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Aggregate information on greenhouse gas emissions by sources and removals by sinks for Parties included in Annex I to the Convention

Note by the secretariat

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I. Mandate

1. The COP, by its decision 24/CP.19, adopted the revised “Guidelines for the preparation of national communications by Parties included in Annex I to the Convention, Part I: UNFCCC reporting guidelines on annual inventories” (hereinafter referred to as the UNFCCC reporting guidelines)¹ and a revised set of common reporting format (CRF) tables² to be used by Annex I Parties to report quantitative GHG inventory data. Similarly, the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by decision 6/CMP.9, adopted the revised CRF tables³ that Parties shall use for reporting information on anthropogenic greenhouse gas emissions by sources and removals by sinks from land use, land-use change and forestry (LULUCF) activities under Article 3, paragraphs 3 and 4, of the Kyoto Protocol in the second commitment period.

2. The Conference of the Parties (COP), by its decision 13/CP.20, adopted the revised guidelines for the technical review of greenhouse gas (GHG) inventories from Parties included in Annex I to the Convention (Annex I Parties).⁴ As part of the process for the technical review of GHG inventories, the COP also requested the secretariat to compile and tabulate aggregate information on greenhouse gas emissions by sources and removals by sinks and trends from the latest available GHG inventory submissions of Annex I Parties and publish this information in a stand-alone document.⁵ This document responds to this mandate.

II. Comparison of greenhouse gas inventory information

A. Approach

3. This document contains GHG inventory information compiled in tabular format. The tables provide information on emissions by sources and removals by sinks, implied emission factors (IEFs), and activity data (AD) reported by Annex I Parties. In addition the tables contain information on the methods and emission factors used, activity data from international sources and other information relating to GHG inventory estimates. This information is provided for both the base year/period and for the year 2013.

4. The information provided in this document is based on information in the CRF tables of the 2015 national GHG inventories submission, received from Parties as at 9 November 2015. The inventory data are presented according to the sectors, subsectors and categories specified in the CRF tables.

5. In accordance with decision 13/CP.20, in 2015, Annex I Parties may submit their common reporting format (CRF) tables after 15 April. At the time of the publication of this document, not all Parties had submitted their GHG inventories, 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.⁶

¹ The full text of the guidelines is contained in annex I to decision 24/CP.19.

² The tables, agreed in decision 24/CP.19, can be accessed here: <<http://unfccc.int/5333.php>>

³ The tables, agreed in decision 6/CMP.9, can be accessed here: <<http://unfccc.int/7969.php>>

⁴ The full text of the guidelines is contained in the annex to decision 13/CP.20.

⁵ Decision 13/CP.20, paragraphs 8.

⁶ <http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8812.php>.

6. As at 9 November 2015, 31 Parties had submitted their CRF tables, including Kazakhstan, which is an Annex I Party for the purposes of the Kyoto Protocol, while remaining a Party not included in Annex I to the Convention for the purposes of the Convention.

7. The information contained in this report is not intended as a judgment of whether inventory problems exist; it should be understood as information that can be considered further during the individual review by the expert review teams.

8. Information on anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities reported under the Kyoto Protocol is not included in this document because the guidance for conducting reviews under Article 8 of the Kyoto Protocol in the second commitment period has not yet been finalized by the CMP. The negotiations on this matter, and also other matters related to the implementation of Articles 5 and 7 of the Kyoto Protocol, including accounting and reporting, are still ongoing.⁷

9. In accordance with the UNFCCC Annex I reporting guidelines on annual inventories, Parties should, where necessary, conduct recalculations in order to improve the quality of their emission estimates and ensure the consistency of the time series. As 2015 was the first year for Parties to use the revised reporting guidelines contained in decision 24/CP.19, recalculations of, or comparisons with, previous inventories are not included in this report.

B. Explanatory notes to the tables

10. Blank cells in a table indicate that a Party did not report information for a given category, gas, AD or other parameter. Where a Party's value is very small compared with that of other Parties, it has been rounded to zero (0.0 or 0.00). Where a Party reports a zero numerical value, a zero value (0) is shown.

11. In tables where shares or contributions of categories, gases, AD or other parameters to a total are shown (e.g. contribution of specific fuel type to the total emissions of a combustion category), where a Party reports a notation key, zero value (0) or blank in either the numerator or denominator of the calculation, the share or contribution to the total is shown using the symbol “–”.

12. The differences in AD between the values reported by Parties and international data sources were calculated as percentage deviations from the AD provided by the Party. A positive number indicates that the data from the international data source are higher than the data reported by the Party. Similarly, a negative number indicates that data from the international data source are lower than the data reported by the Party.

13. References to the base year refer to 1990, except for the following Parties with economies in transition which, in accordance with decisions 9/CP.2 and 11/CP.4, use base years other than 1990: Bulgaria (1988), Hungary (average 1985–1987), Poland (1988), Romania (1989) and Slovenia (1986).

14. The column “Share of national total” in the tables indicates the contribution of that category to the Party's national total of GHG emissions in terms of carbon dioxide equivalent, without emissions and removals from LULUCF including indirect CO₂ emissions where reported.

⁷ The latest version of the negotiating text on these matters can be found in document FCCC/SBSTA/2015/L.13, in annex II in particular.

15. Where Parties used notation keys “NO”, “NE”, “NA”, “IE” or “C”, these have been reproduced verbatim from the CRF tables provided by Parties. The notation keys, as described in the UNFCCC reporting guidelines, are as follows:

NO	Not occurring	IE	Included elsewhere
NE	Not estimated	C	Confidential
NA	Not applicable		

16. Tables on energy indicate whether IEFs given in the CRF are based on gross calorific value (GCV) or net calorific value (NCV). Australia, Canada, and New Zealand reported energy data on a GCV basis, whilst Denmark reported using a combination of GCV and NCV. The IEFs included in the energy section of this report for these Parties have been converted into NCV-based values (using 5 per cent of difference between GCV and NCV for liquid, solid, other fuels and biomass and 10 per cent for gaseous fuels) and do not reflect the reported IEFs.

17. The following chemical formulae or abbreviations for GHGs are used in this document:

C	carbon
CH ₄	methane
CO ₂	carbon dioxide
HFCs	hydrofluorocarbons
N ₂ O	nitrous oxide
NF ₃	nitrogen trifluoride
NM VOC	non-methane volatile organic compound
PFCs	perfluorocarbons
SF ₆	sulphur hexafluoride

18. To indicate the methods and emission factors used by Parties, the following abbreviations have been used (see also footnotes to Summary table 3 of the CRF) in this document:

Methods:

D	IPCC default
RA	Reference approach
T1	IPCC tier 1
T1a, T1b, T1c	IPCC tier 1a, tier 1b and tier 1c, respectively
T2	IPCC tier 2
T3	IPCC tier 3
CR	CORINAIR
CS	Country specific
M	Model
OTH	Other

Emission factors:

D	IPCC default
CR	CORINAIR
CS	Country specific
PS	Plant specific
M	Model
OTH	Other

19. The following units have been used in this document:

kg	kilogram (10^3 grams)
kt	kilotonne (10^9 grams)
Mg	megagram (10^6 grams) – same as tonne
t	tonne (10^6 grams)
Mt	megatonne (10^{12} grams)
TJ	terajoule (10^{12} joules)
PJ	petajoule (10^{15} joules)
km	kilometre
ha	hectare
kha	thousand hectares
m ³	cubic metre
AB	area burned
AD	activity data
BB	biomass burned
CO	carbon monoxide
CRF	common reporting format
CSC	carbon stock change
dm	dry matter
DOM	dead organic matter
EF	emission factor
FAO	Food and Agriculture Organization of the United Nations
GCV	gross calorific value
GHG	greenhouse gas
IEA	International Energy Agency
IEF	implied emission factor
LPG	liquefied petroleum gas
LULUCF	land use, land-use change and forestry
N	nitrogen
NCV	net calorific value
NGL	natural gas liquids
NH ₃	ammonia
NIR	national inventory report
NMVOC	non-methane volatile organic compounds
NO _x	nitrogen oxides
yr	year

C. List of sectoral figures and tables with information submitted under decision 24/CP.19**1. General**

<u>Figure number</u>	<u>Figure name</u>
Figure G.1	GHG emissions by gas (including LULUCF): base year and 2013
Figure G.2	GHG emissions by gas (excluding LULUCF): base year and 2013
Figure G.3	GHG emissions by sector: base year and 2013
<u>Table number</u>	<u>Table name</u>
Table G.1	Submissions used in this document

2. Energy

<u>Figure number</u>	<u>Figure name</u>
Figure 1.1	Contribution of subsectors to total GHG emissions in the energy sector
<u>Table number</u>	<u>Table name</u>
Table 1.1	CO ₂ emissions from fuel combustion: reference approach and sectoral approach
Table 1.2	Stationary combustion: liquid fuels – CO ₂ (2013)
Table 1.3	Stationary combustion: solid fuels – CO ₂ (2013)
Table 1.4	Stationary combustion: gaseous fuels – CO ₂ (2013)
Table 1.5	Stationary combustion: other fossil fuels – CO ₂ (2013)
Table 1.6	Contribution of fuels to total energy consumption in stationary combustion (%)
Table 1.7	Contribution of fuels to CO ₂ emissions from energy industries (%)
Table 1.8	Contribution of fuels to CO ₂ emissions from manufacturing industries and construction (%)
Table 1.9	Contribution of fuels to CO ₂ emissions from other sectors (%)
Table 1.10	Road transportation – CO ₂ , N ₂ O (2013)
Table 1.11	Civil aviation and domestic navigation – CO ₂ (2013)
Table 1.12	Domestic and international aviation – activity data (2013)
Table 1.13	Domestic and international navigation – activity data (2013)
Table 1.14	Fugitive emissions from fuels: coal mining and handling – CH ₄ (2013)
Table 1.15a	Fugitive emissions from fuels: oil and natural gas and venting and flaring – CH ₄ , CO ₂ (2013)
Table 1.15b	Fugitive emissions from fuels: oil and natural gas and venting and flaring – oil – CH ₄ , CO ₂ (2013)
Table 1.15c	Fugitive emissions from fuels: oil and natural gas and venting and flaring – natural gas – CH ₄ , CO ₂ (2013)

Table 1.15d	Fugitive emissions from fuels: oil and natural gas and venting and flaring – venting and flaring – CH ₄ , CO ₂ (2013)
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3. Industrial processes and product use

<u>Figure number</u>	<u>Figure name</u>
Figure 2.1	Contribution of subsectors to total GHG emissions in the industrial processes and product use sector

<u>Table number</u>	<u>Table name</u>
Table 2.1	Mineral industry – CO ₂ (2013)
Table 2.2	Chemical industry – CO ₂ and N ₂ O (2013)
Table 2.3	Metal industry – CO ₂ (2013)
Table 2.4	Metal industry – HFCs, PFCs and SF ₆ (2013)
Table 2.5a	Electronics industry - PFCs (2013)
Table 2.5b	Electronics industry - SF ₆ and NF ₃ (2013)
Table 2.6	Product uses as substitutes for ODS - HFCs and PFCs (2013)

4. Agriculture

<u>Figure number</u>	<u>Figure name</u>
Figure 3.1	Contribution of subsectors to total GHG emissions in the agriculture sector

<u>Table number</u>	<u>Table name</u>
Table 3.1	Enteric fermentation – CH ₄ (2013)
Table 3.2	Manure management – CH ₄ (2013)
Table 3.3	Manure management – N ₂ O (2013)
Table 3.4	Agricultural soils – N ₂ O (2013)

5. Land use, land-use change and forestry

<u>Table number</u>	<u>Table name</u>
Table 4.1a–b	Methods and emission factors used (2013)
Table 4.2a–b	Forest land remaining forest land – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.3a–b	Land converted to forest land – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.4a–b	Cropland remaining cropland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.5a–b	Land converted to cropland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.6a–b	Forest land converted to cropland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.7a–b	Grassland remaining grassland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)

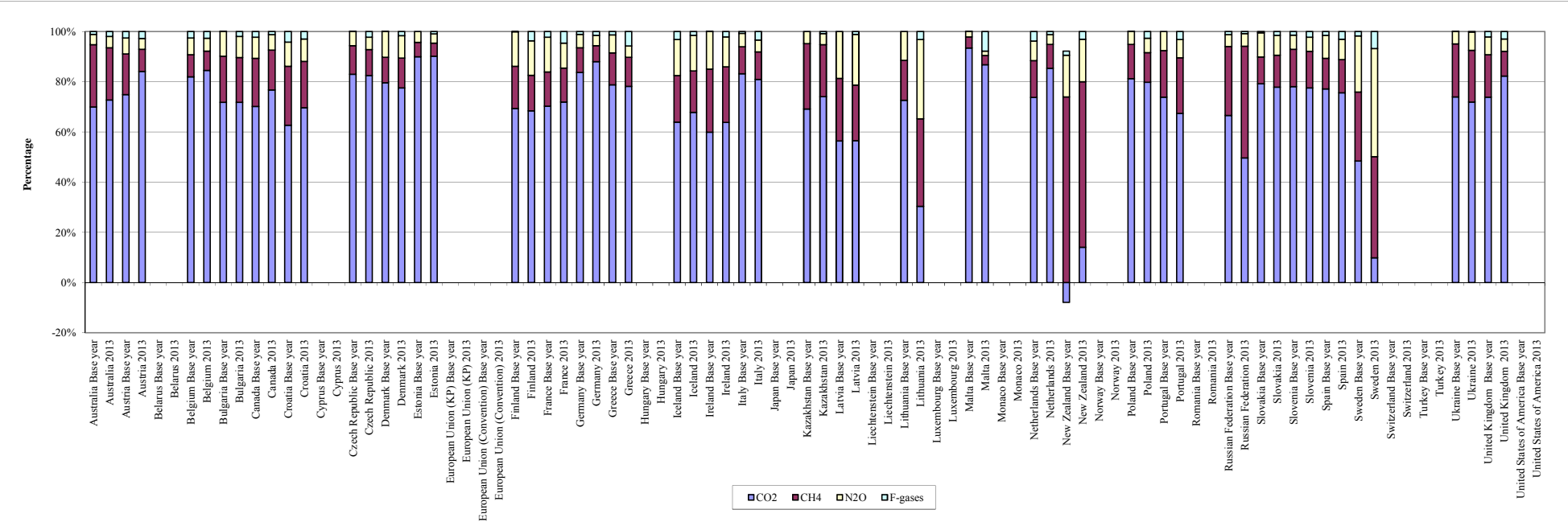
Table 4.8a–b	Land converted to grassland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.9a–b	Forest land converted to grassland – AD, IEFs, carbon stock changes in pools and net CO ₂ emissions/removals (2013)
Table 4.10	Direct N ₂ O emissions from nitrogen inputs – AD, IEFs and N ₂ O emissions (base year and 2013)
Table 4.11	Direct nitrous oxide (N ₂ O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils - AD, IEF and N ₂ O emissions (base year and 2013)
Table 4.12a	Biomass burning - CO ₂ emissions from forest land - Forest land remaining forest land (base year and 2013)
Table 4.12b	Biomass burning - CO ₂ emissions from forest land - Land converted to forest land (base year and 2013)
Table 4.14	Land area (2013)

6. Waste

<u>Figure number</u>	<u>Figure name</u>
Figure 5.1	Contribution of subsectors to total GHG emissions in the waste sector
<u>Table number</u>	<u>Table name</u>
Table 5.1a–b	Solid waste disposal on land, biological treatment of solid waste, incineration and open burning of waste and wastewater treatment and discharge (2013)

Figure G.1

GHG emissions by gas^a (including LULUCF): base year^b and 2013

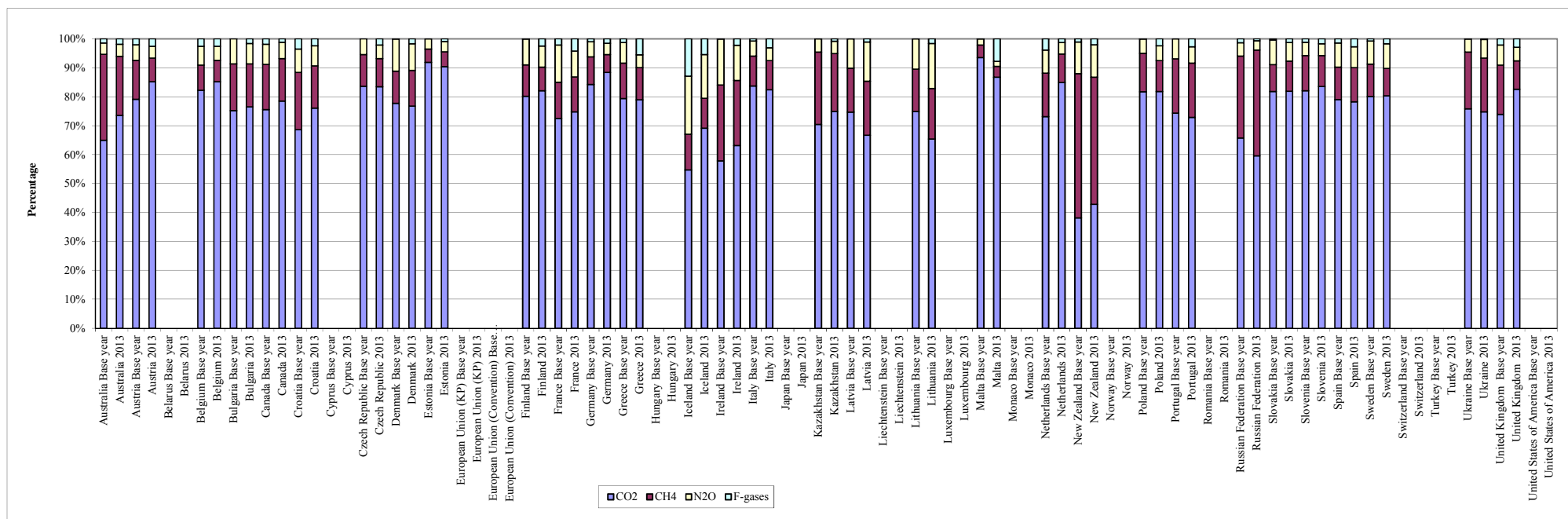


^a The national totals and emissions by CO₂ in this graph include indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Figure G.2

GHG emissions by gas^a (excluding LULUCF): base year^b and 2013

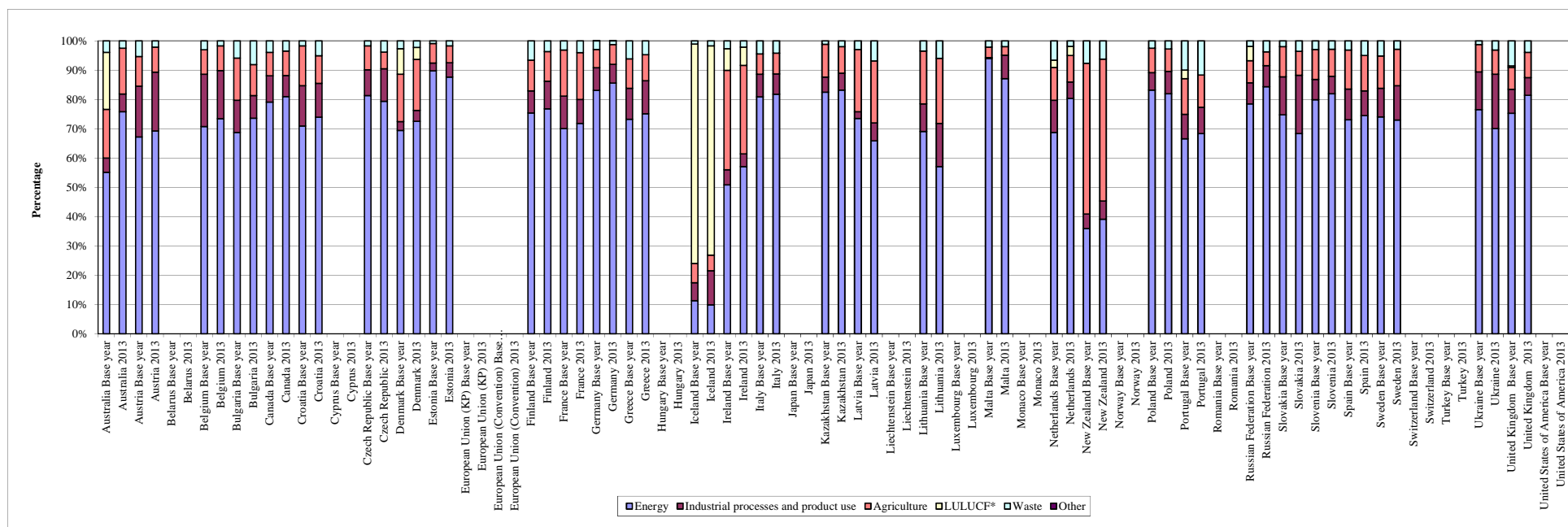


^a The national totals and emissions by CO₂ in this graph include indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Figure G.3

GHG emissions^a by sector: base year^b and 2013 (%)



* In this graph emissions from the LULUCF sector are included only if this sector is a net source of emissions.

^a The national and sectoral totals in this graph include indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

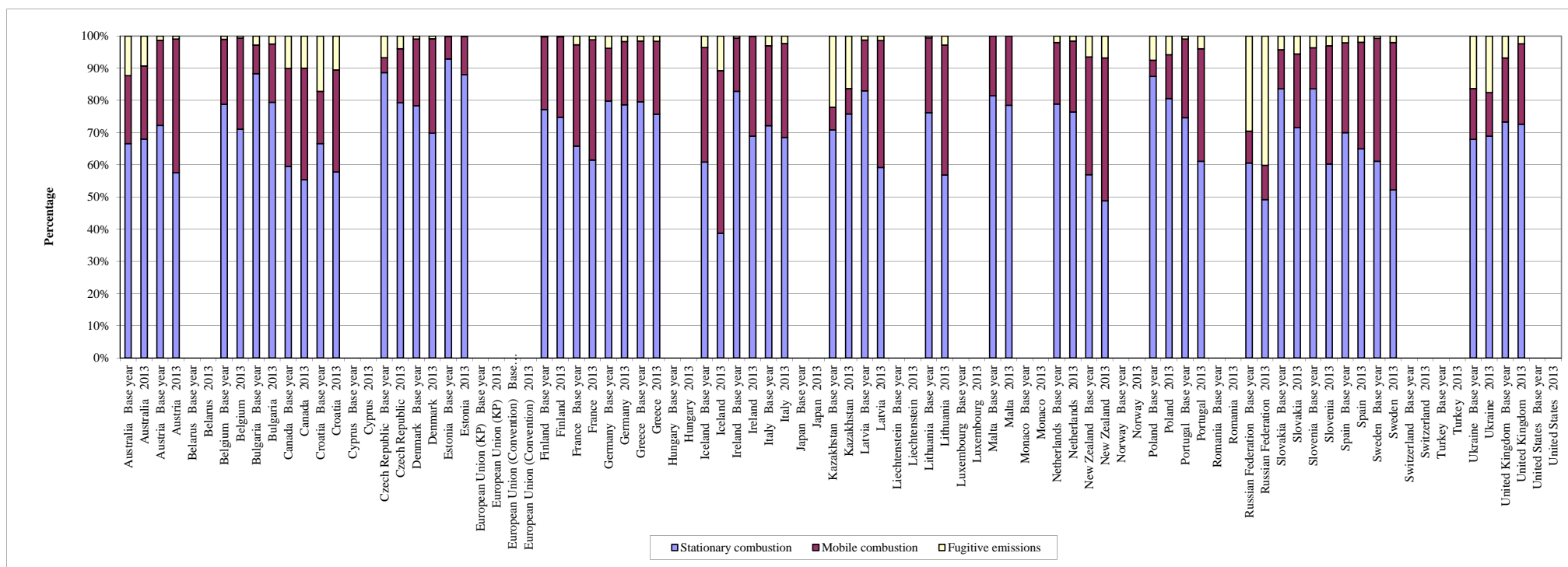
Table G.1**Submissions used in this document**

Party	Initial submission date	CRF for years	NIR	CRF submission date (and version) used in this document	CRF Reporter version (version used in this document)
Australia	27 May 2015	1990-2013	√	27 May 2015 (3)	CRF Reporter v. 5.8
Austria	5 November 2015	1990-2013	√	5 November 2015 (1)	CRF Reporter v. 5.10
Belarus					
Belgium	5 November 2015	1990-2013	√	5 November 2015 (1)	CRF Reporter v. 5.10
Bulgaria	6 November 2015	1988-2013	√	6 November 2015 (1)	CRF Reporter v. 5.10
Canada	17 April 2015	1990-2013	√	17 April 2015 (1)	CRF Reporter v. 5.10
Croatia	6 November 2015	1990-2013	√	6 November 2015 (2)	CRF Reporter v. 5.10
Cyprus					
Czech Republic	9 November 2015	1990-2013		9 November 2015 (1)	CRF Reporter v. 5.10
Denmark	7 November 2015	1990-2013		7 November 2015 (1)	CRF Reporter v. 5.10
Estonia	2 November 2015	1990-2013	√	2 November 2015 (1)	CRF Reporter v. 5.10
European Union (KP)					
European Union					
Finland	3 November 2015	1990-2013	√	3 November 2015 (1)	CRF Reporter v. 5.10
France	4 November 2015	1990-2013	√	4 November 2015 (2)	CRF Reporter v. 5.10
Germany	6 November 2015	1990-2013		6 November 2015 (11)	CRF Reporter v. 5.10
Greece	6 November 2015	1990-2013		6 November 2015 (1)	CRF Reporter v. 5.10
Hungary					
Iceland	6 November 2015	1990-2013		6 November 2015 (1)	CRF Reporter v. 5.10
Ireland	4 November 2015	1990-2013		4 November 2015 (1)	CRF Reporter v. 5.10
Italy	3 November 2015	1990-2013	√	3 November 2015 (1)	CRF Reporter v. 5.10
Japan			√		
Kazakhstan	13 October 2015	1990-2013		13 October 2015 (1)	CRF Reporter v. 5.10
Latvia	6 November 2015	1990-2013	√	6 November 2015 (3)	CRF Reporter v. 5.10
Liechtenstein					
Lithuania	6 November 2015	1990-2013	√	6 November 2015 (1)	CRF Reporter v. 5.10
Luxembourg					
Malta	6 November 2015	1990-2013	√	6 November 2015 (1)	CRF Reporter v. 5.10
Monaco					
Netherlands (The)	5 November 2015	1990-2013	√	5 November 2015 (1)	CRF Reporter v. 5.10
New Zealand	31 July 2015	1990-2013	√	31 July 2015 (1)	CRF Reporter v. 5.10
Norway					
Poland	6 November 2015	1988-2013	√	6 November 2015 (1)	CRF Reporter v. 5.10
Portugal	3 November 2015	1990-2013	√	3 November 2015 (1)	CRF Reporter v. 5.10
Romania					
Russian Federation	30 August 2015	1990-2013		30 August 2015 (2)	CRF Reporter v. 5.8
Slovakia	6 November 2015	1990-2013		6 November 2015 (1)	CRF Reporter v. 5.10
Slovenia	3 November 2015	1986-2013	√	3 November 2015 (1)	CRF Reporter v. 5.10
Spain	5 November 2015	1990-2013	√	5 November 2015 (1)	CRF Reporter v. 5.10
Sweden	5 November 2015	1990-2013	√	5 November 2015 (1)	CRF Reporter v. 5.10
Switzerland			√		
Turkey			√		
Ukraine	14 August 2015	1990-2013	√	14 August 2015 (1)	CRF Reporter v. 5.8
United Kingdom	30 October 2015	1990-2013	√	30 October 2015 (1)	CRF Reporter v. 5.10
United States of America			√		

Notes: (1) Blank cells indicate that no submission had been received as at 9 November 2015. Some Parties, such as Cyprus, Luxembourg, Norway, Romania, Turkey and the United States of America, submitted their CRF tables after 9 November 2015; such submissions could not be reported on in this document. (2) The European Union and its member States that had not submitted their CRF tables as at 9 November 2015 (Cyprus, Hungary, Luxembourg and Romania) have communicated to the secretariat that they plan to submit their inventory submissions prior to the start of the twenty-first session of the Conference of the Parties. Once these submissions have been made, they will be available on the UNFCCC website <<http://unfccc.int/8812.php>>.

Figure 1.1

Contribution of subsectors to total GHG emissions in the energy sector^{a,b}



^a In accordance with the UNFCCC reporting guidelines on annual GHG inventories of Annex I Parties, the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

^b Indirect CO₂ emissions are excluded from the totals in this graph.

Table 1.1**CO₂ emissions from fuel combustion: reference approach and sectoral approach^a**

	Reference approach	Sectoral approach	Difference
	(kt CO ₂)		(%)
Australia Base year	271,033,216.22	251,676.18	107,591.25
Australia 2013	390,692,659.08	367,390.75	106,242.54
Austria Base year	51,655.30	51,191.40	0.91
Austria 2013	53,900.30	53,665.72	0.44
Belarus Base year			
Belarus 2013			
Belgium Base year	89,931.23	101,906.77	-11.75
Belgium 2013	81,536.48	85,922.77	-5.10
Bulgaria Base year ^b	84,029.68	79,455.60	5.76
Bulgaria 2013	40,771.51	39,421.08	3.43
Canada Base year	421,853.73	417,648.61	1.01
Canada 2013	514,262.60	511,030.66	0.55
Croatia Base year ^b	19,535.17	20,248.04	-3.52
Croatia 2013	16,056.70	15,949.64	0.67
Cyprus Base year			
Cyprus 2013			
Czech Republic Base year	150,095.11	144,267.58	4.04
Czech Republic 2013	93,063.20	95,125.71	-2.17
Denmark Base year	49,227.51	52,605.25	-6.42
Denmark 2013	31,553.85	41,272.35	-23.55
Estonia Base year	36,969.81	35,646.01	3.71
Estonia 2013	20,006.81	18,778.78	6.54
European Union (KP) Base year			
European Union (KP) 2013			
European Union (Convention) Base year			
European Union (Convention) 2013			
Finland Base year	52,883.56	52,557.50	0.62
Finland 2013	46,040.93	47,291.05	-2.64
France Base year	370,991.24	366,952.12	1.10
France 2013	341,848.56	346,459.12	-1.33
Germany Base year	999,162.50	985,866.64	1.35
Germany 2013	783,883.20	789,610.20	-0.73
Greece Base year	75,668.70	74,650.19	1.36
Greece 2013	74,698.74	76,988.66	-2.97
Hungary Base year ^b			
Hungary 2013			
Iceland Base year	1,674.41	1,633.82	2.48
Iceland 2013	1,515.50	1,420.78	6.67
Ireland Base year	30,763.17	30,140.28	2.07
Ireland 2013	35,306.49	35,139.30	0.48

Table 1.1**CO₂ emissions from fuel combustion: reference approach and sectoral approach^a**

	Reference approach	Sectoral approach	Difference
	(kt CO ₂)		(%)
Italy Base year	398,421.45	401,990.47	-0.89
Italy 2013	343,593.36	340,984.64	0.77
Japan Base year			
Japan 2013			
Kazakhstan Base year	267,917.26	246,139.97	8.85
Kazakhstan 2013	223,029.25	216,530.70	3.00
Latvia Base year	18,805.20	18,556.80	1.34
Latvia 2013	6,577.52	6,705.76	-1.91
Liechtenstein Base year			
Liechtenstein 2013			
Lithuania Base year	32,181.74	32,242.35	-0.19
Lithuania 2013	10,867.85	10,718.16	1.40
Luxembourg Base year			
Luxembourg 2013			
Malta Base year	NA,NE	1,864.81	-100.00
Malta 2013	2,419.48	2,414.70	0.20
Monaco Base year			
Monaco 2013			
Netherlands Base year	152,231.08	150,233.89	1.33
Netherlands 2013	164,200.18	157,371.83	4.34
New Zealand Base year	22,322.36	22,038.84	1.29
New Zealand 2013	30,235.05	29,123.51	3.82
Norway Base year			
Norway 2013			
Poland Base year ^b	470,714.52	439,046.20	7.21
Poland 2013	301,234.92	298,208.54	1.01
Portugal Base year	39,081.90	39,946.37	-2.16
Portugal 2013	43,146.24	41,857.75	3.08
Romania Base year ^b			
Romania 2013			
Russian Federation Base year	2,363,320.09	2,265,874.47	4.30
Russian Federation 2013	1,404,641.80	1,405,234.99	-0.04
Slovakia Base year	-7,878.09	53,260.26	-114.79
Slovakia 2013	-7,351.95	27,782.37	-126.46
Slovenia Base year ^b	15,245.59	15,409.58	-1.06
Slovenia 2013	14,261.49	14,244.97	0.12
Spain Base year	205,531.53	204,835.27	0.34
Spain 2013	229,666.82	231,069.20	-0.61
Sweden Base year	52,322.60	51,524.04	1.55
Sweden 2013	43,412.36	38,565.82	12.57
Switzerland Base year			
Switzerland 2013			

Table 1.1**CO₂ emissions from fuel combustion: reference approach and sectoral approach^a**

	Reference approach	Sectoral approach	Difference
	(kt CO ₂)		(%)
Turkey Base year			
Turkey 2013			
Ukraine Base year	675,798.99	575,231.09	17.48
Ukraine 2013	221,487.67	220,362.86	0.51
United Kingdom of Great Britain and Northern Ireland Base year	540,956.58	560,876.38	-3.55
United Kingdom of Great Britain and Northern Ireland 2013	438,416.02	452,714.67	-3.16
United States of America Base year			
United States of America 2013			

^a Indirect CO₂ emissions are excluded from the totals in this table.

