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## Subsidiary Body for Implementation

### Fifty-ninth session

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## National greenhouse gas inventory data for the period 1990–2021

### Report by the secretariat

#### *Summary*

A total of 37 of the 43 Parties included in Annex I to the Convention (Annex I Parties) submitted their greenhouse gas (GHG) inventory common reporting format tables and national inventory reports by the deadline of 15 April 2023. In 1990–2021, total aggregate GHG emissions without emissions and removals from land use, land-use change and forestry (LULUCF) for all Annex I Parties decreased by 17.4 per cent, while total GHG emissions and removals with LULUCF decreased by 21.1 per cent. For Annex I Parties with economies in transition, GHG emissions without and with LULUCF decreased by 40.5 and 48.8 per cent respectively. For Annex I Parties that do not have economies in transition, GHG emissions without and with LULUCF decreased by 7.4 and 8.8 per cent respectively. The information in this document is based on the national GHG inventory submissions of Annex I Parties received as at 31 August 2023.



## Abbreviations and acronyms

Annex I Party	Party included in Annex I to the Convention
C	confidential
CH <sub>4</sub>	methane
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> eq	carbon dioxide equivalent
COP	Conference of the Parties
CRF	common reporting format
EIT Party	Party with economy in transition
F-gas	fluorinated gas
GHG	greenhouse gas
IE	included elsewhere
LULUCF	land use, land-use change and forestry
N <sub>2</sub> O	nitrous oxide
NA	not applicable
NE	not estimated
NIR	national inventory report
NO	not occurring
non-EIT Party	Party that does not have an economy in transition
UNFCCC Annex I inventory reporting guidelines	“Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual greenhouse gas inventories”

## I. Introduction

### A. Mandate

1. COP 19 requested Annex I Parties to submit national inventory data on GHG emissions by sources and removals by sinks by 15 April of each year.<sup>1</sup> COP 20 requested the secretariat to compile and summarize information on the GHG inventory data submitted by Annex I Parties, inter alia, for consideration by the COP and the subsidiary bodies.<sup>2</sup>

### B. Scope

2. This document presents the status of reporting of GHG inventories by Annex I Parties in 2023 (see chap. II below) and provides a summary of the latest available data on GHG emissions and removals for 1990–2021 (see chap. III below). Data are provided for CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O, as well as for F-gases,<sup>3</sup> and, where Parties have elected to report them, indirect CO<sub>2</sub> emissions from the atmospheric oxidation of CH<sub>4</sub>, carbon monoxide and non-methane volatile organic compounds. Data are provided on total<sup>4</sup> aggregate<sup>5</sup> GHG emissions, both without and with net GHG emissions and removals from LULUCF. Some Parties<sup>6</sup> opted to use the global warming potential values listed in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change to calculate GHG emissions by sources and removals by sinks in CO<sub>2</sub> eq, in line with decision 6/CP.27, while others<sup>7</sup> continued to use the values listed in the Fourth Assessment Report, in accordance with decision 24/CP.19.

3. The information provided in this document is based on the national GHG inventories<sup>8</sup> received from all 43 Annex I Parties (see table 1) as at 31 August 2023.

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

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

## II. Status of reporting

### A. Timeliness and completeness of submissions

5. According to the UNFCCC Annex I inventory reporting guidelines,<sup>9</sup> Annex I Parties are required to submit annually NIRs and CRF tables containing data for the base year up to

<sup>1</sup> Decision 24/CP.19, para. 3.

<sup>2</sup> Decision 13/CP.20, paras. 8 and 10.

<sup>3</sup> Hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, an unspecified mix of hydrofluorocarbons and perfluorocarbons, and nitrogen trifluoride taken together.

<sup>4</sup> The term “total” implies that emissions from the CRF sectors are summed; the inclusion of emissions from LULUCF in the sum is indicated separately; unless stated otherwise, totals do not include indirect CO<sub>2</sub> emissions.

<sup>5</sup> The term “aggregate” implies that GHG emissions and removals are calculated as a weighted sum of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and F-gases using the global warming potential values agreed under the Convention.

<sup>6</sup> Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, European Union, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands (Kingdom of the), Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom of Great Britain and Northern Ireland, and United States of America.

<sup>7</sup> Australia, Belarus, Canada, Japan, Monaco, New Zealand, Russian Federation, Türkiye and Ukraine.

<sup>8</sup> Available at <https://unfccc.int/ghg-inventories-annex-i-parties/2023>.

<sup>9</sup> Decision 24/CP.19, annex I.

two years prior to the year of submission. In 2023, all 43 Annex I Parties provided GHG data for 1990<sup>10</sup>–2021.

6. By 15 April 2023, CRF tables from 37 Parties and NIRs from 39 Parties had been received. Within six weeks of that date, all 43 Parties had submitted their CRF tables and NIRs. After the initial submissions, three Parties submitted revised versions of their CRF tables, and three Parties resubmitted their NIRs. Australia submitted common reporting tables with its 2023 national GHG inventory; hence the information presented for it in this document is from the latest CRF tables in its 2022 GHG inventory. 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 2023**

<i>Party</i>	<i>CRF tables submission date<sup>a</sup></i>	<i>Party</i>	<i>CRF tables submission date<sup>a</sup></i>
Australia	16 September 2022	Liechtenstein	13 April 2023
Austria	13 April 2023	Lithuania	5 April 2023
Belarus	14 April 2023	Luxembourg	13 April 2023
Belgium	14 April 2023	Malta	30 March 2023
Bulgaria	12 April 2023	Monaco	11 April 2023
Canada	14 April 2023	Netherlands (Kingdom of the)	14 April 2023
Croatia	13 April 2023	New Zealand	13 April 2023
Cyprus	12 April 2023	Norway	15 March 2023
Czechia	26 April 2023	Poland	28 March 2023
Denmark	14 April 2023	Portugal	3 April 2023
Estonia	13 April 2023	Romania	6 April 2023
European Union	15 April 2023	Russian Federation	18 April 2023
Finland	12 April 2023	Slovakia	13 April 2023
France	25 April 2023	Slovenia	12 April 2023
Germany	26 April 2023	Spain	14 April 2023
Greece	13 April 2023	Sweden	6 April 2023
Hungary	15 April 2023	Switzerland	13 April 2023
Iceland	15 April 2023	Türkiye	14 April 2023
Ireland	14 April 2023	Ukraine	18 May 2023
Italy	12 April 2023	United Kingdom	14 April 2023
Japan	20 April 2023	United States	14 April 2023
Latvia	12 April 2023		

<sup>a</sup> The dates of submission of NIRs may be different.

## B. Recalculations

7. According to the UNFCCC Annex I inventory reporting guidelines, Parties should, where necessary, conduct recalculations in order to improve the quality of their emission estimates and ensure the consistency of the time series.

8. In 2023, all 43 Annex I Parties reported recalculations that had an impact on their GHG emission estimates for 1990 (see table 2). The recalculations resulted from changes in activity data, emission factors and methodologies. For total aggregate GHG emissions without LULUCF, the impact of the change was less than 1 per cent for 34 Parties and more than 2 per cent for 2 Parties. For total aggregate GHG emissions with LULUCF, the impact of the change was less than 1 per cent for 21 Parties and more than 2 per cent for 9 Parties.

<sup>10</sup> Unless otherwise specified, for certain Parties 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, are Bulgaria (1988), Hungary (average of 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 2  
**Impact of inventory recalculations conducted by Annex I Parties in 2023**

<i>Party</i>	<i>Impact on GHG emission estimates for 1990 without LULUCF (%)</i>	<i>Impact on GHG emission estimates for 1990 with LULUCF (%)</i>
Australia	0.46	1.75
Austria	0.80	0.73
Belarus	-0.08	-0.10
Belgium	0.11	0.11
Bulgaria	0.42	2.25
Canada	-1.03	-1.33
Croatia	0.19	3.26
Cyprus	-0.09	2.79
Czechia	0.92	1.15
Denmark	0.55	0.53
Estonia	0.25	-1.17
European Union	-13.75	-14.42
Finland	0.10	-21.35
France	-1.16	0.10
Germany	0.75	1.44
Greece	0.52	0.39
Hungary	-0.13	-0.17
Iceland	0.21	3.25
Ireland	1.50	1.04
Italy	0.30	0.34
Japan	-0.04	0.12
Latvia	0.60	0.48
Liechtenstein	0.51	0.48
Lithuania	0.57	1.08
Luxembourg	-0.08	-1.27
Malta	1.04	1.05
Monaco	-0.27	-0.27
Netherlands (Kingdom of the)	0.99	1.18
New Zealand	-0.73	1.32
Norway	-1.40	-0.01
Poland	-0.27	-0.49
Portugal	1.15	1.04
Romania	0.96	0.75
Russian Federation	0.12	0.003
Slovakia	0.50	0.55
Slovenia	0.90	1.01
Spain	-0.83	-0.12
Sweden	0.05	-27.86
Switzerland	2.55	3.20
Türkiye	-0.09	-6.69
Ukraine	0.04	0.05
United Kingdom	1.17	0.90
United States	0.53	0.24

9. Table 3 presents a comparison of the estimates of total aggregate GHG emissions in 1990 contained in Annex I Parties' 2022 and 2023 GHG inventory submissions.

