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SYNTHESIS AND ASSESSMENT REPORT ON THE GREENHOUSE GAS INVENTORIES SUBMITTED IN 2014

Note by the secretariat

Contents

GE.

I. Mandate

1. The Conference of the Parties (COP), by decision 19/CP.8, adopted the guidelines for the technical review of greenhouse gas (GHG) inventories from Parties included in Annex I to the Convention[1] (Annex I Parties). As part of the process for the technical review of GHG inventories, the COP requested the secretariat to conduct an annual synthesis and assessment of GHG inventories for all Annex I Parties. The purposes of this annual synthesis and assessment are to facilitate the consideration of inventory data across Parties, and to identify issues for further consideration during the reviews of individual inventories.

2. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP), by decision 22/CMP.1, requested the secretariat to conduct, as part of the annual inventory review process under the "Guidelines for review under Article 8 of the Kyoto Protocol"[2] and under the direction of the expert review team (ERT), a standardized set of comparisons based on the common reporting format (CRF) submissions to be used in the review process.

3. The COP, by decision 14/CP.11, decided to update the "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)[3] and decided that Annex I Parties shall use the CRF tables for the purpose of submission of the annual inventory due in and after 2007. Similarly, the CMP, by decision 6/CMP.3, decided that Parties shall use, for reporting information supplementary to annual GHG inventory information in the first commitment period of the Kyoto Protocol, tables to be included in an annex to the national inventory report (NIR), as well as the tables of the CRF for the purpose of submission of information on anthropogenic GHG emissions by sources and removals by sinks from land use, land-use change and forestry (LULUCF) activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, of the Kyoto Protocol.[4]

4. The synthesis and assessment report is prepared in two parts. Part I provides information to allow comparisons across Annex I Parties, as well as descriptions of common methodological issues. Part II provides a preliminary analysis of individual Annex I Party inventories. In particular, it identifies outstanding issues requiring clarification during the individual review stage of the process.

5. In accordance with decision 19/CP.8, Part I of this synthesis and assessment report has been sent to Parties for comment prior to publication on the UNFCCC website. Part II will be sent to the respective Parties for comments and, together with such comments, will be provided to the corresponding ERT as input for the individual review; Part II will not be published on the UNFCCC website.

[1] The full text of the guidelines is contained in document FCCC/CP/2002/8.
[2] The full text of the guidelines is contained in document FCCC/KP/CMP/2005/8/Add.3.
[3] The full text of the guidelines is contained in document FCCC/SBSTA/2006/9.
[4] The full text of the guidelines and the tables are contained in document FCCC/KP/CMP/2007/9/Add.2.

II. Comparison of greenhouse gas inventory information

A. Approach

6. This document contains Part I of the synthesis and assessment report, including the standardized set of data comparisons requested in decision 22/CMP.1, covering the 2014 submissions of the national GHG inventories of Annex I Parties, in accordance with the UNFCCC reporting guidelines adopted by decision 14/CP.11. It also contains inventory information on anthropogenic GHG emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, of the Kyoto Protocol, reported under Article 7, paragraph 1, of the Kyoto Protocol, in accordance with decision 15/CMP.1 and decision 6/CMP.3.

7. This document covers only the inventory information submitted in the CRF tables in the 2014 submission. It does not cover information contained in the NIRs, or information contained in inventory submissions from previous years. The information contained in this report is not intended as a judgment of whether inventory problems exist, but as an indication of potential issues that need to be considered further during the individual review by the ERT.

8. In the 2014 submission cycle, as at 27 May 2014, 44 Parties had submitted their national GHG inventory, including all 43 Annex I Parties and 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.

9. Three Parties, Denmark, the European Union (EU) and France, provided two sets of CRF tables in order to address the different geographical areas used for reporting under the Convention and for reporting under the Kyoto Protocol. For the purposes of the synthesis and assessment of the information submitted under decision 14/CP.11 which is contained in pages 14–92 of this report, the following inventory submissions reported under the Convention are used: (a) Denmark covering the Kingdom of Denmark (Denmark, Greenland and Faroe Islands); (b) the EU: one submission covering its 28 member States and one covering the 15 States that were EU member States when the Kyoto Protocol was adopted (see para. 10 below); and (c) France covering metropolitan France, the French Overseas Departments, the French Overseas Collectivities and New Caledonia.

10. For the purposes of conducting the standardized set of data comparisons of the information submitted under decision 15/CMP.1 and in accordance with decision 6/CMP.3, which are contained in pages 93–131 of this report, only the information submitted by Annex I Parties with quantified emission limitation or reduction commitments listed in Annex B to the Kyoto Protocol has been taken into account. In the above-mentioned pages, the report uses the information submitted by Denmark covering Denmark and Greenland, the information submitted by France covering metropolitan France and the French Overseas Departments, and the information submitted by the EU covering the original 15 member States that agreed to fulfill their commitments under Article 3 of the Kyoto Protocol jointly for information submitted under Article 7, paragraph 1, of the Kyoto Protocol, in accordance with Article 4 thereof.

11. This synthesis and assessment report contains GHG inventory information compiled in tabular format. The tables provide comparisons of implied emission factors (IEFs) and activity data (AD) as reported in the CRF tables submitted by Parties, data from international sources, emissions, information on methods and emission factors used as reported by Parties in Summary table 3 of the CRF, and other information relating to GHG

inventory estimates. Where possible, this information is provided for all Parties for both the base year/period and for the year 2012.

12. The inventory data were analysed according to the sectors, subsectors and categories specified in the CRF tables, which correspond to those of the Intergovernmental Panel on Climate Change (IPCC) *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories* and the IPCC *Good Practice Guidance for Land Use, Land-Use Change and Forestry* (hereinafter referred to as the IPCC good practice guidance for LULUCF).

13. To facilitate the analysis of the inventory data, the secretariat considers, for each individual Party, those categories that are key in terms of their absolute level of emissions and impact on the trend, applying the tier 1 level and trend assessment as described in chapter 7, "Methodological choice and recalculations", of the IPCC *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (hereinafter referred to as the IPCC good practice guidance) and chapter 5.4, "Methodological choice – Identification of key categories" of the IPCC good practice guidance for LULUCF. This identification has been performed at the level of detail recommended in that guidance and includes the LULUCF sector.

14. The 2012 report was shortened compared with previous years following a recommendation made at the ninth meeting of inventory lead reviewers to streamline the report.[5] In particular, the 2012 report did not include tables with trend information or any graphs that did not show discrepancies between Parties' data in sufficient detail to allow for clear comparisons to be made.

15. The information formerly displayed in those tables and graphs is, however, publicly available and retrievable from the GHG interface on the UNFCCC website.[6] The use of the GHG data interface has the additional advantage of containing the most recent data, as the data presented through the interface are updated at least three times per year by the secretariat. Users are particularly encouraged to use the "flexible queries" module, which allows for the selection of multiple filters and the download of data, with both tabular and graphical presentation of the data being possible.[7] The online help section contains explanations, guidance and tips, which may be particularly helpful for new users.[8]

B. Explanatory notes to the tables

16. Blank cells in a table indicate that a Party did not report information for a given category and gas in the corresponding CRF table. 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 in the corresponding CRF tables, a zero value (0) is shown.

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

[5] See paragraph 35 of the conclusions and recommendations of the ninth meeting of the inventory lead reviewers; available at <http://unfccc.int/files/national_reports/annex_i_ghg_inventories/review_process/application/pdf/con_rec9.pdf>.

[6] <http://unfccc.int/ghg_data/items/3800.php>.

[7] <http://unfccc.int/di/FlexibleQueries.do>.

[8] <http://unfccc.int/ghg_data/online_help/data_interface_help/items/4142.php>.

18. 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).

19. Key categories identified by the secretariat's analysis are indicated by "L" for level and "T" for trend assessments in the "key category" columns.

20. 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, excluding emissions and removals from LULUCF.

21. 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), blank cells indicate that a Party did not report information for a given category, gas, AD or parameter in the corresponding CRF table. Where the value of the share or contribution is very small, it has been rounded to zero (0.0 or 0.00) for this report. Where a Party reports a zero numerical value for a given category, gas, AD or parameter in the corresponding CRF tables, its share or contribution is shown as a zero value (0). Where a Party reports a notation key for a given category, gas, AD or parameter in the corresponding CRF tables, its share or contribution to the total is shown using the symbol "-". Where a Party reports notation keys for two parameters (e.g. IEFs) in the corresponding CRF tables, their ratio is shown using the symbol "-".

22. 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		

23. Where Parties used notation keys "R", "NO", "NR" or "IE", these have been reproduced verbatim from the tables provided by Parties. The notations keys, as described in decision 6/CMP.3, are as follows:

R	Reported	NR	Not reported
NO	Not occurring	IE	Included elsewhere

24. Tables on energy indicate whether IEFs given in the CRF are based on gross calorific value (GCV) or net calorific value (NCV). Australia, Canada, Japan, New Zealand and the United States of America reported energy data on a GCV basis. 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.

25. The following chemical formulae or abbreviations for GHGs are used in the synthesis and assessment report:

C	carbon
CF_4	perfluoromethane
C_2F_6	perfluoroethane
C_3F_8	perfluoropropane
C_4F_{10}	perfluorobutane

$c\text{-}C_4F_8$	perfluorocyclobutane
C_5F_{12}	perfluoropentane
C_6F_{14}	perfluorohexane
CH_4	methane
CO_2	carbon dioxide
HFCs	hydrofluorocarbons
N_2O	nitrous oxide
PFCs	perfluorocarbons
SF_6	sulphur hexafluoride

26. 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 the synthesis and assessment report:

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

27. The following units have been used in the synthesis and assessment report:

kg	kilogram (10^3 grams)
Mg	megagram (10^6 grams) – same as tonne
Gg	gigagram (10^9 grams)
t	tonne (10^6 grams)
kt	kilotonne (10^9 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
l	litre
Bbl (oil US)	barrel of oil (United States)
Btu	British thermal unit

28. The following other abbreviations have been used in the synthesis and assessment report:

A	actual emissions
ab	area burned
AD	activity data
bb	biomass burned
CAP	Maximum level of additions to and subtractions from the assigned amount resulting from forest management under Article 3, paragraph 4, for the first commitment period of the Kyoto Protocol as listed in the annex to decision 16/CMP.1. The value for Italy was revised by decision 8/CMP.2.
CL	cropland
CM	cropland management
CP	commitment period
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
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
FM	forest management
$Frac_{BURN}$	fraction of crop residue burned
$Frac_{FUEL}$	fraction of livestock nitrogen excretion in excrements burned for fuel
$Frac_{GASF}$	fraction of synthetic fertilizer nitrogen applied to soils that volatizes as NH_3 and NO_X
$Frac_{GASM}$	fraction of livestock nitrogen excretion that volatizes as NH_3 and NO_X
$Frac_{GRAZ}$	fraction of livestock nitrogen excreted and deposited onto soil during grazing
$Frac_{LEACH}$	fraction of nitrogen input to soils that is lost through leaching and run-off
$Frac_{NCRBF}$	fraction of total above-ground biomass of nitrogen-fixing crop that is nitrogen
$Frac_{NCRO}$	fraction of residue dry biomass that is nitrogen

$Frac_R$	fraction of total above-ground crop biomass that is removed from the field as a crop product
GCV	gross calorific value
GHG	greenhouse gas
GM	grazing land management
GWP	global warming potential
IEA	International Energy Agency
IEF	implied emission factor
L	level (key category applying the tier 1 level assessment in accordance with the IPCC good practice guidance and IPCC good practice guidance for LULUCF)
LU	land use
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
P	potential emissions
RV	revegetation
T	trend (key category applying the tier 1 trend assessment in accordance with the IPCC good practice guidance and IPCC good practice guidance for LULUCF)
yr	year

C. List of sectoral figures and tables with information submitted under decision 14/CP.11

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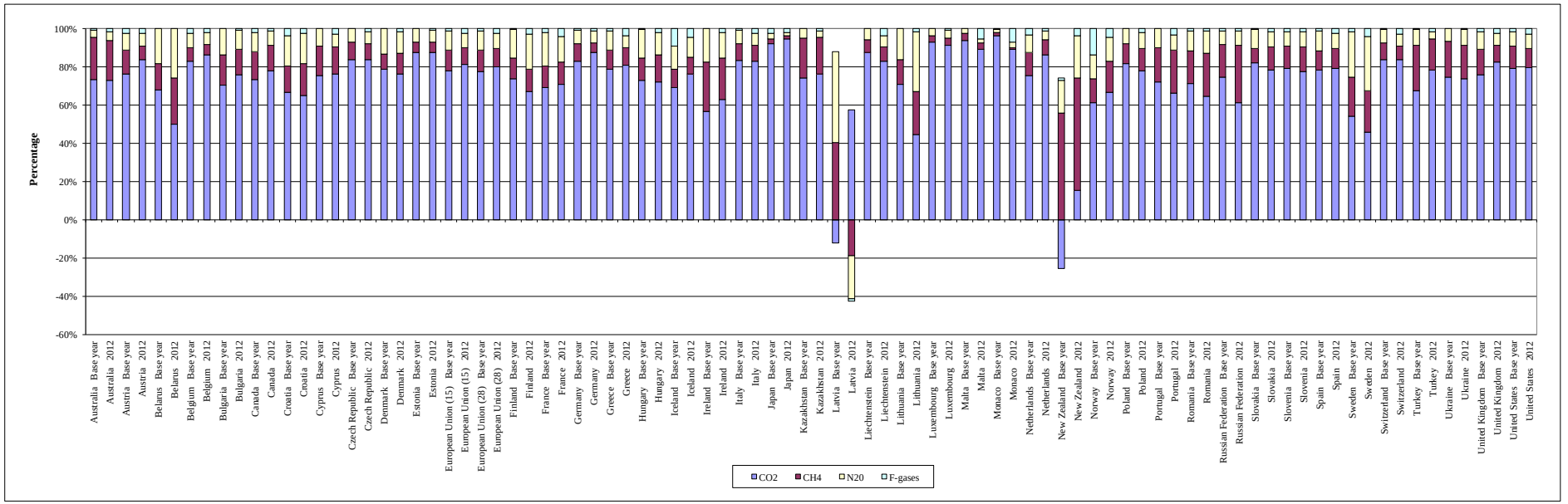
Table 7.8m	Emissions from biomass burning on total Article 3.4 land for 2012
Table 7.8n	Emissions from biomass burning on total Article 3.4 land for the base year

Figure G.1

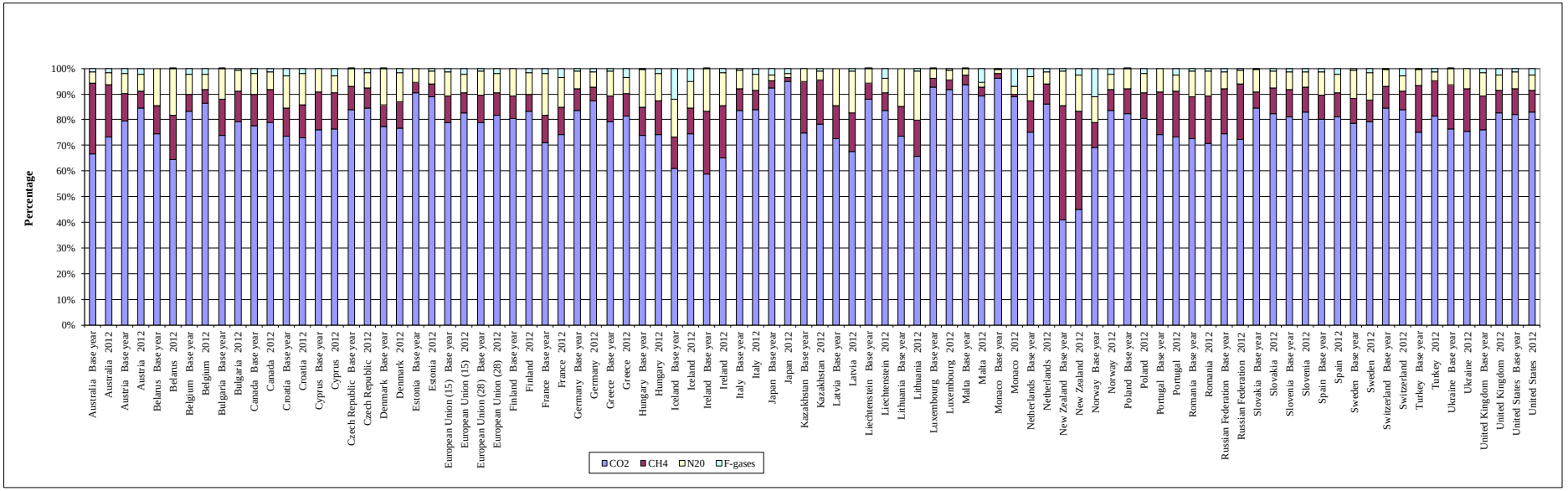
GHG emissions by gas (including LULUCF): base year[a] and 2012



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Figure G.2

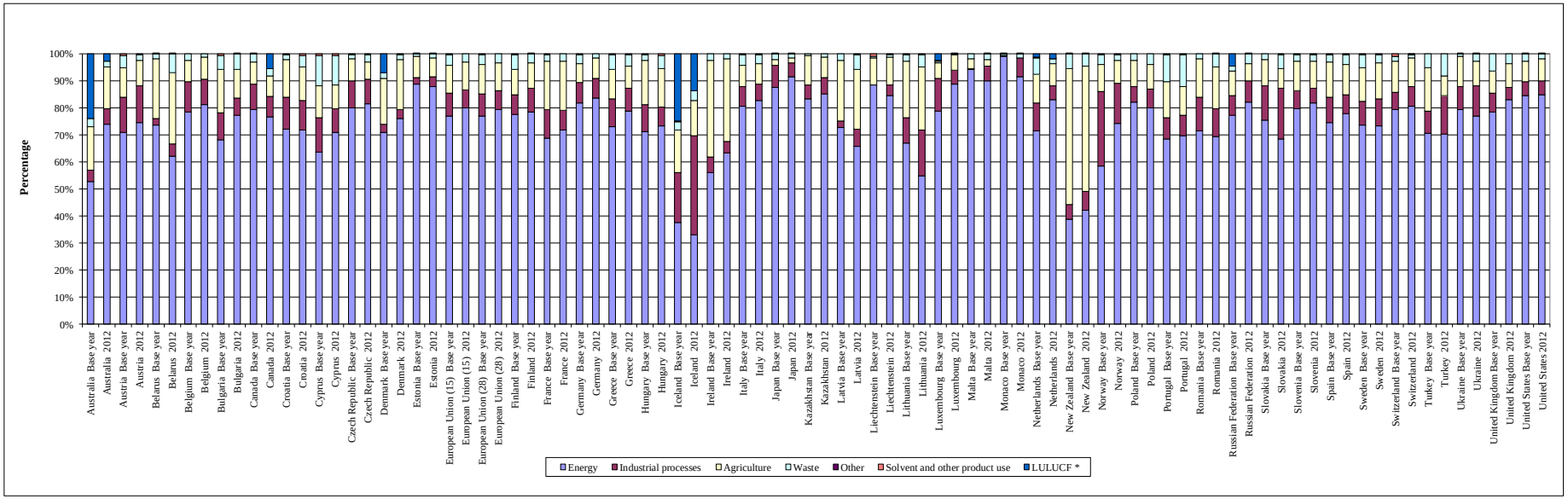
GHG emissions by gas (excluding LULUCF): base year[a] and 2012



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Figure G.3

GHG emissions by sector: base year[a] and 2012 (%)