^b In accordance with the UNFCCC reporting guidelines on annual GHG inventories of Annex I Parties, the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 1.2**Stationary combustion: liquid fuels - CO₂ (2013)**

	Share of national total ^a	IEF in CRF based on GCV or NCV ^b	Energy industries						Manufacturing industries and construction			Other sectors						
			Methods and EF used ^c		CO ₂ IEF				Method and EF used ^d		CO ₂ IEF	Method and EF used ^e		CO ₂ IEF				
			Methods	EF	Total	Public electricity and heat production	Petroleum refining	Manufacture of solid fuels and other energy industries	Methods	EF	Total	Methods	EF	Total	Commercial / Institutional	Residential	Agriculture / Forestry / Fisheries	
																		(t/TJ)
Australia	8.06	GCV	T2	CS,PS	66.77	69.25	60.91	69.68	T2	CS	69.22	T2	CS	68.28	68.80	62.11	69.52	
Austria	11.76	NCV	NA	NA	74.92	78.56	74.63	NO	NA	NA	75.82	NA	NA	74.57	70.60	74.73	74.16	
Belarus																		
Belgium	14.55	NCV	CS,T1,T3	D,PS	65.65	73.54	65.61	NO	CS,T1,T3	D,PS	75.16	CS,T1,T3	D	73.75	73.86	73.69	74.02	
Bulgaria	5.70	NCV	T1,T2	CS,D	74.46	88.75	66.53	NO	T1,T2	CS,D	80.94	T1,T2	CS,D	72.00	70.58	63.10	73.91	
Canada	7.67	GCV	T2	CS	59.64	75.99	58.26	57.29	T2	CS	67.47	T2	CS	67.49	64.51	69.09	68.85	
Croatia	13.66	NCV	T1	D	69.65	77.11	68.44	NO	T1	D	82.44	T1	D	72.09	71.97	69.86	74.00	
Cyprus																		
Czech Republic	1.80	NCV	T1,T2	CS,D	63.31	76.87	60.99	74.10	T1,T2	CS,D	72.96	T1,T2	CS,D	73.78	72.87	65.86	73.92	
Denmark	12.00	GCV,NCV	CS,T1,T2,T3	CS,D,PS	63.87	76.05	59.05	72.55	CR,M,T1,T2,T3	CS,D,PS	78.76	CR,M,T1,T2,T3	CS,D	73.69	72.95	73.08	74.08	
Estonia	3.28	NCV	T1,T2,T3	CS,D,PS	74.86	74.86	NO	NO	T1,T2,T3	CS,D,PS	72.65	T1,T2	CS,D	72.73	67.70	70.63	73.17	
European Union (KP)																		
European Union (Convention)																		
Finland	14.27	NCV	T3	CS,D,PS	61.07	78.62	57.00	NO	CS,M,T3	CS,D,PS	69.98	CS,M,T1,T3	CS,D	74.08	74.44	73.86	74.05	
France	14.38		NA	NA	65.30	76.23	58.49	NO	NA	NA	73.37	NA	NA	73.59	74.07	72.83	74.29	
Germany	10.67	NCV	CS	CS	70.74	78.46	69.58	76.56	CS,T1	CS,D	93.35	CS,T1	CS,D	73.45	72.89	73.63	73.81	
Greece	15.27	NCV	T1,T2	D,PS	71.86	75.60	69.55	NO	T1,T2	CS,D,PS	83.91	T1,T2	CS,D,NO	72.44	69.68	73.10	71.51	
Hungary																		
Iceland	13.06	NCV	T1,T2	D	74.07	74.07	NO	NO	T1	D	76.24	T1,T2	D	73.89	67.11	69.94	73.99	
Ireland	10.92	NCV	T1,T3	CS,D,PS	89.17	78.54	94.92	NO	T1,T2,T3	CS,D,PS	74.85	T1,T2	CS,D	72.20	73.12	71.65	73.30	
Italy	10.81	NCV	T3	CS	74.54	76.16	74.34	76.40	T2	CS	82.12	T2	CS	71.05	67.40	69.81	73.44	
Japan																		
Kazakhstan	5.44	NCV	T1	D	72.46	77.23	70.57	73.20	T1	D	75.40	T1	D	66.71	71.54	63.15	64.51	
Latvia	7.57	NCV	T1,T2	CS,D	74.53	75.17	NO	74.00	T1,T2,T3	CS,D,PS	72.17	T1,T2	CS,D	72.42	73.30	68.96	73.82	
Liechtenstein																		
Lithuania	9.78	NCV	T1,T2,T3	CS,D,PS	67.90	76.43	66.58	72.89	T2,T3	CS,PS	71.93	T2	CS	67.99	71.75	66.96	71.90	
Luxembourg																		
Malta	68.11	NCV	T3	PS	78.56	78.56	NO	NO	T1	D	74.32	T1	D	68.68	69.83	65.28	74.00	
Monaco																		
Netherlands	7.62	NCV	CS,T2	CS,D	68.26	62.41	69.40	74.11	T2	CS,D	67.15	T2	CS,D	72.14	68.51	71.93	73.92	
New Zealand	4.86	GCV	D	CS	61.54	69.57	61.44	69.81	D	CS	67.85	D	CS	67.75	66.35	59.20	69.59	
Norway																		
Poland	3.82	NCV	T1,T2	CS,D	69.23	76.94	67.90	74.16	T1,T2	CS,D	66.58	T1	D	71.78	72.36	64.62	73.92	
Portugal	12.22	NCV	T2	CR,D,PS	62.82	76.36	57.27	NO	T2,T3	CR,D,OTH,PS	79.21	T1,T2	CR,D	67.96	69.92	64.00	73.23	
Romania																		
Russian Federation	4.28	NCV	T1,T2	CS,D	66.83	73.62	62.82	73.78	T1,T2	CS,D	73.58	T1,T2	CS,D	67.90	68.88	63.15	73.08	
Slovakia	3.46	NCV	T2,T3	CS,D,PS	72.63	78.16	72.54	74.10	T2	CS	91.96	T1,T2	CS,D	67.71	67.97	NO	67.03	
Slovenia	8.56	NCV	T1,T2	CS,D,PS	74.80	74.80	NO	74.10	T1,T2,T3	CS,D,PS	78.58	T1,T2	CS,D	72.62	72.46	72.31	73.79	
Spain	15.17	NCV	T2	CS,OTH,PS	63.76	75.63	56.55	0.43	T2	CS,M,OTH,PS	95.41	T2,T3	CS,M,OTH	71.50	72.07	69.79	72.63	
Sweden	18.45	NCV	NA	NA	55.44	74.77	51.84	C,NO	NA	NA	66.45	NA	NA	72.58	70.89	72.88	72.66	
Switzerland																		
Turkey																		
Ukraine	1.30	NCV	T1,T2	CS,D	66.76	76.49	72.87	63.77	T1,T2	CS,D	77.22	T1,T2	CS,D	64.77	64.84	64.77	64.65	
United Kingdom of Great Britain and Northern Ireland	7.42	NCV	T1,T2	CS,D	70.46	77.54	68.99	72.06	T1,T2,T3	CS,D	72.10	T1,T2,T3	CS,D	72.29	75.97	71.30	74.20	
United States of America																		

Note: This table includes data from categories 1.A.1 Energy industries, 1.A.2 Manufacturing industries and Construction and 1.A.4 Other sectors.

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b The following Parties reported energy data on a gross calorific value (GCV) basis: Australia, Canada, New Zealand (and Denmark, who reported a combination of GCV and NCV). Hence, reported IEFs are about 5 per cent lower for liquid and solid fuels and biomass, and about 10 per cent lower for gaseous fuels than would have been the case if the data were given on a net calorific value (NCV) basis. The IEFs included in this table have been converted into NCV-based values and are not reflecting the reported IEFs.

^c Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.1 Energy industries.

^d Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.2 Manufacturing industries and Construction.

^e Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.4 Other sectors.

Table 1.3

Stationary combustion: solid fuels - CO₂ (2013)

	Share in national total ^a	IEF in CRF based on GCV or NCV ^b	Energy industries						Manufacturing industries and construction			Other sectors					
			Methods and EF used ^c		CO ₂ IEF				Method and EF used ^d		CO ₂ IEF	Method and EF used ^e		CO ₂ IEF			
			Methods	EF	Total	Public electricity and heat production	Petroleum refining	Manufacture of solid fuels and other energy industries	Methods	EF	Total	Methods	EF	Total	Commercial / Institutional	Residential	Agriculture / Forestry / Fisheries
Australia	30.81	GCV	T2	CS,PS	90.43	90.48	NO	72.89	T2	CS	81.67	T2	CS	94.41	94.40	95.00	NO
Austria	5.97	NCV	NA	NA	92.10	92.10	NO	NO	NA	NA	93.49	NA	NA	94.03	95.80	93.85	93.96
Belarus																	
Belgium	8.16	NCV	CS,T1,T3	D,PS	137.96	151.63	NO	41.96	CS,T1,T3	D,PS	96.49	CS,T1,T3	D	102.58	NO	94.60	94,600.00
Bulgaria	44.32	NCV	T1,T2	CS,D	102.98	102.98	NO	97.50	T1,T2	CS,D	100.42	T1,T2	CS,D	96.78	96.54	96.79	96.64
Canada	9.58	GCV	T2	CS	92.01	92.05	NO	85.02	T2	CS	72.28	T2	CS	92.82	91.99	94.44	NO
Croatia	10.96	NCV	T1	D	94.60	94.60	NO	NO	T1	D	96.77	T1	D	99.43	96.64	99.63	NO
Cyprus																	
Czech Republic	46.66	NCV	T1,T2	CS,D	96.49	97.13	NO	91.86	T1,T2	CS,D	93.00	T1,T2	CS,D	96.36	98.02	96.27	96.62
Denmark	22.58	GCV,NCV	CS,T1,T2,T3	CS,D,PS	93.91	93.91	NO	NO	CR,M,T1,T2,T3	CS,D,PS	96.23	CR,M,T1,T2,T3	CS,D	94.64	NO	97.50	94.60
Estonia	65.69	NCV	T1,T2,T3	CS,D,PS	75.81	99.69	NO	9.11	T1,T2,T3	CS,D,PS	98.65	T1,T2	CS,D	95.87	95.87	95.87	NO
European Union (KP)																	
European Union (Convention)																	
Finland	20.37	NCV	T3	CS,D,PS	92.88	93.14	NO	83.19	CS,M,T3	CS,D,PS	135.23	CS,M,T1,T3	CS,D	91.88	NO	88.63	92.37
France	9.59		NA	NA	106.78	100.66	258.13	181.28	NA	NA	119.89	NA	NA	94.60	94.60	94.60	NO
Germany	35.70	NCV	CS	CS	105.45	104.64	41.82	138.35	CS,T1	CS,D	134.05	CS,T1	CS,D	98.77	102.41	98.31	97.62
Greece	34.57	NCV	T1,T2	D,PS	123.43	123.43	NO	NO	T1,T2	CS,D,PS	94.32	T1,T2	CS,D,NO	99.18	IE,NO	99.18	99.18
Hungary																	
Iceland	0.01	NCV	T1,T2	D	NO		NO	NO	T1	D	74.07	T1,T2	D	NO			NO
Ireland	8.88	NCV	T1,T3	CS,D,PS	93.49	93.49	NO	NO	T1,T2,T3	CS,D,PS	94.60	T1,T2	CS,D	96.13	NO	96.13	NO
Italy	12.19	NCV	T3	CS	100.03	94.13	NO	169.27	T2	CS	68.87	T2	CS	94.13	NO	94.13	NO
Japan																	
Kazakhstan	38.41	NCV	T1	D	96.07	96.07	96.07	96.07	T1	D	91.42	T1	D	96.56	96.50	96.66	96.07
Latvia	2.54	NCV	T1,T2	CS,D	94.60	94.60	NO	NO	T1,T2,T3	CS,D,PS	95.12	T1,T2	CS,D	94.60	94.60	94.60	94.60
Liechtenstein																	
Lithuania	4.57	NCV	T1,T2,T3	CS,D,PS	95.10	95.10	NO	NO	T2,T3	CS,PS	96.39	T2	CS	94.95	94.93	94.97	94.90
Luxembourg																	
Malta	–	NCV	T3	PS	NO	NO	NO	NO	T1	D	IE,NO	T1	D	IE,NO	NO	NO	IE
Monaco																	
Netherlands	15.28	NCV	CS,T2	CS,D	106.35	107.15	NO	79.91	T2	CS,D	108.76	T2	CS,D	95.94	101.22	94.71	NO
New Zealand	5.07	GCV	D	CS	92.00	92.00	NO	NO	D	CS	91.30	D	CS	92.58	92.20	100.28	91.95
Norway																	
Poland	53.60	NCV	T1,T2	CS,D	99.19	100.61	100.17	47.19	T1,T2	CS,D	103.64	T1	D	94.59	94.75	94.53	94.89
Portugal	15.24	NCV	T2	CR,D,PS	93.08	93.08	NO	NO	T2,T3	CR,D,OTH,PS	95.31	T1,T2	CR,D	NO	NO	NO	NO
Romania																	
Russian Federation	10.51	NCV	T1,T2	CS,D	94.49	95.44	NA	64.50	T1,T2	CS,D	76.59	T1,T2	CS,D	95.39	95.03	95.43	95.58
Slovakia	22.52	NCV	T2,T3	CS,D,PS	115.44	103.36	NO	186.86	T2	CS	120.01	T1,T2	CS,D	97.01	96.97	97.07	97.46
Slovenia	31.03	NCV	T1,T2	CS,D,PS	101.45	101.45	NO	NO	T1,T2,T3	CS,D,PS	102.54	T1,T2	CS,D	96.10	NO	96.10	NO
Spain	14.09	NCV	T2	CS,OTH,PS	98.19	98.58	NO	78.97	T2	CS,M,OTH,PS	160.23	T2,T3	CS,M,OTH	100.99	100.98	101.00	NO
Sweden	8.83	NCV	NA	NA	151.17	165.30	NO	86.22	NA	NA	107.36	NA	NA	NO	NO	NO	NO
Switzerland																	
Turkey																	
Ukraine	24.48	NCV	T1,T2	CS,D	93.82	93.89	NA,NO	90.00	T1,T2	CS,D	94.24	T1,T2	CS,D	93.29	92.94	93.38	92.80
United Kingdom of Great Britain and Northern Ireland	23.80	NCV	T1,T2	CS,D	89.80	89.84	NO	86.78	T1,T2,T3	CS,D	146.16	T1,T2,T3	CS,D	96.99	95.02	97.28	NO
United States of America																	

Note: This table includes data from categories 1.A.1 Energy industries, 1.A.2 Manufacturing industries and Construction and 1.A.4 Other sectors.

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b The following Parties reported energy data on a gross calorific value (GCV) basis: Australia, Canada, New Zealand (and Denmark, who reported a combination of GCV and NCV). Hence, reported IEFs are about 5 per cent lower for liquid and solid fuels and biomass, and about 10 per cent lower for gaseous fuels than would have been the case if the data were given on a net calorific value (NCV) basis. The IEFs included in this table have been converted into NCV-based values and are not reflecting the reported IEFs.

^c Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.1 Energy industries.

^d Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.2 Manufacturing industries and Construction.

^e Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.4 Other sectors.

Table 1.4

Stationary combustion: gaseous fuels - CO₂ (2013)

	Share in national total ^a	IEF in CRF based on GCV or NCV ^b	Energy industries							Manufacturing industries and construction			Other sectors						
			Methods and EF used ^c		CO ₂ IEF				Method and EF used ^d		CO ₂ IEF	Method and EF used ^e		CO ₂ IEF					
			Methods	EF	Total	Public electricity and heat production	Petroleum refining	Manufacture of solid fuels and other energy industries	Methods	EF	Total	Methods	EF	Total	Commercial / Institutional	Residential	Agriculture / Forestry / Fisheries		
																		(t/TJ)	
Australia	12.05	GCV	T2	CS,PS	51.07	50.99	49.99	51.41	T2	CS	51.41	T2	CS	51.42	51.42	51.42	51.41		
Austria	18.61	NCV	NA	NA	55.40	55.40	55.40	55.40	NA	NA	55.40	NA	NA	55.40	55.40	55.40	55.40		
Belarus																			
Belgium	26.64	NCV	CS,T1,T3	D,PS	56.72	56.79	56.10	NO	CS,T1,T3	D,PS	56.85	CS,T1,T3	D	56.10	56.10	56.10	56.10		
Bulgaria	7.28	NCV	T1,T2	CS,D	55.37	55.37	55.37	55.37	T1,T2	CS,D	55.37	T1,T2	CS,D	55.37	55.37	55.37	55.37		
Canada	26.08	GCV	T2	CS	50.76	48.85	48.78	52.15	T2	CS	49.38	T2	CS	49.03	49.04	49.02	48.91		
Croatia	17.10	NCV	T1	D	56.10	56.10	56.10	56.10	T1	D	56.10	T1	D	56.09	56.05	56.10	56.10		
Cyprus																			
Czech Republic	12.15	NCV	T1,T2	CS,D	55.30	55.30	55.30	55.30	T1,T2	CS,D	55.30	T1,T2	CS,D	55.30	55.30	55.30	55.30		
Denmark	13.90	GCV,NCV	CS,T1,T2,T3	CS,D,PS	57.00	56.84	NO	57.29	CR,M,T1,T2,T3	CS,D,PS	56.79	CR,M,T1,T2,T3	CS,D	56.79	56.79	56.79	56.79		
Estonia	5.05	NCV	T1,T2,T3	CS,D,PS	54.98	54.98	NO	NO	T1,T2,T3	CS,D,PS	54.98	T1,T2	CS,D	54.98	54.98	54.98	54.98		
European Union (KP)																			
European Union (Convention)																			
Finland	9.02	NCV	T3	CS,D,PS	55.19	55.19	55.19	NO	CS,M,T3	CS,D,PS	55.19	CS,M,T1,T3	CS,D	55.05	55.05	55.04	55.12		
France	17.33	NCV	NA	NA	56.18	56.22	56.02	56.78	NA	NA	56.56	NA	NA	56.61	56.61	56.61	56.60		
Germany	17.58	NCV	CS	CS	56.18	56.15	55.92	58.47	CS,T1	CS,D	55.92	CS,T1	CS,D	55.92	55.92	55.92	55.92		
Greece	6.60	NCV	T1,T2	D,PS	55.64	55.63	IE,NO	56.79	T1,T2	CS,D,PS	55.57	T1,T2	CS,D,NO	55.57	55.57	55.57	IE,NO		
Hungary																			
Iceland	–		T1,T2	D	NO		NO	NO	T1	D	NO	T1,T2	D	NO			NO		
Ireland	15.01	NCV	T1,T3	CS,D,PS	55.36	56.86	7.05	NO	T1,T2,T3	CS,D,PS	55.98	T1,T2	CS,D	55.98	55.98	55.98	NO		
Italy	30.43	NCV	T3	CS	56.99	56.99	56.99	56.99	T2	CS	56.99	T2	CS	56.99	56.99	56.99	56.99		
Japan																			
Kazakhstan	6.28	NCV	T1	D	56.10	56.10	56.10	56.10	T1	D	56.10	T1	D	56.10	56.10	56.10	56.10		
Latvia	24.59	NCV	T1,T2	CS,D	54.23	54.23	NO	54.23	T1,T2,T3	CS,D,PS	54.23	T1,T2	CS,D	54.23	54.23	54.23	54.23		
Liechtenstein																			
Lithuania	15.23	NCV	T1,T2,T3	CS,D,PS	55.23	55.23	55.23	55.23	T2,T3	CS,PS	55.23	T2	CS	55.23	55.23	55.23	55.23		
Luxembourg																			
Malta	–	NCV	T3	PS	NO	NO	NO	NO	T1	D	IE,NO	T1	D	IE	IE	IE	IE		
Monaco																			
Netherlands	37.80	NCV	CS,T2	CS,D	57.15	56.50	56.50	64.70	T2	CS,D	56.50	T2	CS,D	56.50	56.50	56.50	56.50		
New Zealand	8.87	GCV	D	CS	52.65	52.61	52.80	53.08	D	CS	53.24	D	CS	53.24	53.24	53.24	53.24		
Norway																			
Poland	6.49	NCV	T1,T2	CS,D	56.10	56.10	56.10	56.10	T1,T2	CS,D	56.10	T1	D	56.10	56.10	56.10	56.10		
Portugal	11.99	NCV	T2	CR,D,PS	55.54	56.11	54.77	NO	T2,T3	CR,D,OTH,PS	56.17	T1,T2	CR,D	55.82	55.82	55.82	55.82		
Romania																			
Russian Federation	24.56	NCV	T1,T2	CS,D	54.40	54.40	54.40	54.40	T1,T2	CS,D	54.40	T1,T2	CS,D	54.40	54.40	54.40	54.40		
Slovakia	21.37	NCV	T2,T3	CS,D,PS	55.58	55.58	55.58	55.58	T2	CS	55.58	T1,T2	CS,D	55.58	55.58	55.58	55.58		
Slovenia	8.75	NCV	T1,T2	CS,D,PS	55.29	55.29	NO	55.29	T1,T2,T3	CS,D,PS	55.29	T1,T2	CS,D	55.29	55.29	55.29	NO		
Spain	17.53	NCV	T2	CS,OTH,PS	56.96	57.29	56.25	56.00	T2	CS,M,OTH,PS	52.20	T2,T3	CS,M,OTH	56.00	56.00	56.00	56.00		
Sweden	3.38	NCV	NA	NA	56.80	56.80	56.80	C,NO	NA	NA	56.80	NA	NA	56.79	56.79	56.78	56.80		
Switzerland																			
Turkey																			
Ukraine	22.04	NCV	T1,T2	CS,D	54.14	54.66	55.50	51.14	T1,T2	CS,D	53.18	T1,T2	CS,D	55.53	55.27	55.54	55.50		
United Kingdom of Great Britain and Northern Ireland	26.87	NCV	T1,T2	CS,D	57.92	56.52	56.35	62.74	T1,T2,T3	CS,D	56.91	T1,T2,T3	CS,D	56.91	56.91	56.91	56.91		
United States of America																			

Note: This table includes data from categories 1.A.1 Energy industries, 1.A.2 Manufacturing industries and Construction and 1.A.4 Other sectors.

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b The following Parties reported energy data on a gross calorific value (GCV) basis: Australia, Canada, New Zealand (and Denmark, who reported a combination of GCV and NCV). Hence, reported IEFs are about 5 per cent lower for liquid and solid fuels and biomass, and about 10 per cent lower for gaseous fuels than would have been the case if the data were given on a net calorific value (NCV) basis. The IEFs included in this table have been converted into NCV-based values and are not reflecting the reported IEFs.

^c Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.1 Energy industries.

^d Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.2 Manufacturing industries and Construction.

^e Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.4 Other sectors.

Table 1.5

Stationary combustion: other fossil fuels - CO₂ (2013)

	Share in national total ^a	IEF in CRF based on GCV or NCV ^b	Energy industries						Manufacturing industries and			Other sectors					
			Methods and EF used ^c		CO ₂ IEF				Method and EF used ^d		CO ₂ IEF	Method and EF used ^e		CO ₂ IEF			
			Methods	EF	Total	Public electricity and heat production	Petroleum refining	Manufacture of solid fuels and other energy industries	Methods	EF	Total	Methods	EF	Total	Commercial / Institutional	Residential	Agriculture / Forestry / Fisheries
Australia	–	GCV	T2	CS,PS	NO	NO	NO	NO	T2	CS	NO	T2	CS	NO	NO	NO	NO
Austria	2.63	NCV	NA	NA	62.17	62.17	NO	NO	NA	NA	69.62	NA	NA	67.36	67.36		NO
Belarus																	
Belgium	2.05	NCV	CS,T1,T3	D,PS	96.22	96.22	NO	NO	CS,T1,T3	D,PS	86.29	CS,T1,T3	D	65.50	65.50	NO	NO
Bulgaria	0.09	NCV	T1,T2	CS,D	NO	NO	NO	NO	T1,T2	CS,D	91.44	T1,T2	CS,D	NO	NO	NO	NO
Canada	0.05	GCV	T2	CS	NO	NO	NO	NO	T2	CS	76.26	T2	CS	NO	NO	NO	NO
Croatia	0.21	NCV	T1	D	NO	NO	NO	NO	T1	D	143.00	T1	D	NO	NO	NO	NO
Cyprus																	
Czech Republic	0.32	NCV	T1,T2	CS,D	91.70	91.70	NO	NO	T1,T2	CS,D	85.18	T1,T2	CS,D	NO	NO	NO	NO
Denmark	2.88	GCV,NCV	CS,T1,T2,T3	CS,D,PS	90.27	90.27	NO	NO	CR,M,T1,T2,T3	CS,D,PS	87.74	CR,M,T1,T2,T3	CS,D	82.22	82.22	NO	NO
Estonia	1.19	NCV	T1,T2,T3	CS,D,PS	56.38	56.38	NO	NO	T1,T2,T3	CS,D,PS	79.51	T1,T2	CS,D	NO	NO	NO	NO
European Union (KP)																	
European Union (Convention)																	
Finland	1.11	NCV	T3	CS,D,PS	81.08	81.08	NO	NO	CS,M,T3	CS,D,PS	77.53	CS,M,T1,T3	CS,D	NO	NO	NO	NO
France	1.90		NA	NA	107.95	107.97	49.60	NO	NA	NA	53.29	NA	NA	NO	NO	NO	NO
Germany	2.42	NCV	CS	CS	84.32	84.32	NA,NO	NA,NO	CS,T1	CS,D	73.96	CS,T1	CS,D	NA,NO	NA,NO	NA,NO	NA,NO
Greece	0.02	NCV	T1,T2	D,PS	NO	NO	NO	NO	T1,T2	CS,D,PS	89.71	T1,T2	CS,D	IE,NO	IE,NO	IE,NO	IE,NO
Hungary																	
Iceland	–		T1,T2	D	NO		NO	NO	T1	D	NO	T1,T2	D	NO			NO
Ireland	0.37	NCV	T1,T3	CS,D,PS	90.39	90.39	NO	NO	T1,T2,T3	CS,D,PS	90.73	T1,T2	CS,D	NO	NO	NO	NO
Italy	1.02	NCV	T3	CS	90.17	90.17	NO	NO	T2	CS	51.66	T2	CS	114.74	114.74	NO	NO
Japan																	
Kazakhstan	–	NCV	T1	D	IE,NA	IE,NA	IE,NA	IE,NA	T1	D	IE,NA	T1	D	IE,NA	IE,NA	IE,NA	IE,NA
Latvia	0.86	NCV	T1,T2	CS,D	NO	NO	NO	NO	T1,T2,T3	CS,D,PS	84.85	T1,T2	CS,D	NO	NO		NO
Liechtenstein																	
Lithuania	0.65	NCV	T1,T2,T3	CS,D,PS	99.04	99.04	NO	NO	T2,T3	CS,PS	85.13	T2	CS	NO	NO	NO	NO
Luxembourg																	
Malta	–	NCV	T3	PS	NO	NO	NO	NO	T1	D	IE,NO	T1	D	IE,NO	NO	NO	IE
Monaco																	
Netherlands	1.42	NCV	CS,T2	CS,D	83.74	83.74	NO	NO	T2	CS,D	NO	T2	CS,D	NO	NO	NO	NO
New Zealand	–	GCV	D	CS	NO	NO	NO	NO	D	CS	NO	D	CS	NO	NO	NO	NO
Norway																	
Poland	0.63	NCV	T1,T2	CS,D	118.99	118.92	NO	143.00	T1,T2	CS,D	132.15	T1	D	138.98	138.98	IE,NO	NO
Portugal	1.14	NCV	T2	CR,D,PS	104.28	104.28	NO	NO	T2,T3	CR,D,OTH,PS	54.63	T1,T2	CR,D	NO	NO	NO	NO
Romania																	
Russian Federation	0.81	NCV	T1,T2	CS,D	143.00	143.00	143.00	NA,NO	T1,T2	CS,D	138.37	T1,T2	CS,D	143.00	143.00	NA,NO	143.00
Slovakia	0.53	NCV	T2,T3	CS,D,PS	55.55	55.55	NO	NO	T2	CS	88.29	T1,T2	CS,D	NO	NO	NO	NO
Slovenia	0.36	NCV	T1,T2	CS,D,PS	73.30	73.30	NO	NO	T1,T2,T3	CS,D,PS	49.05	T1,T2	CS,D	NO	NO	NO	NO
Spain	0.56	NCV	T2	CS,OTH,PS	56.05	52.79	70.50	NA,NO	T2	CS,M,OTH,PS	45.53	T2,T3	CS,M,OTH	NO	NO	NO	NO
Sweden	3.97	NCV	NA	NA	88.05	88.05	NO	NO	NA	NA	64.23	NA	NA	NO	NO	NO	NO
Switzerland																	
Turkey																	
Ukraine	0.07	NCV	T1,T2	CS,D	72.60	72.60	NA,NO	NA,NO	T1,T2	CS,D	72.60	T1,T2	CS,D	72.60	72.60	72.60	NA,NO
United Kingdom of Great Britain and Northern Ireland	0.42	NCV	T1,T2	CS,D	37.43	37.43	NO	NO	T1,T2,T3	CS,D	110.04	T1,T2,T3	CS,D	NO	NO	NO	NO
United States of America																	

Note: This table includes data from categories 1.A.1 Energy industries, 1.A.2 Manufacturing industries and Construction and 1.A.4 Other sectors.

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b The following Parties reported energy data on a gross calorific value (GCV) basis: Australia, Canada, New Zealand (and Denmark, who reported a combination of GCV and NCV). Hence, reported IEFs are about 5 per cent lower for liquid and solid fuels and biomass, and about 10 per cent lower for gaseous fuels than would have been the case if the data were given on a net calorific value (NCV) basis. The IEFs included in this table have been converted into NCV-based values and are not reflecting the reported IEFs.

^c Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.1 Energy industries.

^d Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.2 Manufacturing industries and Construction.

^e Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.4 Other sectors.

Table 1.6**Contribution of fuels to total energy consumption in stationary combustion (%)**

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fossil Fuels		Peat	
	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013
Australia	15.80	16.98	58.25	49.24	25.96	33.78	–	–	–	–
Austria	36.65	26.24	22.59	10.78	39.00	56.19	1.75	6.79	0.00	0.00
Belarus										
Belgium	39.55	26.52	27.11	8.54	32.22	62.00	1.13	2.93	–	–
Bulgaria	37.05	11.73	45.43	67.54	17.52	20.57	–	0.16	–	–
Canada	24.20	16.23	22.24	14.10	53.52	69.57	0.04	0.10	–	–
Croatia	54.95	30.48	13.26	19.02	31.80	50.26	–	0.25	–	–
Cyprus										
Czech Republic	12.96	3.47	73.84	66.09	13.18	29.94	0.02	0.49	–	–
Denmark	33.91	24.21	49.83	35.25	14.88	35.85	1.38	4.69	–	–
Estonia	22.81	4.36	64.50	84.22	11.28	8.96	–	1.71	1.40	0.75
European Union (KP)										
European Union (Convention)										
Finland	41.81	32.12	29.09	29.31	18.19	23.86	0.22	1.98	10.69	12.73
France	45.51	32.30	21.31	13.93	30.55	49.61	2.63	4.17	–	–
Germany	21.95	17.23	55.40	40.44	21.75	38.63	0.90	3.71	0.00	–
Greece	46.65	33.95	53.07	46.39	0.28	19.62	–	0.04	–	–
Hungary										
Iceland	95.90	99.96	4.10	0.04	–	–	–	–	–	–
Ireland	32.46	26.02	28.96	16.59	19.60	47.39	–	0.72	18.98	9.28
Italy	48.49	17.66	14.91	15.90	36.36	65.29	0.24	1.15	–	–
Japan										
Kazakhstan	18.94	15.87	61.28	60.89	17.96	23.23	1.82	–	–	–
Latvia	43.27	17.55	11.61	4.50	43.32	76.15	0.39	1.70	1.42	0.10
Liechtenstein										
Lithuania	45.03	29.78	8.97	9.89	45.85	57.16	–	1.40	0.15	1.77
Luxembourg										
Malta	64.60	100.00	35.40	–	–	–	–	–	–	–
Monaco										
Netherlands	17.77	11.92	16.71	15.27	65.01	71.00	0.51	1.81	–	–
New Zealand	23.67	24.72	16.58	18.67	59.74	56.61	–	–	–	–
Norway										
Poland	5.52	7.59	86.98	75.63	6.79	16.12	0.70	0.67	–	–
Portugal	69.33	30.73	30.35	28.77	–	37.72	0.33	2.78	–	–
Romania										
Russian Federation	31.67	11.35	23.58	17.77	44.13	69.92	0.47	0.90	0.16	0.06
Slovakia	16.84	7.26	51.45	30.63	31.71	60.95	–	0.95	–	0.21
Slovenia	25.14	19.71	56.92	52.13	17.85	26.99	0.09	1.17	–	–
Spain	47.16	30.68	41.96	20.30	10.66	47.48	0.23	1.55	–	–
Sweden	73.49	60.62	15.13	13.95	5.96	12.68	2.71	9.91	2.72	2.84
Switzerland										
Turkey										
Ukraine	19.83	2.84	25.30	38.01	54.71	58.89	–	0.14	0.16	0.12
United Kingdom of Great Britain and Northern Ireland	21.53	12.46	44.29	29.92	33.99	56.40	0.12	1.21	0.08	0.01
United States of America										

Note: This table includes data from categories 1.A.1 Energy industries, 1.A.2 Manufacturing industries and Construction, 1.A.4 Other sectors and 1.A.5 Other.