Table 3

**Comparison of estimates reported in 2022 and 2023 of total aggregate greenhouse gas emissions of Annex I Parties in 1990**

	<i>Estimate reported in 2022</i>	<i>Estimate reported in 2023</i>	<i>Explanation of the difference between the estimates reported in 2022 and 2023</i>
<b>Total aggregate GHG emissions without LULUCF (Gt CO<sub>2</sub> eq)</b>			
All Annex I Parties	19.23	19.28	Aggregate impact of inventory recalculations conducted by individual Annex I Parties
Annex I EIT Parties	5.80	5.81	Inventory recalculations (e.g. Czechia, Romania and Slovenia)
Annex I non-EIT Parties	13.43	13.47	Inventory recalculations (e.g. Ireland, Switzerland and United Kingdom)
<b>Total aggregate GHG emissions with LULUCF (Gt CO<sub>2</sub> eq)</b>			
All Annex I Parties	18.05	18.06	Aggregate impact of inventory recalculations conducted by individual Annex I Parties
Annex I EIT Parties	5.55	5.56	Inventory recalculations (e.g. Bulgaria, Croatia and Czechia)
Annex I non-EIT Parties	12.50	12.51	Inventory recalculations (e.g. Cyprus, Iceland and Switzerland)

**III. Overview of emission trends and sources in Annex I Parties****A. Total aggregate greenhouse gas emissions**

10. From 1990 to 2021, total aggregate GHG emissions without LULUCF for all Annex I Parties decreased by 17.4 per cent, from 19,279.12 to 15,928.92 Mt CO<sub>2</sub> eq. During the same period, total aggregate GHG emissions with LULUCF decreased by 21.1 per cent, from 18,064.77 to 14,247.17 Mt CO<sub>2</sub> eq. From 2000 to 2021, GHG emissions without and with LULUCF decreased by 11.6 and 12.0 per cent respectively. Between 2020 and 2021, GHG emissions increased by 4.5 per cent without LULUCF and by 6.0 per cent with LULUCF.

11. For Annex I EIT Parties, GHG emissions decreased by 40.5 per cent without LULUCF and by 48.8 per cent with LULUCF from 1990 to 2021. From 2000 to 2021, GHG emissions without and with LULUCF increased by 2.6 and 5.7 per cent respectively. Between 2020 and 2021, GHG emissions without LULUCF increased by 4.8 per cent, whereas emissions with LULUCF increased by 9.2 per cent.

12. For Annex I non-EIT Parties, GHG emissions decreased by 7.4 per cent without LULUCF and by 8.8 per cent with LULUCF from 1990 to 2021. From 2000 to 2021, GHG emissions without and with LULUCF decreased by 14.9 and 15.6 per cent respectively. Between 2020 and 2021, GHG emissions without and with LULUCF increased by 4.4 and 5.3 per cent respectively.

13. Figures 1–2 show the trends in total aggregate GHG emissions from 1990 to 2021 for all Annex I Parties taken together, for Annex I EIT Parties and for Annex I non-EIT Parties.

Figure 1  
Greenhouse gas emissions of Annex I Parties, 1990–2021

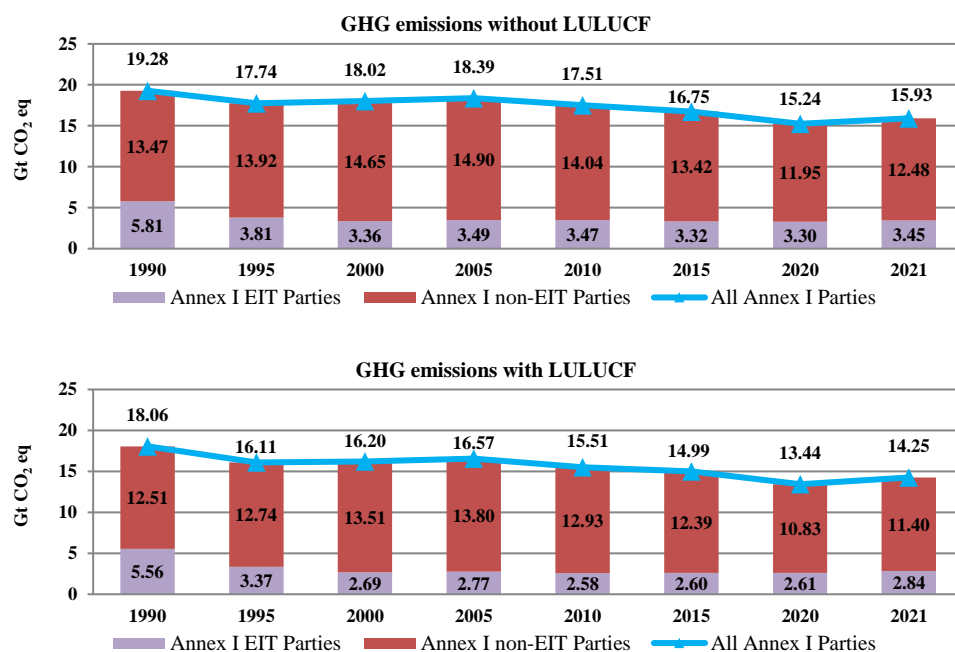
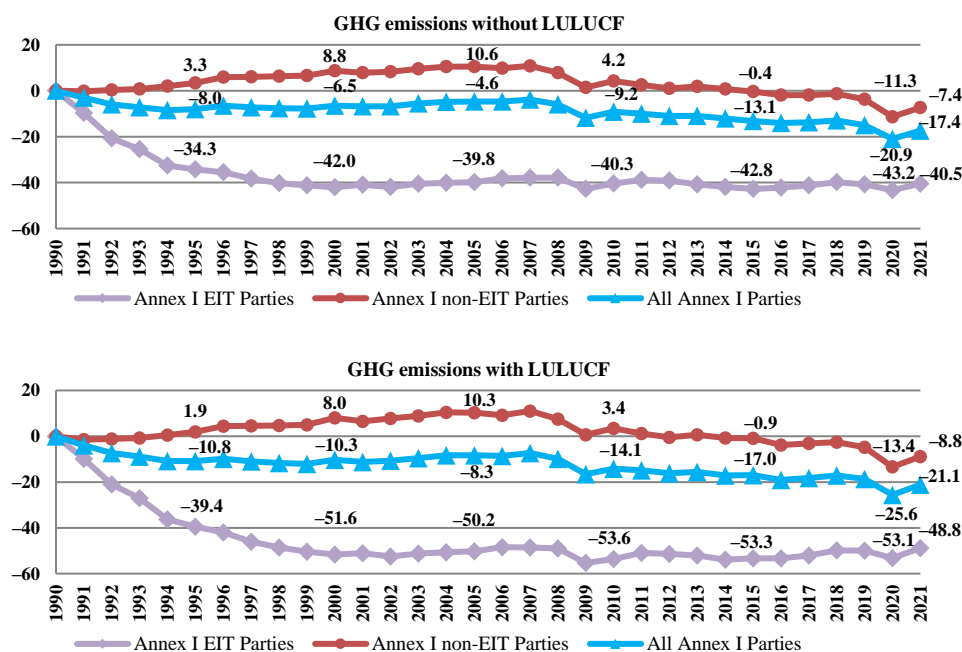
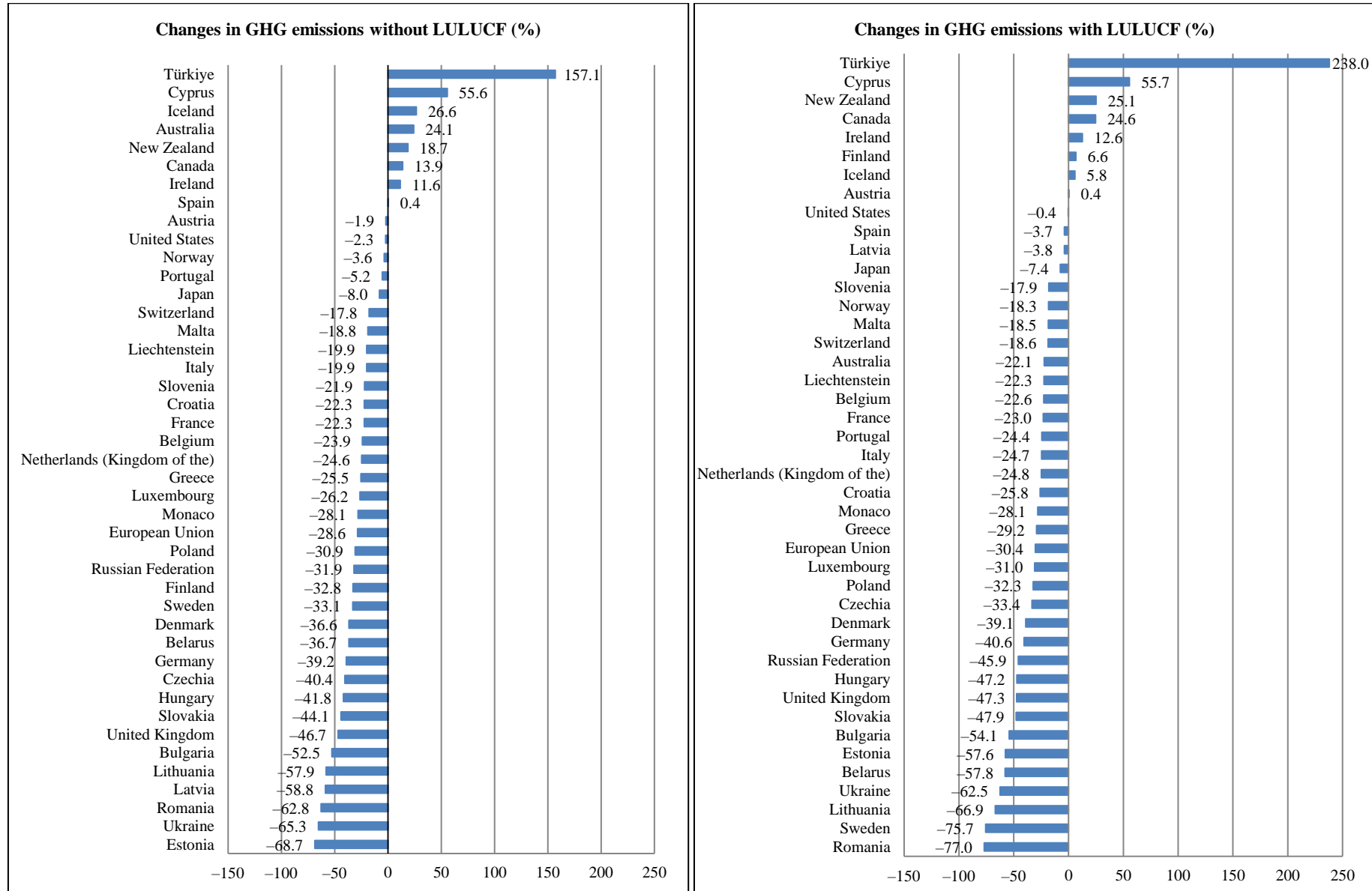


Figure 2  
Percentage changes from 1990 level in greenhouse gas emissions of Annex I Parties, 1990–2021



14. The changes in total aggregate GHG emissions in 1990–2021 varied considerably among Parties (see figure 3). The largest decrease in emissions without LULUCF was in Estonia (by 68.7 per cent), while the largest decrease in emissions with LULUCF was in Romania (by 77.0 per cent). The greatest increases in emissions without and with LULUCF were in Türkiye (by 157.1 and 238.0 per cent respectively).

