 980	–11 742	85.8
Luxembourg	345	–388	–388	–299	–298	–186.4
Malta	–57	–58	–59	–61	–62	8.1
Monaco	–0.03	–0.04	–0.04	–0.04	–0.04	14.0
Netherlands	3 000	2 924	3 037	2 865	3 001	0.0
New Zealand	–27 462	–26 635	–24 876	–26 302	–20 049	–27.0
Norway	–8 692	–19 084	–29 904	–27 001	–32 959	279.2
Poland*[a]	–13 916	–20 465	–38 827	–44 214	–45 123	224.3
Portugal	–7 159	–12 292	–4 007	–11 978	–10 148	41.7
Romania*[a]	–21 441	–29 148	–27 998	–28 264	–25 782	20.2
Russian Federation*	61 090	–483 776	–561 141	–673 755	–672 200	–1 200.3
Slovakia*	–10 322	–10 332	–5 309	–7 256	–6 116	–40.7
Slovenia*[a]	–7 690	–7 281	–8 491	–8 477	–8 576	11.5
Spain	–19 296	–23 440	–24 805	–28 612	–29 020	50.4
Sweden	–41 342	–38 989	–30 990	–35 868	–34 193	–17.3
Switzerland	–3 867	248	–1 865	–1 104	–885	–77.1
Turkey[c]	–56 454	–62 179	–58 271	–73 652	–78 724	39.4
Ukraine*	–69 757	–50 854	–38 456	–18 297	–37 994	–45.5
United Kingdom	3 082	–425	–3 658	–4 872	–4 500	–246.0
United States	–873 730	–670 875	–1 076 997	–1 054 225	–1 065 652	22.0
Number of Parties showing decrease in emissions by more than 1 per cent:						*19*
Number of Parties showing change in emissions within 1 per cent:						*1*
Number of Parties showing increase in emissions by more than 1 per cent:						*22*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 15
Anthropogenic CH_4 emissions from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	4 830	2 800	4 065	3 069	3 596	–25.5
Austria	0.58	0.12	0.09	0.16	0.14	–75.5
Belarus*	7.08	8.16	3.77	9.31	4.82	–32.0
Belgium	0.29	0.00	0.00			
Bulgaria*[a]	1.36	170.98	4.27	6.70	19.28	1 313.3
Canada	3 317	1 510	5 720	5 806	11 598	249.7
Croatia*	262	1 065	24	40	28	–89.5
Czech Republic*	100	92	113	121	128	28.2
Denmark	0.55	0.00	0.02	0.01	0.01	–97.7
Estonia*	0.34	1.61	0.25	0.13	0.07	–79.3
European Union[b]	4 221	5 354	5 133	4 487	4 636	9.8
Finland	39	42	44	49	50	26.9
France	1 182	2 154	1 824	1 738	1 782	50.8
Germany	9.08	3.42	1.10	4.62	3.20	–64.8
Greece	27	95	5	21	7	–73.8
Hungary*[a]	31	31	36	23	23	–25.2
Iceland	1.60	7.80	7.80	8.33	8.33	420.7
Ireland	2.69	2.31	1.39	1.07	7.02	160.4
Italy	183	106	48	69	43	–76.3
Japan	8.51	7.78	9.18	8.61	2.12	–75.1
Latvia*	19	59	35	34	40	108.7
Liechtenstein						
Lithuania*	2.23	2.77	0.83	2.95	1.03	–53.7
Luxembourg						
Malta						
Monaco						
Netherlands						
New Zealand	49	46	47	54	54	8.8
Norway	1.77	0.33	0.65	2.51	1.45	–17.9
Poland*[a]	2 190	2 207	2 222	2 231	2 234	2.0
Portugal	213	182	511	74	183	–14.3
Romania*[a]	0.00	0.08	0.00	0.02	0.00	367.0
Russian Federation*	10 183	10 184	9 789	11 901	10 650	4.6
Slovakia*	14	12	22	21	23	62.6
Slovenia*[a]		2.06	2.61	2.19	0.99	
Spain	173	160	236	62	61	–64.8
Sweden	1.72	2.95	4.99	2.63	0.71	–58.7
Switzerland	8.19	0.27	0.35	0.31	0.19	–97.7
Turkey[c]	0.04	0.07	0.00	0.02	0.01	–73.7
Ukraine*	8.39	3.44	5.25	15.13	23.25	177.2
United Kingdom	18	27	21	24	29	56.3
United States	2 526	11 565	8 140	5 799	4 844	91.7
Number of Parties showing decrease in emissions by more than 1 per cent:						*18*
Number of Parties showing change in emissions within 1 per cent:						*0*
Number of Parties showing increase in emissions by more than 1 per cent:						*17*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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