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 1.7**Contribution of fuels to CO₂ emissions from energy industries (%)**

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fossil Fuels		Peat	
	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013
Australia	6.18	7.04	84.40	75.54	9.43	17.41	–	–	–	–
Austria	23.13	21.03	45.29	29.40	30.72	38.08	0.86	11.48	–	–
Belarus										
Belgium	16.18	16.48	72.37	35.18	9.24	40.00	2.20	8.33	–	–
Bulgaria	23.99	5.79	60.56	85.98	15.46	8.23	–	–	–	–
Canada	23.20	21.45	56.13	41.79	20.67	36.76	–	–	–	–
Croatia	64.05	21.81	11.29	43.10	24.66	35.09	–	–	–	–
Cyprus										
Czech Republic	2.78	1.09	94.82	94.69	2.36	3.83	0.04	0.38	–	–
Denmark	8.05	7.54	84.11	64.36	5.77	20.12	2.07	7.98	–	–
Estonia	17.00	1.83	75.52	91.50	6.83	4.94	–	0.71	0.65	1.02
European Union (KP)										
European Union (Convention)										
Finland	13.87	9.80	51.16	49.04	13.99	17.82	0.01	1.29	20.97	22.05
France	30.27	21.17	63.54	53.62	2.33	15.31	3.86	9.90	–	–
Germany	5.94	5.24	87.63	81.97	5.31	8.82	1.12	3.97	–	–
Greece	18.08	17.21	81.68	73.38	0.24	9.41	–	–	–	–
Hungary										
Iceland	100.00	100.00	–	–	–	–	–	–	–	–
Ireland	11.26	3.57	43.47	33.79	16.87	38.91	–	0.77	28.40	22.96
Italy	58.66	19.38	29.25	42.10	11.99	38.36	0.10	0.16	–	–
Japan										
Kazakhstan	13.67	9.06	72.73	78.55	11.54	12.39	2.06	–	–	–
Latvia	49.58	1.81	3.52	2.09	43.36	95.88	0.05	–	3.49	0.22
Liechtenstein										
Lithuania	55.69	44.42	1.29	0.27	42.95	51.29	–	2.80	0.08	1.22
Luxembourg										
Malta	54.80	100.00	45.20	–	–	–	–	–	–	–
Monaco										
Netherlands	19.23	11.46	49.69	44.63	29.95	39.27	1.13	4.64	–	–
New Zealand	13.20	12.58	7.94	25.76	78.87	61.66	–	–	–	–
Norway										
Poland	2.97	2.16	95.57	94.47	0.82	3.32	0.64	0.05	–	–
Portugal	51.05	15.25	48.95	65.36	–	16.87	–	2.53	–	–
Romania										
Russian Federation	20.08	8.57	35.09	29.78	43.73	59.18	0.70	2.35	0.39	0.13
Slovakia	20.04	15.08	68.54	58.94	11.42	25.98	–	0.00	–	–
Slovenia	4.35	0.43	92.75	93.92	2.90	5.43	–	0.22	–	–
Spain	22.05	21.07	77.08	55.54	0.73	21.51	0.14	1.88	–	–
Sweden	31.13	24.53	46.17	36.10	4.95	9.83	5.81	21.18	11.95	8.36
Switzerland										
Turkey										
Ukraine	19.74	2.52	33.71	66.45	46.40	30.73	–	0.19	0.15	0.11
United Kingdom of Great Britain and Northern Ireland	17.34	9.92	78.67	63.79	3.89	25.14	0.10	1.15	–	–
United States of America										

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.8**Contribution of fuels to CO₂ emissions from manufacturing industries and construction (%)**

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fossil Fuels		Peat	
	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013
Australia	33.16	40.60	30.10	20.43	36.73	38.96	–	–	–	–
Austria	28.23	20.14	25.56	11.70	43.51	60.86	2.70	7.30	–	–
Belarus										
Belgium	34.48	15.11	30.82	13.87	33.90	66.76	0.81	4.26	–	–
Bulgaria	45.59	34.18	54.41	16.29	–	47.88	–	1.66	–	–
Canada	25.39	12.41	10.01	6.20	64.42	80.95	0.19	0.44	–	–
Croatia	39.22	40.96	30.95	19.49	29.83	37.35	–	2.20	–	–
Cyprus										
Czech Republic	18.87	5.64	69.97	42.34	11.16	50.21	–	1.81	–	–
Denmark	49.94	46.51	25.96	9.05	24.08	42.17	0.02	2.27	–	–
Estonia	31.40	20.22	56.89	35.59	11.31	23.77	–	20.41	0.40	0.01
European Union (KP)										
European Union (Convention)										
Finland	35.98	38.33	35.87	25.53	16.29	19.42	0.93	4.91	10.93	11.81
France	33.22	24.92	34.10	28.57	28.74	40.08	3.94	6.43	–	–
Germany	18.88	16.09	55.04	34.66	24.53	42.17	1.55	7.08	–	–
Greece	61.54	67.25	38.46	4.12	–	28.24	–	0.39	–	–
Hungary										
Iceland	74.02	99.36	25.98	0.64	–	–	–	–	–	–
Ireland	55.76	40.62	22.10	7.74	22.14	48.44	–	3.15	–	0.05
Italy	40.75	21.72	21.05	16.16	37.96	61.77	0.25	0.35	–	–
Japan										
Kazakhstan	25.95	10.02	54.95	78.81	17.98	11.17	1.13	–	–	–
Latvia	57.92	24.43	3.99	18.22	36.51	44.59	1.58	12.43	–	0.32
Liechtenstein										
Lithuania	61.00	5.75	2.99	44.54	35.70	47.31	–	1.82	0.31	0.58
Luxembourg										
Malta	100.00	100.00	–	–	–	–	–	–	–	–
Monaco										
Netherlands	24.47	29.54	14.19	13.28	61.34	57.19	–	–	–	–
New Zealand	17.80	22.24	47.02	34.65	35.18	43.11	–	–	–	–
Norway										
Poland	9.00	9.03	72.35	57.65	14.30	25.46	4.35	7.86	–	–
Portugal	67.42	39.55	31.78	1.03	–	54.45	0.81	4.97	–	–
Romania										
Russian Federation	32.98	12.25	18.34	23.80	44.35	62.19	4.32	1.74	0.00	0.01
Slovakia	18.12	3.53	57.05	61.01	24.84	31.42	–	3.26	–	0.78
Slovenia	38.32	24.10	33.29	14.78	28.22	57.88	0.17	3.24	–	–
Spain	51.07	28.24	29.54	12.15	19.12	58.52	0.27	1.09	–	–
Sweden	71.87	70.80	19.30	18.77	5.78	8.00	3.04	2.42	–	–
Switzerland										
Turkey										
Ukraine	26.86	1.27	22.45	42.94	50.68	55.44	–	0.08	0.01	0.27
United Kingdom of Great Britain and Northern Ireland	30.26	22.25	40.47	36.58	29.27	40.48	0.00	0.68	–	–
United States of America										

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.9**Contribution of fuels to CO₂ emissions from other sectors (%)**

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fossil Fuels		Peat	
	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013	Base year ^a	2013
Australia	45.87	47.81	4.44	0.44	49.69	51.75	–	–	–	–
Austria	59.54	54.34	19.24	1.90	18.67	43.70	2.54	0.06	0.00	0.01
Belarus										
Belgium	63.98	44.59	7.32	1.51	28.58	53.52	0.11	0.38	–	–
Bulgaria	44.23	32.10	55.77	48.18	–	19.72	–	–	–	–
Canada	31.54	16.34	0.28	0.27	68.18	83.38	–	–	–	–
Croatia	67.40	45.22	14.39	0.64	18.21	54.13	–	–	–	–
Cyprus										
Czech Republic	13.52	9.01	72.40	24.88	14.08	66.11	–	–	–	–
Denmark	81.10	58.44	3.29	2.46	15.26	38.88	0.35	0.22	–	–
Estonia	55.26	57.00	19.06	6.18	7.46	33.45	–	–	18.23	3.37
European Union (KP)										
European Union (Convention)										
Finland	96.28	89.76	0.64	0.23	1.41	3.99	0.00	–	1.67	6.01
France	64.04	45.68	4.26	0.64	31.70	53.68	–	–	–	–
Germany	45.07	42.01	32.47	2.42	22.45	55.58	–	–	0.01	–
Greece	98.52	82.90	1.48	0.16	–	16.94	–	–	–	–
Hungary										
Iceland	100.00	100.00	–	–	–	–	–	–	–	–
Ireland	37.81	49.24	24.78	12.55	4.92	27.60	–	–	32.49	10.61
Italy	50.77	19.36	1.20	0.01	47.34	75.56	0.68	5.06	–	–
Japan										
Kazakhstan	21.48	27.07	69.63	56.54	8.62	16.39	0.28	–	–	–
Latvia	36.71	49.21	38.28	8.15	22.99	42.64	–	–	2.02	–
Liechtenstein										
Lithuania	25.53	15.54	49.31	30.80	24.68	42.84	–	–	0.48	10.82
Luxembourg										
Malta	100.00	100.00	–	–	–	–	–	–	–	–
Monaco										
Netherlands	8.08	3.31	0.51	0.06	91.40	96.63	–	–	–	–
New Zealand	62.39	59.55	18.74	14.83	18.87	25.62	–	–	–	–
Norway										
Poland	5.06	15.69	88.32	62.00	6.32	22.21	0.30	0.10	–	–
Portugal	100.00	68.16	–	–	–	31.84	–	–	–	–
Romania										
Russian Federation	30.53	21.97	47.46	5.88	21.58	72.00	0.39	0.16	0.05	–
Slovakia	3.43	0.21	63.68	11.05	32.89	88.74	–	–	–	–
Slovenia	37.86	77.07	60.57	0.07	1.57	22.86	–	–	–	–
Spain	85.65	55.58	9.10	1.65	5.26	42.77	–	–	–	–
Sweden	96.50	88.22	1.52	–	1.99	11.78	–	–	–	–
Switzerland										
Turkey										
Ukraine	21.59	4.17	49.81	6.92	27.84	88.52	–	0.05	0.76	0.33
United Kingdom of Great Britain and Northern Ireland	16.98	12.18	18.19	3.06	64.40	84.71	–	–	0.44	0.05
United States of America										

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.10**Road transportation - CO₂, N₂O (2013)**

	CO ₂ emissions						N ₂ O emissions					
	Share of national total ^a	Methods and EF used ^b		CO ₂ IEF			Share of national total ^a	Method and EF used ^b		N ₂ O IEF		
		Methods	EF	IEF in CRF based on GCV or NCV ^c	Gasoline	Diesel oil		Methods	EF	IEF in CRF based on GCV or NCV ^c	Gasoline	Diesel oil
	(%)				(t/TJ)	(t/TJ)					(kg/TJ)	(kg/TJ)
IPCC default EF ^d				NCV	69.3 (67.5 to 73.0)	74.1 (72.6 to 74.8)				NCV	8.0 (0.96 to 24)	3.9 (1.3 to 12)
Australia	14.05	T2	CS,D	GCV	67.40	69.90	0.24	T1,T3	CS,D	GCV	5.60	1.66
Austria	27.41	NA	NA		76.19	74.16	0.23	NA	NA		0.78	2.45
Belarus												
Belgium	19.83	M,T1,T3	OTH	NCV	71.17	74.00	0.21	M,T3	CS,OTH	NCV	0.82	2.73
Bulgaria	12.27	T1,T2	CR,D	NCV	71.10	74.67	0.10	T1,T2	CR,D	NCV	2.55	1.54
Canada	18.44	T1,T3	CS	GCV	66.17	70.23	0.34	T1,T3	CS	GCV	4.00	4.00
Croatia	21.97	T1	D	NCV	69.30	74.10	0.19	T1,T3	CR,D	NCV	1.96	2.04
Cyprus												
Czech Republic	12.07	T1	CS,D	NCV	69.30	74.10	0.46	T1,T2	CS,D	NCV	19.06	5.17
Denmark	19.72	CR,M,T1,T2	CS,D	GCV,NCV	72.99	74.00	0.20	CR,M,T1,T3	CR,D	GCV,NCV	1.32	2.97
Estonia	9.72	T1,T2	CS,D	NCV	72.58	73.13	0.08	T1,T3	CS,D	NCV	1.82	2.29
European Union (KP)												
European Union (Convention)												
Finland	17.80	M	CS	NCV	72.90	73.30	0.11	M	D	NCV	1.15	1.61
France	24.88	NA	NA		70.58	75.03	0.29	NA	NA		2.11	2.82
Germany	15.92	CS,T1	CS,D	NCV	73.09	74.00	0.15	T2,T3	CS,M	NCV	0.72	3.08
Greece	14.99	T1,T2	CS,D	NCV	73.26	73.23	0.11	M,T1	D,M	NCV	1.72	1.74
Hungary												
Iceland	16.64	NA	NA	NCV	69.44	74.10	0.41	NA	NA	NCV	6.97	4.61
Ireland	17.82	T2,T3	CS,M	NCV	69.96	73.30	0.17	T3	M	NCV	1.38	2.63
Italy	21.84	T3	CS	NCV	73.34	73.65	0.20	T3	M	NCV	1.36	2.51
Japan												
Kazakhstan	5.38	T2	D	NCV	70.14	73.26	0.01	T2	D	NCV	0.33	0.47
Latvia	22.86	T1,T2	CS,D,OTH	NCV	71.18	74.00	0.19	T1,T2	CR,OTH	NCV	1.75	1.87
Liechtenstein												
Lithuania	20.44	T1,T2	CS,D	NCV	72.97	72.89	0.18	T1,T3	CR,D	NCV	3.31	1.71
Luxembourg												
Malta	17.62	T3	CR	NCV	72.45	74.39	0.21	T3	CR	NCV	2.21	3.72
Monaco												
Netherlands	16.02	T1,T2	CS	NCV	72.00	74.30	0.11	T1,T2	CS,D	NCV	1.32	1.77
New Zealand	15.48	D	CS	GCV	66.55	69.57	0.16	D,T3	CS,D	GCV	3.10	1.38
Norway												
Poland	10.64	T1,T2	CS,D	NCV	69.63	72.43	0.13	T1	D	NCV	2.80	3.58
Portugal	22.48	T2	D	NCV	68.61	73.33	0.21	T3	CR	NCV	1.78	2.23
Romania												
Russian Federation	5.80	CR,T1	CR,D	NCV	72.92	73.85	0.07	CR,T1	CR,D	NCV	3.59	1.94
Slovakia	14.15	M	D	NCV	71.80	74.30	0.13	M	D	NCV	2.30	2.01
Slovenia	29.52	M	M	NCV	69.52	73.89	0.29	M	M	NCV	0.88	2.63
Spain	22.94	T3	M	NCV	71.40	72.81	0.22	T3	M	NCV	1.18	2.65
Sweden	30.35	NA	NA	NCV	72.00	72.01	0.23	NA	NA	NCV	0.65	2.20
Switzerland												
Turkey												
Ukraine	6.61	T1	D	NCV	67.91	73.33	0.13	T1	D	NCV	5.49	3.86
United Kingdom of Great Britain and Northern Ireland	18.59	T1,T3	CS,OTH	NCV	70.00	72.96	0.16	T3	CR,CS	NCV	0.91	2.72
United States of America												

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b Information on methods and emission factors in this table is a reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.3 Transport.

^c The following Parties reported energy data on a gross calorific value (GCV) basis: Australia, Canada, New Zealand (and Denmark, who reported a combination of GCV and NCV). Hence, reported IEFs are about 5 per cent lower for liquid and solid fuels and biomass, and about 10 per cent lower for gaseous fuels than would have been the case if the data were given on a net calorific value (NCV) basis. The IEFs included in this table have been converted into NCV-based values and are not reflecting the reported IEFs.

^d Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 3: Mobile Combustion. CO₂ table 3.2.1. N₂O table 3.2.2.

Table 1.11**Civil aviation and domestic navigation - CO₂ (2013)**

	Methods and EF used ^a		Civil aviation			Domestic navigation		
			Share of national total ^b	CO ₂ IEF		Share of national total ^b	CO ₂ IEF	
	Methods	EF		Jet kerosene	Aviation gasoline		Residual oil	Gas/diesel oil
IPCC default EF ^c				71.5 (69.8 to 74.4)	70 (67.5 to 73.0)		77.4 (75.5 to 78.8)	74.1 (72.6 to 74.8)
Australia	T2	CS,D	1.48	69.60	67.00	0.44	73.60	69.90
Austria	NA	NA	0.07	72.78	76.12	0.02	NO	74.16
Belarus								
Belgium	T1,T3	CS,D	0.03	71.50	70.00	0.37	IE	73.24
Bulgaria	T1,T2	D	0.07	71.87	69.30	0.01	NO	74.10
Canada	T1,T3	CS	1.01	68.45	70.55	0.70	74.26	70.23
Croatia	T1	D	0.42	71.50	70.00	0.50	NO	74.10
Cyprus								
Czech Republic	T1	D	0.01	71.50	70.00	0.00	NO	74.10
Denmark	CR,M,T1,T2	CS,D	0.33	71.88	72.50	0.81	77.97	73.92
Estonia	T2	CS,D	0.01	NO	73.60	0.06	NO	73.13
European Union (KP)								
European Union (Convention)								
Finland	CS,M,OTH,T3	CS	0.30	73.20	71.30	0.75	78.40	73.90
France	NA	NA	1.02	71.59	70.50	0.30	78.00	75.01
Germany	CS,T1	CS,D	0.22	73.26	70.00	0.18	80.01	74.00
Greece	T1,T2	CS,D	0.41	70.39	68.61	1.33	78.35	76.93
Hungary								
Iceland	NA	NA	–			0.33	76.59	73.33
Ireland	T2,T3	CS	0.02	71.40	69.96	0.30	NO	73.30
Italy	T1,T2	CS	0.44	71.50	69.30	0.94	77.40	74.08
Japan								
Kazakhstan	T1,T2	CS,D	0.27	74.90	72.51	0.01	NO	73.26
Latvia	T1,T2	CS,D	0.03	72.26	70.00	0.23	NO	74.00
Liechtenstein								
Lithuania	T2	CS	0.01	72.24	71.62	0.07	NO	72.89
Luxembourg								
Malta	D,T1	D	0.02	71.50	69.30	0.85	NO	74.10
Monaco								
Netherlands	T2	CS,D	0.02	71.50	72.00	0.57	NO	74.30
New Zealand	D	CS	1.05	68.37	65.89	0.47	72.95	NO
Norway								
Poland	T1	D	0.04	73.26	72.10	0.00	77.60	73.10
Portugal	T1,T2,T3	D	0.51	70.79	69.33	0.38	76.59	73.33
Romania								
Russian Federation	T1,T1B	D	0.35	71.50	NO	0.09	77.40	74.10
Slovakia	T1	D	0.01	72.75	73.60	0.01	NO	75.01
Slovenia	T1	D	0.01	NO	69.30	–	NO	IE
Spain	T1,T2	CS,D,M	0.82	73.09	NO	0.49	76.78	72.64
Sweden	NA	NA	0.93	71.50	70.00	0.67	77.61	74.45
Switzerland								
Turkey								
Ukraine	T1,T2	D,OTH	0.02	74.09	NO	0.01	76.59	73.33
United Kingdom of Great Britain and Northern Ireland	T2,T3	CS	0.34	71.70	69.47	0.38	78.36	73.91
United States of America								

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.A.3 Transport.

^b The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^c Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 3: Mobile Combustion. Table 3.6.4 for Jet kerosene, Aviation gasoline. Table 3.5.2 Residual oil, Gas/diesel oil.

Table 1.12**Domestic and international aviation - activity data (2013)**

	Domestic aviation						International Aviation						Total jet kerosene and aviation gasoline		
	Jet kerosene			Aviation gasoline			Jet kerosene			Aviation gasoline					
	CRF	IEA ^{a,b,d}	Difference	CRF	IEA ^{a,c,d}	Difference	CRF	IEA ^{a,b,d}	Difference	CRF	IEA ^{a,c,d}	Difference	CRF	IEA ^{a,b,c,d}	Difference
	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)
Australia	112,910	116,323	3.0	2,688	2,498	-7.1	147	141,154	95796.4	NO	0	–	115,746	259,975	124.6
Austria	637	1247	95.7	108	0	–	27,141	26,961	-0.7	NO	0	–	27,886	28,208	1.2
Belarus															
Belgium	388	0	–	31	132	321.0	55,874	53,320	-4.6	0	0	–	56,294	53,452	-5.0
Bulgaria	473	473	0	44	44	0.0	6,665	6,665	0.0	NO	0	–	7,182	7,182	0.0
Canada	105,055	200120	90.5	2,073	896	-56.8	164,307	34,565	-79.0	56	0	–	271,491	235,581	-13.2
Croatia	1,437	1935	34.7	18	44	146.7	4,005	3,397	-15.2	4	0	–	5,465	5,376	-1.6
Cyprus															
Czech Republic	19	731	3650.9	88	88	0.5	11,931	11,782	-1.3	NO	0	–	12,038	12,601	4.7
Denmark	2,489	1161	-53.4	75	44	-41.3	34,367	34,658	0.8	2	0	–	36,933	35,863	-2.9
Estonia	NO	0	–	16	0	–	1,200	1,204	0.4	NO	0	–	1,216	1,204	-1.0
European Union (KP)															
European Union (Convention)															
Finland	2,601	2580	-0.8	25	44	73.2	26,629	26,445	-0.7	NO	0	–	29,255	29,069	-0.6
France	70,098	35604	-49.2	1,002	968	-3.4	225,889	233,748	3.5	NO	0	–	296,989	270,320	-9.0
Germany	27,763	28036	1.0	496	528	6.5	346,907	350,450	1.0	NO	0	–	375,166	379,014	1.0
Greece	6,035	7310	21.1	90	88	-1.8	35,114	28,208	-19.7	NO	0	–	41,239	35,606	-13.7
Hungary															
Iceland	335	258	-23.0	71	0	–	7,109	6,794	-4.4		0	–	7,515	7,052	-6.2
Ireland	103	258	150.0	38	88	133.3	25,255	26,187	3.7	NO	0	–	25,396	26,533	4.5
Italy	27,034	28509	5.5	88	88	0.2	128,961	125,646	-2.6	NO	0	–	156,083	154,243	-1.2
Japan															
Kazakhstan	11,378	2322	-79.6	114	44	-61.3	NA	7,052	–	NA	0	–	11,492	9,418	-18.0
Latvia	43	43	0	4	0	–	5,142	5,117	-0.5	NO	0	–	5,189	5,160	-0.6
Liechtenstein															
Lithuania	8	0	–	16	0	–	2,922	2,924	0.1	NO	0	–	2,946	2,924	-0.7
Luxembourg															
Malta	5	43	703.4	1	0	–	4,662	4,386	-5.9	1	0	–	4,669	4,429	-5.1
Monaco															
Netherlands	492	1806	266.9	64	44	-31.1	145,911	144,222	-1.2	NO	0	–	146,467	146,072	-0.3
New Zealand	11,944	10280	-13.9	468	446	-4.7	36,573	36,312	-0.7	NO	0	–	48,985	47,038	-4.0
Norway															
Poland	1,861	516	-72.3	176	176	0.0	20,671	22,016	6.5	NO	0	–	22,708	22,708	0.0
Portugal	4,677	5074	8.5	16	88	454.8	39,492	39,087	-1.0	36	0	–	44,221	44,249	0.1
Romania															
Russian Federation	138,430	254259	83.7	NO	572	–	149,107	254,259	70.5	NO	0	–	287,537	509,090	77.1
Slovakia	61	0	–	4	0	–	1,154	1,720	49.0	0	0	–	1,219	1,720	41.1
Slovenia	NO	0	–	19	44	134.7	1,020	1,075	5.4	NO	0	–	1,039	1,119	7.7
Spain	35,916	64930	80.8	NO	220	–	181,491	150,242	-17.2	NO	0	–	217,407	215,392	-0.9
Sweden	7,143	4171	-41.6	96	88	-8.5	31,291	33,282	6.4	NO	0	–	38,531	37,541	-2.6
Switzerland															
Turkey															
Ukraine	1,232	0	–	NO	0	–	4,079	0	–	NO	0	–	5,311	0	–
United Kingdom of Great Britain and Northern Ireland	26,703	28595	7.1	679	704	3.7	445,099	447,974	0.6	6	0	–	472,486	477,273	1.0
United States of America															

^a Data provided by IEA on 15 July 2015.^b UNFCCC has included the quantities reported in IEA for 'kerosene type jet fuel' and 'gasoline type jet fuel'.^c UNFCCC has included the quantities reported in IEA for 'aviation gasoline' and 'motor gasoline'.^d Geographical coverage of IEA data:

IEA data for Denmark do not include Faroe Islands and Greenland.

IEA data for France includes data for Monaco, but excludes data for the following overseas territories: Guadeloupe, Guyana, Martinique, New Caledonia, French Polynesia, Reunion and Saint Pierre Miquelon.

No IEA data for Liechtenstein are available. These data are not included in the data of Switzerland.

IEA data for the Netherlands are only for the European part.

Table 1.13

Domestic and international navigation - activity data (2013)

	Domestic Navigation						International Navigation						Total					
	Residual oil			Gas / diesel oil			Residual oil			Gas / diesel oil			Residual oil			Gas / diesel oil		
	CRF	IEA ^{ab}	Difference	CRF	IEA ^{ab}	Difference	CRF	IEA ^{ab}	Difference	CRF	IEA ^{ab}	Difference	CRF	IEA ^{ab}	Difference	CRF	IEA ^{ab}	Difference
	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)
Australia	4,335	852	-80.3	6,149	6,603	7.4	27,659	27,477	-0.7	1,834	1,576	-14.1	31,994	28,329	-11.5	7,983	8,179	2.5
Austria	NO	0	–	70	85	22.1	NO	0	–	947	767	-19.0	NO	0	–	1,017	852	-16.2
Belarus																		
Belgium	IE	0	–	6,038	6,390	5.8	239,807	236,240	-1.5	21,562	21,513	-0.2	239,807	236,240	-1.5	27,600	27,903	1.1
Bulgaria	NO	0	–	97	0	–	1,240	1,240	0	2,538	2,556	0.7	1,240	1,240	0	2,635	2,556	-3.0
Canada	40,617	36,622	-9.8	28,227	27,008	-4.3	17,468	15,758	-9.8	1,402	1,321	-5.8	58,085	52,380	-9.8	29,629	28,329	-4.4
Croatia	NO	0	–	1,644	1,661	1.0	NO	0	–	NO	0	–	NO	0	–	1,644	1,661	1.0
Cyprus																		
Czech Republic	NO	0	–	86	85	-1.1	NO	0	–	NO	0	–	NO	0	–	86	85	-1.1
Denmark	2,666	760	-71.5	3,324	5,495	65.3	14,124	14,960	5.9	11,528	11,204	-2.8	16,790	15,720	-6.4	14,853	16,699	12.4
Estonia	NO	0	–	174	170	-2.3	15,744	15,680	-0.4	1,738	1,704	-2.0	15,744	15,680	-0.4	1,912	1,874	-2.0
European Union (KP)																		
European Union (Convention)																		
Finland	1,229	1,200	-2.3	3,257	3,536	8.6	3,128	3,400	8.7	1,698	2,002	17.9	4,357	4,600	5.6	4,955	5,538	11.8
France	2,138	2,960	38.4	6,524	5,495	-15.8	88,135	84,960	-3.6	6,710	3,110	-53.6	90,273	87,920	-2.6	13,234	8,605	-35.0
Germany	6,372	0	–	16,729	12,056	-27.9	71,321	77,080	8.1	12,344	18,190	47.4	77,693	77,080	-0.8	29,073	30,246	4.0
Greece	10,568	10,400	-1.6	7,360	7,625	3.6	76,885	76,480	-0.5	11,555	11,971	3.6	87,453	86,880	-0.7	18,915	19,596	3.6
Hungary																		
Iceland	50	40	-19.9	160	170	6.1	1,418	520	-63.3	874	511	-41.5	1,468	560	-61.8	1,034	681	-34.1
Ireland	NO	800	–	2,395	43	-98.2	759	640	-15.6	5,220	4,814	-7.8	759	1,440	89.8	7,615	4,857	-36.2
Italy	23,668	12,040	-49.1	26,362	29,181	10.7	54,428	84,360	55.0	9,083	5,368	-40.9	78,096	96,400	23.4	35,445	34,549	-2.5
Japan																		
Kazakhstan	NO	0	–	531	511	-3.8	NA	0	–	NA	0	–	NA,NO	0	–	531	511	-3.8
Latvia	NO	0	–	340	341	0.3	6,658	6,560	-1.5	3,148	3,408	8.3	6,658	6,560	-1.5	3,488	3,749	7.5
Liechtenstein																		
Lithuania	NO	0	–	196	128	-34.7	3,049	3,080	1.0	577	554	-4.0	3,049	3,080	1.0	773	682	-11.8
Luxembourg																		
Malta	NO	0	–	316	554	75.2	42,800	42,880	0.2	7,767	8,137	4.8	42,800	42,880	0.2	8,083	8,691	7.5
Monaco																		
Netherlands	NO	0	–	14,140	12,524	-11.4	489,691	462,320	-5.6	57,047	55,678	-2.4	489,691	462,320	-5.6	71,187	68,202	-4.2
New Zealand	5,136	2,300	-55.2	NO	2,599	–	11,473	10,778	-6.1	1,660	1,960	18.1	16,609	13,078	-21.3	1,660	4,559	174.7
Norway																		
Poland	23	0	–	143	128	-10.7	2,600	2,600	0	3,291	3,238	-1.6	2,623	2,600	-0.9	3,434	3,366	-2.0
Portugal	2,328	3,520	51.2	937	1,491	59.2	25,561	24,360	-4.7	3,142	2,513	-20.0	27,889	27,880	0.0	4,078	4,004	-1.8
Romania																		
Russian Federation	9,974	9,920	-0.5	22,982	25,603	11.4	414,908	153,520	-63.0	46,746	59,129	26.5	424,881	163,440	-61.5	69,727	84,732	21.5
Slovakia	NO	0	–	46	0	–	NO	0	–	172	0	–	NO	0	–	219	0	–
Slovenia	NO	0	–	IE	0	–	2,586	2,480	-4.1	NO	0	–	2,586	2,480	-4.1	IE,NO	0	–
Spain	5,143	5,120	-0.4	16,114	15,890	-1.4	248,433	247,320	-0.4	52,531	51,802	-1.4	253,576	252,440	-0.4	68,645	67,692	-1.4
Sweden	1,940	1,800	-7.2	1,766	1,065	-39.7	60,169	55,960	-7.0	10,520	10,267	-2.4	62,109	57,760	-7.0	12,286	11,332	-7.8
Switzerland																		
Turkey																		
Ukraine	158	400	153.4	523	1,448	177.0	252	0	–	888	0	–	410	400	-2.5	1,411	1,448	2.6
United Kingdom of Great Britain and Northern Ireland	3,632	3,560	-2.0	21,287	28,883	35.7	58,124	51,680	-11.1	55,605	53,165	-4.4	61,756	55,240	-10.6	76,892	82,048	6.7
United States of America																		

^a Data provided by IEA on 15 July 2015.^b Geographical coverage of IEA data:

IEA data for Denmark does not include Faroe Islands and Greenland.

IEA data for France includes data for Monaco, but excludes data for the following overseas territories: Guadeloupe, Guyana, Martinique, New Caledonia, French Polynesia, Reunion and Saint Pierre Miquelon.

No IEA data for Liechtenstein are available. These data are not included in the data of Switzerland.

IEA data for the Netherlands are only for the European part.

Table 1.14**Fugitive emissions from fuels: coal mining and handling - CH₄ (2013)**

	Share of national total ^a	Methods and EF used ^b		Activity data					CH ₄ IEF				
				CRF			IEA ^c		Underground mines			Surface mines	
		Methods	EF	Underground mines	Surface mines	Total	Total	Difference	Mining activities	Post-mining activities	Abandoned underground mines	Mining activities	Post-mining activities
				(Mt)					(kg/t)				
IPCC default EF ^d									12.06 (6.70-16.75)	1.68 (0.60-2.68)		0.8 (0.20-1.34)	0.07 (0-0.13)
Australia	4.48	T2,T3	CS,PS	115.7	480.6	596.3	458.9	-23.0	5.97	0.38	0.19	0.45	IE,NA
Austria	–	NA	NA	NO	NO	NO	0	–	NO	NO	NA,NO	NO	NO
Belarus	–												
Belgium	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Bulgaria	1.43	NA	NA	0.6	28.1	28.6	28.6	0	12.06	1.68	NO	0.80	0.07
Canada	0.24	CS	CS	1.8	91.9	93.7	68.9	-26.5	2.05	IE,NA	7.61	0.57	IE,NA
Croatia	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Cyprus	–												
Czech Republic	2.44	T1,T2	CS,D	8.6	40.4	49.0	49.0	0	8.75	1.64	0.36	0.77	0.07
Denmark	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Estonia	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
European Union (KP)													
European Union (Convention)													
Finland	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
France	0.00	NA	NA	0.0	NO	0.0	0	–	NO	NO	16.82	NO	NO
Germany	0.37	T2,T3	CS	7.6	182.7	190.3	191.0	0.4	17.41	0.58	0.36	0.01	IE,NA
Greece	1.12	T1	D	NO	53.9	53.9	53.9	0	NO	NO	NO	0.87	IE,NO
Hungary	–												
Iceland	–	NA	NA	NO	NO	NO	0	–	NO	NO		NO	NO
Ireland	0.03	T1	D	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Italy	0.00	T1	D	0.1	NO	0.1	0.1	0	10.05	0.90	NO	NO	NO
Japan	–												
Kazakhstan	9.76	T1,T2,T3	CS	11.8	111.6	123.3	119.6	-3.1	31.58	0.65	NO	7.65	NO
Latvia	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Liechtenstein	–												
Lithuania	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Luxembourg	–												
Malta	–	NA	NA	NA	NA	NA	0	–	NO	NO	NO	NO	NO
Monaco	–												
Netherlands	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
New Zealand	0.38	NA	NA	0.3	4.3	4.6	4.6	0.0	14.27	1.60	NE,NO	1.01	0.67
Norway	–												
Poland	3.10	CS,T1	CS,D	68.4	66.1	134.5	142.3	5.8	4.56	1.68	0.09	0.80	0.07
Portugal	0.01	NA	NA				0	–					
Romania	–												
Russian Federation	2.09	T1,T2	CS,D	101.2	250.7	351.9	326.0	-7.4	12.45	1.95	NO	3.70	0.13
Slovakia	0.93	T2	CS	2.4	NO	2.4	2.4	0.0	6.30	0.60	NO	NO	NO
Slovenia	1.47	T2,T3	CS,D,PS	3.9	NO	3.9	3.9	0.0	2.04	0.69	0.03	NO	NO
Spain	0.14	CS,T2	CS,D	2.2	3.3	5.5	4.4	-20.7	3.40	3.45	0.20	0.36	0.12
Sweden	–	NA	NA	NO	NO	NO	0	–	NO	NO	NO	NO	NO
Switzerland	–												
Turkey	–												
Ukraine	5.98	T2,T3	CS,M	85.1	NO	85.1	64.2	-24.6	10.76	1.20	NA	NO	NO
United Kingdom of Great Britain and Northern Ireland	0.29	T2,T3	CS	4.1	8.6	12.7	12.7	0.0	12.99	1.16	11.10	0.34	IE,NO
United States of America	–												

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.^b Information on methods and emission factors in this table is a reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.B.1 Solid fuels.^c Data provided by IEA on 15 July 2015.^d Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 4, pages 4.12 to 4.19 (Tier 1).

Table 1.15a**Fugitive emissions from fuels: oil, natural gas and venting and flaring - CH₄, CO₂ (2013)**

	CH ₄			CO ₂		
	Share of national total ^a	Methods and EF used ^b		Share of national total ^a	Methods and EF used ^b	
	(%)	Methods	EF	(%)	Methods	EF
Australia	0.92	T1,T2	CS,D,PS	1.28	T1,T2	CS,D,PS
Austria	0.35	NA	NA	0.32	NA	NA
Belarus						
Belgium	0.37	CS,D	CS,D	0.09	T1	D
Bulgaria	0.38	NA	NA	0.02	NA	NA
Canada	6.02	CS	CS	1.82	CS	CS
Croatia	5.13	T1	D	2.68	CS,T1	CS,D
Cyprus						
Czech Republic	0.49	T1,T2	CS,D	0.01	T1,T2	CS,D
Denmark	0.19	T2,T3	CR,CS,D,PS	0.42	T2,T3	CS,D,PS
Estonia	0.10	T1	D	0.00	T1	D
European Union (KP)						
European Union (Convention)						
Finland	0.06	T1,T2	CS,D,PS	0.13	NA	NA
France	0.21	NA	NA	0.63	NA	NA
Germany	0.81	T1,T2,T3	CS	0.24	T1,T2	CS
Greece	0.10	T1	D	0.00	T1	D
Hungary						
Iceland	0.01	NA	NA	0.00	NA	NA
Ireland	0.04	T1,T2	CS,D	–	NA	NA
Italy	1.31	T1,T2	CS,D	0.53	T1,T2	CS,D
Japan						
Kazakhstan	2.96	CS,D,T1	CS,D	0.84	T1	D
Latvia	0.92	T2	CS	0.00	T2	CS
Liechtenstein						
Lithuania	1.57	T1,T2	D	0.02	T1	D
Luxembourg						
Malta	–	NA	NA	–	NA	NA
Monaco						
Netherlands	0.41	T1,T1B,T2,T3	CS,D	0.54	CS,T1,T3	CS,D
New Zealand	0.31	CS,D	D	0.65	CS,D	CS,D
Norway						
Poland	0.62	T1,T2	CS,D	0.08	T1,T2	CS,D
Portugal	0.30	CR,OTH	CR,OTH	2.35	D	D
Romania						
Russian Federation	28.78	T1A,T1B,T2	CS,D	2.96	T1A,T1B	D
Slovakia	2.83	T1	CS	0.00	T1	CS
Slovenia	0.21	T1	D	0.00	T1	D
Spain	0.22	CR,CS,T1	CR,CS,D	1.10	CS,T1,T2	CS,D,PS
Sweden	0.12	NA	NA	1.34	NA	NA
Switzerland						
Turkey						
Ukraine	6.17	T1,T2	CS,D	0.06	T1,T2	CS,D
United Kingdom of Great Britain and Northern Ireland	0.99	T2,T3	CS,PS	0.66	T2,T3	CS,PS
United States of America						

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 1.B.2 Oil and natural gas.