8 Figure 3  
**Changes in total aggregate emissions of individual Annex I Parties, 1990–2021**





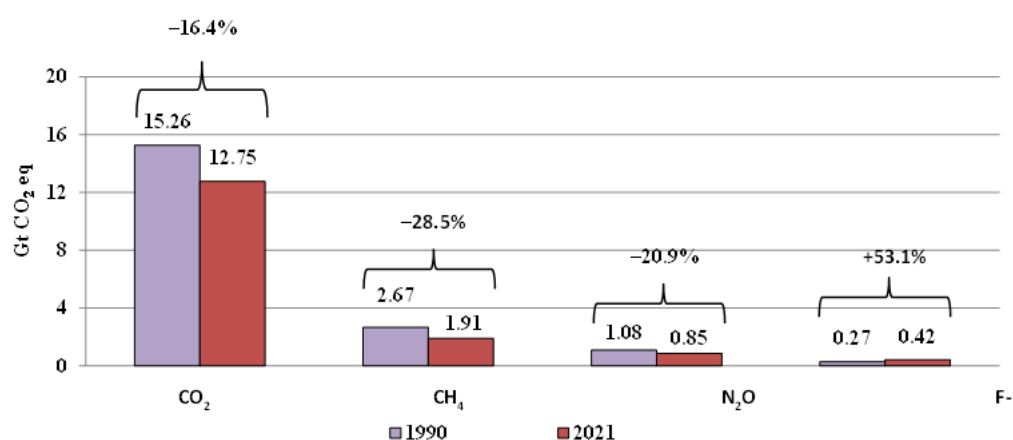
## B. Greenhouse gas emissions by gas

15. Throughout 1990–2021, CO<sub>2</sub> accounted for the largest share of total emissions, contributing 79.1 per cent in 1990 and 80.1 per cent in 2021. CH<sub>4</sub> was the second-highest contributor to total GHG emissions (13.9 per cent in 1990 and 12.0 per cent in 2021), followed by N<sub>2</sub>O (5.6 per cent in 1990 and 5.4 per cent in 2021). F-gases contributed 1.4 per cent in 1990 and 2.6 per cent in 2021 to the total GHG emissions.

16. Figure 4 shows the contribution of each GHG to the total emissions without LULUCF for 1990 and 2021 and the changes in the total emissions of each GHG in 1990–2021. Emissions of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O decreased, while emissions of F-gases increased by 53.1 per cent.

Figure 4

### Greenhouse gas emissions without land use, land-use change and forestry of Annex I Parties by gas, 1990 and 2021



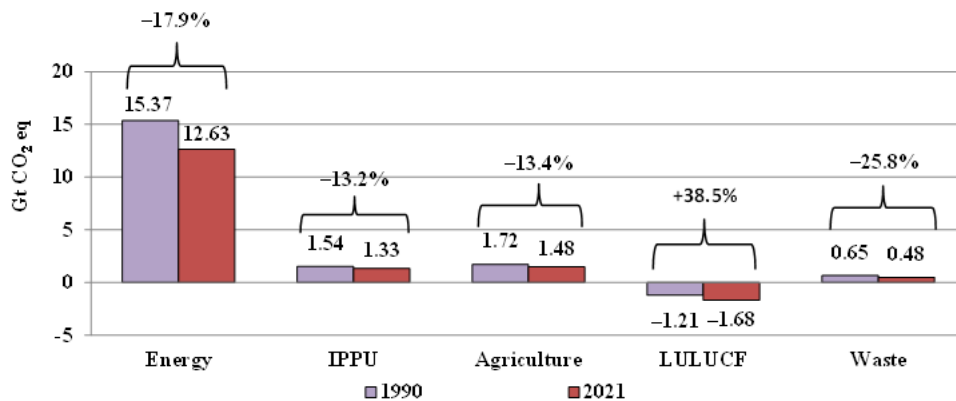
17. Between 2020 and 2021, emissions of CO<sub>2</sub>, N<sub>2</sub>O and F-gases increased by 5.6, 1.2 and 0.9 per cent respectively, while emissions of CH<sub>4</sub> decreased by 0.3 per cent.

## C. Greenhouse gas emissions by sector

18. From 1990 to 2021, emissions from all sectors decreased (see figure 5). The waste sector experienced the largest relative decrease in emissions (by 25.8 per cent), followed by the energy, agriculture, and industrial processes and product use sectors. Over the same period, net GHG removals from LULUCF increased by 38.5 per cent, from -1,214.35 to -1,681.75 Mt CO<sub>2</sub> eq.

19. Between 2020 and 2021, emissions from the energy, industrial processes and product use, and agriculture sectors increased by 5.4, 3.2 and 0.2 per cent respectively, while emissions from the waste sector decreased by 0.9 per cent. Net GHG removals from LULUCF decreased by 7.0 per cent.

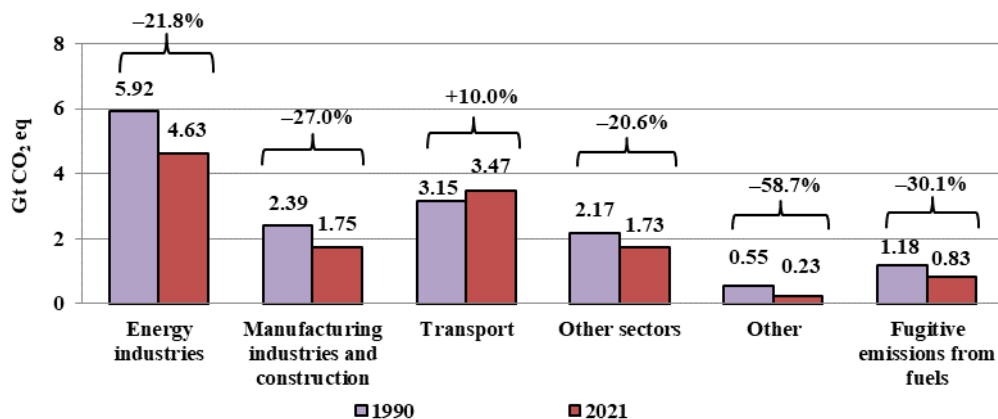
Figure 5  
Greenhouse gas emissions and removals of Annex I Parties by sector, 1990 and 2021



Note: The sector other is not included in this figure because its contribution to total GHG emissions was very small; emissions from that sector increased by 15.6 per cent between 1990 and 2021.

20. Within the energy sector, GHG emissions decreased in all subsectors except transport, where emissions increased by 10.0 per cent, from 1990 to 2021 (see figure 6). The largest relative emission reduction (by 58.7 per cent) occurred in the subsector other.

Figure 6  
Greenhouse gas emissions of Annex I Parties in the energy sector, 1990 and 2021

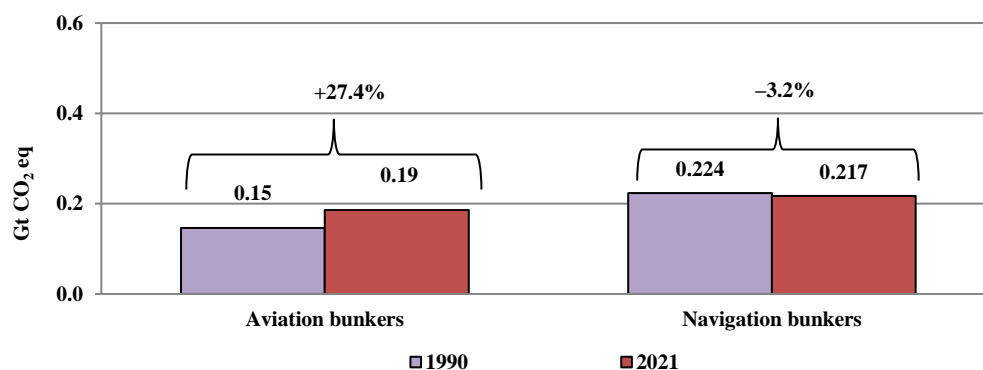


Note: The CO<sub>2</sub> transport and storage subsector is not included in this figure because its contribution to total GHG emissions was very small; emissions from that subsector increased by 12,807.9 per cent between 1990 and 2021.

21. Between 2020 and 2021, emissions from energy industries, manufacturing industries and construction, transport, other sectors and other increased by 5.6, 4.9, 8.5, 2.2 and 6.9 per cent respectively. In the same period, fugitive emissions from fuels decreased by 0.3 per cent.

22. In 1990–2021, emissions from international bunkers increased by 27.4 per cent for aviation, whereas for navigation emissions decreased by 3.2 per cent (see figure 7).

Figure 7  
**Greenhouse gas emissions from international bunker fuels for Annex I Parties, 1990 and 2021**



23. Between 2020 and 2021, emissions from international bunkers increased by 20.0 per cent for aviation and by 2.5 per cent for navigation.