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

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table G.1

Submmissions used in the Synthesis and Assessment report: Part I

Party	Initial submission date	CRF for years	NIR	CRF submission date and version used in the S&A report	CRF Reporter version (version used in S&A report)	CRF KP LULUCF[a] submission date and version used in the S&A report	CRF KP LULUCF[a] Reporter version (version used in S&A report)
Australia	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Austria	14 April 2014	1990-2012	√	14 Apr 2014 (1.4)	CRF Reporter v. 3.7.3	14 Apr 2014 (1.4)	CRF Reporter v. 3.7.3
Belarus	15 April 2014	1990-2012	√	15 Apr 2014 (1.2)	CRF Reporter v. 3.6.2	15 April 2014 (1.2)	CRF Reporter v. 3.6.2
Belgium	10 April 2014	1990-2012	√	10 Apr 2014 (1.4)	CRF Reporter v. 3.7.3	10 Apr 2014 (1.4)	CRF Reporter v. 3.7.3
Bulgaria	15 April 2014	1988-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2
Canada	11 April 2014	1990-2012	√	11 Apr 2014 (1.1)	CRF Reporter v. 3.6.2	NA	NA
Croatia	11 April 2014	1990-2012	√	11 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	11 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
Cyprus	14 April 2014	1990-2012	√	15 Apr 2014 (1.6)	CRF Reporter v. 3.7.3	NA	NA
Czech Republic	15 April 2014	1990-2012	√	15 Apr 2014 (1.4)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.4)	CRF Reporter v. 3.7.3
Denmark	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.1)	CRF Reporter v. 3.6.2
Estonia	15 April 2014	1990-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
European Union (15)	15 April 2014	1990-2012	√	27 May 2014 (1.2)	CRF Reporter v. 3.7.3	27 May 2014 (1.2)	CRF Reporter v. 3.7.3
European Union (28)	15 April 2014	1990-2012	√	27 May 2014 (1.3)	CRF Reporter v. 3.7.3	NA	NA
Finland	15 April 2014	1990-2012	√	15 Apr 2014 (1.5)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.5)	CRF Reporter v. 3.7.3
France	15 April 2014	1990-2012	√	27 May 2014 (1.3)	CRF Reporter v. 3.4.3	27 May 2014 (1.3)	CRF Reporter v. 3.4.3
Germany	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.1)	CRF Reporter v. 3.6.2
Greece	15 April 2014	1990-2012	√	15 Apr 2014 (1.4)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.4)	CRF Reporter v. 3.6.2
Hungary	15 April 2014	1985-1987, 1985-2012	√	27 May 2014 (2.1)	CRF Reporter v. 3.7.3	27 May 2014 (2.1)	CRF Reporter v. 3.7.3
Iceland	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Ireland	15 April 2014	1990-2012	√	15 May 2014 (1.4)	CRF Reporter v. 3.7.3	15 May 2014 (1.4)	CRF Reporter v. 3.7.3
Italy	4 April 2014	1990-2012	√	4 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	4 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
Japan	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Kazakhstan	13 April 2014	1990-2012	√	27 May 2014 (1.3)	CRF Reporter v. 3.6.2	NA	NA
Latvia	15 April 2014	1990-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2
Liechtenstein	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Lithuania	15 April 2014	1990-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
Luxembourg	15 April 2014	1990-2012	√	15 Apr 2014 (1.4)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.4)	CRF Reporter v. 3.6.2
Malta	9 April 2014	1990-2012	√	9 Apr 2014 (1.4)	CRF Reporter v. 3.6.2	NA	NA
Monaco	15 April 2014	1990-2012		15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Netherlands (The)	15 April 2014	1990-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
New Zealand	11 April 2014	1990-2012	√	11 Apr 2014 (1.1)	CRF Reporter v. 3.6.2	11 Apr 2014 (1.1)	CRF Reporter v. 3.6.2
Norway	10 April 2014	1990-2012	√	10 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	10 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
Poland	11 April 2014	1988-2012	√	27 May 2014 (1.3)	CRF Reporter v. 3.7.3	27 May 2014 (1.3)	CRF Reporter v. 3.7.3
Portugal	15 April 2014	1990-2012	√	26 May 2014 (1.3)	CRF Reporter v. 3.6.2	26 May 2014 (1.3)	CRF Reporter v. 3.6.2
Romania	15 April 2014	1989-2012	√	8 May 2014 (1.4)	CRF Reporter v. 3.7.3	8 May 2014 (1.4)	CRF Reporter v. 3.7.3
Russian Federation	15 April 2014	1990-2012	√	26 May 2014 (2.1)	CRF Reporter v. 3.7.3	26 May 2014 (2.1)	CRF Reporter v. 3.7.3
Slovakia	15 April 2014	1990-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.3)	CRF Reporter v. 3.7.3
Slovenia	15 April 2014	1986-2012	√	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.3)	CRF Reporter v. 3.6.2
Spain	15 April 2014	1990-2012	√	15 Apr 2014 (1.8)	CRF Reporter v. 3.6.2	15 Apr 2014 (1.8)	CRF Reporter v. 3.6.2
Sweden	11 April 2014	1990-2012	√	11 Apr 2014 (1.1)	CRF Reporter v. 3.6.2	11 Apr 2014 (1.1)	CRF Reporter v. 3.6.2
Switzerland	15 April 2014	1990-2012	√	15 Apr 2014 (1.7)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.7)	CRF Reporter v. 3.7.3
Turkey	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	NA	NA
Ukraine	12 April 2014	1990-2012	√	12 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	12 Apr 2014 (1.1)	CRF Reporter v. 3.7.3
United Kingdom	15 April 2014	1990-2012	√	15 Apr 2014 (1.4)	CRF Reporter v. 3.7.3	15 Apr 2014 (1.4)	CRF Reporter v. 3.7.3
United States	15 April 2014	1990-2012	√	15 Apr 2014 (1.1)	CRF Reporter v. 3.7.3	NA	NA

[a] The tables of the common reporting format for the purpose of submission of information on anthropogenic greenhouse gas emissions by sources and removals by sinks from LULUCF activities under Article 3, paragraph 3, and, if any, elected activities under Article 3, paragraph 4, in accordance with Article 5, paragraph 2, of the Kyoto Protocol. These tables are contained in the annex to decision 6/CMP.3.

Table G.2

Key categories[a]: base year[b]

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
Energy																																													
1.Stationary Combustion - Liquid Fuels - CO2	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1.Stationary Combustion - Liquid Fuels - CH4																																												
1.Stationary Combustion - Liquid Fuels - N2O																					L																								
1.Stationary Combustion - Solid Fuels - CO2	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L		L	L	L		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1.Stationary Combustion - Solid Fuels - CH4									L									L														L										L			
1.Stationary Combustion - Solid Fuels - N2O																																									L				
1.Stationary Combustion - Gaseous Fuels - CO2	L	L	L	L	L	L	L		L	L	L	L	L	L	L	L		L		L	L	L	L	L	L	L	L		L	L	L	L	L		L	L	L	L	L	L	L	L	L	L
1.Stationary Combustion - Gaseous Fuels - CH4																																												
1.Stationary Combustion - Gaseous Fuels - N2O																																												
1.Stationary Combustion - Other Fuels - CO2		L		L								L	L	L	L	L						L	L						L			L								L	L		
1.Stationary Combustion - Other Fuels - CH4																																												
1.Stationary Combustion - Other Fuels - N2O														L																														
1.Stationary Combustion - Biomass - CO2																																												
1.Stationary Combustion - Biomass - CH4	L														L																			L										
1.Stationary Combustion - Biomass - N2O																																												
1.A.3.a Civil Aviation - CO2	L					L						L			L							L									L	L				L			L	L	L			L
1.A.3.a Civil Aviation - CH4																																												
1.A.3.a Civil Aviation - N2O																																												
1.A.3.b Road Transportation - CO2	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
1.A.3.b Road Transportation - CH4																																												
1.A.3.b Road Transportation - N2O						L																																						L
1.A.3.c Railways - CO2						L												L					L	L											L								L
1.A.3.c Railways - CH4																																												
1.A.3.c Railways - N2O																																												
1.A.3.d Navigation - CO2	L					L				L		L	L	L			L		L		L	L										L						L	L				L
1.A.3.d Navigation - CH4																																												
1.A.3.d Navigation - N2O																																												
1.A.3.e Other Transportation - CO2						L								L												L					L				L						L		L
1.A.3.e Other Transportation - CH4																																												
1.A.3.e Other Transportation - N2O																																												
1.A.5.b Mobile - CO2									L			L				L																L								L			L	L
1.A.5.b Mobile - CH4																																												
1.A.5.b Mobile - N2O																																												
1.B.1.a Coal Mining and Handling - CO2																																						L							
1.B.1.a Coal Mining and Handling - CH4	L				L				L			L	L		L	L	L	L					L								L		L	L	L	L	L			L	L	L	L
1.B.1.a Coal Mining and Handling - N2O																																												
1.B.1.b Solid Fuel Transformation - CO2																																												
1.B.1.b Solid Fuel Transformation - CH4																																												
1.B.1.b Solid Fuel Transformation - N2O																																												
1.B.1.c Other - CO2																																												
1.B.1.c Other - CH4																																												
1.B.1.c Other - N2O																																												
1.B.2 Oil and Natural Gas - CO2	L					L	L					L	L		L				L		L		L								L	L				L	L			L	L
1.B.2 Oil and Natural Gas - CH4	L				L	L	L					L	L			L		L			L		L	L						L	L	L	L		L	L	L			L	L	L
1.B.2 Oil and Natural Gas - N2O																																												
Industrial processes																																												
2.A.1 Cement Production - CO2	L	L		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L		L	L					L	L	L	L	L	L	L	L	L	L	L	L	L
2.A.1 Cement Production - CH4																																												
2.A.1 Cement Production - NO2																																												
2.A.2 Lime Production - CO2		L		L	L				L			L	L		L	L					L	L									L		L		L	L	L	L		L			
2.A.2 Lime Production - CH4																																												
2.A.2 Lime Production - N2O																																												
2.A.3 Limestone and Dolomite Use - CO2																					L	L														L						L		
2.A.3 Limestone and Dolomite Use - CH4																																												
2.A.3 Limestone and Dolomite Use - N2O																																												
2.A.4 Soda Ash Production and Use - CO2																																												
2.A.4 Soda Ash Production and Use - CH4																																												
2.A.4 Soda Ash Production and Use - N2O																																												
2.A.5 Asphalt Roofing - CO2																																												
2.A.5 Asphalt Roofing - CH4																																												
2.A.5 Asphalt Roofing - N2O																																												
2.A.6 Road Paving with Asphalt - CO2																																												
2.A.6 Road Paving with Asphalt - CH4																																												
2.A.6 Road Paving with Asphalt - N2O																																												
2.A.7 Other - CO2		L																																										
2.A.7 Other - CH4																																												
2.A.7 Other - N2O																																												
2.B.1 Ammonia Production - CO2		L	L		L	L	L				L	L	L		L	L	L	L		L	L					L				L		L	L	L	L		L					L		
2.B.1 Ammonia Production - CH4																																												
2.B.1 Ammonia Production - N2O																																												
2.B.2 Nitric Acid Production - CO2																																												
2.B.2 Nitric Acid Production - CH4																																												
2.B.2 Nitric Acid Production - N2O		L		L	L		L		L	L		L	L	L	L		L	L		L	L					L				L		L	L	L	L		L		L	L			L	
2.B.3 Adipic Acid Production - CO2																																												
2.B.3 Adipic Acid Production - CH4																																												
2.B.3 Adipic Acid Production - N2O						L						L	L		L	L					L	L																					L	
2.B.4 Carbide Production - CO2																																L													
2.B.4 Carbide Production - CH4																																												
2.B.4 Carbide Production - N2O																																												
2.B.5 Other - CO2																L																L												
2.B.5 Other - CH4																																												
2.B.5 Other - N2O															L				L																									
2.B.5 Other - HFCs																																												

Table G.2

Key categories[a]: base year[b]

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
2.B.5 Other - PFCs																																												
2.B.5 Other - SF6																																												
2.C.1 Iron and Steel Production - CO2	L	L		L	L	L			L			L	L	L	L	L					L		L				L			L	L		L		L	L	L		L	L			L		L
2.C.1 Iron and Steel Production - CH4																																												
2.C.1 Iron and Steel Production - N2O																																												
2.C.2 Ferroalloys Production - CO2																	L		L													L													
2.C.2 Ferroalloys Production - CH4																																												
2.C.2 Ferroalloys Production - N2O																																												
2.C.3 Aluminium Production - CO2																			L													L													
2.C.3 Aluminium Production - CH4																																												
2.C.3 Aluminium Production - N2O																																												
2.C.3 Aluminium Production - PFCs	L	L				L	L								L				L											L	L	L			L			L		L				
2.C.4.a SF6 used in Aluminium Foundries - SF6																																												
2.C.4.b SF6 used in Magnesium Foundries - SF6																															L													
2.C.5 Other - CO2																																												
2.C.5 Other - CH4																																												
2.C.5 Other - N2O																																												
2.C.5 Other - HFCs																																												
2.C.5 Other - PFCs																																												
2.C.5 Other - SF6						L																																						
2.D Other Production - CO2																																												
2.D Other Production - CH4																																												
2.D Other Production - N2O																																												
2.E.1.a Production of HCFC-22 - HFC-23																	L					L								L					L				L					L
2.E.1.b Other - F-Gases				L								L																																
2.E.2 Fugitive Emissions - F-Gases															L																													L	
2.E.3 Other - F-Gases																																												
2.F(a).(1-6) ODS Substitutes - HFCs																																												
2.F(a).(1-6) ODS Substitutes - PFCs																																												
2.F(a).(1-6) ODS Substitutes - SF6																																												
2.F(a).7 Semiconductors - HFCs																																												
2.F(a).7 Semiconductors - PFCs																																												
2.F(a).7 Semiconductors - SF6																																												
2.F(a).8 Electrical Equipment - HFCs																																												
2.F(a).8 Electrical Equipment - PFCs																																												
2.F(a).8 Electrical Equipment - SF6																						L																							
2.F(a).9 Other - HFCs																																												
2.F(a).9 Other - PFCs																																												
2.F(a).9 Other - SF6																																												
2.F(p) Potential Emissions - HFCs																																												
2.F(p) Potential Emissions - PFCs																																												
2.F(p) Potential Emissions - SF6																																												
2.G Other - CO2						L												L																											
2.G Other - CH4																																												
2.G Other - N2O																																												
2.G Other - HFCs																																												
2.G Other - PFCs																																												
2.G Other - SF6																																												
Solvent and other product use																																												
3 Solvent and Other Product Use - CO2																																										L			
3 Solvent and Other Product Use - CH4																																												
3 Solvent and Other Product Use - N2O																																												
Agriculture																																												
4.A Enteric Fermentation - CO2																																												
4.A Enteric Fermentation - CH4	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L		L	L	L	L	L	L	L	L	L	L	L	L	L	L
4.A Enteric Fermentation - N2O																																												
4.B Manure Management - CO2																																												
4.B Manure Management - CH4		L		L	L		L			L		L	L		L	L		L		L	L				L	L		L		L	L		L	L			L	L	L	L		L	L	L	L	
4.B Manure Management - N2O		L	L	L	L	L	L	L	L	L		L	L	L	L			L	L		L		L	L		L				L	L		L	L	L	L	L	L	L		L	L	L	L	
4.C Rice Cultivation - CO2																																												
4.C Rice Cultivation - CH4																						L																							
4.C Rice Cultivation - N2O																																												
4.D.1 Direct Soil Emissions - CO2																																												
4.D.1 Direct Soil Emissions - CH4																																												
4.D.1 Direct Soil Emissions - N2O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L		L	L	L	L	L			L	L	L	L	L	L	L	L	L	L	L	L	L	L
4.D.2 Pasture, Range and Paddock Manure - CO2																																												
4.D.2 Pasture, Range and Paddock Manure - CH4																																												
4.D.2 Pasture, Range and Paddock Manure - N2O	L			L	L		L					L	L		L		L		L	L			L	L						L	L			L	L			L	L				L	
4.D.3 Indirect Emissions - CO2																																												
4.D.3 Indirect Emissions - CH4																																												
4.D.3 Indirect Emissions - N2O	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L			L	L	L	L			L	L	L	L	L	L	L	L	L	L	L		L	L	L
4.D.4 Other - CO2																																												
4.D.4 Other - CH4																																												
4.D.4 Other - N2O																																									L			
4.E Prescribed Burning of Savannas - CO2																																												
4.E Prescribed Burning of Savannas - CH4	L																																											
4.E Prescribed Burning of Savannas - N2O																																												
4.F Field Burning of Agricultural Residues - CO2																																												
4.F Field Burning of Agricultural Residues - CH4																																												
4.F Field Burning of Agricultural Residues - N2O																																												
4.G Other - CO2																																												
4.G Other - CH4																																												
4.G Other - N2O																																												
LULUCF																																												

Table G.2

Key categories[a]: base year[b]

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
5.A.1 Forest Land remaining Forest Land - CO2	L	L	L	L	L	L	L	L	L		L	L	L	L	L	L	L	L		L	L	L	L	L	L	L	L			L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L
5.A.1 Forest Land remaining Forest Land - CH4						L																																							
5.A.1 Forest Land remaining Forest Land - N2O														L																																
5.A.2 Land converted to Forest Land - CO2		L					L					L	L		L	L					L				L	L	L			L			L			L	L			L		L		
5.A.2 Land converted to Forest Land - CH4																																													
5.A.2 Land converted to Forest Land - N2O																																													
5.B.1 Cropland remaining Cropland - CO2	L			L					L	L		L	L	L		L	L		L					L	L						L	L		L	L	L				L	L	L	L	L
5.B.1 Cropland remaining Cropland - CH4																																													
5.B.1 Cropland remaining Cropland - N2O																																													
5.B.2 Land converted to Cropland - CO2	L					L						L	L	L	L	L			L					L		L							L			L	L					L		
5.B.2 Land converted to Cropland - CH4																																													
5.B.2 Land converted to Cropland - N2O																																													
5.C.1 Grassland remaining grassland - CO2	L			L								L	L	L		L			L	L	L									L	L				L								
5.C.1 Grassland remaining grassland - CH4																																													
5.C.1 Grassland remaining grassland - N2O																																													
5.C.2 Land converted to Grassland - CO2	L	L													L				L							L								L				L					L		
5.C.2 Land converted to Grassland - CH4																																													
5.C.2 Land converted to Grassland - N2O																																													
5.D.1 Wetlands remaining Wetlands - CO2																																													
5.D.1 Wetlands remaining Wetlands - CH4																																													
5.D.1 Wetlands remaining Wetlands - N2O																																													
5.D.2 Land converted to Wetlands - CO2						L								L																															
5.D.2 Land converted to Wetlands - CH4																																													
5.D.2 Land converted to Wetlands - N2O																																													
5.E Settlements - CO2						L	L					L	L	L	L						L				L		L				L				L	L		L			L	L		L	L
5.E Settlements - CH4																																													
5.E Settlements - N2O																																													
5.F Other Land - CO2		L																																L			L							
5.F Other Land - CH4																																													
5.F Other Land - N2O																																													
5.G Other - CO2	L													L																				L										L
5.G Other - CH4																																													
5.G Other - N2O																			L																										
Waste																																													
6.A Solid Waste Disposal on Land - CO2																																													
6.A Solid Waste Disposal on Land - CH4	L	L	L	L	L	L	L	L	L	L		L	L	L	L	L	L	L	L	L	L	L		L		L				L	L	L	L	L		L	L	L	L	L	L	L	L	L	L
6.A Solid Waste Disposal on Land - N2O																																													
6.B Waste-Water Handling - CO2																																													
6.B Waste-Water Handling - CH4	L				L		L	L					L				L	L			L													L	L	L		L		L				
6.B Waste-Water Handling - N2O																																		L											
6.C Waste Incineration - CO2																						L																						
6.C Waste Incineration - CH4																																													
6.C Waste Incineration - N2O																																													
6.D Other - CO2																																													
6.D Other - CH4																																													
6.D Other - N2O																																													
Other																																													
7 Other - CO2																																													
7 Other - CH4																																													
7 Other - N2O																																													
7(a) Other - F-Gases																																													
7(p) Other - F-Gases																																													

[a] Source: UNFCCC secretariat key category analysis.