Table 1.15b

Fugitive emissions from fuels: oil and natural gas and venting and flaring - oil - CH₄, CO₂ (2013)

	Oil																
	Exploration				Production				Transport				Refining (R) / Storage (S)				
	CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		
	kg/unit		Unit	Description	kg/unit		Unit	Description	kg/unit		Unit	Description	kg/unit		Unit	Description	
IPCC default EF ^b									(5.4)(PL) (25)(TT)		(0.49)(PL) (2.3)(TT)	10 ³ m ³	oil transported by pipeline (PL) or tanker truck (TT).	2.6 to 41 (R)	ND	10 ³ m ³	Oil refined
Australia	NA	NA	NA		5,157	NA,NO	PJ	Crude Oil and ORF Produced	619	NA,NO	PJ	Crude oil transport domestic	910	147,994	PJ	Crude Oil and ORF Produced	
Austria	IE	IE,NO	Mt	Mt crude oil	IE	IE,NO	Mt	Mt crude oil	5	0	Mt	1000 m3 crude oil	31,663	NA,NO	Mt	Mt crude oil Input	
Belarus																	
Belgium	NO	NO	PJ		NO	NO	PJ		150	14	PJ	Oil transported PJ	56	NA,NO	PJ	Oil refined PJ	
Bulgaria	194	9,102	103m3		2,200	280	103m3		25	2	103m3		22	NO	103m3		
Canada	IE	IE,NA	NA	NA	1,995	1,543	10 ³ m ³	Total crude oil production	0	0	10 ³ m ³	Total crude oil production	33	8	TJ	Refinery energy	
Croatia	1,702	80,417	1000 m3	total oil production	30,885	50,763	1000 m3	total oil production	5	0	1000 m3	total oil transported by pipelines	NA	NA,NO	1000 m3	Oil refined	
Cyprus																	
Czech Republic	NO	NO	PJ	(e.g. number of wells drilled)	4,747	7,576	PJ	(e.g. PJ of oil produced)	146	13	PJ	(e.g. PJ oil loaded in tankers)	585	NE,NO	PJ	(e.g. PJ oil refined)	
Denmark	0	2,449	m3		0	0	Mg		IE,NO	IE,NO	Mg		0	NA,NO	Mg		
Estonia	NO	NO	NA		NO	NO	NA		NO	NO	NA		NO	NO	NA		
European Union (KP)																	
European Union (Convention)																	
Finland	NO	NO	NO		NO	NO	NO		NO	NO	NO		25	NO	kt	kt oil refined	
France	NO	NO	PJ	NO	54,578	7,201	PJ	oil produced	63	6	PJ	Oil loaded	6	1,049,280	PJ	Oil refined	
Germany	64	0	Number		0	0	t		0	NA,NO	t		0	3	t		
Greece	NO	NO			1	0	kt		27	NA,NO	kt		26	IE,NO	kt		
Hungary																	
Iceland	NO	NO			NO	NO			NO	NO			NO	NO			
Ireland	NO	NO	PJ		NO	NO	PJ		NO	NO	PJ		110	NO	PJ		
Italy	NO	NO	NA	Wells drilled	1,872	321	Gg	oil produced	6	1	Gg	Oil transported	9	23,045	Gg	Oil refined	
Japan																	
Kazakhstan	NO	NO	NA		106	NA	NA		30	NA	NA		4	NA	NA		
Latvia	NO	NO	kt		NO	NO	kt		NO	NO	kt		NO	NO	kt		
Liechtenstein																	
Lithuania	270	5,700	Number	number,Wells drilled	1	0	thous.m3	thous.m3,Oil produced	5	0	thous.m3	thous.m3,Oil transported	745	NO	PJ	PJ,Oil refining	
Luxembourg																	
Malta	NO	NO	NO	Number of wells drilled	NO	NO	NO	oil produced	NO	NO	NO	oil loaded in tankers	NO	NO	NO	Oil refined	
Monaco																	
Netherlands	IE	IE,NO	PJ	number of wells drilled/tested	IE	IE,NO	PJ	NGL,Refery input: crude oil	5	0	Mg	oil transported by pipeline	88	422,827	PJ	NGL,Refery input: crude oil	
New Zealand	0	0	TJ		IE	IE,NO	NA		1	0	TJ		1	NA,NO	TJ		
Norway																	
Poland	NA	NA	NA	NA	61,800	6,315,000	PJ	Production	6	1	Gg	oil transported by pipeline	1,126	NA	PJ	Oil refined	
Portugal									30,549	248,780	Mt		21,137	23,952,168	Mt		
Romania																	
Russian Federation	1,702	80,417	10 ³ m3	oil produced	19,600	2,490	10 ³ m3	Oil and Condensate produced	5	0	10 ³ m3	Oil transported by pipeline	22	NE,NO	10 ³ m3	Oil refined	
Slovakia	NO	NO	NO		3,600	260	kt	Production	5	0	kt	Transfer	41	NO	kt	Refining/Storage	
Slovenia	NO	NO	1000 m3		NO	NO	1000 m3	Conventional oil produced	NO	430	1000 m3	Consumption of LPG	NO	NA,NO	1000 m3	Oil refined	
Spain	NO	NO	Tg		1,706,000	318,000	Tg	Crude oil produced	27,000	NA,NO	Tg	Transport of crude oil	294	49,685,159	Tg	Oil refined	
Sweden	1	216,083	TJ	Amount of feedstock for hydrogen production	NO	NO	NA		745	NE,NO	PJ	Amount of transported crude oil	22,724	11,904,790	Mt	Amount of consumed crude oil	
Switzerland																	
Turkey																	
Ukraine	72	218	Number	number of wells drilled and operated	1,450	270	10 ³ m ³	oil produced	5	0	10 ³ m ³	Crude oil transported by pipeline	1,650	NA,NE	PJ	Oil refined	
United Kingdom of Great Britain and Northern Ireland	25	3,200	t	Exploration drilling: fuel use	4,619	143	PJ	oil produced	0	NO	t	Oil loading	2	NO	PJ	Refinery throughput	
United States of America																	

^a The units of the implied emission factors (IEF) vary from Party to Party depending on the unit of the activity data used. The unit of the IEF is kg/unit of activity data.^b Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 4, table 4.2.4. Tier 1 Emission Factors in developed countries. Values converted from Gg to kg.

Table 1.15c

Fugitive emissions from fuels: oil and natural gas and venting and flaring - natural gas - CH₄, CO₂ (2013)

	Natural Gas															
	Production				Processing				Transmission and Storage				Distribution			
	CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data		CH ₄ IEF ^a	CO ₂ IEF ^a	Activity data	
	kg/unit		Unit	Description	kg/unit		Unit	Description	kg/unit		Unit	Description	kg/unit		Unit	Description
IPCC default EF ^b	(380 to 2,300)	(140 to 820)	10 ⁶ m ³	Gas produced	(150 to 1,030)	(12 to 320)	10 ⁶ m ³	Gas produced	(66-480)(T) (25)(S)	(0.88)(T) (0.11)(S)	10 ⁶ m ³	marketable gas	1,100	51	10 ⁶ m ³	utility sales
Australia	1,486	IE,NO	PJ	Natural Gas Produced	IE	IE,NO	NA		11,379	559	PJ	Gas transmitted	143,910	8,180	PJ	utility sales
Austria	3,668	111,111	Mm3	Mm3 natural gas	IE	IE,NO	Mm3	Mm3 natural gas	552	25	km	km pipeline length	53	NA,NO	km	km distribution network length
Belarus																
Belgium	NO	NO	PJ		NO	NO	PJ		4,445	NA,NO	PJ	Natural Gas PJ	25,380	816	PJ	Natural Gas PJ
Bulgaria	1,340	48	106m3		590	166	106m3		273	0	106m3		1,100	51	106m3	
Canada	494	14	GI	Gross new production of Natural Gas	58	40	GI	Gross new production of Natural Gas	9	0	10 ⁹ m ³ km	Transmission - Cubic Metre KM	6	0	10 ⁹ m ³ km	Distribution - Cubic Metre KM
Croatia	12,191	232,731	1000000 m3	Gas produced	252	71,070	1000000 m3	Gas produced	1,067	7	1000000 m3	marketable gas	1,800	96	1000000 m3	utility sales
Cyprus																
Czech Republic	38,649	15	PJ	(e.g. PJ gas produced)	NA	NA,NO	PJ		5,665	23	PJ	(e.g. PJ gas consumed)	113,258	451	PJ	(e.g. PJ gas consumed)
Denmark	380	14	10 ⁶ m3		NA,NO	NA,NO	10 ⁶ m3		3	0	10 ⁶ m3		46	1	10 ⁶ m3	
Estonia	NO	NO	NA		NO	NO	NA		NO	NO	NA		36,960	1,714	PJ	Amount of natural gas distributed
European Union (KP)																
European Union (Convention)																
Finland	NO	NO	NO		NA	NO	NA		1,278	NO	PJ	PJ gas consumed	156,922	NO	PJ	PJ gas distributed
France	IE	IE,NO	PJ	NO	133	2,912,475	PJ	Gas processed	9,257	114	PJ	gas consumed	14,611	180	PJ	gas consumed
Germany	0	0	1000 m3		0	163	1000 m3		3,724	NA,NO	km		275	NA,NO	km	
Greece	1,930	214	mil_m3		IE	IE,NO	mil_m3		298	1	mil_m3		1,100	51	mil_m3	
Hungary																
Iceland	NO	NO					NO		NO	NO			NO	NO		
Ireland	1,109	NO	PJ		IE	NO	PJ		IE	NO	PJ		13,507	NO	PJ	
Italy	906	82	Mm3	Gas produced	406	320	Mm3	Gas produced	498	9	Mm3	Gas transported	4,929	88	Mm3	Gas distributed
Japan																
Kazakhstan	2,100	16	NA		NA	NA	NA		569	NA	NA		19,874	NA	NA	
Latvia	NO	NO	m3		NO	NO	m3		1	0	m3		1	0	m3	
Liechtenstein																
Lithuania	NO	NO	NO		NO	NO	NO		3,500,000	24,500	thous.km	thous.km.Length of transmission pipeline	615,000	NO	thous.km	thous.km.Length of distribution pipeline
Luxembourg																
Malta	NO	NO	NO	Gas produced	NO	NO	NO	NO	NO	NO	NO	gas consumed	NO	NO	NO	gas consumed
Monaco																
Netherlands	IE	IE,NO	PJ	Gas produced	IE	IE,NO	PJ		2,157	NO	PJ	Gas transported	99,630	3,885	10 ³ km	natural gas distribution network
New Zealand	IE	IE,NO	IE		NE	NA	NA		413,946	52,800	TJ		13,988	2,048	TJ	
Norway																
Poland	66,880	2,384	PJ	Production	29,951	9,305	PJ		13,958	26	PJ	gas consumed	31,986	1,483	PJ	gas consumed
Portugal	NO	NO	NO		NO	NO	NO		1,596	4,386	ton NG Imported		NO	NO	ton NG Distributed	
Romania																
Russian Federation	12,190	97	10 ⁶ m3	Natural Gas Produced	790	250	10 ⁶ m3	Natural Gas Produced	6,045	2	10 ⁶ m3	marketable gas	1,800	96	10 ⁶ m3	gas consumed
Slovakia	2,300	82	mil m3	Production/Processing	1,030	320	mil m3		480	1	mil m3	Transfer	1,100	51	mil m3	Distribution
Slovenia	1	0	1000 m3	Gas production	NO	NO	1000 m3		0	0	1000 m3	marketable gas	1	0	1000 m3	Utility sale
Spain	72,080	2,490	PJ	PJ gas produced (NCV)	IE	IE,NO	PJ		1,180	33	PJ	PJ gas (NCV)	21,737	599	PJ	PJ gas consumed (NCV)
Sweden	NO	NO	NA		NO	NO	NA		116	3	km	Length of gas transmission network	NA	NA	NA	
Switzerland																
Turkey																
Ukraine	2,900	95	10 ⁶ m3	Natural Gas Produced	880	27	10 ⁶ m3	Natural Gas Processed	697,230	10,063	Mt	Gas transmitted	6,148,270	88,739	10 ³ km	Length of natural gas
United Kingdom of Great Britain and Northern Ireland	IE	IE,NO	PJ	Gas produced	2,049	130,531	PJ	Gas produced	10	0	GWh	Natural gas supply	295	13	GWh	Natural gas supply
United States of America																

^a The units of the implied emission factors (IEF) vary from Party to Party depending on the unit of the activity data used. The unit of the IEF is kg/unit of activity data.^b Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 4, table 4.2.4. Tier 1 Emission Factors in developed countries. Values converted from Gg to kg.

Table 1.15d

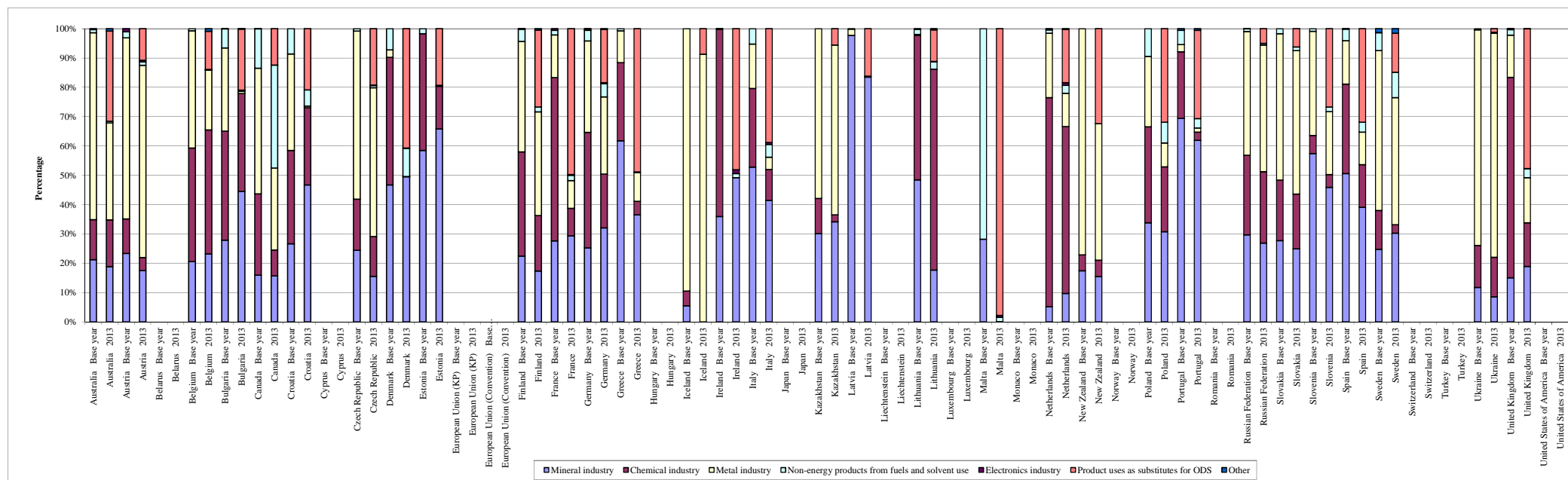
Fugitive emissions from fuels: oil and natural gas and venting and flaring - venting and flaring - CH₄, CO₂ (2013)

	Venting and flaring																	
	Oil						Gas						Combined					
	Venting			Flaring			Venting			Flaring			Venting			Flaring		
	CH ₄ IEF ^a	Activity data		CH ₄ IEF ^a	Activity data		CH ₄ IEF ^a	Activity data		CH ₄ IEF ^a	Activity data		CH ₄ IEF ^a	Activity data		CH ₄ IEF ^a	Activity data	
	kg/unit	unit	Description	kg/unit	unit	Description	kg/unit	unit	Description	kg/unit	unit	Description	kg/unit	unit	Description	kg/unit	unit	Description
IPCC default EF ^b	8,700	10 ³ m ³	Oil produced	210,000	3400	10 ³ m ³	Oil produced	NA	10 ⁶ m ³	Gas produced	2-2.8	3,000-4,100	10 ⁶ m ³	Gas produced				
Australia	IE	NA		7,901	665,410	PJ		10,633	PJ	crude oil and ORF	1,358	770,210	PJ	crude oil and ORF	NO	NA	NO	NA
Austria	NO	NA		NO	NO	NA		NO	NA		NO	NO	NA		NO	NA	NO	NA
Belarus	NO	PJ		NO	NO	PJ		12	PJ	Natural gas	NO	NO	PJ		NO	NA	IE	PJ
Belgium	8,700	103m3		21	34,000	103m3		182	106m3		3	4,200	106m3		NO	NA	NO	NA
Bulgaria	4,840	10 ³ m ³	Total crude oil production	6,732	1,863,308	GJ	Flared Gas	1,578	GJ	Gross new production of Natural Gas	2,727	449,476	GJ	Flared Gas	50	Number	Number of wells drilled	119
Canada	IE	1000 m3		IE	IE,NO	1000 m3		IE	1000000 m3		IE	IE,NO	1000000 m3		NO	NO	NO	NO
Croatia	NO	GJ		0	50	GJ		15	GJ		0	57	GJ		NO	GJ	0	57
Cyprus	NO	NA		NO	NO	NA		NO	NA		NO	NO	NA		NO	NA	NO	NA
Czech Republic	235,390	PJ	(e.g. PJ oil produced)	568	919,913	PJ	(e.g. PJ gas consumption)	NO	PJ	(e.g. PJ gas produced)	NO	NO	PJ	(e.g. PJ gas consumption)	NO	PJ	NO	PJ
Denmark	NO	GJ		0	50	GJ		15	GJ		0	57	GJ		NO	GJ	0	57
Estonia	NO	NA		NO	NO	NA		NO	NA		NO	NO	NA		NO	NA	NO	NA
European Union (KP)																		
European Union (Convention)																		
Finland	NO	NO		1	53,625	TJ	TJ,used fuels	NO	NO		NO	NO	NO		NO	NO	NO	NO
France	19,942	PJ	oil produced	19	127,361	PJ	Consumption	IE	Gg	Gas produced	9,530	2,876,694	Gg	Consumption	NO	PJ	Oil and Gas produced	NO
Germany	IE	t		1	3,831	kt		IE	t		IE	2	m3		IE	t	IE,NO	t
Greece	844	kt		29	48,045	kt		182	mil m3		3	4,200	mil m3		NO	m3	NO	
Hungary																		
Iceland	NO			NO	NO			NO	NO		NO	NO			NO	NO	NO	NO
Ireland	NO	PJ		NO	NO	PJ		IE	PJ		NO	NO	PJ	Natural gas flaring	NO	PJ	NO	PJ
Italy	179	Gg	oil produced	326	45,876	Gg	oil produced	NA	Mm3	Gas produced	36	4,200	Mm3	Gas produced	NO	NA	NO	NA
Japan																		
Kazakhstan	NA	NA		NA	NA,NO	NA		NA	NA		NA	NA	NA		NA	NA	NA	NA
Latvia	NO	kt		NO	NO	kt		1	m3		NO	NO	kt		NO	kt	NO	kt
Liechtenstein																		
Lithuania	720	thous.m3	thous.m3,Oil produced	25	41,000	thous.m3	thous.m3,Oil produced	IE	thous.km		NO	NO	NO		NO	NO	NO	NO
Luxembourg																		
Malta	NO	NO	oil produced	NO	NO	NO	gas consumed	NO	NO	Gas produced	NO	NO	NO	gas consumed	NO	NO	NO	NO
Monaco																		
Netherlands	IE	10 ⁶ m ³	oil produced	IE	IE,NO	10 ⁶ m ³	oil produced	IE	PJ	Gas produced	IE	IE,NO	PJ	Gas produced	IE	PJ	IE	PJ
New Zealand	IE	NA		IE	IE	NA		IE	NA		IE	IE	NA		13,255	TJ	299	52,607
Norway																		
Poland	806	Gg	oil produced	47,619	29	Gg	oil produced	IE	NA	NA	1,200	12,926	10 ⁶ m3	Gas production	NO	NA	NA	NA
Portugal																		
Romania																		
Russian Federation	10,350	10 ³ m3	Oil and Condensate produced	12,000	2,000,000	10 ⁶ m3	Associated gas flaring	IE	10 ⁶ m3	marketable gas	2	3,550	10 ⁶ m3	Natural Gas production	NE	NA	NE	NE,NO
Slovakia	720	kt	Venting oil	25	41,000	kt	Flaring oil	320	mil m3	Venting gas	2	3,000	mil m3	Flaring gas	NO	NA	NO	NA
Slovenia	NO	1000 m3	Conventional oil produced	NO	NO	1000 m3	Conventional oil produced	0	1000 m3	marketable gas	0	0	1000 m3	Gas production	NO	1000 m3	NO	1000 m3
Spain	NO	PJ	(e.g. PJ oil produced)	490	3,900,840	Tg	(e.g. PJ gas consumption)	16,861,882	PJ	Gas produced	5,497	55,994,515	PJ	(e.g. PJ gas consumption)	NO	PJ	IE	IE,NO
Sweden	IE	NA		1	57,937	TJ	Amount of gas flared	IE	NA		IE	IE,NO	NA		IE	NA	NA	NA,NO
Switzerland																		
Turkey																		
Ukraine	1,381	10 ³ m ³	oil produced	138	67,000	10 ³ m ³	oil produced	IE	NA	gas transmission	11	1,800	10 ⁶ m ³	Natural Gas Produced	IE	NA	IE	IE,NA
United Kingdom of Great Britain and Northern Ireland	NA	NA		10	2,601	t	Amount of gas flared	NA	NA		7	2,319	t	Amount of gas flared	IE	NA	IE	IE,NO
United States of America																		

^a The units of the implied emission factors (IEF) vary from Party to Party depending on the unit of the activity data used. The unit of the IEF is kg/unit of activity data.^b Source of default emission factors: 2006 IPCC Guidelines, Volume 2, Chapter 4, table 4.2.4. Tier 1 Emission Factors in developed countries. Values converted from Gg to kg.

Figure 2.1

Contribution of subsectors to total GHG emissions in the industrial processes and product use sector^{a,b}



^a In accordance with the UNFCCC reporting guidelines on annual GHG inventories of Annex I Parties, the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

^b Indirect CO₂ emissions are excluded from the totals in this graph.

Table 2.1**Mineral industry - CO₂ (2013)**

	Methods and EF used ^a		Cement production				Lime production	
	Methods	EF	Share of national total ^b (%)	Activity data (production)			Share of national total ^b (%)	CO ₂ IEF (t/t)
				Description ^c	Value (kt)	CO ₂ IEF (t/t)		
IPCC default EF^d								0.59-0.86
Australia	T2	CS	0.61	Clinker production	6,019	0.55	0.23	0.77
Austria	NA	NA	2.08	Cement clinker	3,156	0.53	0.74	0.75
Belarus								
Belgium	T3	CS,PS	2.13	Clinker production	4,694	0.54	1.36	0.80
Bulgaria	T1,T2	CS,D,PS	1.61		1,676	0.54	0.36	0.74
Canada	T1,T2	CS,D	0.82		10,977	0.55	0.18	0.76
Croatia	T2,T3	CS,D	4.66	Clinker production	2,196	0.52	0.39	0.76
Cyprus								
Czech Republic	T1,T3	D,PS	1.03	(clinker production)	2,472	0.54	0.47	0.76
Denmark	CS,T1,T2,T3	CS,D,PS	1.54	Production of Clinker	1,613	0.54	0.10	0.78
Estonia	T1,T2,T3	D,PS	1.83	Clinker production	691	0.58	0.22	0.68
European Union (KP)								
European Union (Convention)								
Finland	T2,T3	CS	0.77	produced clinker	973	0.50	0.64	0.79
France	NA	NA	1.47	Clinker production	13,778	0.53	0.50	0.68
Germany	T1,T2	CS,D	1.29	produced clinker	23,128	0.53	0.51	0.75
Greece	CS,T1	CS,D,PS	3.46		6,915	0.53	0.28	
Hungary								
Iceland	NA	NA	–	Clinker production	NO	NO	–	NO
Ireland	T3	PS	1.89	Clinker production	2,065	0.54	0.32	0.75
Italy	T2	CS,PS	2.03	Clinker production	16,902	0.53	0.43	0.71
Japan								
Kazakhstan	CR,T1	CR,D,PS	0.80		5,218	0.48	0.21	0.74
Latvia	T1,T2,T3	D,OTH,PS	4.88	(produced clinker)	1,055	0.51	0.00	0.55
Liechtenstein								
Lithuania	CS,T1,T2	CS,D,PS	2.31	Clinker production	855	0.54	0.15	0.77
Luxembourg								
Malta	NA	NA	–	(Not occurring)	NO	NO	–	NO
Monaco								
Netherlands	CS	CS,D,PS	0.14	Clinker production	610	0.45	–	IE,NO
New Zealand	CS,T1	CS,D	0.70		C	C	0.16	0.73
Norway								
Poland	T1,T2	CS,D	1.49	Clinker production	10,855	0.54	0.32	0.72
Portugal	T3	OTH	4.31		5,427	0.52	0.48	0.66
Romania								
Russian Federation	T1,T2	CS,D	0.97	Clinker production	51,734	0.53	0.31	0.77
Slovakia	T2,T3	PS	2.60	Cement clinker	2,161	0.53	1.52	0.78
Slovenia	T2,T3	CS,D	2.15	Clinker produced	743	0.53	0.32	0.74
Spain	D,T1,T2	CS,D,PS	2.37	Clinker production	14,615	0.52	0.42	0.72
Sweden	NA	NA	2.50	Amount of produced clinker	2,599	0.54	0.90	0.75
Switzerland								
Turkey								
Ukraine	T1,T2,T3	CS,D	0.86	Clinker production	6,404	0.52	0.66	0.66
United Kingdom of Great Britain and Northern Ireland	CS,T2,T3	CS	0.70	Clinker production	6,712	0.60	0.22	0.72
United States of America								

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 2.A Mineral industry.

^b The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^c The CRF requests Parties to specify the activity data used (e.g. cement or clinker) for estimating the emissions from cement production. The descriptions included in this column are as reported in the CRF by Parties.

^d Source of default emission factors: 2006 IPCC Guidelines, Volume 3, Chapter 2: Mineral Industry Emissions; cement production 2.2.1.2; lime production table 2.4.

Table 2.2

Chemical industry - CO₂ and N₂O (2013)

	CO ₂					N ₂ O						
	Methods and EF used ^a		Ammonia production			Methods and EF used ^a		Nitric acid production			Adipic acid production	
	Methods	EF	Share of national total ^b	Activity data (production)	CO ₂ IEF	Methods	EF	Share of national total ^b	Activity data (production)	N ₂ O IEF	Share of national total ^b	N ₂ O IEF
			(%)	(kt)	(t/t)			(%)	(kt)	(t/t)	(%)	(t/t)
IPCC default EF ^c					1.666 to 3.273					0.002 to 0.009		0.3
Australia	T1b,T2	CS,D	–	C	IE	T3	CS	–	C	IE,NO	–	NO
Austria	NA	NA	0.53	435	1.0	NA	NA	0.06	475	0.000	–	NA,NO
Belarus												
Belgium	T3	D,PS	1.04	1,083	1.2	T3	PS	0.46	1,960	0.001	–	NO
Bulgaria	T2	CS,PS	1.44	C	C	T3	PS	0.22	C	C	–	NO
Canada	T2	OTH	0.48	4,560	1.3	T1,T2,T3	CS,D,PS	0.14	878	0.004	–	NO
Croatia	T1,T3	D,PS	1.98	418	2.0	T1,T2	D,PS	0.98	298	0.003	–	NO
Cyprus												
Czech Republic	T1,T3	CS,D,PS	0.46	184	3.3	CS,T1	CS,PS	0.16	515	0.001	–	NO
Denmark	T2	PS	–	NO	NO	NA	NA	–	NO	NO	–	NO
Estonia	T3	PS	0.71	121	1.3	NA	NA	–	NO	NO	–	NO
European Union (KP)												
European Union (Convention)												
Finland	CS,T2	CS,PS	–	NO	NO	T3	PS	0.33	635	0.001	–	NO
France	NA	NA	0.22	1,035	1.1	NA	NA	0.09	2,386	0.001	0.03	C
Germany	CS,T1,T2,T3	CS,D,PS	0.71	3,198	2.4	T3	PS	0.05	2,559	0.001	0.04	C
Greece	T1,T1a	CS	0.20	128	1.7	CS	CS	0.02	174	0.000	–	NO
Hungary												
Iceland	NA	NA	–	NO	NO	NA	NA	–	NO	NO	–	NO
Ireland	NA	NA	–	NO	NO	NA	NA	–	NO	NO	–	NO
Italy	D,T2	CR,PS	0.15	555	1.2	T2	D,PS	0.03	433	0.001	0.03	0.00
Japan												
Kazakhstan	T1	CR	0.12	116	3.3	NA	NA	–	NO	NO	–	NO
Latvia	NA,NO	NA,NO	–	NO	NO	NO	NO	–	NO	NO	–	NO
Liechtenstein												
Lithuania	T3	CS	8.39	842	2.1	T2	PS	1.68	1,049,172	0.000	–	NO
Luxembourg												
Malta	NA	NA	–	NO	NO	NA	NA	–	NO	NO	–	NO
Monaco												
Netherlands	CS,T1b	CS	1.92	C	C	T2	PS	0.14	C	C	–	NO
New Zealand	T2	NA	0.03	129	0.2	NA	NA	–	NO	NO	–	NO
Norway												
Poland	T1,T2	CS,D	1.12	2,228	2.0	T1,T2	CS	0.22	2,280	0.001	–	NA,NO
Portugal	D	CS	–	C	NA,NO	D	PS	0.09	C	C	–	NO
Romania												
Russian Federation	T1,T3	CS,D	0.93	14,434	2.1	T1	D	0.17	7,756	0.002	–	NO
Slovakia	T2,T3	CS,PS	1.54	475	1.9	T3	D,PS	0.30	612	0.001	–	NO
Slovenia	T2	D	–	NO	NO	NA	NA	–	NO	NO	–	NO
Spain	D,T1,T3	D,PS	0.20	531	1.2	T1,T3	D,PS	0.06	664	0.001	–	NO
Sweden	NA	NA	–	NO	NO	NA	NA	0.09	251	0.001	–	NO
Switzerland												
Turkey												
Ukraine	T1,T3	CS,D	1.55	4,237	1.4	CS,T1	CS,D	0.72	2,066	0.005	–	NE,NO
United Kingdom of Great Britain and Northern Ireland	CS,T1,T3	CS,D	0.24	957	1.4	T1,T3	CS,D	0.01	1,015	0.000	–	NO
United States of America												

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 2.B Chemical industry.

^b The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^c Source of default emission factors: 2006 IPCC Guidelines, Volume 3, Chapter 3: Chemical Industry Emissions; ammonia table 3.1; nitric acid table 3.3; adipic acid table 3.4.

Table 2.3

Metal industry - CO₂ (2013)

	Methods and EF used ^a		Iron and steel ^b					Aluminium production		
			Share of national total ^c	Steel		Pig iron				
	Methods	EF		Activity Data (production)	CO ₂ IEF	Activity Data (production)	CO ₂ IEF	Share of national total ^c	Activity Data (production)	CO ₂ IEF
			(%)							
IPCC default EF ^d					1.46 (BOF) 0.08 (EAF) 1.72 (OHF)		1.35			1.6 (Prebake) 1.7 (Soderberg)
Australia	T1b,T2	CS	1.23	4,749	NA,NO	NO	NO	0.57	1,786	1.7
Austria	NA	NA	12.80	7,290	1.39	6,144	IE,NA	0.01	C	C
Belarus										
Belgium	CS,T3	PS	3.18	6,829	0.55	3,892	IE,NA	–	NO	NO
Bulgaria	T1,T2	CS,D	0.06	541	0.06	NO	NO	–	C	NO
Canada	T1,T2,T3	CS,D,OTH	1.04	11,433	0.06	5,619	1.2	0.71	2,967,331	0.0
Croatia	T2	CS	0.07	58	0.29	NO	NO	–	NO	NO
Cyprus										
Czech Republic	CS,T1,T2	D,PS	5.06	5,222	IE,NA	4,040	IE,NA	–	NO	NO
Denmark	T1	D	–	NO	NO	NO	NO	–	NO	NO
Estonia	NA	NA	–	NO	NO	NO	NO	–	NO	NO
European Union (KP)										
European Union (Convention)										
Finland	CS,T2,T3	CS	3.29	3,517	0.59	NO	IE,NO	–	NO	NO
France	NA	NA	0.47	15,692	0.09	10,241	0.1	0.11	351	1.6
Germany	T1,T2,T3	CS,D	1.47	42,645	0.33	27,176	IE,NO	0.07	492	1.4
Greece	CS,T1	CS,D,PS	0.06	1,030	0.06	NO	NO	0.26	169	1.6
Hungary										
Iceland	T2,T3	D,PS	–	NO	NA,NO	NO	NA,NO	26.81	841	1.5
Ireland	NA	NA	–	NO	NO	NO	NO	–	NO	NO
Italy	T1,T2	CR,CS,D,PS	0.26	24,080	0.03	6,933	0.1	–	NO	NA,NO
Japan										
Kazakhstan	CR,CS,D,T1,T2	CR,CS,D	1.79	3,006	0.15	2,623	2.0	0.15	251	1.9
Latvia	T2	D,PS	0.01	193	0.00	NO	NO	–	NO	NO
Liechtenstein										
Lithuania	T2	D	0.01	NO	NO	NO	NO	–	NO	NO
Luxembourg										
Malta	NA	NA	–	NO	NO	NO	NO	–	NO	NO
Monaco										
Netherlands	D,T1a,T2	CS,D	0.55	6,800	0.00	NA	IE,NO	0.06	87	1.4
New Zealand	T2,T3	CS	2.16	C	C	IE	IE,NO	0.66	324	1.6
Norway										
Poland	T1,T2,T3	CS,D	0.47	IE	IE	4,012	0.2	–	NO	NA,NO
Portugal	T2	PS	0.10	1,998	0.03	NO	NO	–	NO	NO
Romania										
Russian Federation	T1,T2,T3	CS,D,PS	2.64	68,862	0.10	49,945	1.3	0.21	C	C
Slovakia	T1,T2,T3	D,PS	8.62	4,344	0.85	14	IE,NO	0.61	163	1.6
Slovenia	T1,T2	CS,D,PS	0.27	663	0.07	NO	NA,NO	0.67	84	1.4
Spain	D,T1,T2	CS,D,PS	0.46	14,446	0.05	C	C	0.18	C	C
Sweden	NA	NA	4.03	1,446	0.12	2,896	0.6	0.35	131	1.5
Switzerland										
Turkey										
Ukraine	T1,T3	CS,D	13.48	32,787	0.13	29,089	1.5	–	NO	NO
United Kingdom of Great Britain and Northern Ireland	T1,T2	CS	0.86	11,769	0.01	9,471	0.2	0.01	44	1.5
United States of America										

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category 2.C Metal industry.