24. A comparison of the percentage changes in total aggregate GHG emissions from 1990 to the latest available year reported in Annex I Parties' 2022 and 2023 inventory submissions is presented in table 4, with explanations for the differences in the estimates.

Table 4

**Comparison of the changes in the total aggregate greenhouse gas emissions of Annex I Parties reported in 2022 and 2023**

	<i>Estimate reported in 2022</i>	<i>Estimate reported in 2023</i>	<i>Explanation of the difference between the estimates reported in 2022 and 2023</i>
<b>Change in total aggregate GHG emissions without LULUCF from 1990 to the latest available year (%)</b>			
All Annex I Parties	-20.94	-17.38	Combined impact of changes for individual Annex I Parties
Annex I EIT Parties	-43.28	-40.53	Increases in emissions between 2020 and 2021 and inventory recalculations (e.g. Poland, Romania and Russian Federation)
Annex I non-EIT Parties	-11.30	-7.40	Increases in emissions between 2020 and 2021 and inventory recalculations (e.g. Italy, Türkiye and United States)
<b>Change in total aggregate GHG emissions with LULUCF from 1990 to the latest available year (%)</b>			
All Annex I Parties	-25.64	-21.13	Combined impact of changes for individual Annex I Parties
Annex I EIT Parties	-53.11	-48.83	Increases in emissions between 2020 and 2021 and inventory recalculations (e.g. Bulgaria, Poland and Russian Federation)
Annex I non-EIT Parties	-13.44	-8.82	Increases in emissions between 2020 and 2021 and inventory recalculations (e.g. Canada, Japan and United Kingdom)

#### D. Emission data for individual Annex I Parties

25. Tables 5–17 show detailed GHG data for individual Annex I Parties. Total aggregate GHG emissions without and with emissions and removals from LULUCF are provided in tables 5–6; emissions of CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O (without and with emissions and removals from LULUCF) are provided in tables 7–12; emissions of F-gases are provided in table 13; emissions and removals from LULUCF are provided in tables 14–16; and indirect CO<sub>2</sub> emissions are provided in table 17.

26. The cells with an en dash (–) in the tables denote that either data were not available or notation keys, such as “NA”, “NE”, “NO”, “IE” or “C”, were used to report emission data. Negative values denote removals; positive values denote emissions.

27. The changes in emissions from 1990 to 2021 were calculated using exact (not rounded) values and may therefore differ from a ratio calculated with the rounded numbers provided in the tables.

Table 5  
**Total aggregate anthropogenic emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and F-gases without emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	425 624	489 529	536 894	528 149	528 149	24.1
Austria	79 047	80 619	84 693	73 911	77 532	-1.9
Belarus <sup>a</sup>	145 340	81 146	91 884	89 940	91 988	-36.7
Belgium	145 844	148 877	133 644	107 273	110 952	-23.9
Bulgaria <sup>a, b</sup>	113 622	57 387	59 383	47 985	53 917	-52.5
Canada	588 603	719 464	701 868	658 788	670 428	13.9
Croatia <sup>a</sup>	31 454	25 654	28 171	23 907	24 446	-22.3
Cyprus	5 572	8 306	9 456	8 503	8 670	55.6
Czechia <sup>a</sup>	198 775	151 139	140 168	113 072	118 382	-40.4
Denmark	71 821	72 662	65 857	44 484	45 516	-36.6
Estonia <sup>a</sup>	40 276	17 453	21 112	11 407	12 615	-68.7
European Union <sup>c</sup>	4 860 553	4 446 889	4 176 794	3 300 464	3 468 394	-28.6
Finland	71 088	70 137	75 556	47 756	47 799	-32.8
France	540 831	548 715	511 153	398 297	420 061	-22.3
Germany	1 251 225	1 040 192	932 379	730 923	760 358	-39.2
Greece	103 986	126 659	119 160	75 464	77 489	-25.5
Hungary <sup>a, b</sup>	110 373	75 378	66 534	62 965	64 218	-41.8
Iceland	3 682	4 154	4 906	4 521	4 662	26.6
Ireland	55 643	69 712	63 032	59 056	62 110	11.6
Italy	521 480	559 978	523 466	384 970	417 591	-19.9
Japan	1 269 334	1 373 303	1 300 047	1 144 932	1 168 094	-8.0
Latvia <sup>a</sup>	26 023	10 168	11 858	10 483	10 725	-58.8
Liechtenstein	230	248	229	181	184	-19.9
Lithuania <sup>a</sup>	48 135	19 494	20 742	20 166	20 252	-57.9
Luxembourg	12 722	9 635	12 159	9 030	9 391	-26.2
Malta	2 626	2 750	2 962	2 112	2 134	-18.8
Monaco	102	106	88	70	74	-28.1
Netherlands (Kingdom of the)	221 781	219 455	214 237	164 368	167 153	-24.6
New Zealand	64 720	74 850	77 328	77 331	76 825	18.7
Norway	50 712	54 074	54 925	49 215	48 902	-3.6
Poland <sup>a, b</sup>	577 665	393 993	407 237	371 312	399 438	-30.9
Portugal	59 473	82 420	69 530	58 029	56 359	-5.2
Romania <sup>a, b</sup>	310 278	142 238	126 670	112 036	115 403	-62.8
Russian Federation <sup>a, d</sup>	3 166 579	1 895 001	2 019 393	2 061 110	2 156 599	-31.9
Slovakia <sup>a</sup>	73 739	48 986	45 767	37 188	41 226	-44.1
Slovenia <sup>a, b</sup>	20 632	18 769	19 798	15 975	16 106	-21.9
Spain	287 710	383 276	354 652	272 244	288 848	0.4
Sweden	71 478	68 349	64 376	46 214	47 817	-33.1
Switzerland	54 934	53 839	55 307	43 790	45 136	-17.8
Türkiye <sup>e</sup>	219 526	298 917	398 793	523 991	564 390	157.1
Ukraine <sup>a</sup>	942 800	427 917	407 346	318 035	327 259	-65.3
United Kingdom	806 302	723 920	615 725	408 965	429 489	-46.7
United States	6 487 331	7 369 163	7 058 198	6 025 974	6 340 228	-2.3
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						35
<i>Number of Parties showing a change in emissions within 1%:</i>						1
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						7

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Information provided by the Russian Federation. The General Assembly addressed the status of the Autonomous Republic of Crimea and the city of Sevastopol in resolution 68/262 of 27 March 2014.

<sup>e</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 6  
**Total aggregate anthropogenic emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O and F-gases with emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	626 254	555 490	603 248	488 004	488 004	–22.1
Austria	66 840	66 335	64 934	68 689	67 131	0.4
Belarus <sup>a</sup>	115 941	46 508	45 738	52 492	48 915	–57.8
Belgium	142 908	147 191	133 282	106 938	110 627	–22.6
Bulgaria <sup>a, b</sup>	97 510	40 304	47 506	38 579	44 773	–54.1
Canada	524 096	681 687	683 695	645 401	653 126	24.6
Croatia <sup>a</sup>	25 142	18 958	21 283	18 240	18 644	–25.8
Cyprus	5 419	8 164	9 191	8 204	8 435	55.7
Czechia <sup>a</sup>	190 190	141 971	133 013	124 340	126 740	–33.4
Denmark	78 752	77 866	68 411	47 622	47 972	–39.1
Estonia <sup>a</sup>	36 581	12 775	15 629	13 916	15 498	–57.6
European Union <sup>c</sup>	4 651 758	4 142 748	3 824 204	3 059 426	3 238 409	–30.4
Finland	45 281	45 685	49 529	38 643	48 286	6.6
France	523 910	527 645	470 209	376 061	403 272	–23.0
Germany	1 287 200	1 040 041	929 723	735 120	764 356	–40.6
Greece	101 738	124 140	115 768	70 049	72 013	–29.2
Hungary <sup>a, b</sup>	107 975	74 279	61 702	55 856	57 020	–47.2
Iceland	13 292	13 758	14 503	13 942	14 060	5.8
Ireland	61 652	77 038	70 088	66 099	69 448	12.6
Italy	517 992	538 424	481 781	352 425	390 118	–24.7
Japan	1 206 062	1 289 218	1 229 193	1 093 339	1 116 400	–7.4
Latvia <sup>a</sup>	13 633	–1 683	9 829	11 285	13 120	–3.8
Liechtenstein	237	273	250	186	184	–22.3
Lithuania <sup>a</sup>	42 787	10 014	10 376	13 530	14 161	–66.9
Luxembourg	12 731	9 020	11 954	8 582	8 785	–31.0
Malta	2 618	2 745	2 974	2 120	2 134	–18.5
Monaco	102	106	88	70	74	–28.1
Netherlands (Kingdom of the)	228 018	225 149	219 332	168 510	171 466	–24.8
New Zealand	44 549	48 061	48 103	54 089	55 746	25.1
Norway	40 884	35 388	31 091	30 042	33 405	–18.3
Poland <sup>a, b</sup>	560 075	359 424	374 275	352 355	379 344	–32.3
Portugal	66 611	80 374	62 969	53 322	50 338	–24.4
Romania <sup>a, b</sup>	288 016	109 316	89 434	61 629	66 145	–77.0
Russian Federation <sup>a</sup>	3 089 163	1 421 744	1 321 327	1 503 550	1 671 775	–45.9
Slovakia <sup>a</sup>	64 406	39 591	40 554	29 493	33 569	–47.9
Slovenia <sup>a, b</sup>	15 842	12 569	12 631	12 832	13 001	–17.9
Spain	253 814	339 880	310 507	228 150	244 326	–3.7
Sweden	25 143	20 143	14 088	4 927	6 106	–75.7
Switzerland	53 170	59 104	52 500	42 363	43 261	–18.6
Türkiye <sup>d</sup>	153 015	230 865	326 913	467 043	517 244	238.0
Ukraine <sup>a</sup>	911 394	405 005	398 349	317 632	341 489	–62.5
United Kingdom	817 454	730 246	617 482	410 224	430 654	–47.3
United States	5 606 377	6 533 375	6 307 177	5 249 805	5 586 003	–0.4
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						34
<i>Number of Parties showing a change in emissions within 1%:</i>						2
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						7