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table G.3

Key categories[a]: 2012

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
Energy																																												
1.Stationary Combustion - Liquid Fuels - CO2	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
1.Stationary Combustion - Liquid Fuels - CH4																																												
1.Stationary Combustion - Liquid Fuels - N2O																	T																												
1.Stationary Combustion - Solid Fuels - CO2	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
1.Stationary Combustion - Solid Fuels - CH4									T							T		T		T												L, T						T		T		T			
1.Stationary Combustion - Solid Fuels - N2O																																							T						
1.Stationary Combustion - Gaseous Fuels - CO2	L, T	L, T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
1.Stationary Combustion - Gaseous Fuels - CH4										T																				L, T														
1.Stationary Combustion - Gaseous Fuels - N2O																																												T
1.Stationary Combustion - Other Fuels - CO2		L, T		L, T					L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		L, T			L, T	L, T	T	T			L, T		L, T	L, T		L, T	L	L, T	T	L, T	L, T	L, T	L, T		T	L, T	L, T	
1.Stationary Combustion - Other Fuels - CH4																																												
1.Stationary Combustion - Other Fuels - N2O														L, T																															
1.Stationary Combustion - Biomass - CO2																																												
1.Stationary Combustion - Biomass - CH4	T	T							T		L, T			T	T	T								L, T	T	T						T		L, T				L, T					
1.Stationary Combustion - Biomass - N2O														T																										L, T					
1.A.3.a Civil Aviation - CO2	L, T					L, T						L	T	T	L, T						L	L									L, T	L, T						L	L	T	L, T			L, T
1.A.3.a Civil Aviation - CH4																																												
1.A.3.a Civil Aviation - N2O																																												
1.A.3.b Road Transportation - CO2	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
1.A.3.b Road Transportation - CH4																																							T	T				
1.A.3.b Road Transportation - N2O						T			L, T						T				T			T					L																	T
1.A.3.c Railways - CO2	L		L, T			L, T												T					T	L, T								T		T	T	T					T	T	L
1.A.3.c Railways - CH4																																												
1.A.3.c Railways - N2O																																												
1.A.3.d Navigation - CO2	L					L				L		L		L, T			L, T		T		L	L, T							L, T	L, T			T	T			L, T	L, T					L
1.A.3.d Navigation - CH4																																												
1.A.3.d Navigation - N2O																																												
1.A.3.e Other Transportation - CO2		L, T			T	L, T								L, T									T			L, T					L, T				T						L, T		L
1.A.3.e Other Transportation - CH4																																												
1.A.3.e Other Transportation - N2O																																												
1.A.5.b Mobile - CO2									L			T	T	T		T															L, T								T	T			L, T	T
1.A.5.b Mobile - CH4																																												
1.A.5.b Mobile - N2O																																												
1.B.1.a Coal Mining and Handling - CO2																																												
1.B.1.a Coal Mining and Handling - CH4	L, T				L	T			L, T			T	L, T		T	T	L, T	T				T	L, T									L, T		T	L, T	L	L, T	T			T	L, T	T	L, T
1.B.1.a Coal Mining and Handling - N2O																																												
1.B.1.b Solid Fuel Transformation - CO2																																												
1.B.1.b Solid Fuel Transformation - CH4																																												
1.B.1.b Solid Fuel Transformation - N2O																																												
1.B.1.c Other - CO2																																												
1.B.1.c Other - CH4																T																												
1.B.1.c Other - N2O																																												
1.B.2 Oil and Natural Gas - CO2	L, T					L, T	L					L	L		L				L, T		L		L, T								L, T	L, T	T	L, T		L, T			L, T	L, T		L	L
1.B.2 Oil and Natural Gas - CH4	L, T		L, T		L	L, T	L, T					L, T	L, T			L		L, T			L, T		L		T	L, T			T	T	L, T	L, T	L, T	L, T	L, T	L, T	L, T			T		L, T	L, T	L, T
1.B.2 Oil and Natural Gas - N2O																																												
Industrial processes																																												
2.A.1 Cement Production - CO2	L, T	L, T	L, T	L, T	L	L	L, T	L, T	L	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T	L, T	L	L, T		L, T	L, T					L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L	L, T	L
2.A.1 Cement Production - CH4																																												
2.A.1 Cement Production - NO2																																												
2.A.2 Lime Production - CO2		L, T		L	L, T				L, T				L	L			T				L										L, T	T		L		L, T	T		L, T		L, T			
2.A.2 Lime Production - CH4																																												
2.A.2 Lime Production - N2O																																												
2.A.3 Limestone and Dolomite Use - CO2									L, T					T			T	L, T			T	T	L, T	T								T			T	L, T					L			
2.A.3 Limestone and Dolomite Use - CH4																																												
2.A.3 Limestone and Dolomite Use - N2O																																												
2.A.4 Soda Ash Production and Use - CO2																																												
2.A.4 Soda Ash Production and Use - CH4																																												
2.A.4 Soda Ash Production and Use - N2O																																												
2.A.5 Asphalt Roofing - CO2																																												
2.A.5 Asphalt Roofing - CH4																																												
2.A.5 Asphalt Roofing - N2O																																												
2.A.6 Road Paving with Asphalt - CO2																																												
2.A.6 Road Paving with Asphalt - CH4																																												
2.A.6 Road Paving with Asphalt - N2O																																												
2.A.7 Other - CO2		L, T			L, T			T										T																			L							
2.A.7 Other - CH4																																												
2.A.7 Other - N2O																																												
2.B.1 Ammonia Production - CO2		L	L	L, T	T	L	L, T		L		T	L	L		T	L, T	T	L, T		T	T					L, T				L, T		L, T	L, T	T	L, T	L, T	L, T				T	L, T	
2.B.1 Ammonia Production - CH4																																												
2.B.1 Ammonia Production - N2O																																												
2.B.2 Nitric Acid Production - CO2																																												
2.B.2 Nitric Acid Production - CH4																																												
2.B.2 Nitric Acid Production - N2O		T		L, T	T		L, T		T	T		T	T	T	T		T	T		T	T					L, T			T		L, T	T	T	L, T		L, T		T	T			L, T	T	
2.B.3 Adipic Acid Production - CO2																																												
2.B.3 Adipic Acid Production - CH4																																												
2.B.3 Adipic Acid Production - N2O						T						T	T		T	T					T	T												T									T	T
2.B.4 Carbide Production - CO2																							T								T					T								
2.B.4 Carbide Production - CH4																																												
2.B.4 Carbide Production - N2O																																												
2.B.5 Other - CO2	L, T			L, T								T	T	L, T		L, T	T														L													
2.B.5 Other - CH4																																												
2.B.5 Other - N2O	T			L, T											T				T																								
2.B.5 Other - HFCs																																												

Table G.3

Key categories[a]: 2012

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
2.B.5 Other - PFCs																																												
2.B.5 Other - SF6																																												
2.C.1 Iron and Steel Production - CO2	L, T	L, T		T	T	L, T			L, T			L, T	L, T	L, T	L, T	L, T					T		L, T				L, T			L, T	L, T		T		L, T	L, T	L, T			L, T	L, T		L, T
2.C.1 Iron and Steel Production - CH4																																												
2.C.1 Iron and Steel Production - N2O																																												
2.C.2 Ferroalloys Production - CO2							T										L		L, T				L, T								L, T						T				T			
2.C.2 Ferroalloys Production - CH4																																												
2.C.2 Ferroalloys Production - N2O																																												
2.C.3 Aluminium Production - CO2	L	T				L, T	T												L, T												L, T					T	T		T	T				
2.C.3 Aluminium Production - CH4																																												
2.C.3 Aluminium Production - N2O																																												
2.C.3 Aluminium Production - PFCs	T	T				T	T					T	T		T	T			L, T		T		T							T	T	T			T	T	T	T	T	T	T	T		T	T
2.C.4.a SF6 used in Aluminium Foundries - SF6																																												
2.C.4.b SF6 used in Magnesium Foundries - SF6		T																													T													
2.C.5 Other - CO2																																										T		
2.C.5 Other - CH4																																												
2.C.5 Other - N2O																																												
2.C.5 Other - HFCs																																												
2.C.5 Other - PFCs																																												
2.C.5 Other - SF6						T																																						
2.D Other Production - CO2																																												
2.D Other Production - CH4																																												
2.D Other Production - N2O																																												
2.E.1.a Production of HCFC-22 - HFC-23	T											T	T		T		T					T								T					T			T					T
2.E.1.b Other - F-Gases				T								T	T																														
2.E.2 Fugitive Emissions - F-Gases												T	T		T	T						T																				T	
2.E.3 Other - F-Gases																																												
2.F(a).(1-6) ODS Substitutes - HFCs	L, T	L, T		L, T	T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	T	L, T	L, T		L, T	T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T	L, T	L, T	L, T	L, T		L, T	L, T
2.F(a).(1-6) ODS Substitutes - PFCs																						T																							
2.F(a).(1-6) ODS Substitutes - SF6																																												
2.F(a).7 Semiconductors - HFCs																																												
2.F(a).7 Semiconductors - PFCs																																												
2.F(a).7 Semiconductors - SF6																																												
2.F(a).8 Electrical Equipment - HFCs																																												
2.F(a).8 Electrical Equipment - PFCs																																												
2.F(a).8 Electrical Equipment - SF6														T								T																						T
2.F(a).9 Other - HFCs																														T											T			T
2.F(a).9 Other - PFCs																																												
2.F(a).9 Other - SF6																																												
2.F(p) Potential Emissions - HFCs																																												
2.F(p) Potential Emissions - PFCs																																												
2.F(p) Potential Emissions - SF6																																												
2.G Other - CO2						L, T												L, T																										
2.G Other - CH4																																												
2.G Other - N2O																																												
2.G Other - HFCs																																												
2.G Other - PFCs																																												
2.G Other - SF6																																												
Solvent and other product use																																												
3 Solvent and Other Product Use - CO2					T										T										T															T			
3 Solvent and Other Product Use - CH4																																												
3 Solvent and Other Product Use - N2O																		T																										
Agriculture																																												
4.A Enteric Fermentation - CO2																																												
4.A Enteric Fermentation - CH4	L, T	L, T	L, T	L	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L		L, T	L, T	L, T	L, T	L		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L
4.A Enteric Fermentation - N2O																																												
4.B Manure Management - CO2																																												
4.B Manure Management - CH4		L, T		L	L, T		L			L, T		L	L	T	L, T	L		L, T		L, T	T			L	L	L, T	L		L	L		L	L, T			L, T	L	L, T	L	T	T	L	L, T
4.B Manure Management - N2O		L	L	L	L, T		L, T	L	L, T	L	T	L	L, T	L	L, T		L	L, T		L	L		L, T	L, T		L, T			L			L	T	L, T	L, T	L, T	L, T	L	L, T	L, T	T	L	L	
4.C Rice Cultivation - CO2																																												
4.C Rice Cultivation - CH4																																												
4.C Rice Cultivation - N2O																																												
4.D.1 Direct Soil Emissions - CO2																																												
4.D.1 Direct Soil Emissions - CH4																																												
4.D.1 Direct Soil Emissions - N2O	L, T	L, T	L, T	L	L, T	L, T	L	L, T	L, T	L, T	L, T	L	L	L, T	L, T	L, T	L, T	L	L, T	L, T	L		T	L, T	L	L, T	L			L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L	L, T
4.D.2 Pasture, Range and Paddock Manure - CO2																																												
4.D.2 Pasture, Range and Paddock Manure - CH4																																												
4.D.2 Pasture, Range and Paddock Manure - N2O	L, T			L	T							L	L		L		L		L, T	L, T			L, T	L, T						L, T	L, T			L	L			L	L, T	L, T			L	
4.D.3 Indirect Emissions - CO2																																												
4.D.3 Indirect Emissions - CH4																																												
4.D.3 Indirect Emissions - N2O	L, T	L, T	L, T	L	L, T	L, T	L	L, T	L, T	L, T	L, T	L	L, T	L, T	L, T	L, T	L, T	L	L, T	L	L		T	L, T	L	L, T	L			L, T	L, T	L	L	L, T	L, T	L, T	L	L, T	L	L, T		L	L	L
4.D.4 Other - CO2																																												
4.D.4 Other - CH4																																												
4.D.4 Other - N2O																																									L, T				
4.E Prescribed Burning of Savannas - CO2																																												
4.E Prescribed Burning of Savannas - CH4	L, T																																											
4.E Prescribed Burning of Savannas - N2O	L, T																																											
4.F Field Burning of Agricultural Residues - CO2																																												
4.F Field Burning of Agricultural Residues - CH4																																												
4.F Field Burning of Agricultural Residues - N2O																																												
4.G Other - CO2																																												
4.G Other - CH4																																												
4.G Other - N2O																																												
LULUCF																																												

Table G.3

Key categories[a]: 2012

Source categories	Australia	Austria	Belarus	Belgium	Bulgaria	Canada	Croatia	Cyprus	Czech Republic	Denmark	Estonia	European Union (15)	European Union (28)	Finland	France	Germany	Greece	Hungary	Iceland	Ireland	Italy	Japan	Kazakhstan	Latvia	Liechtenstein	Lithuania	Luxembourg	Malta	Monaco	Netherlands	New Zealand	Norway	Poland	Portugal	Romania	Russian Federation	Slovakia	Slovenia	Spain	Sweden	Switzerland	Turkey	Ukraine	United Kingdom	United States
5.A.1 Forest Land remaining Forest Land - CO2	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		T	L, T	L, T	L, T	L, T	L	L, T	L, T			L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
5.A.1 Forest Land remaining Forest Land - CH4	L, T					L, T																													T										T
5.A.1 Forest Land remaining Forest Land - N2O						L, T								L, T																															T
5.A.2 Land converted to Forest Land - CO2	L, T	L, T		T	L, T							L, T	L, T		L, T	L		L, T	L, T	L, T	L, T			L, T	T	L, T				T	L, T	L, T	L, T	L, T	L, T	L, T	L, T		T				
5.A.2 Land converted to Forest Land - CH4																																													
5.A.2 Land converted to Forest Land - N2O																																													
5.B.1 Cropland remaining Cropland - CO2		T		L	L, T	L, T	L, T		T	L, T	L	L, T	L, T	L, T		L, T	T	L, T	L, T		L, T			L, T	L					L	T	T	L, T	L, T	L, T	L	L, T	L, T	L, T		L, T	L, T	T
5.B.1 Cropland remaining Cropland - CH4																																													
5.B.1 Cropland remaining Cropland - N2O																																													
5.B.2 Land converted to Cropland - CO2	L, T			L, T	L, T	L, T					T	L, T	L, T	L, T	L, T	L, T		L, T	L, T	T		T		L, T		L, T				L, T		T		L, T			T	L, T	L, T			T		L, T	T
5.B.2 Land converted to Cropland - CH4																																													
5.B.2 Land converted to Cropland - N2O															L, T																			T												
5.C.1 Grassland remaining grassland - CO2	T									L, T	L, T					L		L, T	L, T	T	L, T		L, T							L, T	L			T		L, T			T			L, T	L, T	T
5.C.1 Grassland remaining grassland - CH4																																													
5.C.1 Grassland remaining grassland - N2O																																													
5.C.2 Land converted to Grassland - CO2	L, T	T		T	L, T		T				L, T	L, T	L, T		L, T		L, T		L, T	T	L, T		L, T	L, T	L, T	L, T				L, T			L, T		L, T	T	L, T	T		T			L	
5.C.2 Land converted to Grassland - CH4	T																																												
5.C.2 Land converted to Grassland - N2O																																													
5.D.1 Wetlands remaining Wetlands - CO2																																L, T													
5.D.1 Wetlands remaining Wetlands - CH4																																													
5.D.1 Wetlands remaining Wetlands - N2O																																													
5.D.2 Land converted to Wetlands - CO2						T					T			L, T	T																		L, T	L, T										
5.D.2 Land converted to Wetlands - CH4																																L, T													
5.D.2 Land converted to Wetlands - N2O																																													
5.E Settlements - CO2				L, T	L, T	L, T	L, T				L, T	L, T	L, T	L, T	L, T	T		T			L, T	T		L, T	L	L, T				L, T		L, T		L, T	T			L, T		L, T	L			L, T	L, T
5.E Settlements - CH4																																													
5.E Settlements - N2O																																													
5.F Other Land - CO2		T																							T								L, T	L, T			L, T						
5.F Other Land - CH4																																													
5.F Other Land - N2O																																													
5.G Other - CO2	T													L, T										L, T									L, T										T	L, T
5.G Other - CH4																																													
5.G Other - N2O																			L																											
Waste																																													
6.A Solid Waste Disposal on Land - CO2																																													
6.A Solid Waste Disposal on Land - CH4	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	T	L, T	L, T		L, T		L, T		L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T	L, T
6.A Solid Waste Disposal on Land - N2O																																													
6.B Waste-Water Handling - CO2																																													
6.B Waste-Water Handling - CH4	T				L, T		L	T			T		L				L, T				L, T			L								L, T	L, T	L, T	L, T		T		L		T	T			
6.B Waste-Water Handling - N2O		T																															L	T							L	T			
6.C Waste Incineration - CO2				T																		L																							
6.C Waste Incineration - CH4																																													
6.C Waste Incineration - N2O																																													
6.D Other - CO2																																													
6.D Other - CH4																																										T			
6.D Other - N2O																																													
Other																																													
7 Other - CO2																																													
7 Other - CH4																																													
7 Other - N2O																																													
7(a) Other - F-Gases																																													
7(p) Other - F-Gases																																													

[a] Source: UNFCCC secretariat key category analysis.

Table G.4

Reported recalculations by year for total GHG emissions excluding LULUCF (%)