^b The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^c In addition to data reported here, CO₂ emission estimates from direct reduced iron (2.C.1.c) were reported by Netherlands, Russian Federation, Sweden; CO₂ emission estimates from sinter (2.C.1.d) were reported by Belgium, Poland, Spain, United Kingdom of Great Britain and Northern Ireland; CO₂ emission estimates from pellet (2.C.1.e) were reported by Russian Federation, Sweden.

^d Source of default emission factors: 2006 IPCC Guidelines, Volume 3, Chapter 4: Metal Industry Emissions; iron and steel table 4.1; aluminium table 4.10.

Table 2.4**Metal industry - HFCs, PFCs and SF₆ (2013)**

	HFCs			PFCs				SF ₆			
	Methods and EF used ^a		Magnesium production Emissions CO ₂ equivalent (kt)	Methods and EF used ^b		Aluminium production Emissions CO ₂ equivalent (kt)	Magnesium production Emissions CO ₂ equivalent (kt)	Methods and EF used ^c		Aluminium production Emissions (t)	Magnesium production Emissions (t)
	Methods	EF		Methods	EF			Methods	EF		
IPCC default EF											
Australia	NA	NA		NA	NA	192.00		NA	NA		NO
Austria				NA	NA	NO					0.00
Belarus											
Belgium	NA	NA		NA	NA			NA	NA		
Bulgaria											
Canada	NA	NA		T1,T2,T3	CS,D,OTH	1,593.66		T3	D	0.24	NO
Croatia	NA	NA		NA	NA	NO		NA	NA		
Cyprus											
Czech Republic	NA	NA		NA	NA			NA	NA		NO
Denmark	NA	NA	NO	NA	NA	NO		NA	NA	NO	NO
Estonia	NA	NA	NO	NA	NA	NO	NO	NA	NA	NO	NO
European Union (KP)											
European Union (Convention)											
Finland	NA	NA	NO	NA	NA	NO	NO	OTH	NA	NO	C
France	NA	NA	NO	NA	NA	97.73	NO	NA	NA	NA,NO	NO
Germany			33,028.71	CS	CS	107.66		CS,D	CS	0.62	0.87
Greece	NA	NA		T3	PS	82.68		NA	NA	NO	
Hungary											
Iceland						87.71		NA	NA		NO
Ireland											
Italy	T2	PS	5,805.80	NA	NA	NO		NA	NA		NO
Japan											
Kazakhstan	NA	NA	NA	NA	NA	1,565.49	NA	NA	NA	NA	NA
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein											
Lithuania	NA	NA	NO	NA	NA	NO	NO	NA	NA	NO	NO
Luxembourg											
Malta								NA	NA		NO
Monaco											
Netherlands	NA	NA	NO	NA	NA	10.85	NO	NA	NA	NO	NO
New Zealand				T2		48.12					
Norway											
Poland	NA	NA		NA	NA	NO		T1	D		0.18
Portugal											
Romania											
Russian Federation				T2	D,PS	2,847.79					
Slovakia				T2	PS	9.81					
Slovenia	NA	NA		T3	CS,D	15.31		NA	NA		
Spain	NA	NA	NO	T3	PS	44.11	NO	NA	NA	NO	NO
Sweden						49.29					0.49
Switzerland											
Turkey											
Ukraine				NA	NA	NO		NA	NA		NO
United Kingdom of Great Britain and Northern Ireland	T2	CS	2,613.18	CS	CS,PS	6.95	NO	T2	PS	NO	6.41
United States of America											

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for HFCs for all subcategories within the category 2.C Metal industry.

^b Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for PFCs for all subcategories within the category 2.C Metal industry.

^c Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for SF₆ for all subcategories within the category 2.C Metal industry.

Table 2.5a**Electronics industry - PFCs (2013)**

	PFCs					
	Methods and EF used ^a		Integrated circuit or semiconductor	TFT flat panel display	Photovoltaics	Heat transfer fluid
	Methods	EF				
			CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)
IPCC default EF						
Australia						
Austria			49.23			
Belarus						
Belgium	NA	NA	4.05	NO	NO	NO
Bulgaria	NO	NO				
Canada	T2	D	1.85			
Croatia	NA	NA				
Cyprus						
Czech Republic	NA	NA	NO			
Denmark	T1	D	NO	NO	NO	NO
Estonia	NA	NA	NO	NO	NO	NO
European Union (KP)						
European Union (Convention)						
Finland	T2	D	C,NO	NO	NO	NO
France	NA	NA	78.58	NO	IE,NA	IE
Germany	T3	PS	139.74		NA	NE
Greece	NA	NA	NO			
Hungary						
Iceland						
Ireland	T2		8.32			
Italy	T2	CS	131.34			
Japan						
Kazakhstan	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NO	NO	NO	NO
Liechtenstein						
Lithuania	NA	NA	NO	NO	NO	NO
Luxembourg						
Malta	NA	NA		NO		
Monaco						
Netherlands	NA	NA	100.79	NO	IE,NO	IE,NO
New Zealand						
Norway						
Poland						
Portugal	NA	NA	NO	NO	NO	NO
Romania						
Russian Federation	OTH	OTH				
Slovakia						
Slovenia	NA	NA				
Spain	NA	NA	NO	NO	NO	NO
Sweden	NA	NA	NO			
Switzerland						
Turkey						
Ukraine						
United Kingdom of Great Britain and Northern Ireland	NA	NA	IE,NO	NO	NO	NO
United States of America						

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for PFCs for all subcategories within the category 2.E Electronics industry.

Table 2.5b

Electronics industry - SF₆ and NF₃ (2013)

	SF ₆				NF ₃			
	Methods and EF used ^a		Integrated circuit or semiconductor	TFT flat panel display	Methods and EF used ^a		Integrated circuit or semiconductor	TFT flat panel display
	Methods	EF			Methods	EF		
			(t)	(t)			(t)	(t)
IPCC default EF								
Australia								
Austria			1.28				0.57	
Belarus								
Belgium	NA	NA	0.10	NO	NA	NA	0.07	NO
Bulgaria	NO	NO			NO	NO		
Canada	T2	D	0.06		T2	CS,D	0.01	
Croatia	NA	NA	NO		NA	NA		
Cyprus								
Czech Republic	NA	NA	0.55		T2	D	0.22	
Denmark	NA	NA	NO	NO	NA	NA	NO	NO
Estonia	NA	NA	NO	NO	NA	NA	NO	NO
European Union (KP)								
European Union (Convention)								
Finland	T2	D	C	NO	NA	NA	NO	NO
France	NA	NA	0.20	NO	NA	NA	0.62	NO
Germany	D,T3	CS,PS	0.74		D,T3	CS,PS	0.57	
Greece	NA	NA	NO		NA	NA	NO	
Hungary								
Iceland								
Ireland	T2		0.97		T2		0.05	
Italy	T2	CS	1.91		T2	CS	1.49	
Japan								
Kazakhstan	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NO	NO	NA	NA	NO	NO
Liechtenstein								
Lithuania	T3	PS	0.26	NO	T2	PS	NO	NO
Luxembourg								
Malta								
Monaco								
Netherlands	NA	NA	NO	NO	NA	NA	IE	IE
New Zealand								
Norway								
Poland								
Portugal	NA	NA	NO	NO	NA	NA	NO	NO
Romania								
Russian Federation	NA	NA			NA	NA		
Slovakia					NA	NA		NO
Slovenia	NA	NA			NA	NA		
Spain	NA	NA	NO	NO	NA	NA	NO	NO
Sweden	NA	NA	NO					
Switzerland								
Turkey								
Ukraine								
United Kingdom of Great Britain and Northern Ireland	NA	NA	IE	NO	T2	D	0.02	NO
United States of America								

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for SF₆ and NF₃ for all subcategories within the category 2.E Electronics industry.

Table 2.6

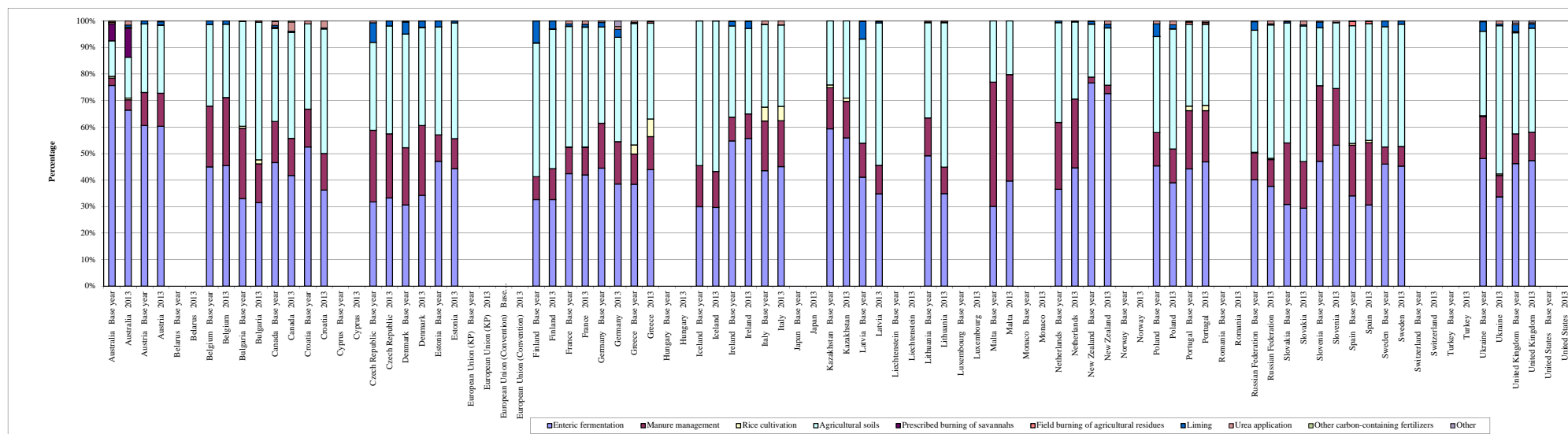
Product uses as substitutes for ODS - HFCs and PFCs (2013)

	HFCs							PFCs				
	Methods and EF used ^a		Refrigeration and air-conditioning	Foam blowing agents	Fire protection	Aerosols	Solvents	Methods and EF used ^a		Fire protection	Aerosols	Solvents
	Methods	EF						Methods	EF			
			Emissions	Emissions	Emissions	Emissions	Emissions			Emissions	Emissions	Emissions
			CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)			CO ₂ equivalent (kt)	CO ₂ equivalent (kt)	CO ₂ equivalent (kt)
Australia	M	CS,D	9,669.69	10.21	51.24	174.19	59.46	NA	NA		NO	
Austria	NA	NA	1,618.52	17.22	12.78	23.63	NO	NA	NA	NO		
Belarus												
Belgium	T2	CS,D,PS	2,371.19	60.84	11.98	83.14	NO	NA	NA	NO	NO	NO
Bulgaria	NA,NO	NA,NO	862.81	19.60	5.42	10.52		NA,NO	NA,NO		NO	
Canada	T2	CS,D	6,010.37	4.89	55.11	65.37	266.00	T2	D			0.07
Croatia	T1a,T2	D	564.29	NO	4.27	9.15		T1a	D		NO	
Cyprus												
Czech Republic	D,T1	CS,D	2,606.81	2.76	41.17	12.03	3.98	D,T1	CS,D	0.03	NO	
Denmark	T1	D	733.06	60.70		17.66		T1	D			NO
Estonia	T2	CS	195.46	2.15	2.57	3.42	NO	NA	NA		NO	NO
European Union (KP)												
European Union (Convention)												
Finland	OTH,T2	D	1,477.01	12.00	C,NA,NO	66.21	NO	T2	NA	NO	NO	NO
France			16,569.66	615.76	167.20	1,931.07	120.54					
Germany	CS,T2	CS,D	9,300.80	597.31	49.34	566.52	C	T2	CS,D			C
Greece	CS,T2	D	5,372.72	191.44	35.88	44.53		T2	D			
Hungary												
Iceland			168.15									
Ireland	T1,T2,T3	CS	1,124.16		34.53	114.66		NA	NA			
Italy	T2	CS,D	10,172.43	594.13	225.16	511.72						
Japan												
Kazakhstan	NA	NA	998.63	NO	NO	NA	NO	NA	NA	NO	NA	NO
Latvia	T1a,T2	D,OTH	102.86	0.00	0.24	3.52	NO	NO	NO	NO	NO	NO
Liechtenstein												
Lithuania	T1a,T1b,T2	CS,D,PS	291.95	12.97	2.06	7.26	NO	NA	NA	NO	NO	NO
Luxembourg												
Malta	CS,T1,T2	CS,D	208.68	0.34	1.99	2.61	NO	NA	NA	NO	NO	NO
Monaco												
Netherlands	NA	NA	1,804.69	IE,NA,NO	IE,NO	IE,NO	IE,NO	NA	NA	NO	NO	NO
New Zealand			1,518.48	2.92	2.23	91.62		NA	NA			
Norway												
Poland	T1,T1a,T1b,T2	D	9,278.77	141.24	61.41	124.95	0.41	T1	D	14.64		
Portugal	NA	NA	1,673.14	41.21	6.66	6.81						
Romania												
Russian Federation	T1,T2	CS,D	8,697.58	269.30	468.41	372.59		T1	D	129.32		
Slovakia	T1a,T2	CS,D	505.15	2.34	18.75	8.90	NO	NA	NA		NO	NO
Slovenia	T1,T2	CS,D	269.23	1.95	1.45	4.90		NA,NO	NA,NO		NO	
Spain	T1a,T2	CS,D	7,080.71	112.36	1,248.34	32.59	NO	T1a	CS,D	3.05	NA	NO
Sweden			769.32	34.88	16.91	30.75						
Switzerland												
Turkey												
Ukraine	T1a,T2	D	593.08	77.60	24.56	171.88	NA,NO	NA	NA			
United Kingdom of Great Britain and Northern Ireland	T1a,T2,T3	CS,OTH	13,144.55	495.71	269.86	2,158.68	21.93	NA	NA	NO	NO	NO
United States of America												

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for HFCs and PFCs for all subcategories within the category 2.F Product uses as substitutes for ODS.

Figure 3.1

Contribution of subsectors to total GHG emissions in the agriculture sector^{a,b}



^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

^b Indirect CO₂ emissions are excluded from the totals in this graph.

Table 3.1

Enteric fermentation - CH₄ (2013)

	Share of national total ^a	Methods and EF used ^b		Cattle				Sheep				Swine				Other		
				Activity data (population size)			Dairy cattle ^c	Non-dairy cattle ^c	Activity data (population size)			CH ₄ IEF	Activity data (population size)			CH ₄ IEF	Activity data (population size)	CH ₄ IEF
		CRF	FAO ^d	Difference	CRF	FAO ^d			Difference	CRF	FAO ^d		Difference	CRF	FAO ^d			
		(%)	Methods	EF	(thousands of head)	(thousands of head)	(%)		(kg/head/yr)	(thousands of head)	(thousands of head)	(%)	(kg/head/yr)	(thousands of head)	(thousands of head)	(%)	(kg/head/yr)	(thousands of head)
IPCC default EF ^{e,f}							46-128	27-60				5-8				1.0-1.5		5-55
Australia	10.40	CS,T1,T2	CS,D	29,291	29,291	0.0			75,548	75,548	0.0	6.7	2,098	2,098	0.0	1.6	90,102	0.1
Austria	5.15			1,958	1,956	-0.1	129	60	357	365	2.0	8.0	2,896	2,983	3.0	1.5	14,846	0.2
Belarus																		
Belgium	3.84	T1,T2	CS,D	2,474	2,455	-0.8	143	52	106	114	7.8	8.0	6,625	6,593	-0.5	1.5	34,135	0.0
Bulgaria	3.34	T1,T2	CS,D	551	526	-4.5	148	62	1,366	1,362	-0.3	7.6	559	531	-5.0	1.5	14,664	0.3
Canada	3.48	T1,T2	CS,D	12,913	12,215	-5.4	155	68	1,013	892	-12.0	8.0	12,860	12,879	0.1	1.5	142,863	0.1
Croatia	3.43	T1,T2,T3	CS,D	457	442	-3.4	104	31	620	620	0	7.8	532	1,110	108.5	1.4	5,266	0.1
Cyprus																		
Czech Republic	1.86	T1,T2	CS,D	1,353	1,353	0	119	48	221	221	0	8.0	1,587	1,587	0	1.5	23,324	0.0
Denmark	6.16	T1,T2	CS,D,OTH	1,617	1,617	0.0	136	39	320	241	-24.7	5.4	12,076	12,076	0	1.1	20,668	0.2
Estonia	2.55	D,T1,T2	CS,D,OTH	261	261	0	141	44	83	82	-0.9	8.0	359	359	0	1.0	2,415	0.1
European Union (KP)																		
European Union (Convention)																		
Finland	3.27	CS,T1,T2	CS,D,OTH	912	912	0	146	53	136	136	0	8.4	1,300	1,300	0	1.0	15,627	0.4
France	6.70			19,208	19,096	-0.6	118	51	7,238	7,234	-0.1	9.5	13,575	13,488	-0.6	0.8	1,925	14.8
Germany	2.60	T1,T2,T3	CS,D	12,686	12,587	-0.8	135	44	1,877	1,893	0.9	6.2	23,391	27,690	18.4	1.1	177,912	0.0
Greece	3.87	T1,T2	CS,D	708	679	-4.1	121	61	8,808	9,520	8.1	9.5	865	1,077	24.5	1.5	34,138	0.8
Hungary																		
Iceland	5.55			79	68	-13.8	94	28	736	464	-37.0	7.6	31	26	-14.7	1.5	123	8.4
Ireland	17.94	CS,T1,T2	CS,D	6,835	6,903	1.0	112	46	4,917	5,111	3.9	5.7	1,510	1,552	2.8	1.3	15,323	0.1
Italy	3.17	T1,T2	CS,D	5,847	6,092	4.2	134	48	7,182	7,016	-2.3	8.0	8,562	8,662	1.2	1.5	213,148	0.2
Japan																		
Kazakhstan	5.04	T1,T2	CS,D	6,553	5,851	-10.7	93	50	17,629	15,198	-13.8	6.5	1,199	922	-23.1	1.0	4,861	11.7
Latvia	7.29	T1,T2	CS,D	407	393	-3.3			85	84	-1.4	8.0	368	355	-3.3	1.5	5,280	0.1
Liechtenstein																		
Lithuania	7.74	T1,T2	CS,D,OTH	713	729	2.2	120	54	100	83	-16.9	11.8	755	808	7.0	1.0	481	1.2
Luxembourg																		
Malta	1.19	T1,T2	CS,D	15	15	0	118	31	11	11	0	8.0	49	49	0.0	1.5	930	0.1
Monaco																		
Netherlands	4.15	T1,T2	CS,D	3,999	3,999	0.0	128	37	1,034	1,034	0.0	8.0	12,212	12,212	0.0	1.5	101,556	0.1
New Zealand	35.13	T1,T2	CS,D	10,182	10,182	0.0	82	58	30,787	30,787	0	12.0	298	298	0	1.1	15,358	1.6
Norway																		
Poland	2.97	T1,T2	CS,D	5,590	5,860	4.8			223	249	11.8	8.0	10,994	11,162	1.5	1.5	289	14.3
Portugal	5.11	T1,T2	CS,D	1,494	1,471	-1.6	130	62	2,112	2,074	-1.8	8.6	2,009	2,014	0.2	1.2	36,066	0.1
Romania																		
Russian Federation	1.77	CS,T1,T2	CS,D	20,444	19,930	-2.5	112	60	24,223	22,061	-8.9	8.0	19,475	18,816	-3.4	1.3	503,318	0.1
Slovakia	2.40	T1,T2	CS,D	468	471	0.7	108	56	400	410	2.4	9.6	637	631	-0.9	1.5	43	7.2
Slovenia	4.89	T1,T2	CS,D	459	460	0.2			79	114	44.5	8.0	288	296	2.7	1.5	39	12.2
Spain	3.70	CS,T1,T2	CS,D	5,761	5,697	-1.1	103	42	16,119	16,119	0.0	8.6	25,102	25,495	1.6	0.9	171,533	0.1
Sweden	5.60	NA	NA	1,497	1,497	0	132	55	577	577	0	8.0	1,399	1,399	0	1.5	18,860	0.5
Switzerland																		
Turkey																		
Ukraine	2.78	T1,T2,T3	CS	4,590	4,646	1.2	113	47	1,070	1,073	0.3	9.5	7,749	7,577	-2.2	1.5	7,121	2.0
United Kingdom of Great Britain and Northern Ireland	4.07	T1,T2	CS,D	9,844	9,844	0.0	126	64	32,856	32,856	0.0	5.0	4,879	4,885	0.1	1.5	163,952	0.1
United States of America																		

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b Information on methods and emission factors in this table is presented as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for the various livestock types within the category 3.A Enteric fermentation - CH₄.

^c Information on implied emission factors reported by Bulgaria, Croatia, Estonia, Iceland, Netherlands, Ukraine refers, respectively, to mature dairy cattle and other mature cattle and growing cattle combined, as these Parties have used Option B to report livestock types within the category 3.A Enteric fermentation. Information reported by Parties using Option C (Australia, Latvia, Poland, Slovenia) are not shown.

^d Source of international statistics: FAOSTAT data, downloaded on 10 September 2015 from <http://faostat3.fao.org>.

^e Source of default emission factors: 2006 IPCC Guidelines, Chapter 10: Emissions from Livestock and Manure Management; Dairy and Other cattle table 10.11; Sheep and Swine Table 10.10.

^f For dairy and other cattle, 2006 IPCC default emission factors (in kg CH₄/head/year) are provided by regions as shown below (see footnote e for source reference).

	North America	Western Europe	Eastern Europe	Oceania	Latin America	Asia	Africa and Middle East	Indian Subcontinent
Dairy cattle	128	117	99	90	72	68	46	58
Other cattle	53	57	58	60	56	47	31	27

Table 3.2
Manure management - CH₄ (2013)

	Share of national total ^a	Methods and EF used ^b		Cattle		Sheep	Swine	Other
				Dairy cattle ^c	Non-dairy cattle ^c			
		(%)	Methods	EF	CH ₄ IEF (kg/head/yr)			
IPCC default EF ^d				1-112	0-26	0.10-0.37	0-45	
Australia	0.45	CS,T2,T3	CS,D			0.00	22.73	0.04
Austria	0.50			10.41	4.41	0.19	1.20	0.04
Belarus								
Belgium	1.56	T1,T2	CS,D	27.59	3.52	0.19	8.14	0.03
Bulgaria	0.91	T1,T2	CS,D	5.24	1.58	0.20	31.58	0.04
Canada	0.51	T1,T2	CS,D	35.17	3.31	0.28	5.06	0.07
Croatia	0.73	T2	CS	16.90	8.09	0.12	2.90	0.04
Cyprus								
Czech Republic	0.44	T1,T2	CS,D	20.04	8.67	0.19	3.00	0.08
Denmark	3.40	CS,T1,T2	CS,D	39.41	13.47	1.29	2.88	0.20
Estonia	0.32	D,T1,T2	CS,D	12.83	2.99	0.19	2.37	0.06
European Union (KP)								
European Union (Convention)								
Finland	0.72	T2	CS	26.05	5.73	0.25	3.31	0.19
France	1.13			21.30	4.91	0.20	4.33	0.03
Germany	0.67	T2	CS,D	21.18	7.10	0.21	4.11	0.04
Greece	0.78	T1,T2	CS,D	13.50	3.53	1.03	16.00	0.18
Hungary								
Iceland	0.09				–	0.14		0.64
Ireland	2.11	T1,T2	CS,D	10.22	4.43	0.39	5.04	0.22
Italy	0.72	T1,T2	CS,D	13.45	6.99	0.21	6.74	0.06
Japan								
Kazakhstan	0.22	T1,T2	CS,D	4.80	0.81	0.10	4.00	0.08
Latvia	1.24	T1,T2	CS,D			0.19	6.37	0.06
Liechtenstein								
Lithuania	1.37	T1,T2	CS,D	9.21	5.52	0.46	6.34	0.10
Luxembourg								
Malta	0.96	T1	D	44.00	20.00	0.28	10.00	0.12
Monaco								
Netherlands	2.21	T2	CS,D	41.48	8.62	0.19	6.83	0.04
New Zealand	1.40	T1,T2	CS,D	5.53	0.78	0.12	5.94	0.06
Norway								
Poland	0.47	T1,T2	CS,D			0.19	3.15	0.03
Portugal	1.80	T1,T2	CS,D	11.07	2.15	0.36	18.68	0.09
Romania								
Russian Federation	0.15	CS,T1,T2	CS,D	4.91	2.98	0.19	3.42	0.03
Slovakia	0.41	T1,T2	CS,D	12.95	4.10	0.19	4.00	0.08
Slovenia	1.45	T1,T2	CS,D			0.36	6.10	0.21
Spain	2.38	CS,T2	CS,D	72.52	2.69	0.22	8.94	0.03
Sweden	0.47			8.80	3.73	0.19	1.27	0.06
Switzerland								
Turkey								
Ukraine	0.33	T2	CS	4.59	1.67	0.24	3.05	0.05
United Kingdom of Great Britain and Northern Ireland	0.60	T1,T2	CS,D	17.07	8.79	0.20	5.19	0.03
United States of America								

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b Information on methods and emission factors in this table is a reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for the various livestock types within the category 4.B Manure management - CH₄.

^c Information on implied emission factors reported by Bulgaria, Croatia, Estonia, Iceland, Netherlands, Ukraine refers, respectively, to mature dairy cattle and other mature cattle and growing cattle combined, as these Parties have used Option B to report livestock types within the category 3.B Manure management. Information reported by Parties using Option C (Australia, Latvia, Poland, Slovenia) are not shown.

^d Source of default emission factors: 2006 IPCC Guidelines, Chapter 10: Emissions from Livestock and Manure Management; Dairy, Other cattle, and Swine table 10.14; Sheep table 10.15. Default emission factors are provided according to climate regions (cool, temperate, warm), as shown below.

Default IPCC emission factors according to climate regions^d

	Dairy cattle			Other cattle			Swine		
	cool	temperate	warm	cool	temperate	warm	cool	temperate	warm
North America	48-58	63-98	105-112	1	2	2	10-23	13-39	22-45
Western Europe	21-29	34-75	83-92	6-8	10-21	24-26	6-12	9-27	19-33
Eastern Europe	11-15	20-37	42-46	6-8	9-19	21-23	3-5	4-12	10-17
Oceania	23-26	27-30	31	1	2	2	11-22	13-24	13-24
Latin America	1	1	2	1	1	1	1	1	2
Africa	1	1	1	0	1	1	0-1	1	1-2
Middle East	2	2	2-3	1	1	1	1-2	2-5	5-6
Asia	9-12	13-26	28-31	1	1	1	2	3-6	6-7
Indian Subcontinent	5	5	5-6	2	2	2	2-3	3-5	6
	Sheep								
	cool	temperate	warm						
	0.19	0.28	0.37						
Developed countries	0.10	0.15	0.20						

Table 3.3
Manure management - N₂O (2013)

	Share of national total ^a (%)	Methods and EF used ^b		N ₂ O IEF					N excretion rates			
				Dairy cattle ^c	Non-dairy cattle ^c	Sheep	Swine	Other livestock	Dairy cattle ^c	Non-dairy cattle ^c	Sheep ^d	Swine ^d
		Methods	EF	(kg N ₂ O/head/yr)					(kg N / head / year)			
IPCC default EF ^e									0.35-0.70	0.31-0.79	0.42-1.17	0.50-1.64
Australia	0.16	CS,T2,T3	D			NA	0.082	0.004			7	12
Austria	0.56			0.694	0.363	0.051	0.045	0.006	101	46	13	10
Belarus												
Belgium	0.61	T2	D	0.751	0.589	0.076	0.037	0.001	118	54		
Bulgaria	0.64	T1	D	1.975	1.126	0.038	0.030	0.018	100	57	14	12
Canada	0.65	T1	D	1.342	0.666	0.046	0.029	0.017	102	45		11
Croatia	0.57	T2	CS,D	0.278	0.227	0.011	0.019	0.005	88	50	8	
Cyprus												
Czech Republic	0.92	T1,T2	CS,D	3.043	0.917	0.047	0.267	0.009	136	69	20	20
Denmark	1.34	CS,D,T1,T2	CS,D	1.027	0.378	0.046	0.071	0.009	244	92	33	8
Estonia	0.33	T1,T2	CS,D	0.546	0.224	0.085	0.074	0.008	115	41	21	9
European Union (KP)												
European Union (Convention)												
Finland	0.45	T2	D	0.770	0.402	0.077	0.031	0.008	129	51	10	12
France	0.53			0.148	0.088	0.036	0.004	0.004	112	59		
Germany	0.41	T2	CS,D	0.796	0.410	0.076	0.081	0.004	117	43	8	13
Greece	0.31	D	D	0.730	0.264	0.012	0.106	0.003	101	53	15	14
Hungary												
Iceland	2.46			0.925	0.181	0.381		0.634	95	19		
Ireland	0.88	T2	CS,D	0.121	0.127	0.008	0.026	0.003	101	51		
Italy	0.50	T2	CS,D	0.675	0.306	0.013	0.077	0.006	116	51	16	12
Japan												
Kazakhstan	1.02	T1	D	1.541	0.473	0.126	0.626	0.035	70	50	16	20
Latvia	1.01	T1,T2	CS,D			0.041	0.033	0.006			13	
Liechtenstein												
Lithuania	0.84	T1,T2	D	0.477	0.243	0.045	0.014	0.002	101	41	11	12
Luxembourg												
Malta	0.24	NA	NA	IE	0.844		0.078	0.001	IE	128		
Monaco												
Netherlands	0.21	CS	CS	IE	IE	IE	IE	0.014	123	40	7	8
New Zealand	0.11	T1	CS	NO	NO	NO	0.150	0.001	119	75	17	
Norway												
Poland	0.50	T1,T2	CS,D			0.044	0.082	0.002				
Portugal	0.32	T2	CS,D	0.527	0.041	0.012	0.003	0.005	117	50	8	9
Romania												
Russian Federation	0.33	T1	CS,D	0.602	0.342	0.080	0.166	0.007	96	60	12	21
Slovakia	1.02	T1	D	2.994	1.796			0.015	100	60	16	16
Slovenia	0.53	T1,T2	CS,D			0.232	0.168	0.018			19	12
Spain	0.47	NA	NA	0.899	0.065	0.028	0.034	0.016	110	43		
Sweden	0.45	NA	NA	0.753	0.264	0.025	0.073	0.008	126	42	6	9
Switzerland												
Turkey												
Ukraine	0.33	T2	CS	0.290	0.120	0.019	0.093	0.002	75	16	9	12
United Kingdom of Great Britain and Northern Ireland	0.32	T1	D	0.514	0.260	0.003	0.084	0.001	124	54		
United States of America												

^a The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^b Information on methods and emission factors in this table is a reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the category N₂O from 4.B Manure management.

^c Information on implied emission factors reported by Bulgaria, Croatia, Estonia, Iceland, Netherlands, Ukraine refers, respectively, to mature dairy cattle and other mature cattle and growing cattle combined, as these Parties have used Option B to report livestock types within the category 3.B Manure management. Information reported by Parties using Option C (Australia, Latvia, Poland, Slovenia) are not shown.

^d Data is not presented for Parties that report a Party specific category name (e.g. Pigs not Swine) or that do not specify category name.

^e Source of default N excretion rates: 2006 IPCC Guidelines, Chapter 10, Volume 4, Table 10.19 (page 10.59). Default values are provided by regions as shown below. The unit of the IPCC defaults is kg N (1000 kg animal mass)⁻¹ day⁻¹.