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 7

**Total anthropogenic CO<sub>2</sub> emissions without emissions and removals from land use, land-use change and forestry**

Party	kt					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	278 154	349 635	405 103	400 333	400 333	43.9
Austria	62 167	66 172	72 017	62 121	66 019	6.2
Belarus <sup>a</sup>	108 345	54 906	62 445	59 056	60 938	-43.8
Belgium	120 293	126 722	114 604	91 101	95 668	-20.5
Bulgaria <sup>a, b</sup>	89 565	45 413	47 808	36 534	42 282	-52.8
Canada	458 503	567 096	556 062	522 845	537 174	17.2
Croatia <sup>a</sup>	22 975	19 660	21 018	16 871	17 411	-24.2
Cyprus	4 645	7 105	8 101	6 911	7 029	51.3
Czechia <sup>a</sup>	164 250	127 236	117 491	91 697	96 665	-41.1
Denmark	54 771	55 641	50 718	29 966	31 306	-42.8
Estonia <sup>a</sup>	36 920	15 482	18 975	9 239	10 420	-71.8
European Union <sup>c</sup>	3 873 588	3 607 844	3 440 713	2 638 543	2 814 422	-27.3
Finland	56 914	57 010	64 081	37 735	37 947	-33.3
France	399 166	416 290	390 494	296 195	320 908	-19.6
Germany	1 054 741	898 938	831 130	647 252	678 799	-35.6
Greece	83 438	102 973	97 354	55 620	57 556	-31.0
Hungary <sup>a, b</sup>	85 539	58 506	52 087	47 335	48 564	-43.2
Iceland	2 223	2 933	3 627	3 340	3 510	57.9
Ireland	32 944	45 249	41 793	35 124	37 547	14.0
Italy	438 904	470 524	436 534	303 281	337 230	-23.2
Japan	1 157 196	1 263 755	1 214 708	1 039 796	1 062 129	-8.2
Latvia <sup>a</sup>	19 663	7 083	8 555	7 000	7 240	-63.2
Liechtenstein	199	217	191	142	146	-26.7
Lithuania <sup>a</sup>	35 738	11 843	13 803	13 539	13 830	-61.3
Luxembourg	11 816	8 704	11 198	8 068	8 430	-28.7
Malta	2 427	2 468	2 603	1 597	1 607	-33.8
Monaco	98	100	76	61	64	-34.2
Netherlands (Kingdom of the)	162 665	172 016	182 359	136 685	139 907	-14.0
New Zealand	25 503	32 246	34 810	34 237	34 318	34.6
Norway	34 422	41 121	45 354	40 890	40 663	18.1
Poland <sup>a, b</sup>	471 415	317 452	334 225	302 437	331 077	-29.8
Portugal	45 279	65 611	52 934	41 695	39 938	-11.8
Romania <sup>a, b</sup>	208 974	93 334	86 094	74 027	77 191	-63.1
Russian Federation <sup>a</sup>	2 536 248	1 479 142	1 632 783	1 632 929	1 711 993	-32.5
Slovakia <sup>a</sup>	61 473	41 139	38 409	31 097	35 167	-42.8
Slovenia <sup>a, b</sup>	16 767	15 054	16 460	12 855	13 060	-22.1
Spain	230 500	310 071	282 937	213 625	230 269	-0.1
Sweden	57 510	54 930	53 120	36 686	38 525	-33.0
Switzerland	44 161	43 614	45 043	34 235	35 787	-19.0
Türkiye <sup>d</sup>	151 615	229 937	316 193	412 927	452 703	198.6
Ukraine <sup>a</sup>	706 227	285 674	294 366	206 824	210 153	-70.2
United Kingdom	603 666	570 546	513 843	327 164	348 410	-42.3
United States	5 120 957	6 010 136	5 679 715	4 714 628	5 032 213	-1.7
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						33
<i>Number of Parties showing a change in emissions within 1%:</i>						1
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						9

<sup>a</sup> EIT Party.<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 8  
**Total anthropogenic CO<sub>2</sub> emissions with emissions and removals from land use, land-use change and forestry**

Party	kt					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	454 228	389 018	446 578	343 712	343 712	–24.3
Austria	49 820	51 744	52 107	56 757	55 478	11.4
Belarus <sup>a</sup>	78 921	20 239	16 277	21 550	17 834	–77.4
Belgium	117 351	124 993	114 144	90 662	95 240	–18.8
Bulgaria <sup>a, b</sup>	73 110	27 918	35 724	26 875	32 689	–55.3
Canada	392 835	528 142	536 787	508 621	519 003	32.1
Croatia <sup>a</sup>	16 618	12 763	14 032	11 030	11 487	–30.9
Cyprus	4 492	6 955	7 834	6 611	6 785	51.0
Czechia <sup>a</sup>	155 569	117 993	110 238	102 912	105 007	–32.5
Denmark	61 345	60 510	52 950	32 775	33 432	–45.5
Estonia <sup>a</sup>	32 912	10 486	13 160	11 400	12 955	–60.6
European Union <sup>c</sup>	3 639 185	3 279 370	3 065 555	2 375 167	2 560 899	–29.6
Finland	27 916	29 264	35 094	25 972	35 799	28.2
France	378 749	391 829	346 815	271 754	301 800	–20.3
Germany	1 083 501	891 603	820 839	643 742	675 066	–37.7
Greece	81 115	100 197	93 928	50 169	51 903	–36.0
Hungary <sup>a, b</sup>	83 093	57 334	47 215	40 184	41 323	–50.3
Iceland	7 984	8 708	9 450	9 006	9 152	14.6
Ireland	38 256	51 834	47 524	41 130	43 826	14.6
Italy	433 214	447 552	394 075	269 900	308 306	–28.8
Japan	1 092 853	1 178 808	1 143 221	987 725	1 009 951	–7.6
Latvia <sup>a</sup>	6 264	–5 819	5 468	6 394	8 197	30.9
Liechtenstein	206	242	211	146	146	–29.3
Lithuania <sup>a</sup>	30 274	2 249	3 306	6 768	7 592	–74.9
Luxembourg	11 814	8 079	10 974	7 612	7 816	–33.8
Malta	2 419	2 463	2 614	1 605	1 607	–33.6
Monaco	98	100	76	60	64	–34.2
Netherlands (Kingdom of the)	168 498	177 346	187 106	140 500	143 892	–14.6
New Zealand	4 937	4 978	5 137	10 639	12 960	162.5
Norway	24 191	22 016	21 084	21 268	24 712	2.2
Poland <sup>a, b</sup>	452 063	281 687	300 354	281 653	309 233	–31.6
Portugal	50 984	62 678	45 347	36 283	33 064	–35.1
Romania <sup>a, b</sup>	186 526	60 218	48 609	23 541	27 861	–85.1
Russian Federation <sup>a</sup>	2 428 209	971 449	901 485	1 039 199	1 180 164	–51.4
Slovakia <sup>a</sup>	52 009	31 651	33 141	23 336	27 457	–47.2
Slovenia <sup>a, b</sup>	11 908	8 789	9 240	9 674	9 918	–16.7
Spain	195 769	265 843	238 364	169 216	185 287	–5.4
Sweden	9 542	5 077	1 278	–6 159	–4 765	–149.9
Switzerland	42 313	48 819	42 177	32 747	33 850	–20.0
Türkiye <sup>d</sup>	84 978	161 590	244 194	355 680	404 283	375.8
Ukraine <sup>a</sup>	674 590	262 468	285 135	205 763	224 202	–66.8
United Kingdom	607 337	569 665	508 589	321 430	342 591	–43.6
United States	4 182 102	5 108 124	4 872 349	3 862 094	4 200 174	0.4
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						<i>32</i>
<i>Number of Parties showing a change in emissions within 1%:</i>						<i>1</i>
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						<i>10</i>

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 9

**Total anthropogenic CH<sub>4</sub> emissions without emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	125 133	118 052	104 768	97 304	97 304	-22.2
Austria	11 319	9 218	7 836	6 503	6 499	-42.6
Belarus <sup>a</sup>	20 770	15 093	16 728	17 678	17 876	-13.9
Belgium	12 900	11 444	9 123	7 972	7 870	-39.0
Bulgaria <sup>a, b</sup>	15 189	8 496	7 586	6 407	6 561	-56.8
Canada	83 914	110 824	107 761	91 380	90 510	7.9
Croatia <sup>a</sup>	4 821	3 735	4 420	4 002	3 887	-19.4
Cyprus	776	938	974	1 065	1 097	41.3
Czechia <sup>a</sup>	26 814	17 615	15 710	13 098	13 224	-50.7
Denmark	9 161	9 632	9 015	8 613	8 645	-5.6
Estonia <sup>a</sup>	2 152	1 324	1 298	1 145	1 153	-46.4
European Union <sup>c</sup>	648 412	542 790	458 734	405 669	401 659	-38.1
Finland	8 611	7 364	5 993	4 938	4 819	-44.0
France	79 256	80 045	73 731	63 774	62 196	-21.5
Germany	132 606	96 046	60 100	47 051	45 688	-65.5
Greece	12 527	13 244	12 432	10 959	11 323	-9.6
Hungary <sup>a, b</sup>	14 574	11 521	9 781	9 207	9 207	-36.8
Iceland	718	755	755	652	654	-8.9
Ireland	16 138	16 886	14 535	17 287	17 650	9.4
Italy	54 975	57 706	52 690	47 513	47 087	-14.3
Japan	44 542	37 286	31 073	27 380	27 361	-38.6
Latvia <sup>a</sup>	4 061	2 108	2 003	1 898	1 890	-53.5
Liechtenstein	22	19	21	22	22	1.2
Lithuania <sup>a</sup>	7 808	4 339	4 093	3 322	3 301	-57.7
Luxembourg	677	665	673	668	663	-2.0
Malta	140	213	166	233	242	73.0
Monaco	2	1	1	1	1	-69.9
Netherlands (Kingdom of the)	35 731	27 117	21 681	18 974	18 715	-47.6
New Zealand	32 581	35 368	33 984	33 404	33 019	1.3
Norway	6 982	6 920	6 248	5 288	5 257	-24.7
Poland <sup>a, b</sup>	76 317	52 447	47 759	43 188	42 705	-44.0
Portugal	10 736	12 453	11 442	10 235	10 273	-4.3
Romania <sup>a, b</sup>	74 067	35 996	29 799	26 341	25 785	-65.2
Russian Federation <sup>a</sup>	438 513	304 963	296 461	299 884	314 778	-28.2
Slovakia <sup>a</sup>	8 177	5 414	4 380	3 700	3 701	-54.7
Slovenia <sup>a, b</sup>	2 911	2 790	2 431	2 131	2 085	-28.4
Spain	40 973	46 910	43 790	41 467	41 492	1.3
Sweden	8 297	7 658	5 833	4 589	4 520	-45.5
Switzerland	6 513	5 739	5 581	5 093	5 104	-21.6
Türkiye <sup>d</sup>	42 488	43 667	51 645	63 894	64 020	50.7
Ukraine <sup>a</sup>	182 892	118 324	84 818	71 699	71 537	-60.9
United Kingdom	145 316	118 800	70 128	52 266	51 739	-64.4
United States	868 661	809 526	808 184	742 249	727 445	-16.3
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						35
<i>Number of Parties showing a change in emissions within 1%:</i>						0
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						8