Table 16
Anthropogenic N_2O emissions from land use, land-use change and forestry, 1990, 2000, 2005, 2009 and 2010

	Gg CO_2 equivalent					*Change from 1990*
Party	*1990*	*2000*	*2005*	*2009*	*2010*	*to 2010 (%)*
Australia	2 118	1 416	1 670	1 416	1 799	–15.1
Austria	41	37	36	49	50	21.6
Belarus*	18	21	18	23	19	5.1
Belgium	11	50	73	89	92	719.8
Bulgaria*[a]	163	202	164	164	167	2.5
Canada	2 051	937	3 551	3 603	7 199	251.0
Croatia*	891	3 598	85	143	102	–88.6
Czech Republic*	31	19	19	19	19	–38.1
Denmark	19	20	13	13	13	–34.2
Estonia*	0.87	1.11	0.86	0.93	0.92	5.1
European Union[b]	3 871	3 726	3 535	3 472	3 520	–9.1
Finland	101	96	101	127	129	27.2
France	1 802	1 641	1 483	1 507	1 487	–17.5
Germany	260	261	266	258	251	–3.2
Greece	2.73	9.66	0.50	2.13	0.72	–73.8
Hungary*[a]	7	33	36	30	28	300.5
Iceland	69	73	75	79	79	14.5
Ireland	21	38	50	64	65	216.9
Italy	91	32	32	7	85	–6.5
Japan	91	33	16	8	6	–93.0
Latvia*	219	181	174	163	149	–32.2
Liechtenstein		0.19	0.01	0.00	0.00	
Lithuania*	25	25	24	50	26	7.1
Luxembourg	2.85	2.82	2.70	2.59	2.57	–9.8
Malta						
Monaco	0.02	0.02	0.03	0.01	0.02	–16.2
Netherlands						
New Zealand	24	19	16	14	15	–39.4
Norway	14	13	13	13	13	–7.0
Poland*[a]	17	17	16	11	8	–52.1
Portugal	59	71	145	62	85	44.3
Romania*[a]	0.00	0.11	0.01	0.03	0.01	538.5
Russian Federation*	8 794	8 846	8 393	10 147	9 113	3.6
Slovakia*	12.09	37.29	5.34	7.04	4.65	–61.5
Slovenia*[a]	84	84	84	84	84	0.2
Spain	18	16	24	6	6	–64.8
Sweden	81	74	95	118	137	69.9
Switzerland	11.44	5.41	4.81	4.43	4.50	–60.6
Turkey[c]	0.00	0.01	0.00	0.00	0.00	–73.2
Ukraine*	12	10	11	14	16	31.5
United Kingdom	793	775	692	640	629	–20.7
United States	3 113	10 994	8 481	6 455	5 720	83.8
Number of Parties showing decrease in emissions by more than 1 per cent:						*21*
Number of Parties showing change in emissions within 1 per cent:						*1*
Number of Parties showing increase in emissions by more than 1 per cent:						*17*

* A Party with an economy in transition.

[a] 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.

[b] Emission estimates of the European Union are as reported for the EU-27 and are reported separately from those of its member States.

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