IPCC defaults:

	North America	Western Europe	Eastern Europe	Oceania	Latin America	Africa	Middle East	Asia
Dairy cattle	0.44	0.48	0.35	0.44	0.48	0.6	0.70	0.47
Non-dairy cattle	0.31	0.33	0.35	0.50	0.36	0.63	0.79	0.34
Sheep	0.42	0.85	0.90	1.13	1.17	1.17	1.17	1.17
Swine	0.50	0.68	0.74	0.73	1.64	1.64	1.64	0.50
Poultry	0.83	0.83	0.82	0.82	0.82	0.82	0.82	0.82

Table 3.4

Agricultural soils - N₂O (2013)

	Methods and EF used ^a		Direct N ₂ O emissions from managed soils								Indirect N ₂ O emissions from managed soils						
			Share of national total ^b	Inorganic N fertilizers		Organic N fertilizers	Urine and dung deposited by grazing animals	Crop residue	Loss/gain of soil organic matter	Cultivation of organic soils	Share of national total ^b	Atmospheric deposition		Nitrogen leaching and run-off			
	Activity data	N ₂ O IEF		Activity data	N ₂ O IEF							Activity data	N ₂ O IEF				
	Use of synthetic fertilizers													N ₂ O IEF			
Methods	EF	(%)	(kg N / year)	(kg N ₂ O-N / kg N)						(%)	(kg N / year)	(kg N ₂ O-N / kg N)	(kg N / year)	(kg N ₂ O-N / kg N)			
IPCC default EF					0.01 (0.003-0.03) ^c					8 (2-24) ^d , 16 (5-48) ^e				0.01 (0.002-0.05) ^f		0.0075 (0.0005-0.025) ^f	
Australia	CS,T1,T2	CS,D	1.92	1,222,032,444	0.0041	0.0091		0.0040	0.0100	2.0000	8.00	0.51	508,290,206	0.003	597,491,281		0.008
Austria	NA	NA	1.82	104,863,000	0.0100	0.0100		0.0158	0.0100	NO	NO	0.38	29,636,302	0.010	46,143,562		0.008
Belarus																	
Belgium	T1	D	2.14	143,832,773	0.0100	0.0100		0.0196	0.0100	0.0100	8.00	0.21	36,727,507	0.010	211,194,355		0.001
Bulgaria	T1	D	4.24	258,856,000	0.0100	0.0100		0.0124	0.0100	0.0100	NO	1.28	44,495,504	0.010	143,657,957		0.008
Canada	T1,T2	CS,D	2.69	2,507,000,000	0.0088	0.0117		0.0015	0.0087	0.0142	8.00	0.64	376,984,302	0.010	812,887,262		0.008
Croatia	T1,T2	D	3.38	88,508,897	0.0100	0.0100		0.0147	0.0100	IE	0.00	1.07	17,752,387	0.010	50,833,235		0.008
Cyprus																	
Czech Republic	T1,T2	CS,D	1.72	235,094,400	0.0100	0.0064		0.0180	0.0100	NO	NO	0.57	60,088,646	0.010	129,315,369		0.008
Denmark	CS,D,T1,T2	CS,D	5.81	193,687,262	0.0100	0.0100		0.0177	0.0100	0.0100	11.74	0.85	32,465,209	0.010	161,425,506		0.004
Estonia	CS,D,T1,T2	D	2.02	33,659,000	0.0100	0.0100		0.0187	0.0100	0.0100	8.00	0.50	7,830,589	0.010	20,536,967		0.008
European Union (KP)																	
European Union (Convention)																	
Finland	T1,T2	CS,D	4.69	138,136,000	0.0100	0.0100		0.0170	0.0100	NO	9.71	0.60	9,296,480	0.010	95,455,302		0.008
France	NA	NA	6.20	2,132,836,720	0.0100	0.0261		0.0188	0.0100	0.0095	8.03	1.02	409,410,311	0.010	1,410,770,847		0.005
Germany	T1	D	2.15	1,648,828,000	0.0100	0.0100		0.0190	0.0100	NO	4.97	0.51	374,046,624	0.010	884,060,651		0.007
Greece	T1	D	2.35	182,534,000	0.0100	0.0100		0.0105	0.0100	NO	8.00	0.84	72,547,640	0.010	153,226,958		0.008
Hungary																	
Iceland	NA	NA	8.00	10,436,040	0.0636	0.0005		636.3636	0.0064		0.96	2.64	4,689,560	0.010	8,773,680		0.025
Ireland	T1	CS,D	9.58	353,044,000	0.0100	0.0100		0.0188	0.0100	0.0100	4.30	0.82	39,414,935	0.010	84,142,885		0.008
Italy	CS,T1	CS,D	1.62	546,542,200	0.0100	0.0100		0.0112	0.0100	NO	8.00	0.54	139,819,784	0.010	486,504,356		0.008
Japan																	
Kazakhstan	T2	CS,D	2.38	55,700,000	0.0099	0.0011		0.0140	0.0100	0.0100	NA	0.25	100,223,553	0.010	888,989,986		0.001
Latvia	T1	D	9.60	69,700,000	0.0100	0.0100		0.0190	0.0100	IE	8.00	1.65	12,606,553	0.010	34,927,828		0.008
Liechtenstein																	
Lithuania	T1	D	10.03	154,000,000	0.0100	0.0100		0.0192	0.0100	0.0100	3.83	2.06	25,976,138	0.010	83,004,394		0.008
Luxembourg																	
Malta	T1	D	0.51	436,834	0.0100	0.0100		NO	0.0125	NO	NO	0.09	236,693	0.010	420,565		0.008
Monaco																	
Netherlands	T1,T1b,T2	CS,D	2.30	218,077,080	0.0127	0.0094		0.0123			4.65	0.41	97,841,995	0.011	78,435,683		0.009
New Zealand	T1,T2	CS,D	8.70	359,412,000	0.0056	0.0100		0.0077	0.0100	0.0100	8.00	1.74	195,167,598	0.010	141,263,867		0.008
Norway																	
Poland	T1	CS,D	2.77	1,179,147,000	0.0100	0.0100		0.0190	0.0100	0.0100	8.00	0.68	177,555,137	0.010	524,611,774		0.008
Portugal	T1,T2	CS,D	2.66	121,412,593	0.0100	0.0100		0.0181	0.0100	IE	NO	0.67	23,032,209	0.011	91,256,354		0.008
Romania																	
Russian Federation	CS,T1,T2	CS,D	2.02	1,166,604,500	0.0136	0.0098		0.0184	0.0100	0.0100	8.03	0.35	491,634,860	0.010	2,132,520,115		0.008
Slovakia	T1,T1b,T2	CS,D	3.26	102,222,900	0.0125	0.0125		0.0200	0.0125	NO	NO	0.91	23,729,284	0.010	24,561,169		0.025
Slovenia	T1	D	1.72	27,263,000	0.0100	0.0100		0.0170	0.0100	NO	8.00	0.57	8,474,112	0.010	61,262,357		0.002
Spain	CS,T1a,T1b	D	3.24	876,760,890	0.0125	0.0125		0.0200	0.0125	NE	NO	2.10	201,118,027	0.010	496,644,245		0.025
Sweden	NA	NA	5.05	161,100,000	0.0100	0.0100		0.0170	0.0100	10000.0000	8.00	0.65	37,946,610	0.010	51,967,782		0.008
Switzerland																	
Turkey																	
Ukraine	CS,T2	CS	3.66	889,978,050	0.0100	0.0100		0.0195	0.0100	NA	8.00	0.95	221,492,724	0.010	748,876,659		0.008
United Kingdom of Great Britain and Northern Ireland	T1,T1a	D	2.67	1,118,829,204	0.0100	0.0100		0.0164	0.0100	0.0064	8.00	0.71	290,851,627	0.010	782,945,464		0.007
United States of America																	

^a Information on methods and emission factors is included in this table as reported by Parties in table Summary 3 of the CRF. It may therefore not reflect the actual method or type of emission factor used for all subcategories within the category 4.D Agricultural soils - N₂O.

^b The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.

^c Source of default emission factors: 2006 IPCC Guidelines, table 11.1, page 11.11. IEFs for N-fixing crops and crop residues are shown in the unit kg N₂O-N/kg N. The unit of the IPCC default emission factor is also kg N₂O-N/kg N.

^d For cultivation of histosols (drained/managed organic soils), the two default values refer to temperate. The values in parenthesis indicate the range as presented in the 2006 IPCC Guidelines, table 11.1, page 11.11.

^e For cultivation of histosols (drained/managed organic soils), the two default values refer to temperate tropical. The values in parenthesis indicate the range as presented in the 2006 IPCC Guidelines, table 11.1, page 11.11.

^f Source of default emission factor: 2006 IPCC Guidelines, table 11.3, page 11.24.

Table 4.1a

Methods and emission factors used (2013)^a

	Forest Land						Cropland						Grassland					
	CO ₂		CH ₄		N ₂ O		CO ₂		CH ₄		N ₂ O		CO ₂		CH ₄		N ₂ O	
	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF
Australia	CS,T2,T3	CS,M	CS	CS	CS,T2	CS	CS,T3	CS,M	CS	CS	CS,T2	CS	T3	CS	CS	CS	CS,T2	CS
Austria	NA	NA			NA	NA	NA	NA					NA	NA				
Belarus																		
Belgium	CS,T1,T2	CS	NA	NA	T1	D	CS,T1	CS	NA	NA	T1	D	CS,T1	CS	NA	NA	T1	D
Bulgaria	T1,T2	CS,D	T1	D	T1	D	T1,T2	CS,D					T1,T2	CS,D				
Canada	T3	CS	T2	CS	T2	CS	T2,T3	CS	T2	CS	T2	CS						
Croatia	T2	CS,D	T1	D	T1	D	T1	CS,D	NA	NA	D	CS	T1	CS	NA	NA	NA	NA
Cyprus																		
Czech Republic	CS,T1,T2	CS,D	CS,T1	CS,D	CS,T1	CS,D	T1,T2	CS,D	NA	NA	T1,T2	CS,D	T2	CS,D	NA	NA	NA	NA
Denmark	T1,T2,T3	CS,D	NA	NA	T1	D	NA	NA	NA	NA	T1	D	NA	NA	NA	NA	T1	D
Estonia	T1,T2	D,OTH	T2	D	T2	D	T1,T2	D	NA	NA	T1	D	T1,T2	D,OTH	NA	NA	NA	NA
European Union (KP)																		
European Union (Convention)																		
Finland	T2,T3	CS,D	T2	CS,D	T1,T2	CS,D	T2,T3	CS,D	T2	D	T1,T2	CS,D	T2,T3	CS,D	T2	D	T1,T2	CS,D
France					NA	NA												
Germany	CS,T2	CS	T2	CS,D	CS,T2	CS,D	T2	CS			T2	CS	T2	CS			T2	CS,D
Greece	OTH,T1,T2	CS,D,OTH	T1	D	T1	D	T1,T2	CS,D	NA	NA	T1	D	T1	CS,D	NA	NA	NA	NA
Hungary																		
Iceland	T1,T2,T3	CS,D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	NA	NA	NA	NA	T1,T2,T3	CS,D	T2	CS,D	T1,T2	CS,D
Ireland	CS,T1,T2,T3	CS	D,T1	D	D,T1	D							T1,T3	CS,D			D,T1	D
Italy	T1,T2,T3	CS,D	T2	CS,D	T2	CS,D	T1	CS,D	NA	NA	T1	D	T1	CS,D	NA	NA	NA	NA
Japan																		
Kazakhstan	T1,T2	CS,D	T1	D	T1	D					T2	CS,D						
Latvia	T1,T2	CS,D	T1,T2	D	T1,T2	D	T2	CS	NA	NA	T1	D	T1,T2	CS,D	NA	NA	T1	D
Liechtenstein																		
Lithuania	T1,T2	CS,D	T1,T2	D	T1,T2	D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D
Luxembourg																		
Malta	D	D	D	D	D	D											NE	NE
Monaco																		
Netherlands	NA	NA	NA	NA	NA	NA	CS,T1	CS,D			D,T1	CS	T1	D			D,T1	CS
New Zealand	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	NA	NA	T1,T2	CS,D	T1,T2	CS,D	NA	NA	T1,T2	CS,D
Norway																		
Poland	D,T2,T3	CS,D	D,T2	CS,D	D,T2	CS,D	T1	D			T1	D	T2	CS,D				
Portugal	CS,T2	CS,D	D	D	D	D			D	D	D	D			D	D	D	D
Romania																		
Russian Federation	CS,T1,T2	CS,D	T1,T2	CS,D	T1,T2	CS,D	NA	NA	NA	NA	NA	NA	T1,T3	CS	NA	NA	NA	NA
Slovakia	T2	CS,D	T2	D	T2	D	T2	CS	NA	NA	T2	CS	T2	CS	NA	NA	NA	NA
Slovenia	CS,D,T1,T2,T3	CS,D	D,T1	D	D,T1	D	D,T1,T2	CS,D	NA	NA	D,T1	D	D,T1,T2,T3	CS,D				
Spain	CS,T1,T2	CS,D	CS	D	CS	D	T1,T2	CS,D	NA	NA	T1	D	T1,T2	CS,D	NA	NA	NA	NA
Sweden	NA	NA	NA	NA	T1	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland																		
Turkey																		
Ukraine	T1,T2	CS,D	T1	D	T1	D	T2	CS			T1	D					T1	D
United Kingdom of Great Britain and Northern Ireland	CS,D,T3	CS	D	CS	D,T1	CS	CS,D,T3	CS,D	D	CS	D	CS,D	CS,D,T3	CS,D	D	CS	D	CS,D
United States of America																		

^a Information on methods and emission factors in this table is presented as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within each category.

Table 4.1b

Methods and emission factors used (2013)^a

	Wetlands						Settlements						Other Land						Harvested Wood Products	
	CO ₂		CH ₄		N ₂ O		CO ₂		CH ₄		N ₂ O		CO ₂		CH ₄		N ₂ O		CO ₂	
	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF
Australia	IE,NA,NE	IE,NA,NE	IE	IE	IE	IE	IE,NA,NE	IE,NA,NE			IE	IE	NA	NA					T3	M
Austria	NA	NA			NA	NA					NA	NA	NA	NA						
Belarus																				
Belgium	NA	NA	NA	NA	NA	NA	CS,T1	CS			T1	D	NA	NA					T1	D
Bulgaria					NA	NA					NA	NA							T1	D
Canada	T2,T3	CS	NA	NA	NA	NA	T2,T3	CS			NA	NA	NA	NA					T3	CS
Croatia	NA	NA	NA	NA	NA	NA	T1,T2	CS,D			NA	NA	NA	NA					T2	D
Cyprus																				
Czech Republic	NA	NA	NA	NA	NA	NA	T2	CS			NA	NA	NA	NA					T1,T2	CS,D
Denmark	NA	NA	NA	NA	NA	NA	NA	NA			T1	D	NA	NA					NA	NA
Estonia	T2	CS,D	NA	NA	NA	NA	T2	OTH			NA	NA	T2	OTH					T2,T3	CS,D
European Union (KP)																				
European Union (Convention)																				
Finland	T1,T2,T3	CS,D	T2	D	T2	D	T2,T3	CS			T1	D	NA	NA					T2	D
France					NA	NA					NA	NA							NA	NA
Germany	T2	CS			NA	NA	T2	CS			T2	CS,D							CS,T2	D
Greece	NA	NA	NA	NA	NA	NA	T1,T2	CS,D			NA	NA	T1,T2	CS,D					T2	D
Hungary																				
Iceland	RA,T1,T2	CS,D			NA	NA	T2	CS			NA	NA								
Ireland	D,T1	CS,D	D,T1	D	D,T1	D	D,T1,T3	CS,D,OTH			T1	D	T1,T3	CS					T2	D
Italy	NA	NA	NA	NA	NA	NA	T1	D			NA	NA	NA	NA					T1	CS
Japan																				
Kazakhstan					NA	NA	T1	D			NA	NA							T2	CS
Latvia	T1,T2	CS,D	NA	NA	NA	NA	T2	CS			T1	D	NA	NA					T2	CS
Liechtenstein																				
Lithuania	T1	D	NA	NA	T1	D	T1,T2	CS,D			NA	NA	T1,T2	CS,D					T1	D
Luxembourg																				
Malta	NA	NA			NA	NA	NA	NA			NA	NA	NA	NA					NO	NO
Monaco																				
Netherlands	NA	NA			NA	NA	T1	CS,D			NA	NA	T1	D						
New Zealand	NA	NA	NA	NA	T1,T2	CS,D	T1,T2	CS,D			T1,T2	CS,D	T1,T2	CS,D					T2	CS,D
Norway																				
Poland					NA	NA	T2	CS			NA	NA							NA	NA
Portugal					NA	NA					NA	NA							D	D
Romania																				
Russian Federation	T1	D	NA	NA	NA	NA	CS,T1	CS			T1	D	T1	CS					T1	D
Slovakia	NA	NA	NA	NA	NA	NA	T2	CS			NA	NA	T2	CS					T2	D
Slovenia	NA	NA	NA	NA	NA	NA	D,T2	CS,D			NA	NA	D,T2	CS,D					D,T1	D
Spain	NA	NA	NA	NA	NA	NA	T1,T2	CS,D			NA	NA	T1,T2	CS,D					NA	NA
Sweden	NA	NA	NA	NA	NA	NA	NA	NA			NA	NA	NA	NA					NA	NA
Switzerland																				
Turkey																				
Ukraine	T1	D			NA	NA	T2	CS			T1	D							T2	D
United Kingdom of Great Britain and Northern Ireland																				
United States of America	D	D	NA	NA	NA	NA	CS,D,T3	CS,D			D	D	D	D					CS,T3	CS

^a Information on methods and emission factors in this table is presented as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within each category.

Table 4.2a**Forest land remaining forest land - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Activity data			IEF (t C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in dead wood/area	Net CSC ^c in litter/area	Net CSC ^c in soils/area ^{e,f}	
				Gains	Losses	Net Change			Mineral soils	Organic soils
Australia	107,783.44	107,783.44	NE	0.10	IE	0.10	-0.04	0.00	0.00	NE
Austria	3,861.08	3,861.08	NO	2.37	-2.07	0.31	0.06	IE,NE	-0.18	NO
Belarus										
Belgium	689.05	689.05	NO	1.10	-0.16	0.94	-0.01	0.00	0.53	NO
Bulgaria	3,651.34	3,651.34	NO	0.75	IE,NO	0.75	NO	NO	NO	NO
Canada	231,645.37	231,645.37	IE	3.47	-3.21	0.27	0.10	-0.13	0.03	IE
Croatia	2,310.29	2,310.29	NO	1.79	-1.16	0.62	NO	NO	NO	NO
Cyprus										
Czech Republic	2,562.33	2,543.67	18.67	3.04	-2.47	0.57	NO	NO	NA	NA
Denmark	538.25	511.99	26.27	1.61	IE,NO	1.61	0.04	-0.31	NA,NO	-2.60
Estonia	2,231.89	1,758.46	473.43	IE	-0.08	-0.08	0.02	NO	0.16	-0.28
European Union (KP)										
European Union (Convention)										
Finland	21,799.09	15,873.79	5,925.30	1.64	-1.31	0.33	IE	IE	0.14	-0.30
France	22,532.15	22,532.15	NO	1.78	-1.03	0.75	-0.04	NO	NO	NO
Germany	10,981.07	10,682.43	298.64	1.03	NO	1.03	-0.05	-0.01	0.41	-2.61
Greece	3,353.75	3,353.75	NO	0.15	IE,NO	0.15	NA,NO	NA,NO	NA,NO	NA,NO
Hungary										
Iceland	89.61	89.48	0.13	0.10	IE	0.10	IE,NE	NE	NE	-0.37
Ireland	449.53	181.05	268.49	5.70	-5.93	-0.23	IE	0.51	NO	-0.48
Italy	7,782.49	7,782.49	NO	2.45	-1.41	1.04	0.01	0.01	NA,NO	NO
Japan										
Kazakhstan	14,573.00	14,573.00	NA	0.20	NA	0.20	IE	NE	NE	NA
Latvia	3,150.95	2,704.92	446.03	2.83	-2.48	0.36	0.33	NO	NO	-2.60
Liechtenstein										
Lithuania	2,076.55	1,750.53	326.02	1.37	IE	1.37	0.01	NO	NO	IE
Luxembourg										
Malta	0.21	0.21	NO	2.33	NE	2.33	0	0	0	NO
Monaco										
Netherlands	338.78	320.72	18.06	2.87	-0.98	1.89	0.02	NE	NE	NE
New Zealand	9,139.78	9,121.81	17.97	1.09	-1.15	-0.06	0.13	0.00	0.00	-0.09
Norway										
Poland	8,703.92	8,468.32	235.59	1.13	IE	1.13	NO	NO	0.12	-0.68
Portugal	3,913.47	3,913.47	NO	1.99	-1.29	0.70	IE	0.00	0.01	NO
Romania										
Russian Federation	777,718.02	775,767.82	1,950.20	0.30	-0.09	0.21	0.02	0.01	0.03	-0.71
Slovakia	1,985.74	1,985.74	NO	2.49	-1.60	0.89	NO	NO	NO	NO
Slovenia	1,118.35	1,117.47	0.88	1.54	IE	1.54	0.00	NO	NO	NO
Spain	14,272.11	14,272.11	NO	0.49	IE	0.49	NE	NE	NE	NO
Sweden	27,592.53	23,797.92	3,794.61	0.35	IE	0.35	0.09	-0.07	0.16	-0.38
Switzerland										
Turkey										
Ukraine	10,358.62	10,166.02	192.60	1.73	-0.16	1.57	0.26	0.02	NO	-0.68
United Kingdom of Great Britain and Northern Ireland	2,391.79	2,156.10	235.69	2.26	-1.22	1.04	IE	0.22	0.34	1.84
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^f Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.2b**Forest land remaining forest land - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (kt C)							Net CO ₂ (kt)
	CSC ^c in living biomass ^d			Net CSC ^c in dead wood	Net CSC ^c in litter	Net CSC ^c in soils ^{e,f}		
	Gains	Losses	Net Change			Mineral soils	Organic soils	
Australia	11,178.60	IE	11,178.60	-4,379.37	257.83	-20.97	NE	-25,798.99
Austria	9,161.77	-7,981.44	1,180.33	227.76	IE,NE	-709.51	NO	-2,561.43
Belarus								
Belgium	758.45	-107.83	650.62	-4.91	-3.02	363.36	NO	-3,688.82
Bulgaria	2,728.48	IE,NO	2,728.48	NO	NO	NO	NO	-10,004.44
Canada	804,822.95	-742,429.45	62,393.51	22,701.50	-30,111.03	7,481.81	IE	-229,041.23
Croatia	4,126.28	-2,683.35	1,442.93	NO	NO	NO	NO	-5,290.75
Cyprus								
Czech Republic	7,801.75	-5,698.89	2,102.87	NO	NO	NA	NA	-7,710.51
Denmark	864.32	IE,NO	864.32	19.65	-165.41	NA,NO	-68.23	-2,384.54
Estonia	IE	-178.49	-178.49	55.05	NO	285.62	-130.71	-115.39
European Union (KP)								
European Union (Convention)								
Finland	35,681.37	-28,534.10	7,147.28	IE	IE	2,277.88	-1,797.49	-27,968.12
France	40,198.03	-23,293.64	16,904.39	-816.44	NO	NO	NO	-58,989.15
Germany	11,362.54	NO	11,362.54	-570.30	-137.26	4,379.80	-779.42	-52,269.63
Greece	489.15	IE,NO	489.15	NA,NO	NA,NO	NA,NO	NA,NO	-1,793.54
Hungary								
Iceland	9.12	IE	9.12	IE,NE	NE	NE	-0.05	-33.27
Ireland	2,563.41	-2,667.36	-103.95	IE	231.26	NO	-129.78	9.07
Italy	19,065.40	-10,963.40	8,102.00	66.10	110.22	NA,NO	NO	-30,353.82
Japan								
Kazakhstan	2,981.00	NA	2,981.00	IE	NE	NE	NA	-10,930.33
Latvia	8,928.36	-7,800.32	1,128.03	1,036.91	NO	NO	-1,159.68	-3,685.93
Liechtenstein								
Lithuania	2,841.90	IE	2,841.90	19.53	NO	NO	IE	-10,491.90
Luxembourg								
Malta	0.49	NE	0.49	0	0	0	NO	-1.80
Monaco								
Netherlands	973.46	-332.55	640.91	5.35	NE	NE	NE	-2,369.64
New Zealand	9,962.84	-10,533.46	-570.62	1,172.97	-8.35	0.13	-1.68	-2,172.29
Norway								
Poland	9,877.13	IE	9,877.13	NO	NO	976.77	-160.20	-39,210.22
Portugal	7,773.49	-5,044.71	2,728.77	IE	-10.13	20.07	NO	-10,041.97
Romania								
Russian Federation	233,492.95	-66,409.87	167,083.08	16,686.16	5,013.36	21,512.27	-1,384.64	-766,004.16
Slovakia	4,952.06	-3,182.18	1,769.88	NO	NO	NO	NO	-6,489.56
Slovenia	1,725.77	IE	1,725.77	-0.98	NO	NO	NO	-6,324.22
Spain	7,012.95	IE	7,012.95	NE	NE	NE	NO	-25,714.14
Sweden	9,623.64	IE	9,623.64	2,472.68	-1,874.42	3,768.39	-1,424.51	-46,074.53
Switzerland								
Turkey								
Ukraine	17,926.76	-1,678.41	16,248.34	2,717.12	217.04	NO	-130.97	-69,855.66
United Kingdom of Great Britain and Northern Ireland	5,397.07	-2,916.78	2,480.28	IE	527.99	722.37	433.93	-15,270.13
United States of America								

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^f Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.3a

Land converted to forest land - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}

	Activity data			IEF (t C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in dead wood/area	Net CSC ^c in litter/area	Net CSC ^c in soils/area ^{e,f}	
				Gains	Losses	Net Change			Mineral soils	Organic soils
Australia	3,459.53	3,459.53	IE,NO	0.14	IE,NO	0.14	-0.03	0.01	-0.02	IE,NE,NO
Austria	157.42	157.42	NO	1.72	-0.52	1.19	0.06	0.05	-0.15	NO
Belarus										
Belgium	25.22	25.22	NO	2.03	NO	2.03	-0.01	0.00	0.55	NO
Bulgaria	210.39	210.39	NO	2.25	-0.04	2.21	NO	0.01	-0.06	NO
Canada	63.41	63.41	IE,NO				0.10	-0.13	0.03	IE,NO
Croatia	42.48	42.48	NO	1.33	-0.77	0.56	NO	NO	0.01	NO
Cyprus										
Czech Republic	48.12	48.12	NO	1.88	NO	1.88	NO	NO	0.00	NA,NO
Denmark	99.43	88.63	10.80	0.22	-0.31	-0.09	0.02	-0.25	0.02	-2.22
Estonia	56.12	49.05	7.07	7.49	IE	7.49	0.02	0.01	0.15	-0.28
European Union (KP)										
European Union (Convention)										
Finland	122.41	80.11	42.30	1.54	-0.05	1.49	IE,NA	IE,NA	0.14	-0.31
France	1,148.35	1,115.98	32.37	1.45	-0.16	1.29	-0.03	0.01	0.01	-2.05
Germany	394.38	357.17	37.21	3.64	-0.39	3.25	-0.05	0.00	0.38	-2.61
Greece	33.25	33.25	NO	2.48	-1.14	1.35	NA,NE,NO	NA,NE,NO	NA,NO	NA,NO
Hungary										
Iceland	45.77	42.35	3.43	0.97	-0.03	0.95	IE,NA,NE,NO	0.05	0.13	-0.37
Ireland	299.07	134.57	164.50	4.70	-1.55	3.15	IE,NO	0.58	NO	-0.58
Italy	1,413.67	1,413.67	NO	2.76	-1.60	1.16	0.01	0.01	0.02	NO
Japan										
Kazakhstan	355.00	355.00	NA				IE,NA	IE,NA,NE	IE,NA,NE	NA
Latvia	174.63	170.65	3.98	0.43	IE,NO	0.43	0.32	0.00	NO	-2.60
Liechtenstein										
Lithuania	112.64	94.95	17.68	1.57	IE	1.57	0.01	0.06	NO	IE
Luxembourg										
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco										
Netherlands	58.88	51.90	6.98	1.77	-0.31	1.46	0.01	NE	0.00	-0.06
New Zealand	792.03	790.20	1.82				0.10	-0.01	-0.03	-0.14
Norway										
Poland	665.49	653.22	12.27	0.85	NO	0.85	NO	NO	0.12	-0.70
Portugal	449.22	449.22	NO	2.36	-0.45	1.91	IE	0.00	0.05	NO
Romania										
Russian Federation	120,434.58	120,434.58	IE,NO	0.26	-0.07	0.19	0.02	0.01	0.02	-0.71
Slovakia	29.63	29.63	NO	1.59	NO	1.59	NO	0.01	0.02	NO
Slovenia	92.00	92.00	NA,NO	0.99	NA	0.99	0.00	NA,NO	0.11	NA,NO
Spain	1,101.48	1,101.48	NO	1.18	IE,NO	1.18	0.01	0.01	0.05	NO
Sweden	879.92	353.90	526.03	0.83	IE	0.83	0.09	-0.06	0.15	-0.39
Switzerland										
Turkey										
Ukraine	265.78	265.78	NO	1.70	-0.16	1.54	0.26	0.02	0.00	-0.68
United Kingdom of Great Britain and Northern Ireland	267.34	250.45	16.89	0.93	-0.02	0.92	IE,NO	0.20	0.41	1.90
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^f Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.3b**Land converted to forest land - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (kt C)							Net CO ₂ (kt)
	CSC ^c in living biomass ^d			Net CSC ^c in dead wood	Net CSC ^c in litter	Net CSC ^c in soils ^{e,f}		
	Gains	Losses	Net Change			Mineral soils	Organic soils	
Australia	4,342.57	IE,NO	4,342.57	671.78	772.81	-2,190.24	IE,NO	-13,188.68
Austria	270.05	-82.10	187.95	2.50	192.87	114.44	NO	-1,825.12
Belarus								
Belgium	51.12	NO	51.12	NO	NO	29.16	NO	-294.37
Bulgaria	473.38	-7.55	465.83	NO	56.60	-235.56	NO	-1,051.85
Canada	222.76	-83.08	139.68	15.40	18.38	-11.68	IE,NO	-593.20
Croatia	56.57	-32.79	23.78	NO	NO	30.97	NO	-200.75
Cyprus								
Czech Republic	90.59	NO	90.59	NO	NO	6.74	NA,NO	-356.86
Denmark	21.86	-31.26	-9.40	-5.62	4.88	13.26	-14.04	40.02
Estonia	420.40	IE	420.40	0.19	16.84	-18.04	-4.03	-1,522.96
European Union (KP)								
European Union (Convention)								
Finland	188.30	-5.83	182.47	NA	IE,NA	4.00	-64.20	-448.32
France	1,666.81	-181.43	1,485.38	51.81	293.98	278.36	-67	-7,491.09
Germany	1,436.09	-153.19	1,282.90	13.56	184.50	-139.49	-97.12	-4,562.61
Greece	82.59	-37.80	44.79	NE,NO	NE,NO	NO	NO	-164.21
Hungary								
Iceland	44.53	-1.16	43.38	IE,NA,NO	6.40	16.88	-1.27	-239.76
Ireland	1,406.22	-462.92	943.30	IE,NO	205.02	NO	-119.82	-3,771.15
Italy	3,896.99	-2,257.34	1,639.65	12.30	20.51	205.33	NO	-6,885.24
Japan								
Kazakhstan	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	IE,NA	NA	IE,NA
Latvia	75.49	IE,NO	75.49	18.73	16.53	NO	-10.34	-368.19
Liechtenstein								
Lithuania	176.37	IE	176.37	NO	135.16	NO	IE	-1,142.27
Luxembourg								
Malta	NO	NO	NO	NO	NO	NO	NO	NO
Monaco								
Netherlands	104.15	-18.30	85.84	NE	NE	-0.10	-1.54	-308.75
New Zealand	6,627.48	-146.83	6,480.64	-187.96	-135.18	-319.18	-1.01	-21,403.47
Norway								
Poland	563.60	NO	563.60	NO	NO	74.67	-13.48	-2,290.85
Portugal	1,061.33	-201.90	859.43	IE	-1.46	203.60	NO	-3,892.41
Romania								
Russian Federation	1,350.55	-445.68	904.87	183.98	26.57	283.85	NA,NO	-5,130.63
Slovakia	47.22	NO	47.22	NO	12.30	36.74	NO	-352.95
Slovenia	91.46	NA	91.46	NA,NO	NA,NO	137.07	NA,NO	-837.92
Spain	1,296.04	IE,NO	1,296.04	174.48	110.44	719.60	NO	-8,435.42
Sweden	729.45	IE	729.45	4.45	269.09	-26.64	-262.49	-2,617.45
Switzerland								
Turkey								
Ukraine	145.90	-2.02	143.89	13.70	31.94	2.77	NO	-705.08
United Kingdom of Great Britain and Northern Ireland	249.70	-4.69	245.00	IE,NO	9.04	269.86	45.05	-2,086.16
United States of America								

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^f Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.4a

Cropland remaining cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}

	Activity data			IEF (Mg C/ha)					
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^{d,e}			Net CSC ^c in DOM ^f /area ^g	Net CSC ^c in soils/area ^{h,i}	
				Gains	Losses	Net Change		Mineral soils	Organic soils
Australia	35,021.27	35,021.27	IE	IE	0.00	0.00	NA	0.02	IE
Austria	1,378.72	1,378.72	NO	0.12	-0.15	-0.03	NO	0.04	NO
Belarus									
Belgium	845.03	843.13	1.90	0.01	0.00	0.00	NO	0.30	-10.00
Bulgaria	3,536.39	3,536.39	NO	0.11	-0.17	-0.05	NO	0.00	NO
Canada	49,803.37	49,787.22	16.15	0.00	0.00	0.00	-0.01	0.07	-5.00
Croatia	1,518.61	1,516.15	2.46	0.16	-0.17	0.00	NO	0.00	-10.00
Cyprus									
Czech Republic	3,180.09	3,180.09	NO	0.00	NO	0.00	NO	0.00	NA
Denmark	2,583.37	2,502.69	80.68	0.02	-0.03	-0.01	NO	-0.14	-9.30
Estonia	1,029.13	1,008.35	20.78	IE	0.00	0.00	NO	0.09	-5.00
European Union (KP)									
European Union (Convention)									
Finland	2,354.47	2,164.53	189.95	0.00	0.00	0.00	NE	0.04	-6.55
France	13,727.17	13,727.17	NO	0.10	-0.10	0	NO	NO	NO
Germany	12,365.03	12,096.01	269.02	NO	NO	NO	NO	NO	-8.10
Greece	3,563.37	3,556.70	6.66	0.05	-0.02	0.04	NO	NE	-10.00
Hungary									
Iceland	121.82	67.53	54.29	NO	NO	NO	NO	NE	-7.90
Ireland	673.68	673.68	NO	0.06	-0.04	0.01	NO	0.13	NO
Italy	8,968.59	8,943.90	24.69	0.00	-0.06	-0.06	NO	NO	-10.00
Japan									
Kazakhstan	35,791.00	35,791.00	NA	0.19	NA	0.19	NE	-0.25	NA
Latvia	1,700.47	1,611.51	88.96	0.00	0.00	0.00	0.00	NO	-7.90
Liechtenstein									
Lithuania	1,370.39	1,360.79	9.59	0.00	0.00	0.00	NO	0.02	-5.00
Luxembourg									
Malta	1.35	1.35	NO	0.24	NE	0.24	0	0	NO
Monaco									
Netherlands	618.32	559.99	58.33	NE	NE	NE	NE	NO	-3.99
New Zealand	409.88	400.37	9.51	0.01	-0.01	0.00	NE	0.00	-9.89
Norway									
Poland	13,782.62	13,242.80	539.83	0.05	IE	0.05	NO	0.00	-1.00
Portugal	2,166.30	2,166.30	NO	0.03	-0.01	0.02	NO	0.01	NO
Romania									
Russian Federation	91,161.03	88,659.43	2,501.60	0.01	0.00	0.01	NO	-0.22	-5.92
Slovakia	1,507.23	1,507.23	NO	0.17	-0.02	0.15	NO	0.01	NO
Slovenia	162.31	159.96	2.35	0.41	-0.37	0.04	NA,NO	0.00	-10.01
Spain	19,631.15	19,631.15	NO	IE	0.00	0.00	NE	0.05	NO
Sweden	2,806.55	2,669.24	137.31	0.03	IE	0.03	0.00	-0.18	-6.22
Switzerland									
Turkey									
Ukraine	34,884.97	34,776.45	108.52	0.04	NO	0.04	NO	-0.20	-10.00
United Kingdom of Great Britain and Northern Ireland	3,515.59	3,515.39	0.20	NO	NO	NO	NO	-0.33	-5.00
United States of America									