<sup>a</sup> EIT Party.<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.



Table 10  
**Total anthropogenic CH<sub>4</sub> emissions with emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	144 871	139 578	123 938	110 093	110 093	–24.0
Austria	11 346	9 245	7 862	6 530	6 526	–42.5
Belarus <sup>a</sup>	20 778	15 103	16 733	17 702	17 893	–13.9
Belgium	12 900	11 444	9 123	7 972	7 870	–39.0
Bulgaria <sup>a, b</sup>	15 190	8 647	7 603	6 421	6 703	–55.9
Canada	84 672	111 590	108 482	91 911	91 062	7.5
Croatia <sup>a</sup>	4 823	3 843	4 422	4 038	3 894	–19.3
Cyprus	776	943	974	1 065	1 103	42.0
Czechia <sup>a</sup>	26 870	17 661	15 771	13 132	13 233	–50.8
Denmark	9 455	9 915	9 297	8 902	8 935	–5.5
Estonia <sup>a</sup>	2 225	1 399	1 373	1 220	1 228	–44.8
European Union <sup>c</sup>	662 597	556 713	470 923	417 556	414 553	–37.4
Finland	10 305	8 871	7 085	5 793	5 670	–45.0
France	80 382	81 833	74 938	64 913	63 387	–21.1
Germany	138 936	102 370	66 607	53 613	52 255	–62.4
Greece	12 597	13 477	12 450	10 980	11 477	–8.9
Hungary <sup>a, b</sup>	14 598	11 549	9 791	9 219	9 220	–36.8
Iceland	4 566	4 584	4 529	4 406	4 409	–3.4
Ireland	16 645	17 378	15 380	17 919	18 276	9.8
Italy	56 416	58 506	53 083	47 885	48 065	–14.8
Japan	44 646	37 374	31 151	27 450	27 438	–38.5
Latvia <sup>a</sup>	4 585	2 643	2 539	2 743	2 758	–39.8
Liechtenstein	22	19	21	22	22	1.2
Lithuania <sup>a</sup>	7 812	4 343	4 094	3 322	3 301	–57.7
Luxembourg	677	665	673	668	663	–2.0
Malta	140	213	166	233	242	72.9
Monaco	2	1	1	1	1	–69.9
Netherlands (Kingdom of the)	36 037	27 397	21 938	19 219	18 960	–47.4
New Zealand	32 649	35 437	34 075	33 492	33 052	1.2
Norway	7 171	7 116	6 450	5 498	5 468	–23.8
Poland <sup>a, b</sup>	76 372	52 490	47 774	43 247	42 712	–44.1
Portugal	11 554	12 762	11 737	10 353	10 522	–8.9
Romania <sup>a, b</sup>	74 067	36 002	29 799	26 349	25 789	–65.2
Russian Federation <sup>a</sup>	458 969	324 136	317 955	321 761	343 307	–25.2
Slovakia <sup>a</sup>	8 189	5 444	4 402	3 727	3 721	–54.6
Slovenia <sup>a, b</sup>	2 912	2 790	2 431	2 131	2 085	–28.4
Spain	41 324	47 238	43 888	41 548	41 662	0.8
Sweden	8 839	8 184	6 310	5 052	4 991	–43.5
Switzerland	6 544	5 755	5 595	5 106	5 118	–21.8
Türkiye <sup>d</sup>	42 564	43 827	51 668	64 003	64 717	52.0
Ukraine <sup>a</sup>	182 929	118 341	84 856	71 994	71 546	–60.9
United Kingdom	150 887	124 328	75 729	57 959	57 433	–61.9
United States	922 167	867 769	860 382	807 665	793 415	–14.0
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						35
<i>Number of Parties showing a change in emissions within 1%:</i>						1
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						7

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 11  
**Total anthropogenic N<sub>2</sub>O emissions without emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	16 085	19 089	19 538	18 587	18 587	15.6
Austria	4 011	3 871	2 994	3 089	3 123	-22.1
Belarus <sup>a</sup>	16 224	11 103	12 599	12 978	12 938	-20.3
Belgium	8 950	9 071	6 696	4 787	4 733	-47.1
Bulgaria <sup>a, b</sup>	8 865	3 439	3 554	4 234	4 312	-51.4
Canada	34 431	30 901	28 006	31 523	30 231	-12.2
Croatia <sup>a</sup>	2 530	2 195	2 155	1 450	1 440	-43.1
Cyprus	148	192	169	173	174	17.5
Czechia <sup>a</sup>	7 624	5 373	4 399	4 472	4 684	-38.6
Denmark	7 845	6 572	5 248	5 465	5 193	-33.8
Estonia <sup>a</sup>	1 204	570	665	841	849	-29.5
European Union <sup>c</sup>	288 825	233 624	181 841	174 621	174 381	-39.6
Finland	5 508	5 039	4 136	4 156	4 171	-24.3
France	51 258	41 083	28 971	26 049	26 031	-49.2
Germany	51 554	32 472	27 449	24 922	24 767	-52.0
Greece	6 856	5 867	5 035	3 931	3 817	-44.3
Hungary <sup>a, b</sup>	9 920	4 811	3 309	4 462	4 486	-54.8
Iceland	295	287	254	245	249	-15.6
Ireland	6 525	6 871	5 583	5 926	6 147	-5.8
Italy	24 193	26 923	18 090	17 346	17 193	-28.9
Japan	32 218	30 181	22 729	19 680	19 460	-39.6
Latvia <sup>a</sup>	2 299	914	1 087	1 336	1 333	-42.0
Liechtenstein	9	8	8	8	8	-10.6
Lithuania <sup>a</sup>	4 588	3 289	2 593	2 794	2 595	-43.4
Luxembourg	229	236	233	239	244	6.7
Malta	59	63	57	57	56	-5.6
Monaco	2	3	4	3	3	27.7
Netherlands (Kingdom of the)	16 078	14 334	7 811	7 459	7 155	-55.5
New Zealand	5 707	6 881	7 390	8 140	7 938	39.1
Norway	3 645	3 394	2 183	2 065	2 069	-43.2
Poland <sup>a, b</sup>	29 801	22 886	19 601	20 470	20 617	-30.8
Portugal	3 458	3 978	3 194	2 965	2 939	-15.0
Romania <sup>a, b</sup>	23 231	11 326	9 814	9 756	10 465	-55.0
Russian Federation <sup>a</sup>	139 337	73 500	72 078	86 475	88 401	-36.6
Slovakia <sup>a</sup>	3 806	2 308	2 366	1 722	1 664	-56.3
Slovenia <sup>a, b</sup>	735	752	648	685	671	-8.7
Spain	12 578	14 785	12 011	12 031	11 831	-5.9
Sweden	5 049	4 575	4 124	3 953	3 850	-23.7
Switzerland	4 014	3 671	3 236	2 948	2 845	-29.1
Türkiye <sup>d</sup>	24 951	24 775	27 447	40 491	40 306	61.5
Ukraine <sup>a</sup>	53 446	23 787	27 381	37 718	43 619	-18.4
United Kingdom	42 525	25 227	19 314	17 438	17 906	-57.9
United States	406 281	411 168	411 267	388 903	393 279	-3.2
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						37
<i>Number of Parties showing a change in emissions within 1%:</i>						0
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						6