	Base year[a]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Australia	-0.66	-0.66	-0.69	-0.73	-0.67	-0.69	-0.52	-0.69	-0.67	-0.54	-0.58	-0.70	-0.34	-0.37	-0.67	-1.19	-1.11	-0.81	-0.85	-1.05	-1.45	-1.56	-1.95
Austria	-0.09	-0.09	-0.07	-0.03	0.01	0.01	0.02	0.02	0.01	0.02	0.06	0.10	0.11	0.11	0.12	0.05	-0.34	-0.42	-0.32	-0.09	0.24	-0.24	-0.10
Belarus	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.02	-0.02	0.21
Belgium	-0.19	-0.19	-0.18	-0.16	-0.16	-0.16	-0.15	-0.18	-0.23	-0.24	-0.30	-0.19	-0.25	0.19	-0.71	-0.62	-0.94	-0.22	-0.28	-0.70	-1.12	-0.99	-0.14
Bulgaria	-0.05	-0.37	-0.48	-0.46	-0.33	-0.27	-0.18	-0.17	-0.13	-0.08	-0.08	-0.05	-0.03	-0.05	-0.07	-0.07	-0.06	-0.10	-0.10	-0.15	-0.14	-0.13	-0.21
Canada	-0.03	-0.03	-0.03	-0.03	-0.01	-0.07	-0.01	0.45	0.62	0.56	0.65	0.53	0.42	0.25	0.29	-0.11	-0.22	0.09	0.06	0.02	0.04	-0.22	-0.08
Croatia	-0.04	-0.04	-0.01	-0.02	-0.03	-0.02	-0.01	0.00	0.26	0.01	0.00	-0.02	-0.01	-0.01	0.01	0.01	0.04	0.03	0.02	0.01	-0.01	0.09	0.15
Cyprus	-0.05	-0.05	3.33	3.28	3.30	0.28	0.78	0.33	0.89	3.78	3.74	3.85	5.07	5.34	5.19	5.15	6.18	5.27	5.85	4.90	5.06	5.78	5.77
Czech Republic	-0.02	-0.02	-0.04	-0.05	-0.05	-0.08	0.65	0.53	0.06	-0.04	0.52	0.32	0.49	0.90	0.92	0.90	0.40	-0.03	0.02	-0.06	0.15	-0.54	0.69
Denmark	-0.10	-0.10	-0.08	-0.07	-0.05	-0.03	-0.01	0.00	0.03	0.07	0.15	0.44	0.35	0.40	0.43	0.25	0.29	0.29	0.35	0.26	0.42	0.36	0.53
Estonia	0.18	0.18	0.18	0.13	0.19	0.16	0.13	0.13	0.09	0.14	0.13	0.09	0.07	0.00	-0.15	-0.25	-0.31	-0.51	-0.47	-0.37	-0.45	-0.48	-2.25
European Union (15)	0.18	0.18	0.24	0.23	0.38	0.43	0.60	0.61	0.48	0.48	0.45	0.46	0.41	0.50	0.45	0.37	0.25	0.45	0.49	0.44	0.31	0.34	0.53
European Union (28)	0.93	0.93	0.82	0.90	0.95	0.96	1.13	1.14	1.05	1.04	1.03	1.09	1.11	1.22	1.14	1.08	0.96	1.11	1.18	1.09	1.07	0.97	1.17
Finland	-0.18	-0.18	-0.17	-0.18	-0.17	-0.17	-0.19	-0.19	-0.19	-0.19	-0.19	-0.23	-0.23	-0.15	-0.08	-0.06	-0.20	-0.24	-0.23	-0.14	-0.09	-0.21	-0.26
France	-0.01	-0.01	-0.01	-0.31	0.02	0.09	0.12	0.09	0.12	0.06	0.02	0.07	0.14	0.07	-0.04	-0.01	-0.12	-0.09	0.07	0.03	-0.01	0.15	0.60
Germany	-0.18	-0.18	-0.18	-0.19	-0.19	-0.18	-0.07	-0.05	-0.03	-0.02	-0.02	-0.02	-0.02	-0.02	0.02	0.02	-0.35	0.20	0.07	0.49	0.14	0.30	1.33
Greece	0.33	0.33	0.33	0.33	0.36	0.37	0.39	0.37	0.36	0.35	0.34	0.28	0.23	0.31	0.29	0.28	0.29	0.34	0.34	0.33	0.39	0.51	-0.28
Hungary	-1.66	-1.39	-1.98	-2.90	-2.47	-3.21	-2.27	-2.08	-1.67	-1.21	-0.79	-2.47	-2.36	-1.62	-2.01	-1.73	-1.36	-0.74	-0.53	-0.37	-0.66	-0.54	-0.37
Iceland	-0.49	-0.49	-0.55	-0.61	-0.58	-0.58	-0.62	-0.61	-0.53	-0.51	-0.47	-0.47	-0.46	-0.44	-0.43	-0.42	-0.44	-0.41	-0.41	-0.38	-0.40	-0.40	-0.42
Ireland	0.00	0.00	-0.02	-0.03	-0.11	-0.16	-0.14	-0.09	-0.09	-0.07	-0.02	0.02	0.05	0.11	0.20	-0.04	0.29	0.20	-0.05	0.61	0.79	0.65	0.41
Italy	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.05	-0.01	-0.02	-0.02	-0.02	-0.03	-0.03	-0.05	-0.05	-0.10	-0.14	-0.19	-0.45
Japan	-2.59	-2.59	-2.78	-3.06	-2.99	-3.36	-0.17	-0.18	-0.16	-0.16	-0.16	-0.15	-0.15	-0.13	-0.13	-0.12	-0.11	-0.11	-0.11	-0.12	-0.13	-0.13	-0.12
Kazakhstan	-0.22	-0.22	5.67	1.85	0.74	0.21	0.93	2.51	3.67	5.27	-0.09	0.01	0.06	-0.08	0.24	1.12	0.03	-0.19	2.43	0.16	0.18	0.05	1.27
Latvia	-0.38	-0.38	-0.47	-0.53	-0.62	-0.70	-0.77	-0.81	-0.78	-0.89	-0.96	-1.10	-1.02	-0.80	-0.64	-1.94	-0.90	-1.07	-1.32	-1.16	-0.83	-0.91	-3.51
Liechtenstein	-0.95	-0.95	-1.11	-1.23	-1.28	-1.35	-1.27	-1.45	-1.30	-1.42	-1.55	-1.54	-1.72	-1.77	-1.86	-2.00	-1.89	-1.81	-1.89	-1.76	-1.32	-1.89	-2.63
Lithuania	-0.07	-0.07	-0.03	-0.02	-0.12	-0.20	0.05	0.06	0.08	0.04	0.00	-0.08	0.01	-0.08	-0.02	-0.05	-0.11	-0.17	-0.15	0.05	0.04	-0.02	0.30
Luxembourg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.01	-0.01	-0.38	0.15	-0.01	-0.01	0.01	0.01	-0.05	-0.02	0.22
Malta	-0.73	-0.73	-0.23	0.19	0.61	0.99	1.68	1.48	1.82	0.53	0.71	0.39	0.32	0.31	0.28	-0.68	-0.49	-0.45	-0.46	-0.14	0.48	-0.12	0.19
Monaco	1.04	1.04	0.89	0.71	0.53	0.33	0.07	0.08	0.08	0.08	0.08	0.05	0.01	0.10	0.08	0.08	0.08	-0.09	-0.49	0.05	0.03	0.28	0.26
Netherlands	0.00	0.00	-0.01	0.01	-0.01	-0.02	-0.02	0.02	-0.02	-0.01	-0.02	0.01	-0.02	0.00	-0.01	0.00	-0.01	0.01	0.00	0.00	-0.04	0.05	0.35
New Zealand	1.50	1.50	1.49	1.72	1.70	1.73	1.77	1.70	1.28	1.64	1.57	1.95	2.00	2.03	2.05	2.15	2.05	2.09	2.29	2.20	2.23	2.16	2.02
Norway	-0.09	-0.09	-0.07	-0.07	-0.09	-0.10	-0.14	-0.12	-0.13	-0.11	-0.09	-0.10	-0.13	-0.11	-0.09	-0.13	0.19	0.18	-0.17	-0.02	-0.10	0.02	-0.29
Poland	1.11	1.77	1.70	1.67	1.61	1.59	1.58	1.47	1.50	1.43	1.38	1.38	1.35	1.44	1.32	1.23	0.63	0.43	0.22	-0.27	0.00	-0.34	-0.27
Portugal	-0.30	-0.30	-0.32	-0.24	-0.11	-0.31	-0.29	-0.38	-0.38	-0.25	-0.25	-0.24	-0.30	-0.32	-0.78	-0.45	-0.40	-0.43	-0.30	-0.57	-0.48	-1.05	-0.96
Romania	4.29	1.30	1.22	4.77	1.69	1.75	1.39	1.35	1.49	0.85	-0.84	0.39	2.00	1.05	-0.61	-0.78	-0.19	-0.77	0.05	-0.47	-0.33	-0.72	-1.50
Russian Federation	0.34	0.34	0.28	0.49	0.48	0.46	0.39	0.39	0.37	0.36	0.40	0.31	0.38	0.40	0.39	0.34	0.31	0.24	0.30	0.38	0.42	0.18	-1.58
Slovakia	2.01	2.01	-0.55	-0.84	1.14	0.74	0.04	1.08	-1.18	-1.30	-1.11	-0.71	-1.67	-2.51	-1.69	-0.86	-0.66	-0.37	-0.26	-0.23	1.67	-1.12	-1.32
Slovenia	-0.04	0.01	0.02	0.04	0.06	0.08	0.10	0.11	0.12	0.14	0.16	0.18	0.19	0.20	0.13	0.08	0.03	-0.14	-0.09	-0.10	-0.28	-0.36	-0.24
Spain	0.34	0.34	1.00	1.56	2.15	2.07	3.01	3.20	0.48	0.41	-0.14	0.32	-0.60	-0.19	-0.05	-0.32	-0.33	-0.11	0.02	-0.11	-0.84	-0.42	-1.31
Sweden	-0.05	-0.05	-0.06	-0.15	-0.10	-0.14	-0.30	-0.41	-0.46	-0.48	-0.51	-0.49	-0.47	-0.42	-0.46	-0.44	-0.53	-0.57	-0.42	-0.62	-0.64	-0.73	-1.13
Switzerland	-0.30	-0.30	-0.25	-0.19	-0.15	-0.06	0.01	0.05	0.07	0.07	-0.08	-0.16	-0.23	-0.28	-0.29	-0.32	-0.31	-0.34	-0.35	-0.35	-0.26	-0.29	-0.38
Turkey	0	0	0	0	0	0	0	0	0	-0.04	-0.04	-0.04	-0.06	-0.06	-0.08	-0.06	-0.07	0.04	0.38	0.42	0.31	0.35	0.40
Ukraine	1.11	1.11	1.41	1.79	2.13	2.61	3.18	3.79	4.21	4.59	5.36	4.23	4.09	3.97	4.81	3.10	2.28	1.78	1.92	1.50	0.96	0.62	1.71
United Kingdom	0.14	0.14	0.12	0.12	0.11	0.12	0.12	0.06	0.07	0.05	0.25	0.20	0.14	0.06	0.08	0.05	0.18	0.32	0.59	-0.19	-0.01	0.04	-0.20
United States	0.81	0.81	1.19	0.91	0.71	0.67	0.86	0.96	0.83	0.64	0.66	0.43	0.63	0.46	0.54	0.72	0.81	0.58	0.86	0.99	1.16	0.94	0.77

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table G.5a

Reported recalculations by gas: base year[a] and 2011 (%)

	Energy						Industrial Processes						Solvents			
	CO_2		CH_4		N_2O		CO_2		CH_4		N_2O		CO_2		N_2O	
	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011
Australia	-0.68	-2.43	-2.06	-7.86	-4.00	1.09	0	3.92	0.17	43.20	0.12	0.15				
Austria	0	0.03	4.18	-0.69	0.01	-0.18	-0.55	-1.29	0	0	0	0	0	0.02	0	-2.97
Belarus	0	0	0	12.94	0	0	0	-0.50	0	0	0	0			0	0.20
Belgium	-0.10	-0.55	-0.62	8.35	5.08	9.75	0.01	4.33	0	0	0	0			-4.22	-13.26
Bulgaria	0.00	-0.09	0.30	0.40	0.06	-0.76	0	0	0		0	0	0.00	-0.38	0.00	0
Canada	0.00	0.26	0.00	-0.18	0.00	0.65	-0.82	0.80	0	0	0	0			0	0
Croatia	0.00	0.18	0.00	0.00	0.00	0.00	0.01	0.89	0	0	-2.39	-2.51	0	-1.04	0	0
Cyprus	-7.99	-1.66	3.34	16.71	-3.79	3.84	4.30	0.32					100.00	100.00	100.00	100.00
Czech Republic	-0.01	0.86	0.00	-0.04	-0.06	1.65	-0.56	-1.20	0	0	0	0	0	0	0	0
Denmark	0.10	0.40	2.52	3.50	0.45	0.56	0	-0.24			0		0	0.42	2.17	-0.06
Estonia	0.18	-2.21	-1.27	-0.87	0	-0.29	0	0					0.20	0.02	0	0
European Union (15)	0.03	0.32	-0.71	-0.61	-4.75	-1.32	0.25	-0.37	0.04	-1.26	0.04	0.47	-0.05	-0.53	0.75	1.98
European Union (28)	0.67	0.77	0.62	1.69	-2.03	-0.72	0.85	-1.34	1.07	-1.56	0.72	6.12	0.85	1.93	2.19	4.50
Finland	0.00	-0.14	0.01	-0.38	0.00	-0.26	0.05	-0.34	0	0	0	0	-0.38	-0.60	0	0
France	-0.23	0.26	-0.61	1.17	-0.07	0.45	0.00	0.35	0	0	0.18	3.15	0.00	-0.59	61.64	55.11
Germany	0.02	1.67	-1.16	-2.46	-13.89	1.73	-0.09	-0.06	0	0	0	0.00	0	-1.55	0	0
Greece	-0.59	-0.54	-0.18	-0.13	-0.81	-1.11	6.77	-1.58	0	-2.94	0	0	0	0	0	0
Hungary	2.60	4.01	0.93	-0.04	-1.87	-0.99	-31.05	-34.44	1.74	0.00	0	18.95	4.22	114.42	0	0.34
Iceland	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0
Ireland	0.00	0.19	0.00	-0.48	0.00	0.64	0	0			0		0	-0.59		
Italy	0	-0.18	0.01	-0.99	-0.46	-0.71	0	-0.44	0	-1.09	0	0.02	0	-0.77	0	0
Japan	0	0.03	10.85	6.25	0.24	1.76	0	0.12	-0.05	-0.59	0	0			0	0
Kazakhstan	-0.57	1.40	-0.08	0.01	-0.43	2.10	0	0	0	0						
Latvia	0.11	-3.83	-19.69	-17.26	7.36	2.32	-0.24	-9.87	0	0			-15.37	24.99	100.00	-99.90
Liechtenstein	-1.13	-2.60	-1.63	-2.15	-0.29	-14.04							-0.54	-2.29	0	-23.82
Lithuania	-0.28	0.52	-0.03	-0.09	-0.20	-0.34	1.76	0.02	0		0.00	0	0	-0.07	0	0
Luxembourg	0.00	0.13	0.00	0.15	0.00	0.70	0	0					0.00	-4.97	0	-28.48
Malta	0	0.18	0	-21.99	0	-18.53	395.67	0							0	0
Monaco	0.09	0.00	118.85	39.00	0.96	2.00	0	0					0	19.48	100.00	100.00
Netherlands	0.00	0.33	0.00	0.17	0.00	1.12	0	-0.25	0	-0.07	0	0	0	0	2.62	188.84
New Zealand	0.00	0.59	-0.76	-0.80	-0.06	0.44	-4.76	-2.64							0	0
Norway	0.00	-0.23	-0.01	-1.50	-1.20	-4.20	0.03	0.34	0	0	0	0	0	-6.97	0	0
Poland	-0.64	-0.16	0.06	-0.02	1.59	0.49	7.70	-13.87	0	-2.79	0	-1.73	0.00	-0.29	0	0
Portugal	-0.34	-0.47	1.31	1.95	0.00	-3.91	0	-3.57	0	-0.01	0	6.97	0.00	-9.84	-12.52	-0.26
Romania	6.78	-3.06	0.23	-0.43	53.79	0.16	0.00	0	0	0	0	0	0	0		
Russian Federation	0.26	-2.53	0.00	-0.03	-0.01	-8.51	0.38	1.50	-1.65	-1.89	0	0.28			0	0
Slovakia	2.72	-0.82	0.02	0.21	0.44	-0.07	-4.57	-2.59	-24.66	-17.07	-0.01	-0.03	0	0	0	0
Slovenia	0.00	0.00	-2.13	1.11	0	1.91	0	0.03	0						0	0
Spain	0.39	-1.30	-1.61	4.99	3.02	0.67	0	0.00	0	0	0	0	-0.33	-1.22	0	0
Sweden	0.11	0.07	0.28	-10.96	-21.39	-27.68	2.62	-5.84	114.98	0	0	0	0	24.86	0	-21.53
Switzerland	0.05	0.03	-19.22	-1.23	1.55	-20.24	-1.74	-6.25	-84.03	-72.87	0	0	0.02	1.58	0	0
Turkey	0	0.03	0	0.13	0	0.15	0	2.04	0	0	0	100.00				
Ukraine	-0.01	0.00	12.01	16.09	-0.01	-4.83	0	0	0	0	0	0			-98.76	-46.02
United Kingdom	0.20	-0.09	-0.67	-0.89	-1.09	-3.40	-0.73	-2.05	-7.29	-8.28	-0.02	-0.99				
United States	0.00	-0.30	-2.43	-6.29	-0.02	-0.83	-0.05	-2.57	0	0	0	1.33			0	0

Note: The values included in this table are those reported by Parties in CRF table 8(a). An empty cell can either depict that a Party did not recalculate its inventory for a given category-gas combination (i.e. 0% difference), or that it has reported for the first time, or ceased reporting emissions for a category-gas combination (i.e. 100% difference).

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table G.5b

Reported recalculations by gas: base year[a] and 2011 (%)

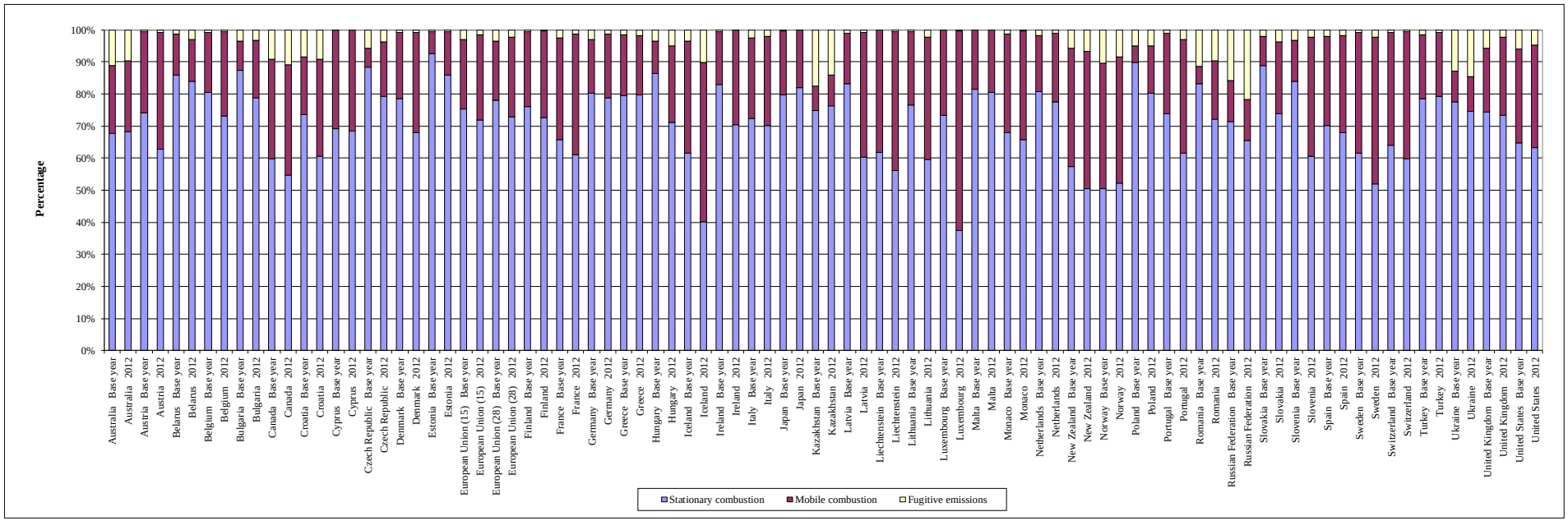
	Agriculture				LULUCF						Waste					
	CH_4		N_2O		CO_2		CH_4		N_2O		CO_2		CH_4		N_2O	
	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011	Base year[a]	2011
Australia	0	0.47	0.00	0.53	24.34	47.05	0.45	5.28	-1.52	-10.21	0	0	-2.16	1.27	0	0.33
Austria	0.00	0.08	0.00	-0.03	-0.70	9.97	0	0	-50.40	-52.19	0	0	0	2.42	0	-0.95
Belarus	0	-0.31	0	0	0	0	0	0	0	0			0	0	0	0
Belgium	0.00	0.32	-0.01	-1.64	-8.55	-7.00	0	0	0	0	-0.83	0.53	-5.81	-10.54	0.00	2.24
Bulgaria	-4.94	-2.82	0	0.04	-4.13	4.51	0	0	-28.66	-27.89	0	8.38	5.23	-1.62	21.49	1.56
Canada	0.00	-2.57	0.37	-1.07	14.77	-13.75	11.27	-4.94	6.53	-6.27	0	-3.69	0	-6.68	0	-1.97
Croatia	0	0.09	0.16	0.23	1.56	-12.52	3.16	8.06	7.86	5.38	0	0	0	-0.11	0	-0.10
Cyprus	-2.21	0.51	14.06	22.56	0.05	-0.48	0	0.00	0	0.00			43.25	59.91	-3.64	0.01
Czech Republic	1.42	4.10	0	0	-5.19	-11.81	-3.54	-1.10	-33.81	-1.56	0	0	0	0	0	0
Denmark	-0.19	-0.01	-0.13	-0.05	-3.49	2.90	0	0	0.07	0.11	-3.59	1.10	-7.06	4.24	0.85	53.67
Estonia	0	0	0.49	0.41	-0.32	-32.31	-0.42	1.81	-2.94	-2.61	0		-0.01	-10.58	-0.07	-41.43
European Union (15)	3.24	3.09	1.16	1.56	3.01	11.13	37.04	-7.74	19.24	76.72	1.15	-1.49	-0.58	4.43	0.02	0.73
European Union (28)	2.89	2.91	2.94	3.19	2.02	8.15	18.72	-2.90	22.36	82.24	1.02	-1.29	0.93	8.68	1.77	1.52
Finland	-7.30	-5.02	0.80	0.28	-2.21	2.93	4.94	-3.88	1,104.53	865.41			0	-0.01	0	-0.07
France	0.85	1.57	-0.06	0.26	20.91	-9.19	-1.29	-28.24	-23.70	61.63	3.04	2.41	2.32	0.45	-0.79	2.12
Germany	-0.05	0.50	-0.24	-0.28	-30.80	-150.54	-5.42	11.31	57.17	79.89			-1.82	0.07	0.70	0.11
Greece	-1.21	-0.59	-0.10	3.67	-8.43	16.17	0.41	0.11	0.44	2.94	0	0	5.98	3.91	0	3.40
Hungary	-5.85	-2.95	-0.28	0.91	-1.69	-3.71	0	0	2.83	5.33		0	-16.07	-12.47	0	-2.14
Iceland	-5.31	-6.07	-0.07	-0.13	0.33	-0.11	0	0	0.01	0.12	0	0	0	0	0	0.00
Ireland	0	0.24	0.00	-4.74	-12.95	-1.67	0	0	0	-0.41	0	-30.83	0.00	4.63	0	1.89
Italy	0.03	-0.05	0.37	0.26	-58.24	-35.83	148.82	157.48	22.25	157	0	-26.37	0	-5.03	0	0.14
Japan	-0.69	-0.66	-16.63	-14.16	-3.90	0.20	0	0	1.22	12.14	0	-3.35	-0.20	0.11	-0.62	1.24
Kazakhstan	-3.52	-3.58	10.91	8.55	229.47	583.44	24,179.38	12,507.52	38,522.15	17,777.19		39.32	-5.35	-2.48	-1.65	-0.88
Latvia	0.03	-0.82	0.02	0.45	-10.72	-30.31	109.53	284.74	5.44	38.56		0	-1.41	-0.71	0.01	-0.19
Liechtenstein	0	0	1.12	-0.98	0	0			0	0	0	0	0	11.88	0	2.01
Lithuania	0	1.54	-0.04	-0.57	0.16	0.87	0	0	0	0	0.00	0	0	0.07	0	-0.07
Luxembourg	0	-1.79	0	7.25	0	45.89			0	-2.11			0	-3.02	0	-7.30
Malta	-28.62	-0.68	7.36	44.98	-90.79	-87.73					0	0	0	0	0	0
Monaco					0	0			0	0				0	0	-1.56
Netherlands	-0.05	-0.03	0.00	1.58	-0.20	1.41	1,152.00	967.87	23,824.72	113,622.46			0	0	0	0.17
New Zealand	-0.67	-0.60	-0.77	-0.52	32.34	118.03	-11.33	-3.13	-47.46	38.68	0	0	65.71	92.12	-0.57	0.07
Norway	-2.68	-4.27	1.01	2.26	-33.85	0.22	0	0	4.48	97.50	0		0.00	0.00	2.95	5.68
Poland	3.11	-3.27	13.84	12.25	99.01	58.86	0	-0.45	1,780	5,902	0	0.42	23.03	5.92	0	0.27
Portugal	-1.57	-7.42	0.61	1.72	-137.00	188.98	-16.88	-40.82	-28.69	-73.64	0	36.88	0	-0.30	-0.65	-0.65
Romania	0	0	0	0	-28.91	-8.89	12,431.30	12,431.30	4,815.64	12.07		-36.05	-0.34	0.24	0	0.38
Russian Federation	-0.16	-0.11	2.33	0.01	94.58	-5.52	52.50	72.01	144.67	126.59			0	0.39	0	0
Slovakia	4.31	3.99	0	-6.50	-10.40	-16.90	-22.07	-3.85	-38.22	-22.65	0	0	33.25	-2.67	-9.30	-3.76
Slovenia	0	0.12	0	0.09	-83.25	-54.11		5.44	100.00	6,596.13		0	0.88	-11.33	0	0
Spain	0	0.26	2.21	3.03	21.85	16.57	0	30.20	101.73	3,083.64	0	-32.44	-5.23	-8.12	0	1.31
Sweden	0.48	0.62	0.58	-0.04	4.07	0.98	0	0.01	-3.93	-7.25	0	0	0	0.26	0	-0.46
Switzerland	0	-0.13	0.00	-1.14	-38.18	-43.98	270.29	885.63	1.79	1.11	0	0	-0.36	-3.18	-0.49	8.01
Turkey	0	0	0	0	186.52	39.38	0	0	0	0		-100.00	0	-2.25	0	0.32
Ukraine	0	0.75	0	0.12	0	-11.25	0	201.47	0.07	2,674.94		0	0.43	1.89	0	0
United Kingdom	0.53	1.30	0.70	1.85	-67.78	108.65	-14.75	51.53	-0.39	13.56	0	-0.77	0.00	-0.90	0	-4.33
United States	3.38	3.14	22.40	22.85	4.65	8.43	0.58	-1.55	0.38	-1.12			-1.70	0.82	0	-2.13