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e For category cropland remaining cropland this column only includes changes in perennial woody biomass.^f DOM = dead organic matter.^g No reporting on DOM pools is required for category cropland remaining cropland.^h When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.ⁱ Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.4b**Cropland remaining cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (kt C)						Net CO ₂ (Gg)
	CSC ^c in living biomass ^{d,e}			Net CSC ^c in DOM ^{f,g}	Net CSC ^c in soils ^{h,i}		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	IE	-25.68	-25.68	NA	630.11	IE	-2,216.22
Austria	162.99	-208.47	-45.48	NO	60.55	NO	-55.23
Belarus							
Belgium	5.52	-1.44	4.08	NO	255.04	-18.99	-880.50
Bulgaria	393.23	-586.08	-192.86	NO	3.35	NO	694.85
Canada	54.70	-38.88	15.82	-474.31	3,568.95	-80.76	-11,108.93
Croatia	249.86	-256.12	-6.26	NO	0.01	-24.60	113.13
Cyprus							
Czech Republic	0.05	NO	0.05	NO	4.13	NA	-15.36
Denmark	59.25	-78.14	-18.89	NO	-341.75	-750.01	4,072.38
Estonia	IE	-1.73	-1.73	NO	90.14	-103.90	56.77
European Union (KP)							
European Union (Convention)							
Finland	0.96	-0.16	0.80	NE	90.98	-1,243.35	4,222.46
France	1,408.24	-1,408.24	0	NO	NO	NO	0
Germany	NO	NO	NO	NO	NO	-2,179.06	7,989.89
Greece	192.22	-62.47	129.75	NO	NE	-66.65	-231.39
Hungary							
Iceland	NO	NO	NO	NO	NE	-428.87	1,572.53
Ireland	39.56	-29.55	10.02	NO	89.36	NO	-364.38
Italy	5.12	-507.29	-502.17	NO	NO	-246.90	2,746.58
Japan							
Kazakhstan	6,877.00	NA	6,877.00	NE	-9,097.00	NA	8,140.00
Latvia	3.17	-0.93	2.24	0.37	NO	-702.77	2,567.26
Liechtenstein							
Lithuania	6.69	-2.81	3.88	NO	21.18	-47.96	83.97
Luxembourg							
Malta	0.32	NE	0.32	0	0	NO	-1.17
Monaco							
Netherlands	NE	NE	NE	NE	NO	-232.50	852.51
New Zealand	5.37	-3.64	1.74	NE	-0.27	-94.05	339.49
Norway							
Poland	757.63	IE	757.63	NO	-35.76	-540.48	-665.10
Portugal	67.24	-29.31	37.93	NO	17.55	NO	-203.43
Romania							
Russian Federation	1,189.29	-266.18	923.11	NO	-19,557.83	-14,818.83	122,663.01
Slovakia	251.98	-25.39	226.59	NO	11.64	NO	-873.50
Slovenia	66.33	-59.79	6.54	NA,NO	-0.18	-23.52	62.90
Spain	IE	-57.69	-57.69	NE	1,075.72	NO	-3,732.78
Sweden	87.80	IE	87.80	0.94	-469.73	-854.05	4,528.49
Switzerland							
Turkey							
Ukraine	1,527.54	NO	1,527.54	NO	-7,053.16	-1,085.22	24,239.75
United Kingdom of Great Britain and Northern Ireland	NO	NO	NO	NO	-1,165.28	-1.02	4,276.42
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e For category cropland remaining cropland this column only includes changes in perennial woody biomass.^f DOM = dead organic matter.^g No reporting on DOM pools is required for category cropland remaining cropland.^h When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.ⁱ Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.5a

Land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}

	Activity data			IEF (Mg C/ha)					
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in DOM ^e /area	Net CSC ^c in soils/area ^{f,g}	
				Gains	Losses	Net Change		Mineral soils	Organic soils
Australia	1,597.80	1,597.80	IE,NE,NO	IE,NE,NO	-0.23	-0.23	-0.14	-0.23	IE,NE,NO
Austria	52.72	52.72	NO	0.54	-0.48	0.06	-0.04	-0.98	NO
Belarus									
Belgium	135.89	135.89	NO	NO	-0.10	-0.10	-0.01	-1.00	NO
Bulgaria	276.39	276.39	NO	0.39	-0.42	-0.04	NO	-0.75	NO
Canada	432.34	432.34	C,IE,NE,NO	NE,NO	-1.12	-1.12	-1.72	1.46	C,IE,NE,NO
Croatia	16.86	16.86	NO	0.65	-0.37	0.28	NO	-1.05	NO
Cyprus									
Czech Republic	45.32	45.32	NO	0.00	-0.17	-0.17	0.00	-0.34	NO
Denmark	77.79	77.79	0.00	0.09	-0.09	0.00	-0.01	0.01	-5.00
Estonia	12.04	10.20	1.84	IE,NO	-0.09	-0.09	0.00	-1.36	-5.00
European Union (KP)									
European Union (Convention)									
Finland	121.98	66.25	55.74	0.18	-1.60	-1.42	-0.01	-0.74	-6.80
France	4,146.77	4,129.00	17.77	NO	-0.16	-0.16	-0.02	-1.18	-4
Germany	1,126.12	1,039.64	86.48	0.54	-0.54	0.00	-0.01	-0.80	-8.10
Greece	0.11	0.11	NO	NO	-3.30	-3.30	-0.31	-0.85	NO
Hungary									
Iceland	5.26	2.53	2.73	0.11	-0.77	-0.67	IE,NA	0.10	-7.90
Ireland	NO	NO	NO	NO	NO	NO	NO	NO	NO
Italy	33.54	33.54	NO	NO	NO	NO	NO	-1.07	NO
Japan									
Kazakhstan	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	15.88	12.94	2.94	NO	NO	NO	NO	-1.02	-7.90
Liechtenstein									
Lithuania	760.88	755.56	5.32	NO	-0.09	-0.09	NO	-1.22	-5.75
Luxembourg									
Malta	194.18	194.18	NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	NO
Monaco									
Netherlands	330.95	296.11	34.85	0.57	-0.79	-0.22	-0.04	-0.78	-4.13
New Zealand	66.44	65.47	0.98	0.39	-0.05	0.34	0.00	-0.58	-9.95
Norway									
Poland	321.06	321.06	NO	NA,NO	NA,NO	NA,NO	NA,NO	-0.19	NO
Portugal	222.44	222.44	NO	0.14	-0.33	-0.19	-0.06	-0.73	NO
Romania									
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO	NO
Slovakia	26.40	26.40	NO	NO	-0.08	-0.08	0.00	-0.69	NO
Slovenia	71.80	71.80	NA,NO	0.02	-0.56	-0.54	-0.06	-0.48	NO
Spain	449.93	449.93	NO	0.03	-0.02	0.02	0.00	-0.73	NO
Sweden	80.55	76.61	3.94	0.07	-0.40	-0.33	-0.06	-0.31	-15.29
Switzerland									
Turkey									
Ukraine	3.93	3.93	NO	NO	-8.98	-8.98	NO	-0.13	NO
United Kingdom of Great Britain and Northern Ireland	1,316.55	1,316.12	0.44	IE,NO	-0.03	-0.03	0.00	-1.25	-5.00
United States of America									

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).

^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.

^c CSC = carbon stock change.

^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.

^e DOM = dead organic matter.

^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.

^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.5b**Land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (Gg C)						Net CO ₂ (Gg)
	CSC ^c in living biomass ^d			Net CSC ^e in DOM ^f	Net CSC ^e in soils ^g		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	IE,NE,NO	-373.30	-373.30	-229.42	-361.17	IE,NE,NO	3,534.26
Austria	28.55	-25.20	3.35	-1.94	-51.89	NO	185.11
Belarus							
Belgium	NO	-13.98	-13.98	-1.41	-136.41	NO	556.61
Bulgaria	107.51	-117.25	-9.74	NO	-207.15	NO	795.28
Canada	NE,NO	-484.53	-484.53	-741.82	629.54	C,IE,NE,NO	2,188.29
Croatia	11.03	-6.29	4.74	NO	-17.67	NO	47.42
Cyprus							
Czech Republic	0.15	-7.65	-7.50	-0.15	-15.54	NO	85.00
Denmark	7.18	-7.37	-0.19	-0.41	1.01	-0.01	-1.47
Estonia	IE,NO	-1.13	-1.13	-0.03	-13.92	-9.20	89.01
European Union (KP)							
European Union (Convention)							
Finland	21.58	-195.08	-173.50	-0.81	-48.93	-379.02	2,208.28
France	NO	-675.50	-675.50	-73.05	-4,852.28	-63	20,766.26
Germany	604.41	-607.03	-2.61	-14.49	-831.88	-700.50	5,681.47
Greece	NO	-0.37	-0.37	-0.04	-0.10	NO	1.85
Hungary							
Iceland	0.55	-4.06	-3.51	IE,NA	0.26	-21.56	90.95
Ireland	NO	NO	NO	NO	NO	NO	NO
Italy	NO	NO	NO	NO	-35.88	NO	131.55
Japan							
Kazakhstan	NA	NA	NA	NA	NA	NA	NA
Latvia	NO	NO	NO	NO	-13.24	-23.23	133.71
Liechtenstein							
Lithuania	NO	-69.50	-69.50	NO	-918.28	-30.58	3,733.99
Luxembourg							
Malta	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	NO	IE,NO
Monaco							
Netherlands	188.04	-261.16	-73.12	-11.64	-230.59	-143.82	1,683.63
New Zealand	25.83	-3.17	22.66	0.00	-38.09	-9.71	92.19
Norway							
Poland	NA,NO	NA,NO	NA,NO	NA,NO	-62.57	NO	229.42
Portugal	32.11	-74.37	-42.26	-13.95	-162.51	NO	801.99
Romania							
Russian Federation	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	-2.11	-2.11	-0.08	-18.09	NO	74.36
Slovenia	1.72	-40.50	-38.78	-4.56	-34.23	NO	284.41
Spain	15.72	-7.66	8.06	-1.30	-326.89	NO	1,173.82
Sweden	5.76	-32.38	-26.62	-5.05	-23.40	-60.26	422.88
Switzerland							
Turkey							
Ukraine	NO	-35.27	-35.27	NO	-0.50	NO	131.15
United Kingdom of Great Britain and Northern Ireland	IE,NO	-38.48	-38.48	-0.06	-1,642.33	-2.18	6,171.16
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.6a

Forest land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}

	Activity data			IEF (Mg C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^e in DOM ^f /area	Net CSC ^e in soils/area ^g		
				Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	1,597.80	1597.80	IE	IE	-0.23	-0.23	-0.14	-0.23	IE	
Austria	3.33	3.33	NO	0.26	-1.29	-1.03	-0.58	-0.96	NO	
Belarus										
Belgium	2.09	2.09	NO	NO	-6.68	-6.68	-0.68	-2.48	NO	
Bulgaria										
Canada	404.52	404.52	C,IE,NO	NO	-1.20	-1.20	-1.83	1.57	C,IE,NO	
Croatia	1.38	1.38	NO	2.10	-1.03	1.07	NO	-0.34	NO	
Cyprus										
Czech Republic	2.17	2.17	NO	NA	-3.22	-3.22	-0.07	-0.37	NO	
Denmark	1.33	1.33	IE	0.26	-1.86	-1.60	-0.31	-0.14	IE	
Estonia	0.20	0.20	NO	NO	NO	NO	NO	-1.15	NO	
European Union (KP)										
European Union (Convention)										
Finland	96.89	58.04	38.855	0.20	-1.99	-1.79	-0.01	-0.82	-6.8	
France	156.31	156.31	NO	NO	-4.32	-4.32	-0.47	-1.38	NO	
Germany	36.77	31.24	5.53	0.14	-1.04	-0.90	-0.39	0.03	-8.10	
Greece	0.02	0.02	NO	NO	-1.44	-1.44	-2.20	-0.88	NO	
Hungary										
Iceland	IE	IE	IE	IE	IE	IE	IE	IE	IE	
Ireland	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Italy	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Japan										
Kazakhstan	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Latvia	13.28	10.34	2.94	NO	NO	NO	NO	-1.28	-7.90	
Liechtenstein										
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Luxembourg										
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Monaco										
Netherlands	2.71	2.26	0.45	0.71	-10.62	-9.91	-4.29	-0.23	-3.22	
New Zealand	0.91	0.90	0.01	0.31	NA	0.31	NA,NE,NO	-0.19	-3.89	
Norway										
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Portugal	49.63	49.63	NO	0.18	-0.91	-0.73	-0.10	-1.53	NO	
Romania										
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Slovakia	0.35	0.35	NO	NO	-1.78	-1.78	-0.22	-1.45	NO	
Slovenia	5.80	5.80	NO	NA	-4.18	-4.18	-0.79	-1.19	NO	
Spain	23.53	23.53	NO	IE	-0.33	-0.33	-0.06	-1.00	NO	
Sweden	3.39	3.22	0.17	IE	-8.25	-8.25	-1.50	0.45	-6.22	
Switzerland										
Turkey										
Ukraine	0.93	0.93	NO	NO	NO	NO	NO	NO	NO	
United Kingdom of Great Britain and Northern Ireland	0.17	0.17	IE,NO	IE,NO	-2.11	-2.11	-0.34	-2.32	IE,NO	
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.6b**Forest land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (kt C)						Net CO ₂ (Gg)
	CSC ^c in living biomass ^d			Net CSC ^e in DOM ^f	Net CSC ^e in soils ^g		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	IE	-373.30	-373.30	-229.42	-361.17	IE	3,534.26
Austria	0.87	-4.31	-3.44	-1.94	-3.20	NO	31.46
Belarus							
Belgium	NO	-13.98	-13.98	-1.41	-5.19	NO	75.48
Bulgaria							
Canada	NO	-484.53	-484.53	-741.82	634.96	C,IE,NO	2,168.39
Croatia	2.90	-1.42	1.48	NO	-0.47	NO	-3.73
Cyprus							
Czech Republic	NA	-7.00	-7.00	-0.15	-0.80	NO	29.14
Denmark	0.35	-2.47	-2.12	-0.41	-0.19	IE	9.98
Estonia	NO	NO	NO	NO	-0.23	NO	0.85
European Union (KP)							
European Union (Convention)							
Finland	19.19	-192.63	-173.45	-0.81	-47.43	-264.21	1,781.63
France	NO	-675.50	-675.50	-73.05	-215.58	NO	3,535.16
Germany	5.26	-38.27	-33.02	-14.49	0.79	-44.78	335.50
Greece	NO	-0.02	-0.02	-0.04	-0.01	NO	0.27
Hungary							
Iceland	IE	IE	IE	IE	IE	IE	IE
Ireland	NO	NO	NO	NO	NO	NO	NO
Italy	NO	NO	NO	NO	NO	NO	NO
Japan							
Kazakhstan	NA	NA	NA	NA	NA	NA	NA
Latvia	NO	NO	NO	NO	-13.24	-23.23	133.71
Liechtenstein							
Lithuania	NO	NO	NO	NO	NO	NO	NO
Luxembourg							
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco							
Netherlands	1.92	-28.80	-26.88	-11.64	-0.53	-1.44	148.47
New Zealand	0.28	NA	0.28	NA,NE,NO	-0.17	-0.03	-0.28
Norway							
Poland	NO	NO	NO	NO	NO	NO	NO
Portugal	8.94	-45.04	-36.10	-4.96	-76.15	NO	429.77
Romania							
Russian Federation	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	-0.63	-0.63	-0.08	-0.51	NO	4.48
Slovenia	NA	-24.23	-24.23	-4.56	-6.91	NO	130.88
Spain	IE	-7.66	-7.66	-1.39	-23.43	NO	119.09
Sweden	IE	-27.96	-27.96	-5.08	1.45	-1.03	119.59
Switzerland							
Turkey							
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom of Great Britain and Northern Ireland	IE,NO	-0.36	-0.36	-0.06	-0.40	IE,NO	3.01
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.7a**Grassland remaining grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Activity data			IEF (Mg C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in DOM ^e /area ^f	Net CSC ^c in soils/area ^{g,h}		
				Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	528,679.72	528,679.72	IE	0.00	0.00	0.00	0.00	0.00	0.00	IE
Austria	1,406.35	1,393.40	12.95	NO	NO	NO	NO	0.00		-0.25
Belarus										
Belgium	552.73	551.91	0.82	NO	NO	NO	NO	0.10		-2.50
Bulgaria	1,599.59	1,599.59	NO	NO	NO	NO	NO	NO		NO
Canada	7,166.03	7,166.03	NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NE,NO		NE,NO
Croatia	1,140.58	1,140.36	0.23	NO	NO	NO	NO	NO		-2.50
Cyprus										
Czech Republic	914.45	914.45	NO	NO	NO	NO	NO	0.00		NO
Denmark	499.36	475.05	24.30	0.02	-0.04	-0.02	NO	NO		-5.82
Estonia	281.68	249.80	31.88	IE	-0.35	-0.35	0.01	NO		-0.86
European Union (KP)										
European Union (Convention)										
Finland	175.45	125.97	49.48	0.39	NE	0.39	NE	NO		-3.50
France	11,076.92	11,076.92	NO	0.17	-0.17	0	NO	NO		NO
Germany	5,590.03	4,756.41	833.62	0.04	-0.01	0.03	NO	0.00		-6.79
Greece	4,790.75	4,790.75	NO	NO	0.00	0.00	NO	NO		NO
Hungary										
Iceland	5,053.33	4,730.94	322.39	0.00	IE,NO	0.00	0.00	0.00		-5.70
Ireland	4,035.31	3,663.69	371.62	NO	NO	NO	NO	0.01		-3.64
Italy	7,021.48	7,021.48	NO	0.42	-0.34	0.08	0.00	NA,NO		NO
Japan										
Kazakhstan	186,772.00	186,772.00	NA	NA	0.00	0.00	IE	0.01		NA
Latvia	562.20	533.08	29.12	0.03	-0.01	0.02	0.00	NO		-6.10
Liechtenstein										
Lithuania	849.91	760.71	89.20	NO	NO	NO	NO	NO		-0.25
Luxembourg										
Malta	9.78	9.78	NO	NO	NO	NO	NO	NO		NO
Monaco										
Netherlands	968.33	724.75	243.58	NE	NE	NE	NE	NE,NO		-4.55
New Zealand	14,520.64	14,346.50	174.13	0.00	0.00	0.00	0.00	0.00		-2.16
Norway										
Poland	3,968.10	3,819.67	148.43	NO	NO	NO	NO	-0.02		-0.25
Portugal	421.02	421.02	NO	NO	NO	NO	NO	0.18		NO
Romania										
Russian Federation	86,158.66	84,396.56	1,762.10	NA	NA	NA	NA	0.02		-5.82
Slovakia	787.84	787.84	NO	NO	NO	NO	NO	NO		NO
Slovenia	252.66	251.84	0.82	NA	NA	NA	NA	NA		NA
Spain	11,681.10	11,681.10	NO	NE	NE	NE	NE	NE		NO
Sweden	360.94	331.40	29.54	0.09	IE	0.09	0.20	0.01		-1.56
Switzerland										
Turkey										
Ukraine	7,356.66	6,986.84	369.83	NO	NO	NO	NO	0.00		-2.50
United Kingdom of Great Britain and Northern Ireland	13,428.82	12,219.12	1,209.70	NO	NO	NO	NO	0.11		IE,NO
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f No reporting on DOM pools is required for category grassland remaining grassland.^g When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^h Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.7b**Grassland remaining grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (Gg C)						Net CO ₂ (kt)
	CSC ^c in living biomass ^d			Net CSC ^c in DOM ^{e,f}	Net CSC ^c in soils ^{g,h}		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	1,375.00	-1,270.00	105.00	-1,360.15	1,987.31	IE	-2,684.57
Austria	NO	NO	NO	NO	2.26	-3.24	3.60
Belarus							
Belgium	NO	NO	NO	NO	53.54	-2.05	-188.79
Bulgaria	NO	NO	NO	NO	NO	NO	NO
Canada	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NE,NO	NE,NO	NA,NE,NO
Croatia	NO	NO	NO	NO	NO	-0.56	2.07
Cyprus							
Czech Republic	NO	NO	NO	NO	0.35	NO	-1.29
Denmark	8.49	-20.86	-12.36	NO	NO	-141.53	564.29
Estonia	IE	-99.94	-99.94	2.87	NO	-27.42	456.45
European Union (KP)							
European Union (Convention)							
Finland	68.92	NE	68.92	NE	NO	-173.18	382.27
France	1,877.66	-1,877.66	0	NO	NO	NO	0
Germany	201.40	-52.28	149.12	NO	-6.83	-5,660.28	20,232.61
Greece	NO	0.00	0.00	NO	NO	NO	0.00
Hungary							
Iceland	1.89	IE,NO	1.89	0.48	1.20	-1,837.63	6,724.88
Ireland	NO	NO	NO	NO	53.51	-1,352.55	4,763.15
Italy	2,948.57	-2,410.64	537.93	25.97	NA,NO	NO	-2,067.61
Japan							
Kazakhstan	NA	-474.00	-474.00	IE	2,507.00	NA	-7,454.33
Latvia	16.12	-4.74	11.38	2.38	NO	-177.64	600.93
Liechtenstein							
Lithuania	NO	NO	NO	NO	NO	-22.31	81.81
Luxembourg							
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco							
Netherlands	NE	NE	NE	NE	NE,NO	-1,108.68	4,065.16
New Zealand	45.74	-36.89	8.84	0.08	-1.13	-376.09	1,350.40
Norway							
Poland	NO	NO	NO	NO	-68.04	-37.11	385.55
Portugal	NO	NO	NO	NO	73.75	NO	-270.42
Romania							
Russian Federation	NA	NA	NA	NA	1,319.98	-10,255.42	32,763.27
Slovakia	NO	NO	NO	NO	NO	NO	NO
Slovenia	NA	NA	NA	NA	NA	NA	NA
Spain	NE	NE	NE	NE	NE	NO	NE,NO
Sweden	31.17	IE	31.17	72.62	4.91	-45.99	-229.95
Switzerland							
Turkey							
Ukraine	NO	NO	NO	NO	21.19	-924.57	3,312.38
United Kingdom of Great Britain and Northern Ireland	NO	NO	NO	NO	1,314.76	IE,NO	-4,820.80
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f No reporting on DOM pools is required for category grassland remaining grassland.^g When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^h Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.8a**Land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Activity data			IEF (Mg C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in DOM ^e /area	Net CSC ^c in soils/area ^{f,g}		
				Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	14,761.04	14,761.04	IE,NE,NO	IE,NE,NO	-0.25	-0.25	-0.18	-0.24	IE,NE,NO	
Austria	56.78	56.78	NO	0.30	-1.00	-0.70	-0.41	0.89	NO	
Belarus										
Belgium	93.16	93.16	NO	NO	-0.18	-0.18	-0.02	1.02	NO	
Bulgaria	215.85	215.85	NO	0.45	-0.61	-0.16	NO	0.75	NO	
Canada	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Croatia	75.02	75.02	NO	0.46	-1.16	-0.70	NO	1.08	NO	
Cyprus										
Czech Republic	178.96	178.96	NO	0.04	-0.04	0.00	0.00	0.49	NO	
Denmark	52.84	52.84	IE,NO	0.12	-0.18	-0.06	0.00	-0.02	IE,NO	
Estonia	51.99	48.23	3.76	0.00	-0.35	-0.34	-0.09	0.90	-1.60	
European Union (KP)										
European Union (Convention)										
Finland	66.82	49.06	17.77	0.15	-0.20	-0.04	0.00	0.08	-3.50	
France	3,561.00	3,479.51	81.48	NO	-0.12	-0.12	-0.02	1.08	-2.38	
Germany	793.20	639.44	153.75	0.40	-0.41	-0.01	-0.06	0.82	-6.63	
Greece	344.31	344.31	NO	NO	NO	NO	NO	0.84	NO	
Hungary										
Iceland	321.20	279.16	42.04	0.09	IE,NA,NO	0.09	0.00	0.48	-5.70	
Ireland	9.34	6.27	3.07	0.35	-0.35	0.00	-0.04	NO	-5.13	
Italy	1,485.97	1,485.97	NO	NO	-0.04	-0.04	NO	1.07	NO	
Japan										
Kazakhstan	29.00	29.00	NA	IE,NA	IE,NA	IE,NA	IE,NA	NA	NA	
Latvia	135.69	129.08	6.61	NO	NO	NO	NO	1.18	-6.10	
Liechtenstein										
Lithuania	657.04	583.96	73.07	NO	NO	NO	NO	1.42	-0.25	
Luxembourg										
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Monaco										
Netherlands	90.54	77.26	13.28	2.67	-3.20	-0.53	-0.66	2.82	-15.33	
New Zealand	195.74	194.73	1.01	0.18	-6.81	-6.64	-0.61	0.52	-1.16	
Norway										
Poland	194.03	194.03	NO	0.13	IE,NO	0.13	IE,NO	0.93	NO	
Portugal	246.53	246.53	NO	0.04	-0.17	-0.12	-0.04	-0.46	NO	
Romania										
Russian Federation	35,367.80	34,558.32	809.48	0.24	NA,NO	0.24	0.20	0.42	-5.82	
Slovakia	80.22	80.22	NO	0.01	-0.01	-0.01	0.00	0.70	NO	
Slovenia	178.00	178.00	NA,NO	0.16	-1.37	-1.21	-0.23	-0.04	NA,NO	
Spain	592.45	592.45	NO	IE,NO	-0.78	-0.78	-0.12	0.38	NO	
Sweden	117.41	104.93	12.48	0.15	-1.55	-1.40	-0.30	0.08	-3.59	
Switzerland										
Turkey										
Ukraine	498.94	498.94	NO	NO	NO	NO	NO	NO	NO	
United Kingdom of Great Britain and Northern Ireland	2,074.83	2,070.05	4.78	0.03	-0.05	-0.01	-0.01	0.66	-0.25	
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.8b**Land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (Gg C)						Net CO ₂ (kt)
	CSC ^c in living biomass ^d			Net CSC ^e in DOM ^e	Net CSC ^e in soils ^{fg}		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	IE,NE,NO	-3,671.03	-3,671.03	-2,673.07	-3,616.11	IE,NE,NO	36,520.75
Austria	16.88	-56.91	-40.02	-23.05	50.39	NO	46.54
Belarus							
Belgium	NO	-16.51	-16.51	-1.42	95.23	NO	-283.46
Bulgaria	96.85	-130.75	-33.90	NO	160.98	NO	-465.98
Canada	NO	NO	NO	NO	NO	NO	NO
Croatia	34.34	-86.80	-52.46	NO	81.25	NO	-105.57
Cyprus							
Czech Republic	7.38	-6.57	0.80	-0.14	86.81	NO	-320.72
Denmark	6.40	-9.37	-2.97	-0.05	-1.27	IE,NO	15.75
Estonia	0.19	-18.12	-17.94	-4.87	43.19	-6.01	-52.69
European Union (KP)							
European Union (Convention)							
Finland	10.18	-13.19	-3.00	-0.05	3.78	-62.18	225.32
France	NO	-438.63	-438.63	-60.98	3,753.82	-194	-11,221.62
Germany	319.70	-327.74	-8.04	-45.13	525.51	-1,019.15	2,004.96
Greece	NO	NO	NO	NO	287.60	NO	-1,054.54
Hungary							
Iceland	27.86	IE,NA,NO	27.86	0.21	134.77	-239.65	281.64
Ireland	3.23	-3.25	-0.02	-0.40	NO	-15.76	59.33
Italy	NO	-66.82	-66.82	NO	1,589.51	NO	-5,583.18
Japan							
Kazakhstan	IE,NA	IE,NA	IE,NA	IE,NA	NA	NA	IE,NA
Latvia	NO	NO	NO	NO	152.86	-40.33	-412.61
Liechtenstein							
Lithuania	NO	NO	NO	NO	831.76	-18.27	-2,982.79
Luxembourg							
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco							
Netherlands	242.17	-290.12	-47.94	-59.73	217.87	-203.55	342.29
New Zealand	34.41	-1,333.38	-1,298.97	-119.69	100.38	-1.17	4,837.98
Norway							
Poland	25.18	IE,NO	25.18	IE,NO	181.39	NO	-757.42
Portugal	10.06	-40.68	-30.62	-10.97	-114.56	NO	572.54
Romania							
Russian Federation	8,490.96	NA,NO	8,490.96	7,025.36	14,642.52	-4,711.11	-93,308.37
Slovakia	0.44	-1.05	-0.61	-0.13	56.44	NO	-204.21
Slovenia	28.19	-244.15	-215.96	-41.02	-7.49	NA,NO	969.73
Spain	IE,NO	-464.51	-464.51	-72.47	225.69	NO	1,141.39
Sweden	17.92	-182.22	-164.30	-34.65	8.12	-44.83	864.12
Switzerland							
Turkey							
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom of Great Britain and Northern Ireland	70.68	-100.66	-29.97	-15.20	1,369.27	-1.20	-4,850.63
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.9a

Forest land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}

	Activity data			IEF (Mg C/ha)						
	Total area (kha)	Area of mineral soil (kha)	Area of organic soil (kha)	CSC ^c in living biomass/area ^d			Net CSC ^c in DOM ^e /area	Net CSC ^c in soils/area ^{f,g}		
				Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	14,761.04	14761.04	IE	IE	-0.25	-0.25	-0.18	-0.24	IE	
Austria	29.58	29.58	NO	0.26	-1.48	-1.22	-0.78	0.79	NO	
Belarus										
Belgium	6.36	6.36	NO	NO	-2.60	-2.60	-0.22	-1.03	NO	
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Canada	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Cyprus										
Czech Republic	2.35	2.35	NO	NA	-2.80	-2.80	-0.06	0.07	NO	
Denmark	1.72	1.72	NO	0.02	-0.19	-0.17	-0.03	-0.16	NO	
Estonia	5.92	5.71	0.20	IE	-2.20	-2.20	-0.80	0.23	-1.60	
European Union (KP)										
European Union (Convention)										
Finland	14.24	10.21	4.04	0.04	-0.44	-0.40	0.00	-0.56	-3.50	
France	434.10	434.10	NO	NO	-1.01	-1.01	-0.14	-0.06	NO	
Germany	74.67	44.58	30.09	0.53	-1.60	-1.06	-0.60	0.77	-6.56	
Greece	1.12	1.12	NO	NO	NO	NO	NO	-1.43	NO	
Hungary										
Iceland	NO	NO	NO	NA	NA	NA	NA	NA	NA	
Ireland	6.64	6.27	0.37	0.07	-0.49	-0.42	-0.06	NO	-3.91	
Italy	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Japan										
Kazakhstan	29.00	29.00	NA	IE	IE	IE	IE	NA	NA	
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Liechtenstein										
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Luxembourg										
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Monaco										
Netherlands	22.23	19.75	2.48	0.56	-6.53	-5.97	-2.69	0.58	-2.91	
New Zealand	175.05	174.33	0.72	0.18	-7.60	-7.41	-0.68	0.53	-0.83	
Norway										
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Portugal	37.34	37.34	NO	0.02	-0.28	-0.26	-0.09	-0.86	NO	
Romania										
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO	NO	
Slovakia	2.34	2.34	NO	NO	-0.45	-0.45	-0.06	-0.70	NO	
Slovenia	54.00	54.00	NA,NO	NA	-4.43	-4.43	-0.76	-1.02	NA,NO	
Spain	286.84	286.84	NO	IE	-1.52	-1.52	-0.26	-0.13	NO	
Sweden	38.21	35.08	3.13	IE	-4.77	-4.77	-0.80	0.23	-1.58	
Switzerland										
Turkey										
Ukraine	3.73	3.73	NO	NO	NO	NO	NO	NO	NO	
United Kingdom of Great Britain and Northern Ireland	42.59	42.59	IE,NO	IE,NO	-2.19	-2.19	-0.36	-0.41	IE,NO	
United States of America										

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.9b**Forest land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO₂ emissions/removals (2013)^{a,b}**

	Emissions/Removals (Gg C)						Net CO ₂ (kt)
	CSC ^c in living biomass ^d			Net CSC ^c in DOM ^e	Net CSC ^c in soils ^{f,g}		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	IE	-3,671.03	-3,671.03	-2,673.07	-3,616.11	IE	36,520.75
Austria	7.66	-43.71	-36.05	-23.05	23.28	NO	131.36
Belarus							
Belgium	NO	-16.51	-16.51	-1.42	-6.57	NO	89.80
Bulgaria	NO	NO	NO	NO	NO	NO	NO
Canada	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO
Cyprus							
Czech Republic	NA	-6.57	-6.57	-0.14	0.17	NO	24.02
Denmark	0.03	-0.33	-0.30	-0.05	-0.28	NO	2.30
Estonia	IE	-13.02	-13.02	-4.73	1.29	-0.32	61.56
European Union (KP)							
European Union (Convention)							
Finland	0.55	-6.32	-5.76	-0.05	-5.73	-14.12	94.13
France	NO	-438.63	-438.63	-60.98	-25.37	NO	1,924.93
Germany	39.67	-119.19	-79.52	-45.13	34.13	-197.40	1,055.74
Greece	NO	NO	NO	NO	-1.61	NO	5.89
Hungary							
Iceland	NA	NA	NA	NA	NA	NA	NA
Ireland	0.44	-3.25	-2.82	-0.40	NO	-1.46	17.16
Italy	NO	NO	NO	NO	NO	NO	NO
Japan							
Kazakhstan	IE	IE	IE	IE	NA	NA	IE,NA
Latvia	NO	NO	NO	NO	NO	NO	NO
Liechtenstein							
Lithuania	NO	NO	NO	NO	NO	NO	NO
Luxembourg							
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco							
Netherlands	12.43	-145.11	-132.68	-59.73	11.40	-7.21	690.15
New Zealand	32.24	-1,329.97	-1,297.74	-119.72	92.85	-0.60	4,859.09
Norway							
Poland	NO	NO	NO	NO	NO	NO	NO
Portugal	0.72	-10.39	-9.66	-3.51	-32.17	NO	166.23
Romania							
Russian Federation	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	-1.05	-1.05	-0.13	-1.64	NO	10.36
Slovenia	NA	-239.42	-239.42	-41.02	-55.27	NA,NO	1,230.94
Spain	IE	-434.72	-434.72	-73.69	-38.04	NO	2,003.64
Sweden	IE	-182.22	-182.22	-30.61	7.89	-4.94	769.53
Switzerland							
Turkey							
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom of Great Britain and Northern Ireland	IE,NO	-93.14	-93.14	-15.20	-17.46	IE,NO	461.25
United States of America							

^a The signs for estimates of gains in carbon stocks are positive (+) and of losses in carbon stocks are negative (-).^b Where Parties directly estimate emissions and removals rather than carbon stock changes, they may use notation keys only in the stock change columns.^c CSC = carbon stock change.^d Carbon stock gains and losses should be listed separately except in cases where, due to the methods used, it is technically impossible to separate information on gains and losses.^e DOM = dead organic matter.^f When Parties cannot estimate carbon stock changes for organic and mineral soil separately, these should be reported under mineral soils.^g Parties who wish to do so may report annual on-site CO₂-C emissions/removals and off-site CO₂-C emissions from drained and rewetted organic soils here.