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 12  
**Total anthropogenic N<sub>2</sub>O emissions with emissions and removals from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	20 903	24 142	25 247	22 272	22 272	6.5
Austria	4 124	3 988	3 118	3 204	3 235	-21.6
Belarus <sup>a</sup>	16 241	11 123	12 616	13 011	12 952	-20.3
Belgium	8 956	9 113	6 794	4 891	4 836	-46.0
Bulgaria <sup>a, b</sup>	9 207	3 700	3 745	4 473	4 619	-49.8
Canada	34 834	31 312	28 388	31 829	30 547	-12.3
Croatia <sup>a</sup>	2 573	2 289	2 251	1 588	1 555	-39.6
Cyprus	148	194	171	174	177	20.1
Czechia <sup>a</sup>	7 664	5 402	4 436	4 492	4 691	-38.8
Denmark	7 908	6 623	5 287	5 505	5 233	-33.8
Estonia <sup>a</sup>	1 443	812	923	1 113	1 121	-22.3
European Union <sup>c</sup>	300 247	244 035	192 219	185 072	185 025	-38.4
Finland	7 006	6 827	6 004	5 951	5 955	-15.0
France	53 628	42 686	30 499	27 115	27 160	-49.4
Germany	52 440	33 332	28 576	26 068	25 931	-50.6
Greece	6 862	5 891	5 051	3 945	3 841	-44.0
Hungary <sup>a, b</sup>	9 944	4 855	3 339	4 492	4 516	-54.6
Iceland	295	287	255	246	250	-15.4
Ireland	6 716	7 120	6 063	6 330	6 580	-2.0
Italy	24 954	27 541	18 472	17 811	17 666	-29.2
Japan	33 184	30 954	23 283	20 087	19 867	-40.1
Latvia <sup>a</sup>	2 784	1 430	1 609	1 899	1 903	-31.7
Liechtenstein	9	9	9	9	9	-9.5
Lithuania <sup>a</sup>	4 701	3 399	2 723	2 928	2 742	-41.7
Luxembourg	239	246	250	248	253	5.7
Malta	60	63	57	57	57	-5.1
Monaco	2	3	4	3	3	27.3
Netherlands (Kingdom of the)	16 176	14 420	7 902	7 541	7 238	-55.3
New Zealand	6 033	7 291	7 747	8 408	8 185	35.7
Norway	3 858	3 617	2 416	2 305	2 311	-40.1
Poland <sup>a, b</sup>	31 508	24 039	20 494	22 237	22 359	-29.0
Portugal	4 073	4 556	3 925	3 553	3 543	-13.0
Romania <sup>a, b</sup>	23 417	11 513	10 063	9 826	10 533	-55.0
Russian Federation <sup>a</sup>	149 504	88 764	83 816	100 769	106 876	-28.5
Slovakia <sup>a</sup>	3 924	2 370	2 399	1 759	1 696	-56.8
Slovenia <sup>a, b</sup>	803	816	701	723	707	-11.9
Spain	13 061	15 289	12 341	12 266	12 121	-7.2
Sweden	6 140	5 697	5 202	5 049	4 958	-19.2
Switzerland	4 066	3 715	3 282	2 996	2 894	-28.8
Türkiye <sup>d</sup>	25 001	24 910	27 543	40 681	40 883	63.5
Ukraine <sup>a</sup>	53 639	24 065	27 578	38 080	43 791	-18.4
United Kingdom	44 435	26 908	20 725	18 737	19 195	-56.8
United States	410 676	419 148	415 414	399 853	405 122	-1.4
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						37
<i>Number of Parties showing a change in emissions within 1%:</i>						0
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						6

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 13  
Total aggregate anthropogenic emissions of F-gases

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	6 252	2 752	7 484	11 926	11 926	90.7
Austria	1 550	1 358	1 846	2 198	1 892	22.0
Belarus <sup>a</sup>	–	43	112	228	236	–
Belgium	3 701	1 641	3 220	3 412	2 680	–27.6
Bulgaria <sup>a, b</sup>	3	39	434	810	763	>10 000.0
Canada	11 755	10 643	10 038	13 040	12 513	6.5
Croatia <sup>a</sup>	1 128	63	578	1 584	1 709	51.5
Cyprus	3	72	212	354	370	>10 000.0
Czechia <sup>a</sup>	87	916	2 568	3 804	3 808	4 286.4
Denmark	44	817	876	440	372	750.5
Estonia <sup>a</sup>	–	77	173	183	193	–
European Union <sup>c</sup>	49 729	62 631	95 507	81 631	77 933	56.7
Finland	54	723	1 346	927	862	1 487.4
France	11 151	11 297	17 957	12 279	10 925	–2.0
Germany	12 324	12 735	13 701	11 697	11 104	–9.9
Greece	1 165	4 575	4 339	4 955	4 792	311.3
Hungary <sup>a, b</sup>	341	541	1 357	1 961	1 961	475.4
Iceland	446	179	269	285	249	–44.2
Ireland	36	706	1 121	720	766	2 057.0
Italy	3 408	4 824	16 151	16 829	16 081	371.9
Japan	35 378	42 082	31 537	58 076	59 144	67.2
Latvia <sup>a</sup>	–	63	214	249	262	–
Liechtenstein	0.0001	4	8	9	8	>10 000.0
Lithuania <sup>a</sup>	–	22	253	512	525	–
Luxembourg	1	30	56	55	54	5 835.9
Malta	0.01	6	137	226	229	>10 000.0
Monaco	0.08	2	6	6	6	6 852.4
Netherlands (Kingdom of the)	7 308	5 987	2 386	1 250	1 376	–81.2
New Zealand	930	355	1 143	1 549	1 550	66.6
Norway	5 663	2 639	1 140	971	914	–83.9
Poland <sup>a, b</sup>	132	1 207	5 652	5 217	5 040	3 709.1
Portugal	–	378	1 960	3 134	3 210	–
Romania <sup>a, b</sup>	4 006	1 583	962	1 913	1 962	–51.0
Russian Federation <sup>a</sup>	52 481	37 396	18 072	41 821	41 427	–21.1
Slovakia <sup>a</sup>	283	125	612	669	695	145.6
Slovenia <sup>a, b</sup>	220	173	259	303	291	32.4
Spain	3 659	11 511	15 914	5 121	5 255	43.6
Sweden	622	1 186	1 298	985	922	48.3
Switzerland	246	815	1 447	1 513	1 399	468.8
Türkiye <sup>d</sup>	473	538	3 507	6 680	7 361	1 456.8
Ukraine <sup>a</sup>	236	132	780	1 795	1 950	726.9
United Kingdom	14 795	9 345	12 439	12 097	11 435	–22.7
United States	91 432	138 333	159 032	180 194	187 292	104.8
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						9
<i>Number of Parties showing a change in emissions within 1%:</i>						0
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						29

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 14  
**Net anthropogenic CO<sub>2</sub> emissions and removals from land use, land-use change and forestry**

Party	kt					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	176 073	39 383	41 475	–56 621	–56 621	–132.2
Austria	–12 347	–14 428	–19 910	–5 364	–10 541	–14.6
Belarus <sup>a</sup>	–29 424	–34 667	–46 168	–37 505	–43 104	46.5
Belgium	–2 942	–1 729	–460	–439	–428	–85.5
Bulgaria <sup>a, b</sup>	–16 455	–17 496	–12 085	–9 659	–9 593	–41.7
Canada	–65 668	–38 954	–19 276	–14 224	–18 171	–72.3
Croatia <sup>a</sup>	–6 357	–6 897	–6 986	–5 841	–5 924	–6.8
Cyprus	–153	–149	–267	–300	–245	59.8
Czechia <sup>a</sup>	–8 682	–9 243	–7 252	11 214	8 342	–196.1
Denmark	6 574	4 869	2 233	2 809	2 125	–67.7
Estonia <sup>a</sup>	–4 007	–4 995	–5 815	2 162	2 535	–163.3
European Union <sup>c</sup>	–234 403	–328 474	–375 158	–263 376	–253 523	8.2
Finland	–28 999	–27 746	–28 987	–11 763	–2 149	–92.6
France	–20 417	–24 462	–43 679	–24 441	–19 109	–6.4
Germany	28 760	–7 335	–10 290	–3 511	–3 733	–113.0
Greece	–2 324	–2 776	–3 426	–5 451	–5 654	143.3
Hungary <sup>a, b</sup>	–3 075	–1 172	–4 872	–7 152	–7 241	135.5
Iceland	5 761	5 775	5 822	5 666	5 642	–2.1
Ireland	5 311	6 584	5 730	6 006	6 279	18.2
Italy	–5 690	–22 972	–42 459	–33 381	–28 924	408.3
Japan	–64 342	–84 947	–71 486	–52 071	–52 178	–18.9
Latvia <sup>a</sup>	–13 399	–12 901	–3 087	–606	956	–107.1
Liechtenstein	7	25	21	4	–0.1	–100.7
Lithuania <sup>a</sup>	–5 464	–9 594	–10 497	–6 771	–6 238	14.2
Luxembourg	–1	–625	–223	–456	–614	>10 000.0
Malta	–8	–5	11	8	0.06	–100.7
Monaco	–0.1	–0.1	–0.1	–0.07	–0.1	–36.5
Netherlands (Kingdom of the)	5 833	5 330	4 748	3 816	3 985	–31.7
New Zealand	–20 565	–27 268	–29 674	–23 598	–21 358	3.9
Norway	–10 231	–19 105	–24 270	–19 623	–15 951	55.9
Poland <sup>a, b</sup>	–19 352	–35 765	–33 870	–20 784	–21 845	12.9
Portugal	5 705	–2 934	–7 587	–5 412	–6 875	–220.5
Romania <sup>a, b</sup>	–22 448	–33 116	–37 485	–50 486	–49 330	119.8
Russian Federation <sup>a</sup>	–108 039	–507 694	–731 298	–593 730	–531 829	392.3
Slovakia <sup>a</sup>	–9 464	–9 488	–5 268	–7 760	–7 710	–18.5
Slovenia <sup>a, b</sup>	–4 859	–6 265	–7 220	–3 181	–3 142	–35.3
Spain	–34 731	–44 228	–44 573	–44 410	–44 982	29.5
Sweden	–47 968	–49 853	–51 843	–42 845	–43 290	–9.8
Switzerland	–1 848	5 205	–2 867	–1 488	–1 937	4.8
Türkiye <sup>d</sup>	–66 637	–68 347	–71 999	–57 246	–48 420	–27.3
Ukraine <sup>a</sup>	–31 637	–23 206	–9 231	–1 060	14 049	–144.4
United Kingdom	3 671	–882	–5 255	–5 734	–5 819	–258.5
United States	–938 856	–902 012	–807 367	–852 534	–832 039	–11.4
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						27
<i>Number of Parties showing a change in emissions within 1%:</i>						0
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						16