Note: The values included in this table are those reported by Parties in CRF table 8(a). An empty cell can either depict that a Party did not recalculate its inventory for a given category-gas combination (i.e. 0% difference), or that it has reported for the first time, or ceased reporting emissions for a category-gas combination (i.e. 100% difference).

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Figure 1.1

Contribution of subsectors to total GHG emissions in the energy sector[a]



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 1.1

CO_2 emissions from Fuel combustion: reference approach and sectoral approach

	Reference approach	Sectoral approach	Difference	Explanation of the differences as reported in table 1.A(c) of the CRF
	(Gg CO_2)		(%)	
Australia Base year	253,483	250,653	1.13	1.AC Difference - Reference and Sectoral Approach: The main reason for the difference between the sectoral and reference approaches relates to a discrepancy in liquid fuel emissions, which is driven by uncertainty within the reference approach. This arises from the sensitivity of final apparent consumption and emission figures to the average density and energy content values used to convert production, exports, imports and stock change from volumetric units into energy units.
Australia 2012	368,260	369,247	-0.27	
Austria Base year	57,222	54,070	5.83	1.AC Difference - Reference and Sectoral Approach/1990:Solid fuels: CO2 emissions: Reference Approach includes process emissions from blast furnaces which are included in category 2 C 1 and process emissions from carbide production which are included in category 2 B 4. Liquid fuels: CO2 emissions: Heat values and carbon contents are sector and fuel specific. The reference approach considers a share of feedstocks used for plastics production and solvent production as non-carbon-stored. In the sectoral approach a share of emissions from waste incineration of plastics and solvents use (including imported products) is included in category 1A1a and category 3. In the sectoral approach a share of municipal solid waste without energy recovery is considered in category 6C for the years 1990 and 1991. Gaseous fuels: CO2 emissions: National aproach uses sector specific carbon contents and heating values (different from IPCC reference factors). Process emissions from ammonia-production are included in category 2 B 1. Other fuels: The sectoral approach considers waste as an additional fuel type (e.g. municipal solid waste and industrial fuel waste).
Austria 2012	60,583	58,297	3.92	1.AC Difference - Reference and Sectoral Approach/2012:Solid fuels CO2 emissions: RA includes process emissions (mainly non energy use of coke and coal) from blast furnaces which are included in category 2 C 1 and process emissions from carbide production which are included in category 2 B 4. Liquid fuels CO2 emissions: The reference approach considers a share of feedstocks used for plastics production and solvent production as non-carbon-stored. In the sectoral approach a share of emissions from waste incineration of plastics and solvents use (including imported products) is included in category 1A1a and category 3. In the sectoral approach a share of municipal solid waste without energy recovery is considered in category 6C for the years 1990 and 1991. Gaseous fuels CO2 emissions: The RA includes process emissions from ammonia-production which are included in category 2 B 1. Other fuels: The sectoral approach considers waste as an additional fuel type (e.g. municipal solid waste and industrial fuel waste).
Belarus Base year	133,508	100,211	33.23	
Belarus 2012	67,652	53,278	26.98	
Belgium Base year	105,427	110,196	-4.33	1.AC Difference - Reference and Sectoral Approach:See more explanation in section 3.2.1 of the NIR.The reference approach is based on the national energy statistics, while the sectoral approach is based on regional energy balances. 1.AC Liquid Fuels:The recovered fuels of the naphtha cracking are reported in the sectoral approach as 'other fuels' in the chemical industry (category 1A2c). This explains mainly the difference recorded between reference approach and sectoral approach for the liquid fuels (see also chapter 3.2.1 of the NIR for the general reasons).
Belgium 2012	87,632	92,828	-5.60	1.AC Solid Fuels:Differences in CO2 emissions may result from the fact that emissions from solid fuels are partially located under "Industrial Processs" (iron and steel sector) in the regional approaches contrary to the reference approach (where no data for carbon stored is provided). See also chapter 3.2.1 and 4.4 of the NIR. 1.AC Gaseous Fuels:The differences in CO2 emissions between RA and SA are mainly resulting from the accounting of CO2 originating from carbon non stored in the reference approach while it is allocated in sector 2B1, 2B5 and 6C2 in the sectoral approach.
Bulgaria Base year[a]	84,486	79,345	6.48	
Bulgaria 2012	46,272	45,006	2.81	
Canada Base year	422,638	413,899	2.11	1.AC Difference - Reference and Sectoral Approach:Refer to Annex 4 of the NIR for a discussion on the comparison of the reference approach and the sectoral approach.
Canada 2012	489,261	489,587	-0.07	
Croatia Base year	20,215	20,594	-1.84	1.AC Gaseous Fuels:Gas works gas is excluded from Reference Approach as recommended (ERT 2010).
Croatia 2012	16,500	16,949	-2.65	
Cyprus Base year	4,338	3,858	12.44	
Cyprus 2012	6,500	6,519	-0.30	
Czech Republic Base year	148,500	145,593	2.00	1.AC Difference - Reference and Sectoral Approach: Detailed comparison of the results from Sectoral and Reference Approach (SA and RA), respectively, is given in NIR Annex 4 Reference Approach and Comparison with Sectoral Approach.
Czech Republic 2012	99,380	101,289	-1.89	
Denmark Base year	51,964	52,586	-1.18	1.AC Difference - Reference and Sectoral Approach:Non-energy use of fuels is not included in the Danish National Approach. Fuel consumption for non-energy is subtracted in Reference Approach to make results comparable. CO2 emission from plastic part of municipal wastes is included in the Danish National Approach.
Denmark 2012	38,234	39,407	-2.98	CO2 emission from the plastic part of municipal wastes is added in Reference Approach to make results comparable. (Other fuels of sources 1A1, 1A2 and 1A4).
Estonia Base year	36,003	35,632	1.04	
Estonia 2012	17,637	16,572	6.43	

Table 1.1

CO_2 emissions from Fuel combustion: reference approach and sectoral approach

	Reference approach	Sectoral approach	Difference	Explanation of the differences as reported in table 1.A(c) of the CRF
	(Gg CO_2)		(%)	
European Union (15) Base year	3,146,822	3,137,377	0.30	
European Union (15) 2012	2,781,013	2,808,098	-0.96	
European Union (28) Base year	4,130,777	4,110,157	0.50	
European Union (28) 2012	3,479,628	3,472,001	0.22	
Finland Base year	54,354	52,954	2.64	1.AC Difference - Reference and Sectoral Approach: The relatively high difference in liquid fuels CO2 emissions is due to statistical differences in national oil balance. Allocation of Peat is different in SA ('Other fuels') compared to RA ('Solid fuels').
Finland 2012	44,376	46,390	-4.34	1.AC Liquid Fuels: The relatively high difference in liquid fuels CO2 emissions is due to statistical differences in national oil balance. 1.AC Solid Fuels: Allocation of Peat is different in SA ('Other fuels') compared to RA ('Solid fuels'). 1.AC Other Fuels: Allocation of Peat is different in SA ('Other fuels') compared to RA ('Solid fuels').
France Base year	371,506	366,107	1.47	1.AC Difference - Reference and Sectoral Approach/1990:The reference approach is based on data sent by the French statistical office (SOeS) to IEA, as the sectoral approach is based on the national energy balance published yearly by the SOeS. Large differences observed before 2001 are mainly induced by the fact that data for the years before 2001 within the IEA database are not updated, when the full time series since 1990 are updated in the national energy balance dataset used for the sectoral approach. So the two datasets are not consistent. However, when implementing a simplified reference approach based on the fully updated national energy balance from 1990 to 2012 with proper corrections on international bunkers, other fuels and non energy uses (cf. table 24 of the NIR for more information), the reference and sectoral approaches are very consistent on the entire time serie.
France 2012	348,612	346,013	0.75	
Germany Base year	973,377	977,715	-0.44	
Germany 2012	760,379	766,580	-0.81	
Greece Base year	75,940	74,363	2.12	
Greece 2012	85,268	85,003	0.31	
Hungary Base year[a]	77,889	77,165	0.94	1.AC Difference - Reference and Sectoral Approach: Analysis of the differences for each fuel type can be found in NIR, chapter 3.2.1. Transformation losses, inputs of different fuel transformation and non-energy use of fuels affect the relationship of the two approaches.
Hungary 2012	43,020	42,679	0.80	1.AC Liquid Fuels: Analysis of the differences for each fuel type can be found in NIR, chapter 3.2.1. Transformation losses, inputs of different fuel transformation and non-energy use of fuels affect the relationship of the two approaches. 1.AC Solid Fuels: The difference is the result of transformation losses in gas coke distillation and briquetting.
Iceland Base year	1,677	1,685	-0.47	
Iceland 2012	1,473	1,491	-1.23	
Ireland Base year	30,138	30,154	-0.05	1.AC Liquid Fuels: See section 3.4 of NIR 2013 for an explanation to the difference between the Reference Approach and the Sectoral Approach 1.AC Solid Fuels: See section 3.4 of NIR 2013 for an explanation to the difference between the Reference Approach and the Sectoral Approach
Ireland 2012	35,651	36,507	-2.35	1.AC Gaseous Fuels: See section 3.4 of NIR 2013 for an explanation to the difference between the Reference Approach and the Sectoral Approach 1.AC Other Fuels: See section 3.4 of NIR 2013 for an explanation to the difference between the Reference Approach and the Sectoral Approach
Italy Base year	396,163	400,728	-1.14	
Italy 2012	369,475	366,277	0.87	
Japan Base year	1,057,427	1,068,260	-1.01	
Japan 2012	1,217,111	1,221,568	-0.36	
Kazakhstan Base year	262,185	243,412	7.71	
Kazakhstan 2012	220,168	205,706	7.03	
Latvia Base year	18,435	18,412	0.12	1.AC Difference - Reference and Sectoral Approach: Difference in fuel consumption data and estimated CO2 emissions are mainly due to statistical difference, interproducts transfer and distribution losses that are reported by Central Statistical Bureau but can't be taken into account in Reference Approach emissions estimation.
Latvia 2012	6,775	6,795	-0.29	Paraffin Wax and White Spirit fuel consumption is reported in Reference Approach table but can't be taken out from CO2 emissions estimation because these fuel types aren't included in 1.A(d) and therefore can't be taken be considered as feedstocks in Reference Approach emissions estimation.
Liechtenstein Base year	199	199	0.01	1.AC Difference - Reference and Sectoral Approach/1990:While congruence between Reference and Sectoral Approach for energy consumption is very high, the difference concerning CO2 is bigger. The probable explanation for this, is the fact, that a small fraction of the gas consumed is not burnt but lost before in the distribution network. Therefore these emissions are more climate relevant as they are emitted as CH4 with higher warming potential (21 CO2 eq) than if burnt and emitted as CO2. Therefore the Reference Approach where this fact is considered, becomes bigger in comparison to the Sectoral Approach. As the importance of gas is increasing in Liechtenstein, also the differences between the two approaches are increasing.
Liechtenstein 2012	188	188	0.04	
Lithuania Base year	32,199	32,154	0.14	
Lithuania 2012	11,503	11,305	1.75	
Luxembourg Base year	10,159	10,327	-1.63	1.AC Liquid Fuels: Apparent consumption = sectoral approach + Biodiesel & Biogasoline. These are included in the RA, and are declared in the IEA Questionnaires as fossil fuels and are included in Diesel oil and Motor gasoline respectively.
Luxembourg 2012	10,215	10,326	-1.07	1.AC Solid Fuels: Apparent energy consumption = total sectoral approach + other solid fuels - MSW fossil fraction (as declared under the sectoral approach).
Malta Base year	NA, NE, NO	1,865	-100.00	

Table 1.1

CO_2 emissions from Fuel combustion: reference approach and sectoral approach

	Reference approach	Sectoral approach	Difference	Explanation of the differences as reported in table 1.A(c) of the CRF
	(Gg CO_2)		(%)	
Malta 2012	2,701	2,806	-3.73	
Monaco Base year	105	105	-0.31	
Monaco 2012	83	83	-0.34	
Netherlands Base year	152,039	149,860	1.45	1.AC Difference - Reference and Sectoral Approach:In 1A but not in RA:1A1a-other fuels: CO2 from fossil waste incineration (AVIs)Not in NA-1A:CO2 fossil fuel sources in sector 1B:1. B. 1. b. Solid Fuel Transformation1.B.2.c FlaringCO2 fossil fuel sources in sector 2:2A4 Soda Ash Production2B1. Ammonia production2B5. Other chemicals, excl. activated carbon2C1. Coke and coal inputs in blast furnace (net)2D1. Pulp and Paper2G. Process emissions in other economic sectorsAfter these corrections, the differences are between -1.2% and +0.7%.
Netherlands 2012	165,042	157,966	4.48	
New Zealand Base year	23,512	21,830	7.71	1.AC Gaseous Fuels: The fuel that showed the largest difference was gaseous fuels at 4.1 per cent, partially due to the inclusion of gas flared at off-shore platforms during oil and gas production in the reference approach. These emissions are considered fugitive in the sectoral approach so are not captured in the comparison but are not subtracted from gas production in the reference approach when calculating apparent consumption. If carbon dioxide emissions from flared gas were included in the sectoral approach for the purposes of this comparison, the reference approach would be 0.9 per cent lower than the sectoral approach for gaseous fuels and 0.7 per cent higher than the sectoral approach across all fuels (table 3.2.1 in NIR). Figure 3.2.1 in NIR shows the increasing effect of gas flaring on the reference-sectoral comparison. The increase in recent years is the result of gas flaring on new off-shore oil rigs. Gas produced at these rigs is flared as it is not economically viable to transport ashore for sale.
New Zealand 2012	32,189	29,557	8.91	
Norway Base year	24,090	25,852	-6.82	1.AC Difference - Reference and Sectoral Approach: As in previous submissions, there are large deviations in the output from the RA and SA. The results for all years in the period 1990-2010 are displayed in section 3.6.1, Table 3.32 in NIR 2012. Generally, the main reason for the deviation between the SA and RA is statistical differences.
Norway 2012	37,366	35,040	6.64	
Poland Base year[a]	468,674	437,293	7.18	
Poland 2012	298,499	298,404	0.03	
Portugal Base year	40,892	40,195	1.74	1.AC Difference - Reference and Sectoral Approach:Differences between Sectoral and Reference approach (CO2 from fuel combustion): the sectoral approach CO2 estimates depends partially on combustion information from point sources, and the reference approach results from national energy balances. Futhermore, feedstock emissions were estimated differently in the two approaches: in the sectoral approach, emissions were estimated from production activity data; in the reference approach, a global percentage of carbon stored (e.g. lubricants, naphta) was used. In the sectoral approach, emissions from lubricants may not have been totally estimated, because it is uncertain if road traffic emission factors take into account these materials.
Portugal 2012	45,280	45,714	-0.95	differences in the Energy Balance and the energy activity data used by the inventory – where data collected directly from emission units (Large Point Sources) play a very representative role – and a different approach to account for emissions from carbon stored in products; Specific LHV values for LPS are not always considered in the Energy Balance; The per cent of feed-stocks which carbon is stored in products are default values and not specific of the national conditions reflected in the inventory; The energy balance as been updated in order to follow the IPCC criteria to distinguish between domestic and international fuel use. This improvement contributes to decrease the difference betw
Romania Base year[a]	180,496	179,090	0.78	1.AC Difference - Reference and Sectoral Approach: The difference between RA and SA is caused by the fact that the Reference Approach treats the non-energy use of fuels as if it were combustion. A correction is done by the carbon stored from non energy fuel use, but the information related to this area are limited in the national energy balance.
Romania 2012	74,580	72,786	2.46	
Russian Federation Base year	2,453,948	2,270,436	8.08	
Russian Federation 2012	1,525,617	1,463,872	4.22	
Slovakia Base year	52,692	53,899	-2.24	
Slovakia 2012	27,211	27,954	-2.66	
Slovenia Base year[a]	15,079	15,209	-0.86	
Slovenia 2012	14,746	14,839	-0.63	
Spain Base year	205,532	204,841	0.34	1.AC Difference - Reference and Sectoral Approach: As stated in Appendix 4 of NIR, the differences between Sectoral Approach (SA) and Reference Approach (RA) are motivated mainly by the combined effect of: - Default values may be applied to those primary fuels which are consumed mainly or exclusively for processing and transformation into secondary fuels (as for coking coal and crude oil). Given the high order of magnitude of the crude oil processed, the estimate drawn from the reference approach is extremely sensitive to any variations on the parameters applied for crude oil.
Spain 2012	256,452	257,187	-0.29	- CO2 emissions from non-energy use of fuel accounted in RA, such as coke-made anode consumption for aluminium production or use of coal and coke as reductant agent in electric steel plants and glass production. - Statistical differences in the fuel balance of the inventory.
Sweden Base year	51,232	51,502	-0.52	1.AC Difference - Reference and Sectoral Approach: Please note the national method for comparing RA-SA (3.2.1 in the Swedish NIR) includes also other fuels. Further explanations are provided in NIR Annex 4. The fluctuations in the aggregate time series in 1A(c) are mainly due to fluctuations in input data for crude oil in 1A(b). Large differences in 1A(c) for solid fuels are due to large losses of process heat in the iron and steel industry.
Sweden 2012	39,818	39,729	0.22	
Switzerland Base year	41,423	41,114	0.75	
Switzerland 2012	41,323	40,961	0.89	