Table 4.10**Direct N₂O emissions from nitrogen inputs - AD, IEFs and N₂O emissions (base year and 2013)**

	Forest Land remaining Forest Land						Land converted to Forest Land					
	Base year ^a			2013			Base year ^a			2013		
	Activity data	N ₂ O-N emissions per unit of N-input	N ₂ O emissions	Activity data	N ₂ O-N emissions per unit of N-input	N ₂ O emissions	Activity data	N ₂ O-N emissions per unit of N-input	N ₂ O emissions	Activity data	N ₂ O-N emissions per unit of N-input	N ₂ O emissions
	(kg N/yr)	(kg N ₂ O-N/kg N)	(kt)	(kg N/yr)	(kg N ₂ O-N/kg N)	(kt)	(kg N/yr)	(kg N ₂ O-N/kg N)	(kt)	(kg N/yr)	(kg N ₂ O-N/kg N)	(kt)
Australia	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO
Austria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Belarus												
Belgium	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Canada	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Cyprus												
Czech Republic	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Denmark	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO	IE,NO
Estonia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
European Union (KP)												
European Union (Convention)												
Finland	4,404,000.00	0.01	0.07	2,789,510.00	0.01	0.04	NA	NA	NA	NA	NA	NA
France	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Germany	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Greece	NO	NA,NO	NA,NO	NO	NA,NO	NA,NO	NO	NO	NO	NO	NO	NO
Hungary												
Iceland	NO	NA	NA	NO	NA	NA	3,090.10	0.01	0.00	11,900.00	0.01	0.00
Ireland	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Italy	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Japan												
Kazakhstan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein												
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg												
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco												
Netherlands	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
New Zealand	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Norway												
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Portugal	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Romania												
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Sweden	10,479,200.00	0.01	0.16	3,580,000.00	0.01	0.06	NO	NO	NO	NO	NO	NO
Switzerland												
Turkey												
Ukraine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
United Kingdom of Great Britain and Northern Ireland	NO	NO	NO	NO	NO	NO	1,535,806.36	0.01	0.02	364,067.84	0.01	0.00
United States of America												

^a In accordance with the UNFCCC reporting guidelines on annual GHG inventories of Annex I Parties, the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 4.11

Direct nitrous oxide (N₂O) emissions from nitrogen (N) mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils - AD, IEF and N₂O emissions (base year and 2013)

	Base year ^a			2013		
	Land area converted	N ₂ O-N emissions per area converted	N ₂ O emissions	Land area converted	N ₂ O-N emissions per area converted	N ₂ O emissions
	(kha)	(kg N ₂ O-N/ha)	(kt)	(kha)	(kg N ₂ O-N/ha)	(kt)
Australia	542,742.66	0.01	7.98	549,310.26	0.00	3.47
Austria	38.94	0.81	0.05	52.72	0.80	0.07
Belarus						
Belgium	1,667.64	0.01	0.03	1,848.92	0.11	0.33
Bulgaria	NO	NO	NO	NO	NO	NO
Canada	9,354.48	0.00	0.07	7,598.37	0.00	0.05
Croatia	7.33	1.36	0.02	16.86	1.30	0.03
Cyprus						
Czech Republic	921.84	0.02	0.03	946.79	0.01	0.02
Denmark	216,615.33	0.00	0.00	216,847.13	0.00	0.13
Estonia	NA,NO	NA,NO	NA,NO	12.24	0.95	0.02
European Union (KP)						
European Union (Convention)						
Finland	290.71	0.17	0.08	294.98	0.21	0.10
France	NO	NO	NO	NO	NO	NO
Germany	31,916.29	0.03	1.66	32,521.75	0.03	1.57
Greece	0.00	0.70	0.00	0.11	0.17	0.00
Hungary						
Iceland	325.79	9.35	4.79	372.67	9.29	5.44
Ireland	4,063.65	0.01	0.07	787.45	0.38	0.47
Italy	136.15	0.71	0.15	33.54	0.71	0.04
Japan						
Kazakhstan	35,607.00	IE,NA	IE,NA	29,395.00	IE,NA,NO	IE,NA,NO
Latvia	2.50	3.47	0.01	66.81	3.21	0.34
Liechtenstein						
Lithuania	1,044.89	0.01	0.02	766.39	0.01	0.02
Luxembourg						
Malta	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO	NE,NO
Monaco						
Netherlands	47.33	0.25	0.02	1,179.12	0.17	0.32
New Zealand	26,288.75	0.01	0.55	26,265.31	0.01	0.41
Norway						
Poland	7,819.00	0.00	0.00	16,166.00	0.00	0.00
Portugal	694.73	1.56	1.70	344.38	2.11	1.14
Romania						
Russian Federation	79,225.47	0.01	1.29	719,698.15	0.00	2.51
Slovakia	239.26	0.53	0.20	118.75	0.15	0.03
Slovenia	72.00	0.40	0.05	71.80	0.40	0.04
Spain	50.83	0.71	0.06	449.93	0.68	0.48
Sweden	24,798.88	0.01	0.22	24,927.85	0.02	0.62
Switzerland						
Turkey						
Ukraine	304.09	0.00	0.00	1,242.47	0.00	0.00
United Kingdom of Great Britain and Northern Ireland	3,220.32	0.68	3.42	2,681.83	0.52	2.19
United States of America						

^a In accordance with the UNFCCC reporting guidelines on annual GHG inventories of Annex I Parties, the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 4.12a

Biomass burning - CO₂ emissions from forest land - Forest land remaining forest land (base year and 2013)

	Base year ^a					2013				
	Activity Data			CO ₂ IEF	CO ₂ Emission	Activity Data			CO ₂ IEF	CO ₂ Emission
	Description	Unit	Value	(t/activity data unit)	(kt)	Description	Unit	Value	(t/activity data unit)	(kt)
Australia	AB	ha	767,785	IE	IE	AB	ha	1,320,572	IE	IE
Austria	AB	ha	200	IE,NO	IE,NO	AB	ha	90	IE,NO	IE,NO
Belarus										
Belgium	AB	ha	19	275.68	5.24	AB	ha	NO	NO	NO
Bulgaria	AB	ha	461	IE,NO	IE,NO	AB	ha	3,307	IE,NO	IE,NO
Canada	AB	ha	348,477	108.88	37,942.51	AB	ha	544,468	109.80	59,783.58
Croatia	AB	ha	482	IE,NO	IE,NO	AB	ha	615	IE,NO	IE,NO
Cyprus										
Czech Republic		NA	NA	NA	1,055.63		NA	NA	NA	593.81
Denmark	AB	ha	0	IE,NO	IE,NO	AB	ha	0	IE,NO	IE,NO
Estonia	AB	ha	117	IE,NO	IE,NO	AB	ha	32	IE,NO	IE,NO
European Union (KP)										
European Union (Convention)										
Finland	AB	ha	4,188	0.93	3.88	AB	ha	1,015	4.99	5.07
France	AB	ha	72,669	0.37	1,595.88	AB	ha	3,878	0.03	122.36
Germany	AB	ha	1,606	IE,NO	IE,NO	AB	ha	199	IE,NO	IE,NO
Greece	AB	ha	7,718	19.92	153.74	AB	ha	870	19.73	17.17
Hungary										
Iceland	AB	ha	NO	NA	NA	AB	ha	0	NA	NA
Ireland	AB	ha	389	260.65	101.39	AB	ha	249	260.65	64.93
Italy	AB	ha	57,163	IE,NO	IE,NO	AB	ha	6,972	IE,NO	IE,NO
Japan										
Kazakhstan	AB	ha	1,020	4.71	4.80	AB	ha	963	4.67	4.50
Latvia		NA	NA	NA	256.18		NA	NA	NA	83.34
Liechtenstein										
Lithuania	AB	ha	127	33.57	4.28	AB	ha	23	23.50	0.55
Luxembourg										
Malta	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Monaco										
Netherlands	AB	ha	38	66.81	2.53	AB	ha	38	94.30	3.56
New Zealand	BB	kg dm	131,417,583	0.00	71.76	BB	kg dm	93,187,723	0.00	48.61
Norway										
Poland	AB	ha	7,334	59.94	439.66	AB	ha	1,197	66.24	79.31
Portugal	AB	ha	55,279	33.04	1,826.54	AB	ha	34,822	33.37	1,162.08
Romania										
Russian Federation	AB	ha	2,671,957	59.66	159,396.82	AB	ha	3,614,581	50.44	182,326.35
Slovakia		NA	NA	NA	6.49		NA	NA	NA	8.27
Slovenia	AB	ha	NE,NO	NE,NO	NE,NO	AB	ha	48	66.71	3.23
Spain		NA	NA	IE,NE	IE,NE		NA	NA	IE	IE
Sweden	AB	ha	1,673	IE	IE	AB	ha	1,913	IE	IE
Switzerland										
Turkey										
Ukraine	BB	kg dm	32,163	2.48	79.86	BB	kg dm	944	1.70	1.61
United Kingdom of Great Britain a	BB	kg dm	31,659,266	0.00	42.75	BB	kg dm	42,893,625	0.00	58.66
United States of America										

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 4.12b**Biomass burning - CO₂ emissions from forest land - Land converted to forest land (base year and 2013)**

	Base year ^a					2013				
	Activity Data			CO ₂ IEF	CO ₂ Emission	Activity Data			CO ₂ IEF	CO ₂ Emission
	Description	Unit	Value	(t/activity data unit)	(kt)	Description	Unit	Value	(t/activity data unit)	(kt)
Australia	AB	ha	210	7.25	1.52	AB	ha	75,242	3.42	257.01
Austria	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Belarus										
Belgium	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Bulgaria	AB	ha	1	IE,NO	IE,NO	AB	ha	11	IE,NO	IE,NO
Canada	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Croatia	AB	ha	NO	IE,NO	IE,NO	AB	ha	11	IE,NO	IE,NO
Cyprus										
Czech Republic	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Denmark	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Estonia	AB	ha	IE,NO	IE,NO	IE,NO	AB	ha	IE,NO	IE,NO	IE,NO
European Union (KP)										
European Union (Convention)										
Finland	AB	ha	NA,NO	NA	NA	AB	ha	NA,NO	NA	NA
France		NA	NA	NO	NO		NA	NA	NO	NO
Germany	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Greece	AB	ha	NO	NO	NO	AB	ha	23	7.37	0.17
Hungary										
Iceland	AB	ha	NO	NA,NE	NA,NE	AB	ha	NO	NA	NA
Ireland	AB	ha	NO	NO	NO	AB	ha	159	151.78	24.17
Italy	AB	ha	5,703	IE,NO	IE,NO	AB	ha	1,266	IE,NO	IE,NO
Japan										
Kazakhstan	AB	ha	NA	NA	NA	AB	ha	NA	NA	NA
Latvia	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Liechtenstein										
Lithuania	AB	ha	7	25.00	0.17	AB	ha	1	9.75	0.01
Luxembourg										
Malta		NA	NO	NO	NO		NA	NO	NO	NO
Monaco										
Netherlands	AB	ha	IE,NO	IE,NO	IE,NO	AB	ha	IE,NO	IE,NO	IE,NO
New Zealand	BB	kg dm	8,437,982	IE	IE	BB	kg dm	14,183,966	IE	IE
Norway										
Poland	AB	ha	7	0.06	0.00	AB	ha	92	0.07	0.01
Portugal	AB	ha	9,970	21.12	210.57	AB	ha	4,570	35.59	162.64
Romania										
Russian Federation	BB	kg dm	3,942,837	IE,NO	IE,NO	BB	kg dm	472,467,812	IE,NO	IE,NO
Slovakia	AB	ha	23	31.07	0.72	AB	ha	4	31.07	0.13
Slovenia	AB	ha	IE,NO	IE,NO	IE,NO	AB	ha	IE,NO	IE,NO	IE,NO
Spain	BB	kg dm	1,982,191	0.00	3.63	BB	kg dm	30,916,331	0.00	56.68
Sweden	AB	ha	NO	NO	NO	AB	ha	NO	NO	NO
Switzerland										
Turkey										
Ukraine	BB	kg dm	NO	NO	NO	BB	kg dm	NA,NO	NA,NO	NA,NO
United Kingdom of Great Britain and Northern Ireland	BB	kg dm	IE,NE,NO	IE,NE,NO	IE,NE,NO	BB	kg dm	IE,NE,NO	IE,NE,NO	IE,NE,NO
United States of America										

^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

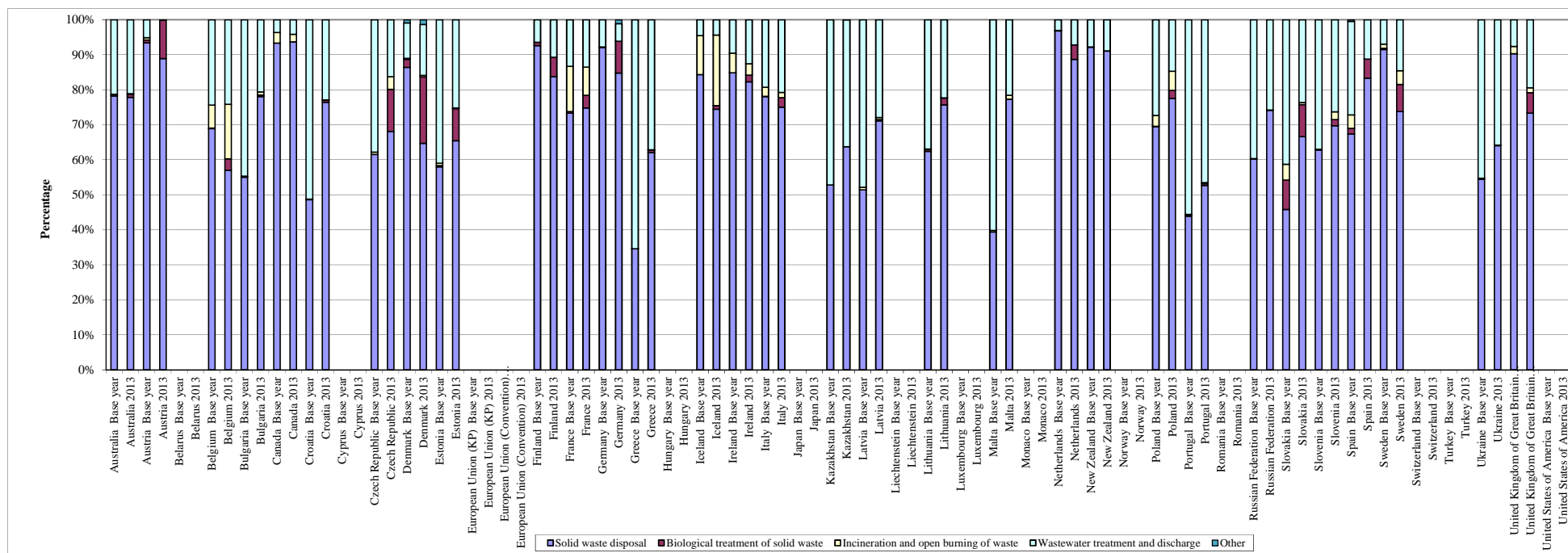
Table 4.13**Land area (2013)**

Area (kha)	CRF						Total	FAO ^a	difference	FAO ^a	difference
	Forest land	Cropland	Grassland	Wetlands	Settlements	Other land		Total country area		Forest	
Australia	111,243	36,619	543,441	19,328	1,126	60,695	772,452	774,122.0	0.2	147,452.0	32.5
Austria	4,019	1,431	1,463	149	544	781	8,387	8,387.9	0.0	3,897.0	-3.0
Belarus											
Belgium	714	981	646	53	659	NO	3,053	3,053.0	0.0	679.9	-4.8
Bulgaria	3,862	3,813	1,815	231	856	523	11,100	11,100.0	0.0	4,037.4	4.5
Canada	231,709	50,236	7,166	519	957	NE,NO	290,586	998,467.0	243.6	310,134.0	33.8
Croatia	2,353	1,535	1,216	74	258	222	5,658	5,659.0	0.0	1,926.8	-18.1
Cyprus											
Czech Republic	2,610	3,225	1,093	164	686	107	7,887	7,887.0	0.0	2,661.0	1.9
Denmark	638	2,661	552	152	525	26	4,555	4,309.0	-5.4	548.0	-14.1
Estonia	2,288	1,041	334	499	308	53	4,523	4,523.0	0.0	2,196.0	-4.0
European Union (KP)											
European Union (Convention)											
Finland	21,921	2,476	242	6,448	1,444	1,311	33,843	33,842.0	0.0	22,157.0	1.1
France	23,680	17,874	14,638	1,153	5,568	947	63,860	54,909.1	-14.0	16,050.0	-32.2
Germany	11,375	13,491	6,383	681	3,828	20	35,780	35,717.0	-0.2	11,076.0	-2.6
Greece	3,387	3,563	5,135	301	535	274	13,196	13,196.0	0.0	3,963.4	17.0
Hungary											
Iceland	135	127	5,375	620	27	3,985	10,269	10,300.0	0.3	31.7	-76.6
Ireland	749	674	4,045	1,146	118	383	7,114	7,028.0	-1.2	756.6	1.1
Italy	9,196	9,002	8,507	519	2,279	655	30,158	30,134.0	-0.1	9,305.0	1.2
Japan											
Kazakhstan	14,928	35,791	186,801	1	166	25,373	263,060	272,490.0	3.6	3,297.8	-77.9
Latvia	3,326	1,716	698	447	264	4	6,455	6,448.0	-0.1	3,376.8	1.5
Liechtenstein											
Lithuania	2,189	2,131	1,507	137	346	14	6,325	6,530.0	3.2	2,175.6	-0.6
Luxembourg											
Malta	0	196	10	0	9	0	215	32.0	-85.1	0.3	42.9
Monaco											
Netherlands	398	949	1,059	826	610	37	3,879	4,150.0	7.0	365.0	-8.2
New Zealand	9,932	476	14,716	681	225	895	26,925	26,771.0	-0.6	8,252.2	-16.9
Norway											
Poland	9,369	14,104	4,162	1,371	2,163	98	31,268	31,268.0	0.0	9,391.8	0.2
Portugal	4,363	2,389	668	194	486	1,140	9,239	9,221.0	-0.2	3,463.6	-20.6
Romania											
Russian Federation	898,153	91,161	121,526	225,041	9,941	358,558	1,704,379	1,709,824.0	0.3	809,210.0	-9.9
Slovakia	2,015	1,534	868	94	233	159	4,904	4,903.6	0.0	1,933.4	-4.1
Slovenia	1,210	234	431	14	109	30	2,027	2,027.0	0.0	1,257.0	3.9
Spain	15,374	20,081	12,274	418	1,339	1,166	50,651	50,560.0	-0.2	18,525.3	20.5
Sweden	28,472	2,887	478	7,089	1,852	4,330	45,109	44,742.0	-0.8	28,203.0	-0.9
Switzerland											
Turkey											
Ukraine	10,624	34,889	7,856	3,405	2,543	1,039	60,355	60,355.0	0.0	9,757.0	-8.2
United Kingdom of Great Britain and Northern Ireland	2,659	4,832	15,504	174	1,321	585	25,075	24,361.0	-2.8	2,895.4	8.9
United States of America											

^a Source of data for total country area and forest area: FAOSTAT data, downloaded on 10 September 2015 from <http://faostat3.fao.org>. At the time of download data for 2013 was not available, therefore, data for 2012 is shown in this table.

Figure 5.1

Contribution of subsectors to total GHG emissions in the waste sector^{a,b}



^a In accordance with the UNFCCC reporting guidelines on annual inventories of Annex I Parties the year 1990 should be the base year for the estimation and reporting of inventories. However, in accordance with decisions 9/CP.2, 11/CP.4 and 7/CP.12 some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Croatia (1990), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

^b Indirect CO₂ emissions are excluded from the totals in this graph.

Table 5.1a

Solid waste disposal on land, biological treatment of solid waste, incineration and open burning of waste and wastewater treatment and discharge (2013)

	Activity data		Incineration and open burning of waste						Wastewater treatment and discharge												
			Methods and EF used ^a		Share of national total ^d	Emissions per capita ^e	IEF		Methods and EF used ^b		Share of national total ^d	Emissions per capita ^e	CH ₄ IEF		Methods and EF used ^b		Share of national total ^d	Emissions per capita ^e	N ₂ O IEF		
	Population (million)	World Bank ^c	Methods	EF			Waste incineration	Open burning of waste	Methods	EF			Domestic	Industrial	Methods	EF			Domestic	Industrial	
					CRF	World Bank ^c					Methods	EF					(%)	(kg)			kg/t
IPCC default EF ^f																				0.005	
Australia	23.135	23.126	T2	CS	0.01	1.29	1,438.13	NO	T2,T3	CS,D	0.45	104.45	0.07	0.09	CS	D	0.07	17.57	0.01	IE	
Austria	8.477	8.479	NA	NA	0.00	0.24	2,030.00	NO	NA	NA	0.03	2.97	0.16	IE,NA	NA	NA	0.20	18.88	0.03	IE	
Belarus																					
Belgium	11.036	11.183	T1,T3	PS	0.26	28.10	1,459.49	NO	CR,T1	CR,D	0.18	19.50	NE	NA	D	D	0.22	24.33	NE	NA	
Bulgaria	7.246	7.265	NO,T1	D,NO	0.07	5.37	1,621.37	NO	NO,T2	CS,NO	1.66	128.17	0.16	0.03	T1	D	0.00	0.02	0.00	NE	
Canada	35.154	35.158	CS,T2	CS,D	0.06	11.43	210.98	NO	CS,T3	CS,D,PS	0.05	11.14	NA	NA	D	D	0.09	18.80	0.01	NE	
Croatia	4.256	4.256	T1	D	0.00	0.01	880.00	NO	T1	D	0.82	47.10	0.09	0.00	T1	D	0.34	19.64	NA	NA	
Cyprus																					
Czech Republic	10.511	10.514	T1	D	0.14	16.71	1,641.75	NO	T1,T2	CS,D	0.46	56.05	NE	NE	D	CS,D	0.16	19.38	NE	NE	
Denmark	5.659	5.615	T1	CS	0.01	0.55	388.50	153.96	CS	CS	0.20	19.92	0.05	IE,NA,NO	CS,T1	CS,D	0.14	13.87	0.04	IE	
Estonia	1.320	1.318	T1,T2	D	0.00	0.24	2,884.03	51.83	T1	D	0.29	47.81	0.07	0.20	T1	D	0.14	22.96	0.01	NO	
European Union (KP)																					
European Union (Convention)																					
Finland	5.439	5.439	NA	NA	–	IE,NE,NO	IE,NO	NE,NO	CS,T2	CS,D	0.28	32.01	0.05	0.00	CS,T1	D	0.12	14.08	0.01	0.01	
France	66,493.546	65.920	NA	NA	0.31	0.02	637.88	101.11			0.45	0.03	0.09	0.51			0.09	0.01	0.00	NA	
Germany	80.524	80.646	NA	NA	–	NO	NO	NO	CS,D	CS,D	0.01	0.81	0.17	IE	CS,D	CS,D	0.05	6.41	0.01	IE	
Greece	11.465	11.028	D	CS,D	0.00	0.27	141.60	NO	D	D	1.46	134.16	0.09	0.25	D	CS	0.31	28.18	0.01	IE	
Hungary																					
Iceland	0.326	0.324	T2	D	0.11	16.04	555.99	NO	T1	CS,D	0.09	13.14	0.02		T1	D	0.17	24.02	0.01	IE	
Ireland	4.593	4.598	T1	D	0.07	9.37	2,933.33	505.30	T1,T2	CS,D	0.09	11.07	0.01	IE,NO	T1	D	0.20	25.84	0.01	IE	
Italy	59.685	60.234	D	CS	0.04	3.25	953.02	NO	D	D	0.58	42.15	0.15	0.25	D	CR,D	0.30	22.28	0.01	1.00	
Japan																					
Kazakhstan		17.035	NA	NA	–	NA	NA	NA	D	D	0.37	67.90	0.48	NA,NO	D	D	0.35	65.07	0.00	NE	
Latvia	2.024	2.013	D	D	0.00	0.21	880.00	NE,NO	D	CS	1.84	100.02	0.06	0.06	D	D	0.06	3.34	0.02	0.00	
Liechtenstein																					
Lithuania	2.958	2.958	T1	D	0.00	0.26	1,006.64	NO	T1	D	1.10	74.43	0.09	IE,NA	T1	D	0.23	15.44	0.01	NA	
Luxembourg																					
Malta	0.425	0.423	T1	D	0.01	0.91	60.28	NO	NA	NA	–	IE,NA,NO	IE,NA,NO	IE,NO	D	D	0.42	27.34	0.01	IE	
Monaco																					
Netherlands		16.804	NA	NA	–	IE,NA,NO	IE,NA	NO	T2	CS	0.10	12.17	0.05	0.01	T1	D	0.04	4.09	0.01	NE	
New Zealand	4.513	4.442	D	D	0.00	0.41	4.45	NO	T1	CS	0.34	60.36	0.04	0.03	CS,T1	CS,D	0.22	39.47	0.01	0.02	
Norway																					
Poland	38.496	38.040	T1,T2	CS,D	0.14	14.37	490.09	NA	T1	CS,D	0.22	23.02	0.07	0.03	T1	D	0.19	19.19	0.01	NA	
Portugal	10.427	10.457	T1,T2	CS,D	0.02	1.34	87.81	NO	T2	CS,D	4.49	281.10	0.16	0.04	T2	CS,D	0.93	58.48	0.01	NO	
Romania																					
Russian Federation	143.975	143.507	NA	NA	–	IE,NO	IE	NO	T1,T2	CS,D	0.85	165.98	0.40	0.10	T2	CS,D	0.11	21.18	0.00	NE	
Slovakia	5.412	5.413	T2	CS,D	0.02	1.23	28.53	NO	CS,T2	D	0.73	58.54	0.27	0.03	CS,T2	CS,D	0.11	9.16	0.01	0.01	
Slovenia	2.061	2.060	T2	D	0.06	5.70	1,555.77	NO	T1	CS,D	0.49	43.34	0.10	0.01	T1	D	0.27	23.69	0.01	NA	
Spain	46.592	46.620	T2	CR,CS	0.00	0.07	40.54	NO	T1,T2	CS,D	0.26	18.00	0.04	0.11	D	D	0.30	20.62	0.01	NE	
Sweden	9.645	9.600	NA	NA	0.10	6.04	381.42	NE	NA	NA	0.05	2.83	0.21	1.49	NA	NA	0.37	21.56	0.02	0.01	
Switzerland																					
Turkey																					
Ukraine	45.426	45.490	T1,T2	CS,D	0.00	0.06	82.83	NA	T2,T3	CS,D	0.82	69.81	0.11	0.05	CS,T1	CS,D	0.31	26.32	0.01	0.01	
United Kingdom of Great Britain and Northern Ireland																					
United States of America	64.106	64.107	T1,T2	CS,D	0.05	4.12	635.20	227.16	CS,T1	CS,D	0.58	52.40	0.02	0.17	T1	D	0.18	16.58	0.01	NE	

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within the category 5.C Incineration and open burning of waste.^b Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within the category 5.D Wastewater treatment and discharge.^c Source of population data: World Bank <http://databank.worldbank.org/data/home.aspx>, downloaded 10 September 2015.^d The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.^e Calculated using population data from CRF Table 5.D. World Bank population data was used for Kazakhstan and Netherlands as it was not presented in CRF Table 5.D.^f Source of default emission factors: 2006 IPCC Guidelines, Volume 5, page 6.25.

Table 5.1b

Solid waste disposal on land, biological treatment of solid waste, incineration and open burning of waste and wastewater treatment and discharge (2013)

	Activity data		Solid waste disposal							Biological treatment of solid waste													
			CH ₄				CH ₄ IEF			Methods and EF used ^b		Share of national total ^f		CH ₄		IEF		Methods and EF used ^b		Share of national total ^f		Emissions per capita ^a	
	Methods and EF used ^a		Share of national total ^d	Emissions per capita ^e	Managed	Unmanaged	Uncategorized	Emissions per capita ^e						Composting	Anaerobic digestion								
	Population (million)							Methods	EF	(%)	(kg CO ₂ equivalent)	(t/t)	(t/t)			(t/t)	Methods	EF	(%)	(kg CO ₂ equivalent)	g/kg	g/kg	Methods
IPCC default EF	CRF	World Bank ^c																					
Australia	23.135	23.126	T2,T3	D	1.92	449	0.02	NO	NO	T1	CS	0.02	4.43	0.75	NO	T1	CS	0.00	0.46	0.01	NO		
Austria	8.477	8.479	NA	NA	1.67	157	0.30	NO	NO	NA	NA	0.08	7.38	0.73	NO	NA	NA	0.13	12.00	0.10	NO		
Belarus																							
Belgium	11.036	11.183	T2	D	0.96	103	0.04	NO	NO	T1	CS	0.02	2.31	NE,NO	NO	T1	CS	0.03	3.53	NE,NO	NO		
Bulgaria	7.246	7.265	T2	CS,D	6.29	485	0.02	0.13	NO	T1	D	0.02	1.47	4.00	NO	T1	D	0.02	1.31	0.30	NO		
Canada	35.154	35.158	CS	CS	3.27	675	0.05	IE	0.24	NA	NA	–	NE,NO	NE	NO	NA	NA	–	NE,NO	NE	NO		
Croatia	4.256	4.256	T2	CS	3.87	223	0.03	0.02	NO	T1	D	0.02	1.08	4.00	1.00	T1	D	0.01	0.86	0.30	IE,NA		
Cyprus																							
Czech Republic	10.511	10.514	T1	CS,D	2.57	316	0.05	NO	NO	CS,T1	CS,D	0.42	51.85	4.00	IE,NA	T1	D	0.03	3.83	0.30	IE,NO		
Denmark	5.659	5.615	T2	CS,D	1.50	150	0.01	0.02	NE,NO	CS,T1	CS,OTH	0.22	22.21	3.83	NO	CS,T1	CS,OTH	0.22	21.79	0.32	NO		
Estonia	1.320	1.318	T2	D	1.11	184	0.23	NO	NO	T1	D	0.08	13.62	4.00	IE,NO	T1	D	0.07	12.18	0.30	IE		
European Union (KP)																							
European Union (Convention)																							
Finland	5.439	5.439	T2	CS,D	3.10	359	0.00	NO	NO	T1	D	0.12	13.68	5.66	1.21	T1	D	0.09	10.09	0.38	NE		
France	66,493.546	65.920	NA	NA	2.99	0	0.04	NO	NO			0.05	0.00	1.12	2.68	NA	NA	0.09	0.01	0.22	NA		
Germany	80.524	80.646	T2	CS	1.04	122	0.43	NO	NO	T2	CS	0.08	9.16	1.40	3.44	T2	CS	0.03	3.94	0.07	0.07		
Greece	11.465	11.028	T2	CS,D	2.95	271	0.02	0.38	NO	D	D	0.02	1.74	4.00	NO	D	D	0.02	1.55	0.30	NO		
Hungary																							
Iceland	0.326	0.324	T2	CS,D	4.35	632	0.05	0.14	NA	T2	CS,D	0.03	4.60	4.00	NO	T1	D	0.03	4.11	0.3	NO		
Ireland	4.593	4.598	T2	CS,D	1.88	241	0.10	NO	NO	T1	D	0.02	2.89	4.00	NO	T1	D	0.02	2.58	0.30	NO		
Italy	59.685	60.234	T2	CS	3.17	232	0.05	NO	NO	CS,D	CS,D	0.02	1.10	0.03	2.00	D	D	0.10	7.40	0.20	NA,NO		
Japan																							
Kazakhstan		17.035	M	M	1.27	234	0.03	NA,NO	0.04	NA	NA	–	NO	NO	NO	NA	NA	–	NO	NO	NO		
Latvia	2.024	2.013	T2	CS,D	4.83	263	0.01	NO	NO	D	D	0.01	0.71	4.00	NO	D	D	0.01	0.63	0.30	NO		
Liechtenstein																							
Lithuania	2.958	2.958	T2	D	4.51	304	0.05	0.06	NO	T1	D	0.06	4.12	4.00	NO	T1	D	0.05	3.68	0.30	NO		
Luxembourg																							
Malta	0.425	0.423	M,T2	M,PS	1.49	98	0.01	NA	NO	NA	NA	–	NO	NO	14.02	NA	NA	–	NO,NA	NO	NA		
Monaco																							
Netherlands		16.804	T2	CS	1.73	201	IE	NA,NO	NO	NA	NA	0.04	4.54		NA	NA	NA	0.04	4.95		NA		
New Zealand	4.513	4.442	T2	CS,D	5.68	1,019	0.03	0.02	NO	NA	NA	–	NE,NO	NE,NO	NO	NA	NA	–	NE,NO	NE	NO		
Norway																							
Poland	38.496	38.040	T2	D	2.16	222	0.03	NO	0.03	T1	D	0.03	3.57	4.00	NA,NO	T1	D	0.03	3.19	0.30	NA,NO		
Portugal	10.427	10.457	T2	CS,D	6.13	384	0.04	NO	NA,NO	T1	D	0.03	2.10	4.00	1.00	T1	D	0.02	1.52	0.30	NO		
Romania																							
Russian Federation	143.975	143.507	T2	CS,D	2.77	538	0.11	0.03	NO	T1	D	0.00	0.46	8.00	NO	T1	D	0.00	0.41	0.60	NO		
Slovakia	5.412	5.413	T2	CS,D	2.36	191	0.02	0.11	NO	T1	D	0.17	13.87	4.00	NO	T1	D	0.15	12.40	0.30	NO		
Slovenia	2.061	2.060	T2	CS,D	2.02	178	0.05	NO	NO	T1	D	0.03	2.31	4.00	NO	T1	D	0.02	2.07	0.30	NO		
Spain	46.592	46.620	T2	CS,D,OTH	4.14	286	0.04	NO	NO	T1,T2	D,OTH	0.14	9.99	4.00	8.56	T1,T2	D,OTH	0.12	8.57	0.30	0.00		
Sweden	9.645	9.600	NA	NA	2.14	124	0.07	NO	NO	NA	NA	0.14	8.18	11.43	10.08	NA	NA	0.08	4.90	0.86	NA,NO		
Switzerland																							
Turkey																							
Ukraine	45.426	45.490	T3	CS,D	2.02	172	0.02	0.03	NA	T1	D	0.00	0.07	4.00	NA	T1	D	0.00	0.07	0.30	NA		
United Kingdom of Great Britain and Northern Ireland	64.106	64.107	T2	CS	2.90	260	0.04	NO	NO	T1	D	0.12	11.16	10.04	4.23	T1	D	0.11	9.49	0.75	0.17		
United States of America																							

^a Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within the category 5.A Solid waste disposal on land.^b Information on methods and emission factors in this table is as reported by Parties in table Summary 3 of the CRF. It may not reflect the actual method used or type of emission factor for all subcategories within the category 5.B Biological treatment of solid waste.^c Source of population data: World Bank <http://databank.worldbank.org/data/home.aspx>, downloaded 10 September 2015.^d The national total includes indirect CO₂ emissions from the atmospheric oxidation of CH₄, CO and NMVOCs for the following Parties: Czech Republic, Denmark, Estonia, Finland, France, Ireland, Latvia, Netherlands and Portugal.^e Calculated using population data from CRF Table 5.D. World Bank population data was used for Kazakhstan and Netherlands as it was not presented in CRF Table 5.D.