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 15  
**Anthropogenic CH<sub>4</sub> emissions from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	19 737	21 525	19 170	12 790	12 790	–35.2
Austria	27	27	27	27	27	–0.2
Belarus <sup>a</sup>	8	9	5	24	17	114.5
Belgium	0.1	0.0005	–	–	0.3	107.0
Bulgaria <sup>a, b</sup>	1	151	17	14	142	>10 000.0
Canada	758	765	721	532	553	–27.1
Croatia <sup>a</sup>	1	109	2	36	7	373.8
Cyprus	0.03	4	1	0.4	5	>10 000.0
Czechia <sup>a</sup>	57	46	61	33	9	–84.6
Denmark	294	283	282	289	291	–1.0
Estonia <sup>a</sup>	73	75	75	76	75	3.0
European Union <sup>c</sup>	14 186	13 922	12 189	11 887	12 895	–9.1
Finland	1 693	1 507	1 092	855	851	–49.7
France	1 126	1 788	1 206	1 139	1 191	5.8
Germany	6 330	6 323	6 507	6 561	6 567	3.7
Greece	70	233	18	21	154	118.9
Hungary <sup>a, b</sup>	24	29	10	12	13	–46.8
Iceland	3 848	3 829	3 773	3 754	3 755	–2.4
Ireland	507	493	845	632	626	23.6
Italy	1 440	800	392	371	978	–32.1
Japan	104	88	78	70	76	–26.8
Latvia <sup>a</sup>	523	535	536	845	868	65.9
Liechtenstein	–	–	–	–	–	–
Lithuania <sup>a</sup>	3	4	2	0.4	0.1	–97.4
Luxembourg	–	–	–	–	–	–
Malta	0.03	0.03	–	–	–	–
Monaco	–	–	–	–	–	–
Netherlands (Kingdom of the)	306.5	279.4	256.9	245.4	244.9	–20.1
New Zealand	68	69	91	87	33	–52.3
Norway	189	196	203	210	211	11.7
Poland <sup>a, b</sup>	55	43	14	59	8	–86.0
Portugal	818	309	295	117	249	–69.5
Romania <sup>a, b</sup>	0.2	6	0.4	9	4	2 055.4
Russian Federation <sup>a</sup>	20 456	19 173	21 494	21 877	28 529	39.5
Slovakia <sup>a</sup>	12	30	22	27	20	59.1
Slovenia <sup>a, b</sup>	1	0.3	0.1	0.2	0.1	–94.2
Spain	351	328	98	81	170	–51.7
Sweden	542	526	477	463	471	–13.1
Switzerland	32	16	14	13	14	–57.4
Türkiye <sup>d</sup>	76	160	23	109	697	815.1
Ukraine <sup>a</sup>	38	16	38	295	9	–75.6
United Kingdom	5 571	5 528	5 601	5 693	5 694	2.2
United States	53 506	58 243	52 198	65 416	65 970	23.3
<i>Number of Parties showing a decrease in emissions by more than 1%:</i>						<i>20</i>
<i>Number of Parties showing a change in emissions within 1%:</i>						<i>1</i>
<i>Number of Parties showing an increase in emissions by more than 1%:</i>						<i>18</i>

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 16  
**Anthropogenic N<sub>2</sub>O emissions from land use, land-use change and forestry**

Party	kt CO <sub>2</sub> eq					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	4 819	5 053	5 710	3 686	3 686	–23.5
Austria	113	117	124	115	112	–0.7
Belarus <sup>a</sup>	17	20	16	33	14	–17.9
Belgium	6	42	98	104	103	1 630.2
Bulgaria <sup>a, b</sup>	342	261	191	239	307	–10.2
Canada	403	412	382	305	316	–21.7
Croatia <sup>a</sup>	43	93	96	137	115	165.6
Cyprus	0.03	2	1.5	1.4	3.9	>10 000.0
Czechia <sup>a</sup>	39	30	37	20	7	–81.8
Denmark	63	51	39	40	40	–36.2
Estonia <sup>a</sup>	239	242	258	272	272	14.1
European Union <sup>c</sup>	11 422	10 411	10 378	10 451	10 644	–6.8
Finland	1 498	1 788	1 868	1 795	1 784	19.1
France	2 370	1 603	1 528	1 066	1 129	–52.4
Germany	885	860	1 127	1 146	1 164	31.5
Greece	6	24	16	14	24	313.2
Hungary <sup>a, b</sup>	24	44	30	30	31	25.3
Iceland	0.2	1	1	1	1	391.5
Ireland	192	248	480	404	433	126.0
Italy	761	618	382	465	472	–38.0
Japan	966	773	554	407	407	–57.9
Latvia <sup>a</sup>	486	515	522	563	570	17.4
Liechtenstein	0.3	0.3	0.4	0.3	0.3	27.0
Lithuania <sup>a</sup>	113	110	130	135	147	30.3
Luxembourg	10	10	18	9	9	–16.1
Malta	0.3	0.2	0.2	0.6	0.6	112.7
Monaco	0.01	0.01	0.01	0.004	0.006	–46.3
Netherlands (Kingdom of the)	98	86	91	81	83	–15.4
New Zealand	326	410	357	269	247	–24.0
Norway	213	223	233	240	242	13.8
Poland <sup>a, b</sup>	1 707	1 153	894	1 767	1 742	2.0
Portugal	615	578	731	588	604	–1.7
Romania <sup>a, b</sup>	186	187	249	70	68	–63.4
Russian Federation <sup>a</sup>	10 167	15 264	11 738	14 294	18 475	81.7
Slovakia <sup>a</sup>	118	62	33	37	32	–72.9
Slovenia <sup>a, b</sup>	68	64	53	38	37	–46.2
Spain	483	504	330	234	290	–39.9
Sweden	1 091	1 122	1 078	1 095	1 108	1.6
Switzerland	52	44	46	48	48	–6.8
Türkiye <sup>d</sup>	50	135	95	190	577	1 049.3
Ukraine <sup>a</sup>	193	278	196	363	172	–10.7
United Kingdom	1 910	1 681	1 411	1 300	1 289	–32.5
United States	4 395	7 980	4 147	10 950	11 843	169.5
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						22
<i>Number of Parties showing a change in emissions within 1%:</i>						1
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						20

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.

Table 17  
**Indirect CO<sub>2</sub> emissions**

Party	kt					Change 1990–2021 (%)
	1990	2000	2010	2020	2021	
Australia	–	–	–	–	–	–
Austria	–	–	–	–	–	–
Belarus <sup>a</sup>	–	–	–	–	–	–
Belgium	–	–	–	–	–	–
Bulgaria <sup>a, b</sup>	93	76	74	60	68	–26.5
Canada	690	702	618	467	488	–29.3
Croatia <sup>a</sup>	–	–	–	–	–	–
Cyprus	5	8	13	5	5	0.1
Czechia <sup>a</sup>	1 952	1 253	988	647	654	–66.5
Denmark	1 120	839	491	242	245	–78.1
Estonia <sup>a</sup>	–	–	–	–	–	–
European Union <sup>c</sup>	6 444	5 132	3 948	3 137	3 306	–48.7
Finland	166	108	70	66	57	–66.0
France	1 671	1 546	1 026	900	1 017	–39.2
Germany	–	–	–	–	–	–
Greece	–	–	–	–	–	–
Hungary <sup>a, b</sup>	–	–	–	–	–	–
Iceland	–	–	–	–	–	–
Ireland	–	–	–	–	–	–
Italy	–	–	–	–	–	–
Japan	5 482	4 233	2 430	1 867	1 872	–65.9
Latvia <sup>a</sup>	40	25	16	13	13	–68.3
Liechtenstein	–	–	–	–	–	–
Lithuania <sup>a</sup>	34	35	32	38	40	17.2
Luxembourg	–	–	–	–	–	–
Malta	–	–	–	–	–	–
Monaco	0.2	0.3	0.3	0.2	0.2	0.2
Netherlands (Kingdom of the)	917	532	458	419	503	–45.2
New Zealand	–	–	–	–	–	–
Norway	593	996	308	283	257	–56.7
Poland <sup>a, b</sup>	623	482	568	583	499	–19.9
Portugal	78	166	165	121	164	110.1
Romania <sup>a, b</sup>	–	–	–	–	–	–
Russian Federation <sup>a</sup>	–	–	–	–	–	–
Slovakia <sup>a</sup>	88	65	49	46	44	–50.2
Slovenia <sup>a, b</sup>	–	–	–	–	–	–
Spain	–	–	–	–	–	–
Sweden	–	–	–	–	–	–
Switzerland	411	230	150	117	113	–72.5
Türkiye <sup>d</sup>	–	–	–	–	–	–
Ukraine <sup>a</sup>	–	–	–	–	–	–
United Kingdom	–	–	–	–	–	–
United States	–	–	–	–	–	–
<i>Number of Parties showing a decrease in emissions of more than 1%:</i>						<i>14</i>
<i>Number of Parties showing a change in emissions within 1%:</i>						<i>2</i>
<i>Number of Parties showing an increase in emissions of more than 1%:</i>						<i>2</i>

Note: According to the UNFCCC Annex I inventory reporting guidelines, Annex I Parties may report indirect CO<sub>2</sub> from the atmospheric oxidation of CH<sub>4</sub>, carbon monoxide and non-methane volatile organic compounds; 18 Parties voluntarily reported indirect CO<sub>2</sub> emissions in their 2023 GHG inventory submission.

<sup>a</sup> EIT Party.

<sup>b</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) and Slovenia (1986)) are used for this Party instead of 1990 data.

<sup>c</sup> Emission estimates of the European Union are as reported for its 27 member States as a group and are reported separately from those of each individual member State.

<sup>d</sup> Decision 26/CP.7 invited Parties to recognize the special circumstances of Türkiye, which place it in a situation different from that of other Annex I Parties.