Table 1.1

CO_2 emissions from Fuel combustion: reference approach and sectoral approach

	Reference approach	Sectoral approach	Difference	Explanation of the differences as reported in table 1.A(c) of the CRF
	(Gg CO_2)		(%)	
Turkey Base year	140,069	126,701	10.55	1.AC Difference - Reference and Sectoral Approach: The reference approach uses data on crude oil as the average "calorific values" and "carbon content". However sectoral approach uses the individual "calorific values" and "Carbon content" in each sectors.
Turkey 2012	329,509	301,673	9.23	
Ukraine Base year	740,193	643,745	14.98	1.AC Liquid Fuels: See NIR Annex 4. 1.AC Solid Fuels: See NIR Annex 4. 1.AC Gaseous Fuels: See NIR Annex 4. 1.AC Other Fuels: See NIR Annex 4.
Ukraine 2012	248,028	261,669	-5.21	1.AC Difference - Reference and Sectoral Approach/2012:1.AC Difference - Reference and Sectoral Approach: For explanation of reasons of the differences between two approaches see NIR section 3.2.1 (Brief explanation - great statistical difference for the consumption of some fuels) 1.AC Liquid Fuels: See NIR Annex 4. 1.AC Solid Fuels: See NIR Annex 4. 1.AC Gaseous Fuels: See NIR Annex 4. 1.AC Other Fuels: See NIR Annex 4.
United Kingdom Base year	559,391	567,947	-1.51	1.AC Difference - Reference and Sectoral Approach: See NIR for explanation of differences between reference and sectoral approach.
United Kingdom 2012	466,019	469,293	-0.70	
United States of America Base year	4,810,919	4,873,881	-1.29	1.AC Difference - Reference and Sectoral Approach: Refer to section 3.11 of the NIR.
United States of America 2012	5,152,527	5,194,779	-0.81	

[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 and 11/CP.4, some Partie with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 1.2

Stationary combustion: liquid fuels - CO_2 (2012)

	Key category	Share of national total	IEF in CRF based on GCV or NCV	Energy industries						Manufacturing industries and construction			Other sectors						Other (Not specified elsewhere)		
				Methods and EF used[a]		CO_2 IEF				Method and EF used[b]		CO_2 IEF	Method and EF used[c]		CO_2 IEF				Method and EF used[d]		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	Methods	EF	Stationary
		%				(t/TJ)						(t/TJ)			(t/TJ)						(t/TJ)
Australia[e]	L, T	6.8	GCV	T2	CS, PS	69.80	71.99	64.62	72.66	T2	CS	72.28	T2	CS	71.33	71.48	64.70	72.45			29.37
Austria	L, T	12.5	NCV	T2	CS, PS	75.23	78.15	74.97	NO	T2	CS, PS	76.25	T2	CS	74.52	69.77	74.72	74.80			NA
Belarus	L, T	7.5	NCV	T1	CS, D	76.46	76.46	IE	IE	T1	CS, D	73.44	T1	CS, D	69.16	71.07	62.49	71.40			69.50
Belgium	L, T	14.6	NCV	CS, T1, T3	CS, D, PS	66.61	73.35	66.33	NO	CS, T1, T3	D, PS	75.16	T1	D	72.87	72.49	72.87	73.39			NA
Bulgaria	L, T	4.7	NCV	T1	D	77.88	88.09	72.20	NO	T1	D	84.65	T1	D	71.37	70.60	62.87	73.15			NO
Canada[e]	L, T	7.1	GCV	T2	CS	60.15	80.94	55.89	60.02	T2	CS	73.86	T2	CS	72.74	71.11	73.22	74.10			NA
Croatia	L, T	15.7	NCV	T1, T2	D, PS	72.64	76.46	71.72	NO	T1	D	79.97	T1	D	71.48	71.73	69.52	73.05			NO
Cyprus	L, T	48.2	NCV	CS	CS	77.65	77.65	NO	NO	T1	CS, D	82.39	T1	D	61.99	0.07	69.81	72.86			73.33
Czech Republic	L, T	3.7	NCV	T1	CS, D	65.96	76.51	64.15	73.33	T1	CS, D	72.68	T1	CS, D	70.28	71.38	67.35	71.44			NO
Denmark	L, T	13.4	NCV	T1, T2, T3	CS, D, PS	64.36	75.93	59.12	73.70	CR, T1, T2, T3	CS, D, PS	79.38	T1, T2	CS, D	75.07	73.39	72.86	76.13			NA
Estonia	L, T	4.2	NCV	T1, T2	CS, D	75.11	75.11	NO	NO	T1, T2	CS, D	72.71	T1, T2	CS, D	72.82	64.48	70.99	73.18			NO
European Union (15)	L, T	11.5	NCV	CS, T1, T2, T3	CR, CS, D, PS	69.07	76.29	67.02	72.03	CR, CS, M, T1, T2, T3	CR, CS, D, M, PS	74.30	CS, M, T1, T2, T3	CR, CS, D, M	72.82	73.14	72.44	73.39			71.67
European Union (28)	L, T	10.4	NCV	CS, D, T1, T2, T3	CR, CS, D, PS	69.53	76.39	67.28	71.49	CR, CS, D, M, T1, T2, T3	CR, CS, D, M, PS	74.33	CS, D, M, T1, T2, T3	CR, CS, D, M	72.63	72.91	72.16	73.33			72.32
Finland	L, T	16.3	NCV	T3	CS, D, PS	60.95	77.59	55.03	NO	CS, M, T3	CS	66.78	M, T1	CS	74.14	75.18	73.82	73.77			71.34
France	L, T	14.9	NCV	T2, T3	CS	66.41	76.65	59.82	NO	T2, T3	CS	75.13	T2	CS	73.57	74.23	72.85	73.84			NO
Germany	L, T	9.2	NCV	CS	CS	69.45	78.47	68.11	75.16	CS	CS	74.86	CS	CS	73.50	73.18	73.58	73.78			73.98
Greece	L, T	17.3	NCV	T2	PS	70.99	75.47	66.75	NO	T2	PS	70.72	T2	D	72.28	70.17	72.65	72.20			NO
Hungary	L, T	4.0	NCV	T2, T3	CS, PS	68.54	77.81	67.08	NO	T1, T2	CS, D	87.68	T1	D	69.60	67.58	62.44	73.28			NO
Iceland	L, T	15.0	NCV	T1	D	73.81	73.81	NO	NO	T1	D	74.08	T1	D	73.98	66.48	70.36	74.08			NO
Ireland	L, T	11.3	NCV	T3	PS	67.31	78.13	62.84	NO	T1	CS	75.26	T1	CS	72.33	73.18	71.75	73.30			NO
Italy	L, T	11.3	NCV	T3	CS	74.80	75.22	74.75	NO	T2	CS	83.36	T2	CS	70.73	67.14	69.67	72.92			NA
Japan[e]	L, T	22.8	GCV	T1	CS	70.78	73.38	56.00	62.56	T1	CS, D, OTH	70.87	T1	CS	69.68	70.40	67.91	72.68			NO
Kazakhstan	L, T	5.5	NCV	T1, T2	CS, D	72.33	75.57	71.12	72.23	T1, T2	CS, D	74.31	T1, T2	CS, D	65.58	71.05	63.50	63.91			71.74
Latvia	L, T	7.8	NCV	T2	CS	75.43	75.92	NO	74.00	T2	CS	73.28	T2	CS	72.40	73.30	68.96	73.82			NO
Liechtenstein	L, T	23.4	NCV	NA	NA	NO	NO	NO	NO	T1, T2	CS, D	73.67	T1, T2	CS, D	73.63	73.61	73.70	73.61			NO
Lithuania	L, T	10.3	NCV	T1, T2, T3	CS, D, PS	69.91	76.89	67.61	72.89	T2	CS	72.58	T2	CS	67.95	73.10	66.96	71.95			IE, NO
Luxembourg	L, T	8.2	NCV	T2	CS	73.45	73.45	NO	NO	T1, T2	CS, D	73.56	T2	CS	73.03	71.93	73.45	73.45			NO
Malta	L, T	72.1	NCV	D, T1	D	76.86	76.86	NO	NO	D, T1	D	74.71	D, T1	D	68.70	69.55	65.41	74.21			NA
Monaco	L, T	17.7	NCV	T1	D	78.41	78.41	NO	NO	NA	NA	NA, NO	T1	D	73.33	IE	73.33	NO			NO
Netherlands	L, T	9.5	NCV	T2	CS, D	67.84	62.31	68.83	74.69	T2	CS, D	66.62	T2	CS, D	73.11	68.82	71.93	73.98			NA
New Zealand[e]	L, T	5.0	GCV	D	CS, D	65.61	72.67	65.58	72.02	D	CS, D	70.88	D	CS	70.84	69.73	60.64	72.78			NA
Norway	L, T	12.9	NCV	T1, T2, T3	CS, PS	66.59	54.64	61.72	73.52	T1, T2, T3	CS	61.62	T2	CS	73.41	73.67	72.45	73.48			72.50
Poland	L, T	4.2	NCV	T1	D	72.13	76.17	71.63	73.39	T1	D	70.71	T1	D	70.84	71.38	63.98	72.93			IE
Portugal	L, T	12.4	NCV	T2	CR, D, PS	66.27	76.40	61.54	NO	T2	CR, D, PS	80.43	T2	CR, D	67.96	70.57	64.05	73.20			NO
Romania	L, T	7.0	NCV	T1, T2	CS, D	65.56	68.38	62.27	68.90	T1, T2	CS, D	74.98	T1, T2	CS, D	69.46	70.97	62.77	73.30			73.56
Russian Federation	L, T	6.2	NCV	T1, T2	CS, D	72.65	76.39	69.23	73.06	T1	D	73.13	T1	D	67.48	68.45	62.51	72.87			72.45
Slovakia	L, T	3.6	NCV	T2, T3	CS, PS	71.38	79.85	71.21	73.62	T2	CS	74.27	T2	CS	70.31	70.82	NO	69.06			78.12
Slovenia	L, T	8.5	NCV	T1	D	73.41	73.42	NO	73.30	T1	D	74.70	T1	D	71.75	71.33	71.56	73.15			NA
Spain	L, T	15.7	NCV	T2	CS, PS	65.93	77.24	58.41	73.00	T2, T3	CS, M, PS	86.09	T2, T3	CS, M	71.42	72.06	69.65	72.61			IE
Sweden	L, T	19.0	NCV	T2	CS	59.48	74.92	55.29	74.26	T1, T2, T3	CS, PS	66.76	T1, T2	CS	72.62	71.81	72.92	72.63			NA
Switzerland	L, T	28.0	NCV	CS, T2	CS	67.21	73.73	66.73	NO	CS, T2	CS	73.59	CS, T2	CS	73.70	73.70	73.70	73.64			NA
Turkey	L, T	5.0	NCV	T2	D	73.70	73.70	NA	IE	T1	D	84.13	T1	D	68.90	IE	63.49	73.33			NA, NO
Ukraine	L, T	2.0	NCV	T1	D	69.70	76.22	67.45	72.80	T1	D	73.41	T1	D	70.88	72.81	62.60	72.88			74.63
United Kingdom	L, T	8.4	NCV	T1, T2	CS, D	70.31	79.33	68.60	71.87	T2, T3	CS	67.35	T1, T2, T3	CS	70.13	76.94	67.90	74.19			IE
United States[e]	L, T	8.0	GCV	T2	CS	85.66	85.66	85.66	85.66	T2	CS	75.29	T2	CS	68.38	70.36	67.31	IE			28.87

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.a Other (stationary).

[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.1 Energy industries.

[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.A.2 Manufacturing industries and construction.

[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.4 Other sectors.

[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.5 Other (not specified elsewhere).

[e] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.3

Stationary combustion: solid fuels - CO_2 (2012)

	Key category	Share in national total	IEF in CRF based on GCV or NCV	Energy industries						Manufacturing industries and construction			Other sectors						Other (Not specified elsewhere)		
				Methods and EF used[a]		CO_2 IEF				Method and EF used[b]		CO_2 IEF	Method and EF used[c]		CO_2 IEF				Method and EF used[d]		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	Methods	EF	Stationary
		%				(t/TJ)						(t/TJ)			(t/TJ)						(t/TJ)
Australia[e]	L, T	33.0	GCV	T2	CS, PS	95.65	95.80	NA	82.16	T2	CS	84.98	T2	CS	96.84	96.84	NO	NO			NO
Austria	L, T	10.7	NCV	T2	CS, PS	92.91	92.91	NO	NO	T2	CS, PS	100.73	T2	CS	94.02	95.76	93.84	93.93			NA
Belarus	L, T	3.5	NCV	T1	D	98.40	98.40	IE	IE	T1	CS, D	96.01	T1	CS, D	92.72	92.71	92.72	93.05			103.85
Belgium	L, T	11.3	NCV	CS, T1, T3	CS, D, PS	138.99	151.37	NO	37.93	CS, T1, T3	D, PS	64.65	T1	D	92.71	92.70	92.71	92.71			NA
Bulgaria	L, T	47.9	NCV	T2	CS, D	103.41	103.41	NO	95.49	T2	CS, D	96.63	T2	CS, D	96.80	97.39	96.79	96.47			NO
Canada[e]	L, T	9.8	GCV	T2	CS	95.91	95.91	NO	92.91	T2	CS	74.04	T2	CS	98.86	NO	98.86	NO			NA
Croatia	L, T	9.4	NCV	T2	PS	92.71	92.71	NO	NO	T1	D	95.05	T1	D	95.31	94.15	96.09	NO			NO
Cyprus	T	0.0	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NA, NO	NA	NA	NO	NO	NO	NO			100.19
Czech Republic	L, T	48.2	NCV	T1	CS, D	94.49	96.47	NO	74.23	T1	CS, D	93.95	T1	CS, D	96.49	98.48	96.36	98.15			NO
Denmark	L, T	19.0	NCV	T3	CS, PS	94.24	94.24	NO	NO	CR, T1, T3	D, PS	96.72	T1	D	94.60	NO	94.62	94.60			NO
Estonia	L, T	63.5	NCV	T1, T2, T3	CS, D, PS	86.94	99.79	NO	18.51	T1, T2	CS, D	98.34	T1, T2	CS, D	94.97	94.07	94.98	NO			NO
European Union (15)	L, T	21.8	NCV	CS, T1, T2, T3	CR, CS, D, PS	102.14	101.24	182.98	130.63	CR, CS, T1, T2, T3	CR, CS, D, PS	113.48	CS, T1, T2, T3	CS, D	96.36	97.83	96.04	96.36			99.01
European Union (28)	L, T	25.5	NCV	CS, T1, T2, T3	CR, CS, D, PS	100.75	100.59	181.61	104.78	CR, CS, T1, T2, T3	CR, CS, D, PS	110.28	CS, T1, T2, T3	CS, D, OTH	95.23	95.95	95.18	94.72			99.60
Finland	L, T	16.3	NCV	T3	CS, D, PS	92.47	92.92	NO	81.14	T3	CS, PS	137.25	T1, T3	CS, D	92.74	NO	89.87	93.16			NO
France	L, T	9.0	NCV	T2, T3	CS	110.24	104.02	261.87	177.82	T2, T3	CS	122.40	T2	CS	95.00	95.00	95.00	NO			NO
Germany	L, T	36.3	NCV	CS	CS	106.73	106.02	40.00	129.27	CS	CS	132.36	CS	CS	98.54	99.08	98.41	98.00			99.01
Greece	L, T	38.1	NCV	T2	CS	127.08	127.08	NO	NO	T2	PS	96.59	T2	D	99.18	NO	99.18	NO			NO
Hungary	L, T	17.3	NCV	T2, T3	CS, D, PS	110.95	114.07	NO	47.43	T1, T2	CS, D, PS	131.45	T2	CS	100.54	94.15	100.60	94.15			NO
Iceland	T	-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Ireland	L, T	16.3	NCV	T3	CS, PS	101.19	100.96	NO	120.42	T1	CS	94.64	T1	CS	98.77	NO	98.77	NO			NO
Italy	L, T	13.5	NCV	T3	CS	98.69	91.88	NO	159.03	T2	CS	73.84	T2	CS	91.88	NO	91.88	NO			NA
Japan[e]	L, T	32.1	GCV	T1	CS, OTH	94.08	94.78	NO	77.76	T1	CS, OTH	97.73	T1	CS	97.16	97.16	NO	113.40			NO
Kazakhstan	L, T	47.3	NCV	T1	CS, D	92.78	92.78	92.83	92.78	T1	D	90.14	T1	D	93.92	92.95	94.46	92.71			94.22
Latvia	L, T	3.2	NCV	T2	CS	92.20	92.20	NO	NO	T1, T2	CS, D	91.90	T2	CS, OTH	92.56	93.16	92.20	92.20			NO
Liechtenstein		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Lithuania	L, T	4.4	NCV	T2, T3	CS, PS	100.02	99.54	NO	104.34	T2, T3	CS, PS	96.67	T2	CS	97.64	97.30	97.82	100.04			IE, NO
Luxembourg	L, T	1.6	NCV	NA	NA	NO	NO	NO	NO	T1	D	94.89	T1	D	97.50	NO	97.50	NO			NO
Malta	T	-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	IE, NO	NA	NA	NO	NO	NO	NO			NA
Monaco		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NA, NO	NA	NA	NO	NO	NO	NO			NO
Netherlands	L, T	15.6	NCV	T2	CS	108.96	108.96	NO	NO	T2	CS, D	132.78	T2	CS, D	95.94	101.22	94.71	NO			NA
New Zealand[e]	L, T	6.4	GCV	D	CS	94.91	94.91	NO	NO	D	CS	94.73	D	CS	95.01	95.32	94.99	94.90			NA
Norway	L, T	1.3	NCV	T1, T2, T3	CS, PS	90.75	90.75	NO	NO	T1, T2, T3	CS	119.53	T2	CS	103.42	NO	103.42	NO			NO
Poland	L, T	51.7	NCV	T1, T2	CS, D	99.28	100.40	102.02	49.63	T1, T2	CS, D	103.28	T1, T2	CS, D	94.46	94.39	94.46	94.54			IE
Portugal	L, T	16.0	NCV	T2	CR, D, PS	93.05	93.05	NO	NO	T2	CR, D, PS	96.33	NA	NA	NO	NO	NO	NO			NO
Romania	L, T	23.0	NCV	T1, T2	CS, D	88.09	88.09	NO	87.67	T1, T2	CS, D	91.03	T1, T2	CS, D	87.26	87.67	86.96	104.91			NO
Russian Federation	L, T	14.1	NCV	T1, T2	CS, D	92.85	93.47	64.22	93.41	T1	D	51.22	T1	D	93.87	90.51	94.16	93.89			93.42
Slovakia	L, T	23.6	NCV	T2	CS	112.33	99.40	NO	192.51	T2, T3	CS, PS	122.09	T2	CS	96.90	98.88	96.70	101.12			100.97
Slovenia	L, T	30.9	NCV	T3	PS	101.50	101.50	NO	NO	T1, T3	D, PS	100.16	T1	D	99.20	NO	99.20	NO			NA
Spain	L, T	17.2	NCV	T2	CS, PS	96.98	97.23	NO	81.36	T2	CS, PS	124.46	T2	CS	100.89	100.81	100.95	NO			NO
Sweden	L, T	10.3	NCV	T2	CS	138.69	149.08	NO	78.34	T2, T3	CS, PS	103.31	NA	NA	NO	NO	NO	NO			NA
Switzerland	L, T	0.9	NCV	NA	NA	NO	NO	NO	NO	CS, T2	CS	93.52	CS, T2	CS	92.70	NO	92.70	NO			NA
Turkey	L, T	29.2	NCV	T2	D	102.54	102.54	NO	IE	T1	D	95.65	T1	D	95.24	IE	95.26	92.708			NA, NO
Ukraine	L, T	32.9	NCV	T1, T2	CS, D, PS	92.14	96.11	94.86	55.28	T1	CS, D	97.56	T1	CS, D	96.46	96.00	96.73	96.22			97.70
United Kingdom	L, T	24.9	NCV	T1, T2	CS	87.81	87.88	NO	80.99	T1, T2	CS	131.93	T1, T2	CS	104.38	92.58	106.00	88.09			IE
United States[e]	L, T	24.8	GCV	T2	CS	95.30	95.30	95.30	95.30	T2	CS	94.45	T2	CS	94.07	94.07	NA	IE			95.37

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.a Other (stationary).

[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.1 Energy industries.

[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.A.2 Manufacturing industries and construction.

[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.4 Other sectors.

[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.5 Other (not specified elsewhere).

[e] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.4

Stationary combustion: gaseous fuels - CO_2 (2012)

	Key category	Share in national total	IEF in CRF based on GCV or NCV	Energy industries						Manufacturing industries and construction			Other sectors						Other (Not specified elsewhere)		
				Methods and EF used[a]		CO_2 IEF				Method and EF used[b]		CO_2 IEF	Method and EF used[c]		CO_2 IEF				Method and EF used[d]		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	Methods	EF	Stationary
		%				(t/TJ)						(t/TJ)			(t/TJ)						(t/TJ)
Australia[e]	L, T	11.8	GCV	T2	CS, PS	56.44	56.22	55.14	56.84	T2	CS	56.84	T2	CS	56.84	56.84	56.84	56.84			NO
Austria	L, T	20.1	NCV	T2	CS, PS	55.40	55.40	55.40	55.40	T2	CS, PS	55.36	T2	CS	55.40	55.40	55.40	55.40			NA
Belarus	L, T	40.7	NCV	T1	CS, D	55.90	55.90	IE	IE	T1	CS, D	58.24	T1	CS, D	55.82	NA	55.82	55.82			56.36
Belgium	L, T	27.2	NCV	CS, T1, T3	CS, D, PS	55.89	55.90	55.82	NO	CS, T1, T3	D, PS	55.81	T1	D	55.81	55.81	55.81	55.82			NA
Bulgaria	L, T	7.4	NCV	T2	CS	54.92	54.92	54.92	54.92	T2	CS	54.92	T2	CS	54.92	54.92	54.92	54.92			NO
Canada[e]	L, T	26.4	GCV	T2	CS	61.16	54.50	53.81	67.72	T2	CS	55.49	T2	CS	55.14	55.34	54.91	56.13			NA
Croatia	L, T	17.7	NCV	T1, T2	D, PS	55.82	55.82	55.82	55.82	T1	D	57.23	T1	D	55.81	55.77	55.82	55.82			NO
Cyprus		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Czech Republic	L, T	11.5	NCV	T1	CS	54.87	54.87	54.87	54.87	T1	CS	54.87	T1	CS	54.87	54.87	54.87	54.87			NO
Denmark	L, T	15.6	NCV	T3	CS, PS	57.17	57.04	NO	57.42	T3	CS	57.03	T3	CS	57.03	57.03	57.03	57.03			NO
Estonia	L, T	6.2	NCV	T2	CS	54.98	54.98	NO	NO	T2	CS	54.98	T2	CS	54.98	54.98	54.98	54.98			NO
European Union (15)	L, T	21.4	NCV	CS, T1, T2, T3	CR, CS, D, PS	56.54	56.27	56.22	59.91	CS, T1, T2, T3	CR, CS, D, PS	56.36	CS, T1, T2, T3	CR, CS, D	56.53	56.50	56.55	56.43			55.56
European Union (28)	L, T	19.4	NCV	CS, T1, T2, T3	CR, CS, D, PS	56.39	56.15	56.11	59.52	CS, T1, T2, T3	CR, CS, D, PS	56.25	CS, T1, T2, T3	CR, CS, D	56.42	56.39	56.43	56.35			55.36
Finland	L, T	10.3	NCV	T3	CS	54.76	54.76	54.76	NO	T3	CS	54.76	T1	CS	54.76	54.76	54.76	54.76			54.76
France	L, T	17.5	NCV	T2, T3	CS	54.66	54.40	56.27	56.57	T2, T3	CS	56.90	T2	CS	57.00	57.00	57.00	57.00			NO
Germany	L, T	17.0	NCV	CS	CS	55.98	55.98	56.00	55.85	CS	CS	56.00	CS	CS	56.00	56.00	56.00	56.00			56.00
Greece	L, T	6.9	NCV	T2	PS	55.02	55.00	IE	56.73	T2	CS	55.32	T2	CS	55.32	55.32	55.32	NO			NO
Hungary	L, T	29.7	NCV	T2, T3	CS, PS	55.63	55.63	55.64	55.81	T1	D	55.82	T1	D	55.82	55.82	55.82	55.82			NO
Iceland		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Ireland	L, T	16.1	NCV	T3	PS	57.00	56.94	83.22	NO	T1	CS	56.87	T1	CS	56.87	56.87	56.87	NO			NO
Italy	L, T	31.0	NCV	T3	CS	56.93	56.93	56.93	56.93	T2	CS	56.93	T2	CS	56.93	56.93	56.93	56.93			NA
Japan[e]	L, T	18.9	GCV	T1	CS, OTH	54.91	54.90	55.50	55.29	T1	CS, OTH	55.30	T1	CS, OTH	55.44	55.32	55.67	55.29			NO
Kazakhstan	L, T	11.6	NCV	T1, T2	CS	54.87	54.87	54.87	54.87	T2	CS	54.87	T2	CS, D	54.87	54.87	54.87	54.87			54.87
Latvia	L, T	25.2	NCV	T2	CS	55.12	55.12	NO	55.12	T2	CS	55.12	T2	CS	55.12	55.12	55.12	55.12			NO
Liechtenstein	L, T	23.6	NCV	T2	CS, D	56.10	56.10	NO	NO	T1, T2	CS, D	56.10	T2	CS, D	56.10	56.10	56.10	NO			NO
Lithuania	L, T	16.6	NCV	T2	CS	55.23	55.23	55.23	55.23	T2	CS	55.23	T2	CS	55.23	55.23	55.23	55.23			IE, NO
Luxembourg	L, T	22.1	NCV	T2	CS	56.79	56.79	NO	NO	T2	CS	56.79	T2	CS	56.79	56.79	56.79	56.79			NO
Malta		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	IE, NO	NA	NA	NO	NO	NO	NO			NA
Monaco	L, T	12.6	NCV	T1	D	56.72	56.72	NO	NO	NA	NA	NA, NO	T1	D	56.72	IE	56.72	NO			NO
Netherlands	L, T	38.2	NCV	T2	CS	56.73	56.50	56.50	59.23	T2	CS	56.50	T2	CS	56.50	56.50	56.50	56.50			NA
New Zealand[e]	L, T	9.6	GCV	D	CS	58.45	58.42	58.66	58.71	D	CS	58.75	D	CS	58.64	58.64	58.64	58.64			NA
Norway	L, T	22.2	NCV	T1, T2, T3	CS, PS	57.64	57.34	NO	57.66	T1, T2, T3	CS	59.32	T2	CS	56.06	56.06	56.06	56.06			NO
Poland	L, T	6.4	NCV	T1	D	55.82	55.82	55.82	55.82	T1	D	55.82	T1	D	55.82	55.82	55.82	55.82			IE
Portugal	L, T	12.8	NCV	T2	CR, D, PS	56.23	56.31	55.84	NO	T2	CR, D, PS	55.82	T2	CR, D	55.82	55.82	55.82	55.82			NO
Romania	L, T	18.5	NCV	T2	CS	55.58	55.58	55.58	55.58	T2	CS	55.58	T2	CS	55.58	55.58	55.58	55.58			NO
Russian Federation	L, T	32.0	NCV	T1	D	55.29	55.26	55.82	55.82	T1	D	55.82	T1	D	55.82	55.82	55.82	55.82			55.82
Slovakia	L, T	22.9	NCV	T2, T3	CS	55.24	55.24	55.24	55.24	T2	CS	55.24	T2	CS	55.24	55.24	55.24	55.24			55.24
Slovenia	L, T	8.6	NCV	T2	CS	55.02	55.02	NO	55.02	T2	CS	55.02	T2	CS	55.02	55.02	55.02	NO			NA
Spain	L, T	18.6	NCV	T2	CS, PS	55.98	55.96	56.09	55.99	T2	CS	56.00	T2	CS	56.00	56.00	56.00	56.00			IE
Sweden	L, T	3.5	NCV	T2	CS	56.92	56.93	56.69	56.93	T1, T2	CS	56.93	T1	CS	56.91	56.92	56.89	56.93			NA
Switzerland	L, T	13.1	NCV	CS, T2	CS	56.10	56.10	NO	NO	CS, T2	CS	56.10	CS, T2	CS	56.10	56.10	56.10	56.10			NA
Turkey	L, T	20.4	NCV	T1, T2	D	58.24	58.37	55.8195	IE	T1	D	55.82	T1	D	55.82	IE	55.82	55.8195			NA, NO
Ukraine	L, T	21.9	NCV	T1	CS, D	55.49	55.49	55.49	55.49	T1	CS, D	55.49	T1	CS	55.49	55.49	55.49	55.49			55.49
United Kingdom	L, T	26.5	NCV	T1, T2	CS	57.58	56.42	55.69	61.74	T2	CS	56.73	T1, T2	CS	56.73	56.73	56.73	56.73			IE
United States[e]	L, T	20.3	GCV	T2	CS	55.82	55.82	55.82	55.82	T2	CS	55.82	T2	CS	55.82	55.82	55.82	IE			20.12

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.a Other (stationary).

[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.1 Energy industries.

[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.A.2 Manufacturing industries and construction.

[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.4 Other sectors.

[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.5 Other (not specified elsewhere).

[e] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.5

Stationary combustion: other fuels - CO_2 (2012)

	Key category	Share in national total	IEF in CRF based on GCV or NCV	Energy industries						Manufacturing industries and construction			Other sectors						Other (Not elsewhere specified)		
				Methods and EF used[a]		CO_2 IEF				Method and EF used[b]		CO_2 IEF	Method and EF used[c]		CO_2 IEF				Method and EF used[d]		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	Methods	EF	Stationary
		%				(t/TJ)						(t/TJ)			(t/TJ)						(t/TJ)
Australia[e]		-	GCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Austria	L, T	2.8	NCV	T2	CS, PS	62.47	62.47	NO	NO	T2	D, PS	71.03	T2	D	104.17	104.17	NO	NO			NA
Belarus		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NA	NA	NA	NO	NO	NO	NO			NO
Belgium	L, T	5.3	NCV	CS, T1, T3	CS, D	97.60	97.60	NO	NO	CS, T1, T3	D, PS	54.75	T1	D	65.54	65.50	66.00	NO			NA
Bulgaria		0.1	NCV	NA	NA	NO	NO	NO	NO	T2	CS	85.34	NA	NA	NO	NO	NO	NO			NO
Canada[e]		0.0	GCV	NA	NA	NO	NO	NO	NO	T2	CS	80.27	NA	NA	NO	NO	NO	NO			NA
Croatia		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Cyprus		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Czech Republic	L, T	0.5	NCV	T1	D	145.52	145.52	NO	NO	T1	CS	92.24	NA	NA	NO	NO	NO	NO			NO
Denmark	L, T	2.7	NCV	CS, T3	CS	82.30	82.30	NO	NO	CR, T3	CS, PS	89.52	T3	CS	82.22	82.22	NO	NO			NO
Estonia	L, T	0.6	NCV	NA	NA	NO	NO	NO	NO	T3	PS	79.36	NA	NA	NO	NO	NO	NO			NO
European Union (15)	L, T	1.8	NCV	CS, OTH, T1, T2, T3	CR, CS, D, PS	72.99	72.83	102.02	NA, NO	CR, CS, T1, T2, T3	CR, CS, D, PS	63.64	T1, T2, T3	CS, D	109.38	109.86	92.07	102.96			NA, NO
European Union (28)	L, T	1.6	NCV	CS, OTH, T1, T1a, T2, T3	CR, CS, D, PS	73.33	73.17	99.52	140.14	CR, CS, T1, T2, T3	CR, CS, D, PS	67.98	T1, T2, T3	CS, D	109.37	109.85	92.07	102.96			IE, NA, NO
Finland	L, T	12.4	NCV	T3	CS	97.25	97.25	NO	NO	T3	CS	84.76	T1	CS	102.96	102.96	102.96	102.96			NO
France	L, T	1.7	NCV	T2, T3	CS	86.99	87.11	56.08	NO	T2, T3	CS	53.10	NA	NA	NO	NO	NO	NO			NO
Germany	L, T	2.7	NCV	CS	CS	84.51	84.51	NO	NA	CS	CS	70.88	NA	NA	NO	NO	NO	NO			NO
Greece		0.0	NCV	NA	NA	NO	NO	NO	NO	T2	PS	82.97	NA	NA	NO	NO	NO	NO			NO
Hungary	L, T	0.6	NCV	T2	CS, D, PS	69.97	69.73	73.30	NO	T2	D, PS	65.99	NA	NA	NO	NO	NO	NO			NO
Iceland		0.1	NCV	T2	D	NA, NO	NA	NO	NO	NA	NA	NO	T2	D	NA, NO	NA	NO	NO			NO
Ireland		0.3	NCV	T2	PS	121.77	121.77	NO	NO	T3	PS	53.38	NA	NA	NO	NO	NO	NO			NO
Italy	L, T	1.1	NCV	T3	CS	94.00	94.00	NO	NO	T2	CS	51.31	T2	CS	111.42	111.42	NO	NO			NA
Japan[e]	L, T	1.0	GCV	CS	CS	28.21	27.78	49.39	48.24	CS	CS	45.46	NA	NA	NO	NO	NO	NO			NO
Kazakhstan	T	-	NCV	NA	NA	NE	NE	NE	NE	NA	NA	NE	NA	NA	NE	NE	NE	NE			NE
Latvia	T	0.7	NCV	NA	NA	NO	NO	NO	NO	T2	PS	37.40	NA	NA	NO	NO	NO	NO			NO
Liechtenstein		-	NCV	NA	NA	NO	NO	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Lithuania		0.1	NCV	NA	NA	NO	NO	NO	NO	T3	PS	85.17	NA	NA	NO	NO	NO	NO			IE, NO
Luxembourg	L, T	1.0	NCV	T2	D	95.84	95.84	NO	NO	T1	PS	86.49	NA	NA	NO	NO	NO	NO			NO
Malta		-	NCV	NA	NA	NA, NO	NO	NA	NO	NA	NA	IE, NO	NA	NA	NO	NO	NO	NO			NA
Monaco	L, T	28.7	NCV	T1	D	55.57	55.57	NO	NO	NA	NA	NA, NO	NA	NA	NO	NO	NO	NO			NO
Netherlands	L, T	1.4	NCV	T2	CS	82.15	82.15	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NA
New Zealand[e]		-	GCV	NA	NA	IE, NO	NO	IE	NO	NA	NA	NA, NO	NA	NA	NO	NO	NO	NO			NA
Norway	L, T	1.6	NCV	T1, T2, T3	CS, PS	51.59	51.59	NO	NO	T1, T2, T3	CS	51.00	T2	CS	78.82	78.82	NO	NO			78.82
Poland	L	0.8	NCV	T1	D	125.76	125.65	NO	140.14	T1	D	131.96	T1	D	101.04	101.04	NO	NO			IE
Portugal	L, T	0.8	NCV	T2	CR, D, PS	109.36	109.36	NO	NO	T2	CR, D, PS	53.58	NA	NA	NO	NO	NO	NO			NO
Romania	T	0.2	NCV	NA	NA	NO	NO	NO	NO	T2	CS	83.81	NA	NA	NO	NO	NO	NO			NO
Russian Federation	L, T	1.1	NCV	T1	D	142.29	142.29	142.29	NO	T1	D	142.29	T1	D	142.29	142.29	NO	142.29			148.11
Slovakia		0.1	NCV	T1a, T2	CS, D	39.23	39.23	NO	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NO
Slovenia	T	0.3	NCV	T1	D	73.30	73.30	NO	NO	T3	PS	46.43	NA	NA	NA, NO	NO	NA	NO			NA
Spain	L, T	0.6	NCV	T2	CS, PS	57.45	51.24	105.76	NO	T2	CS, PS	50.35	NA	NA	NO	NO	NO	NO			NO
Sweden	L, T	3.0	NCV	T2	CS	28.26	28.26	NO	NO	T2	CS	60.00	NA	NA	NO	NO	NO	NO			NA
Switzerland	L, T	5.8	NCV	CS, T2	CS	103.36	103.36	NO	NO	CS, T2	CS	70.43	NA	NA	NO	NO	NO	NO			NA
Turkey		0.0	NCV	T1, T2	D	96.89	85.33	153.97	NO	NA	NA	NO	NA	NA	NO	NO	NO	NO			NA, NO
Ukraine	T	0.1	NCV	T1	D	78.88	98.60	71.87	71.87	T1	D	71.87	T1	D	71.86	71.87	NO	71.86			71.87
United Kingdom	L, T	0.5	NCV	T1	CS	37.04	37.04	NO	NO	T2	CS	105.23	NA	NA	NO	NO	NO	NO			NO
United States[e]		0.2	GCV	T2	CS	7.50	7.50	IE	IE	NA	NA	IE	NA	NA	IE, NA	NA	NA	IE			46.62

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.a Other (stationary).

[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.1 Energy industries.

[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.A.2 Manufacturing industries and construction.

[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.4 Other sectors.

[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.5 Other (not specified elsewhere).

[e] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.6

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

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fuels		Biomass	
	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012
Australia	15.3	14.0	53.9	49.9	24.1	31.6	-	-	6.7	4.5
Austria	30.6	17.3	21.8	11.5	31.2	37.9	1.4	4.4	15.0	28.9
Belarus	50.9	11.3	8.3	4.0	39.0	79.0	0.1	-	1.7	5.7
Belgium	33.2	20.7	35.2	12.1	26.9	49.4	2.8	8.6	1.9	9.3
Bulgaria	34.5	8.3	44.5	63.5	20.1	18.4	-	0.1	0.9	9.7
Canada	21.1	14.0	20.3	13.3	47.8	62.3	0.0	0.1	10.7	10.4
Croatia	48.5	30.2	10.9	14.2	31.8	44.6	-	-	8.7	10.9
Cyprus	91.4	98.1	8.1	0.0	-	-	-	-	0.5	1.9
Czech Republic	11.4	6.1	73.3	59.6	13.9	24.4	0.0	0.5	1.4	9.4
Denmark	31.4	19.6	46.1	21.6	13.8	29.3	1.3	3.5	7.4	26.0
Estonia	23.2	5.2	63.0	67.2	11.5	10.4	-	0.7	2.3	16.4
European Union (15)	30.6	18.3	36.5	24.1	27.0	43.2	1.0	2.9	4.9	11.5
European Union (28)	27.3	16.7	40.8	29.2	26.8	40.0	0.8	2.5	4.2	11.6
Finland	30.2	18.8	21.6	12.8	13.5	14.7	8.2	10.3	26.5	43.4
France	40.1	28.2	18.5	10.8	26.9	42.5	2.2	3.5	12.3	15.0
Germany	20.5	13.8	54.7	36.3	21.5	33.2	0.9	3.7	2.3	13.0
Greece	45.6	35.1	51.1	43.5	0.3	18.3	-	0.0	3.0	3.1
Hungary	24.8	6.6	34.9	18.3	37.7	63.0	0.2	1.1	2.3	11.1
Iceland	96.2	100.0	3.8	-	-	-	-	-	-	-
Ireland	32.0	24.8	47.2	25.9	19.3	45.3	-	0.5	1.5	3.5
Italy	47.6	16.4	14.6	15.9	35.7	59.4	0.2	1.2	1.8	7.1
Japan	52.1	30.1	27.2	31.2	17.1	33.7	2.1	2.8	1.6	2.3
Kazakhstan	19.3	9.6	60.7	63.8	17.9	26.4	1.7	-	0.4	0.1
Latvia	38.8	9.6	11.9	3.1	38.6	40.9	-	1.7	10.8	44.7
Liechtenstein	72.1	37.7	0.1	-	24.6	49.8	-	-	3.3	12.5
Lithuania	43.4	21.4	8.9	6.6	44.5	43.4	-	0.2	3.2	28.4
Luxembourg	26.1	20.3	43.3	3.0	27.7	70.0	0.5	1.9	2.3	4.8
Malta	64.7	100.0	35.3	-	-	-	-	-	-	-
Monaco	44.3	24.0	-	-	13.9	22.1	41.1	51.4	0.7	2.5
Netherlands	18.9	13.6	15.7	13.6	63.2	65.6	0.5	1.6	1.7	5.5
New Zealand	19.9	18.3	13.9	17.3	50.3	44.2	-	-	15.9	20.3
Norway	46.4	26.8	3.1	1.6	35.0	54.3	2.2	4.4	13.4	12.9
Poland	5.4	7.7	85.8	67.2	6.7	14.7	0.7	0.8	1.4	9.7
Portugal	54.1	23.8	23.8	23.7	-	31.5	0.3	1.5	21.9	19.5
Romania	18.3	12.2	26.5	31.4	54.2	40.2	-	0.3	1.1	15.8
Russian Federation	29.6	10.3	24.5	19.6	43.4	68.4	0.5	0.9	2.0	0.7
Slovakia	16.1	6.6	47.0	26.7	35.4	54.4	0.2	0.4	1.3	11.8
Slovenia	22.0	16.4	49.9	42.3	15.7	21.7	0.1	0.8	12.3	18.8
Spain	43.1	27.0	38.3	21.9	9.7	41.7	0.2	1.3	8.6	8.1
Sweden	55.5	29.7	14.2	8.4	4.6	6.4	3.2	10.2	22.5	45.3
Switzerland	64.6	46.6	3.4	1.2	16.4	28.5	3.8	7.2	11.9	16.5
Turkey	40.0	8.6	49.5	39.9	10.5	48.2	-	0	-	3.3
Ukraine	19.9	3.6	29.6	44.6	49.2	50.2	0.7	0.2	0.5	1.4
United Kingdom	21.8	13.5	44.1	29.9	33.4	51.7	0.1	1.3	0.5	3.6
United States	23.2	18.2	35.4	31.0	36.3	46.5	0.8	0.6	4.3	3.7

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.a Other (stationary).

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 1.7

Contribution of fuels to CO_2 emissions from energy industries (%)

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fuels	
	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012
Australia	6.2	6.0	84.4	77.4	9.4	16.6	-	-
Austria	23.1	21.0	45.3	28.0	30.7	40.5	0.9	10.5
Belarus	60.6	3.5	3.5	2.2	35.9	94.2	-	-
Belgium	16.6	16.3	71.7	33.3	9.3	42.2	2.4	8.2
Bulgaria	23.8	5.0	60.8	87.7	15.4	7.3	-	-
Canada	22.6	20.4	56.0	41.9	21.3	37.7	-	-
Croatia	66.3	34.7	8.3	35.2	25.5	30.1	-	-
Cyprus	100.0	100.0	-	-	-	-	-	-
Czech Republic	3.1	1.7	93.7	93.9	3.2	3.8	0.1	0.6
Denmark	8.0	9.3	84.1	57.2	5.8	25.6	2.1	7.9
Estonia	17.0	2.6	76.2	90.4	6.8	7.0	-	-
European Union (15)	19.4	11.8	72.5	63.4	6.9	21.2	1.2	3.6
European Union (28)	17.6	10.5	73.7	68.6	7.8	18.2	0.9	2.8
Finland	14.9	11.9	50.6	37.8	13.8	21.8	20.7	28.5
France	30.9	24.2	63.9	50.2	2.4	16.1	2.8	9.6
Germany	5.9	5.4	87.7	81.3	5.3	9.5	1.1	3.8
Greece	17.9	13.5	81.9	77.0	0.2	9.4	-	-
Hungary	23.2	7.0	55.7	54.2	20.9	37.0	0.2	1.8
Iceland	100.0	37.2	-	-	-	-	-	62.8
Ireland	11.4	3.6	71.8	58.0	16.9	37.7	-	0.7
Italy	58.7	20.0	29.0	39.4	12.1	40.4	0.1	0.2
Japan	46.8	22.4	27.5	42.9	23.7	33.4	2.0	1.3
Kazakhstan	14.3	7.0	72.1	76.2	11.6	16.8	2.0	-
Latvia	49.1	2.7	8.0	2.6	42.9	94.7	-	-
Liechtenstein	-	-	-	-	100.0	100.0	-	-
Lithuania	55.7	44.6	1.4	0.6	43.0	54.8	-	-
Luxembourg	-	0.2	-	-	-	93.6	100.0	6.2
Malta	54.8	100.0	45.2	-	-	-	-	-
Monaco	4.1	0.6	-	-	-	0.8	95.9	98.5
Netherlands	19.4	12.5	49.1	43.2	30.3	40.0	1.1	4.3
New Zealand	13.2	10.3	7.8	34.8	79.0	54.9	-	-
Norway	20.2	16.4	3.0	0.8	75.4	78.5	1.4	4.2
Poland	3.0	3.0	95.6	93.5	0.8	3.4	0.6	0.1
Portugal	51.2	14.2	48.8	63.0	-	21.0	-	1.9
Romania	22.0	9.6	50.5	69.2	27.5	21.2	-	-
Russian Federation	20.3	7.7	34.8	30.1	44.2	59.8	0.7	2.4
Slovakia	20.8	15.7	65.8	54.7	12.6	29.0	0.9	0.6
Slovenia	4.6	0.4	92.5	93.8	2.9	5.7	-	0.1
Spain	22.0	18.5	77.1	58.2	0.7	21.8	0.1	1.5
Sweden	31.2	30.5	58.2	44.4	5.0	9.2	5.6	15.9
Switzerland	27.2	20.0	1.8	-	11.4	12.4	59.6	67.6
Turkey	20.8	0.4	63.2	57.6	16.0	42.0	-	0.1
Ukraine	19.5	1.0	35.4	76.1	44.8	22.6	0.3	0.3
United Kingdom	17.2	10.6	78.8	64.3	3.9	23.9	0.1	1.2
United States	5.4	0.9	85.0	74.7	9.6	24.3	0.0	0.0

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.8

Contribution of fuels to CO_2 emissions from manufacturing industries and construction (%)

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fuels	
	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012
Australia	33.1	35.9	30.0	21.6	37.0	42.6	-	-
Austria	24.7	16.6	39.5	32.0	33.6	45.4	2.1	6.0
Belarus	54.6	35.2	13.1	12.1	30.7	52.8	1.6	-
Belgium	24.2	11.3	45.7	24.5	23.9	43.5	6.2	20.6
Bulgaria	41.4	22.1	58.6	20.9	-	55.8	-	1.2
Canada	24.6	10.2	9.6	6.8	65.6	82.6	0.2	0.4
Croatia	36.5	30.7	28.7	17.3	34.8	51.9	-	-
Cyprus	49.4	100.0	50.6	-	-	-	-	-
Czech Republic	19.6	22.9	67.8	44.7	12.6	30.6	-	1.9
Denmark	49.9	48.2	26.0	8.5	24.1	41.6	0.0	1.8
Estonia	31.4	22.5	57.3	46.6	11.3	15.8	-	15.1
European Union (15)	30.6	22.4	39.8	25.8	27.9	46.4	1.7	5.4
European Union (28)	28.2	21.2	40.6	28.8	29.6	44.7	1.6	5.3
Finland	34.5	36.7	36.7	27.2	16.6	17.7	12.1	18.4
France	33.8	26.7	33.6	26.3	29.0	41.6	3.7	5.5
Germany	14.8	7.5	57.6	36.1	25.9	46.6	1.6	9.8
Greece	61.5	67.6	38.5	4.4	-	27.6	-	0.3
Hungary	20.6	8.2	33.1	29.3	46.3	60.3	-	2.2
Iceland	86.0	100.0	14.0	-	-	-	-	-
Ireland	55.8	38.1	22.1	8.0	22.1	52.6	-	1.3
Italy	40.5	19.8	21.6	23.3	37.6	55.6	0.2	1.4
Japan	39.4	27.6	57.8	63.1	2.1	7.1	0.7	2.2
Kazakhstan	23.0	9.6	60.3	80.7	15.7	9.8	1.0	-
Latvia	58.5	21.7	3.7	23.1	37.9	46.8	-	8.3
Liechtenstein	58.3	56.3	-	-	41.7	43.7	-	-
Lithuania	61.0	6.3	3.3	38.7	35.7	53.2	-	1.8
Luxembourg	4.7	14.8	84.2	14.6	11.1	66.5	-	4.1
Malta	100.0	100.0	-	-	-	-	-	-
Monaco	-	-	-	-	-	-	-	-
Netherlands	27.1	33.3	15.2	15.6	57.6	51.2	-	-
New Zealand	17.9	21.8	46.7	33.6	35.4	44.6	-	-
Norway	79.0	51.4	17.4	18.5	-	22.0	3.5	8.1
Poland	9.1	8.5	72.1	57.1	14.5	24.1	4.3	10.4
Portugal	67.1	43.2	32.1	1.4	-	52.0	0.8	3.4
Romania	14.0	19.4	22.8	31.5	63.2	47.2	-	1.9
Russian Federation	32.4	17.0	18.2	21.1	45.2	60.4	4.2	1.5
Slovakia	17.0	0.7	53.8	62.1	29.2	37.2	-	-
Slovenia	38.1	21.0	33.2	15.1	28.4	61.0	0.3	2.8
Spain	51.1	32.5	29.5	10.6	19.1	55.7	0.3	1.2
Sweden	71.2	68.5	22.2	19.9	5.9	9.7	0.7	1.9
Switzerland	60.5	48.2	19.7	8.3	17.6	38.3	2.2	5.3
Turkey	33.5	29.7	61.9	36.6	4.6	33.7	-	-
Ukraine	20.9	2.7	35.3	59.1	41.8	37.9	2.0	0.3
United Kingdom	30.9	25.6	41.7	31.1	27.4	42.8	0.0	0.5
United States	33.2	34.3	18.4	9.6	48.4	56.1	-	-

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.9

Contribution of fuels to CO_2 emissions from other sectors (%)

	Liquid Fuels		Solid Fuels		Gaseous Fuels		Other Fuels	
	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012	Base year[a]	2012
Australia	45.8	46.2	4.4	0.2	49.8	53.7	-	-
Austria	59.5	53.1	19.3	1.8	18.7	45.1	2.5	0.0
Belarus	36.5	30.5	47.0	15.8	16.5	53.6	0.1	-
Belgium	63.9	44.6	7.2	2.1	28.6	53.0	0.2	0.3
Bulgaria	45.1	30.6	54.9	50.5	-	18.9	-	-
Canada	30.1	15.4	0.3	0.1	69.6	84.5	-	-
Croatia	67.4	46.3	14.3	0.7	18.3	53.0	-	-
Cyprus	100.0	100.0	-	-	-	-	-	-
Czech Republic	8.2	1.1	77.9	23.2	13.9	75.7	-	-
Denmark	81.1	60.2	3.3	1.9	15.3	37.7	0.3	0.2
Estonia	55.6	59.2	36.9	7.9	7.5	32.9	-	-
European Union (15)	47.1	34.8	16.6	2.5	36.2	61.9	0.2	0.8
European Union (28)	41.7	32.2	25.2	7.7	33.0	59.5	0.1	0.6
Finland	96.1	89.0	0.7	0.3	1.5	4.7	1.8	6.0
France	63.2	45.6	5.3	0.8	31.5	53.7	-	-
Germany	44.8	42.3	32.8	5.0	22.4	52.7	-	-
Greece	98.5	88.6	1.5	0.0	-	11.3	-	-
Hungary	28.6	8.5	51.9	5.6	19.5	85.9	-	-
Iceland	100.0	100.0	-	-	-	-	-	0.0
Ireland	37.8	51.3	57.3	21.2	4.9	27.5	-	-
Italy	50.6	19.6	1.2	0.0	47.5	75.6	0.7	4.8
Japan	84.8	61.9	2.9	1.3	12.3	36.8	-	-
Kazakhstan	21.7	20.6	69.5	61.6	8.6	17.8	0.2	-
Latvia	39.2	47.5	36.6	7.3	24.3	45.2	-	-
Liechtenstein	88.1	49.5	0.1	-	11.8	50.5	-	-
Lithuania	24.4	17.6	50.6	38.0	25.1	44.4	-	-
Luxembourg	72.1	49.0	2.0	0.1	25.9	50.9	-	-
Malta	100.0	100.0	-	-	-	-	-	-
Monaco	80.0	58.7	-	-	20.0	41.3	-	-
Netherlands	10.4	5.8	0.5	0.1	89.1	94.2	-	-
New Zealand	62.5	58.6	18.6	15.5	19.0	25.9	-	-
Norway	99.0	96.7	0.9	0.1	-	3.1	0.2	0.2
Poland	5.0	17.5	88.4	59.2	6.3	23.2	0.3	0.0
Portugal	100.0	68.7	-	-	-	31.3	-	-
Romania	31.1	17.8	19.7	1.0	49.3	81.2	-	-
Russian Federation	30.4	21.9	47.0	8.1	22.2	69.8	0.4	0.2
Slovakia	3.7	0.3	68.7	11.2	27.6	88.5	-	-
Slovenia	38.1	80.6	60.3	0.1	1.6	19.3	-	-
Spain	85.6	53.3	9.1	2.2	5.3	44.5	-	-
Sweden	96.5	87.7	1.5	-	2.0	12.3	-	-
Switzerland	86.0	72.4	0.3	0.2	13.7	27.4	-	-
Turkey	51.2	7.9	48.5	60.4	0.4	31.7	-	-
Ukraine	24.9	11.1	54.8	9.5	20.2	79.4	0.0	0.0
United Kingdom	16.7	12.8	18.2	3.5	65.2	83.8	-	-
United States	29.1	20.7	2.7	0.8	68.2	78.5	-	-

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 1.10

Road transportation - CO_2, N_2O (2012)

	CO_2 emissions							N_2O emissions						
	Key category	Share of national total	Methods and EF used[a]		CO_2 IEF			Key category	Share of national total	Method and EF used[a]		N_2O IEF		
			Methods	EF	IEF in CRF based on GCV or NCV	Gasoline	Diesel oil			Methods	EF	IEF in CRF based on GCV or NCV	Gasoline	Diesel oil
		(%)				(t/TJ)			(%)				(kg/TJ)	
IPCC default EF[b]					**NCV**	**72.1 (US) 73.0 (Europe)**	**72.1 (US) 74.0 (Europe)**					**NCV**	**3-43 (US) 1-20 (Europe)**	**1-14 (US) 3-4 (Europe)**
Australia[c]	L, T	13.8	T2	CS	GCV	70.21	72.84		0.27	T1, T3	CS, D	GCV	6.45	1.89
Austria	L, T	26.0	T2	CS	NCV	74.58	74.92		0.23	T3	CS	NCV	2.81	1.98
Belarus	L, T	6.1	D, T1	CS, D	NCV	68.61	73.33		0.02	D, T1	CS, D	NCV	0.60	0.60
Belgium	L, T	20.5	T1	D	NCV	70.94	73.81		0.21	M, T1, T2	CR, CS	NCV	0.94	2.61
Bulgaria	L, T	12.7	T2	CR	NCV	70.62	74.50		0.12	T2	CR	NCV	1.80	2.21
Canada[c]	L, T	18.5	CS, T1, T3	CS	GCV	68.84	73.19	T	0.40	CS, T1, T3	CS	GCV	4.93	4.19
Croatia	L, T	20.3	T1	CR, D	NCV	72.27	73.26		0.18	T1, T3	CR, D	NCV	2.03	2.10
Cyprus	L, T	21.9	T1	D	NCV	68.61	73.33		0.06	D, T1	D	NCV	0.60	0.60
Czech Republic	L, T	12.1	T1	CS, D	NCV	73.34	74.32	L, T	0.50	T1, T2	CS, D	NCV	19.27	4.94
Denmark	L, T	21.4	T1	CS, D	NCV	72.99	73.99		0.22	T1, T3	D, OTH	NCV	1.46	2.80
Estonia	L, T	11.2	T2	CS	NCV	71.90	73.19		0.10	T1, T3	CS, D	NCV	1.98	2.09
European Union (15)	L, T	19.7	CS, M, T1, T2, T3	CS, D, M	NCV	71.41	73.71		0.19	CS, M, T1, T2, T3	CR, CS, D, M, OTH	NCV	1.29	2.67
European Union (28)	L, T	18.3	CR, CS, M, T1, T2, T3	CR, CS, D, M, OTH	NCV	71.45	73.67		0.19	CR, CS, D, M, T1, T2, T3	CR, CS, D, M, OTH	NCV	1.77	2.72
Finland	L, T	18.1	M, T1	CS	NCV	72.90	73.60		0.26	CS, M, T1	CS, D	NCV	2.30	3.78
France	L, T	25.1	T3	CS	NCV	72.35	74.70	T	0.29	T3	CS	NCV	2.26	2.70
Germany	L, T	15.5	CS, T1, T2	CS, D	NCV	72.00	74.00		0.15	CS, T3	CS, M	NCV	0.79	3.01
Greece	L, T	12.2	T1	CS, D	NCV	68.61	73.31		0.09	T1, T3	D, M	NCV	1.76	1.52
Hungary	L, T	17.1	T1, T2	CS, D	NCV	72.65	74.57		0.17	T1, T2	D	NCV	2.18	2.52
Iceland	L, T	17.5	T1	D	NCV	70.98	72.47	T	0.77	T2	D	NCV	15.31	3.54
Ireland	L, T	17.6	T1	CS	NCV	69.96	73.30		0.16	T3	M	NCV	1.72	2.16
Italy	L, T	21.1	T3	CS	NCV	71.15	73.15		0.20	T3	CS	NCV	1.46	2.62
Japan[c]	L, T	14.6	T1	CS	GCV	70.59	72.29	T	0.15	T3	CS	GCV	1.76	3.76
Kazakhstan	L, T	6.9	T2	CS, D	NCV	70.14	73.26		0.01	T2	D	NCV	0.33	0.39
Latvia	L, T	22.5	T1, T3	CR, CS	NCV	71.18	74.00		0.19	T1, T3	CR, CS, OTH	NCV	1.87	1.81
Liechtenstein	L, T	36.3	T2	CS	NCV	73.90	73.60		0.22	T3	CS, D	NCV	0.89	2.23
Lithuania	L, T	18.7	T2	CS	NCV	72.97	72.89		0.18	T1, T3	CR, D	NCV	2.30	2.04
Luxembourg	L, T	54.2	T1, T3	CS, D	NCV	72.00	73.45	L	0.66	T1, T3	D, OTH	NCV	2.25	2.91
Malta	L, T	15.6	CR	CR	NCV	72.25	74.24		0.16	CR	CR	NCV	2.22	2.59
Monaco	L, T	27.5	T1	D	NCV	73.00	74.00		1.05	T2	D	NCV	13.14	3.82
Netherlands	L, T	17.1	T1, T2	CS	NCV	72.00	74.29		0.14	T1, T2	CS, D	NCV	1.30	2.39
New Zealand[c]	L, T	16.1	D	CS	GCV	69.40	72.67		0.18	D, T3	CS, D	GCV	3.25	1.50
Norway	L, T	19.0	T1, T2	CS, PS	NCV	71.30	73.55		0.13	CS, T1, T2, T3	CR, CS, D, PS	NCV	1.31	1.69
Poland	L, T	11.3	T2	CS	NCV	69.66	72.43		0.14	T1, T2	D	NCV	2.68	3.40
Portugal	L, T	23.5	T2	CS	NCV	73.00	74.00		0.23	T3	CR	NCV	1.99	2.29
Romania	L, T	11.8	T3	OTH	NCV	76.36	73.92		0.13	T3	OTH	NCV	2.23	2.45
Russian Federation	L, T	6.5	T1	D	NCV	72.24	73.33		0.17	T1	CS, D	NCV	7.30	3.67
Slovakia	L, T	15.0	M, T1	D	NCV	71.73	74.26		0.16	M, T1	D	NCV	3.56	2.04
Slovenia	L, T	30.0	M, T3	M	NCV	69.85	73.81		0.29	M, T3	M	NCV	1.76	2.26
Spain	L, T	21.5	T3	M	NCV	71.47	72.87		0.22	T3	M	NCV	1.17	2.77
Sweden	L, T	30.8	T1	CS	NCV	72.00	72.01		0.20	M	CS, D, M	NCV	0.78	2.05
Switzerland	L, T	30.8	T2	CS	NCV	73.90	73.60		0.19	D	CS	NCV	0.73	2.32
Turkey	L, T	12.6	T1	D	NCV	69.30	74.07		0.03	T1	D	NCV	0.60	0.60
Ukraine	L, T	7.2	T1, T3	CS, D	NCV	72.20	74.24		0.07	CR, M, T1	CR, CS, D	NCV	2.69	1.45
United Kingdom	L, T	18.5	T3	CS	NCV	70.00	72.91		0.15	T3	CR, CS	NCV	1.00	2.53
United States[c]	L, T	22.7	T2	CS	GCV	71.18	73.79	T	0.20	M, T1, T2	CS, D, M	GCV	2.55	0.24

[a] 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.

[b] Source of default emission factors: IPCC Guidelines, volume 3, pages 1.70–1.83. For updates on the default emission factors for N_2O for US gasoline vehicles, see table 2.7, page 2.47 in the IPCC good practice guidance.

[c] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.11

Civil aviation, navigation and international bunkers - CO_2 (2012)

	Methods and EF used[a]		IEF in CRF based on GCV or NCV	Civil aviation				Aviation bunkers		Navigation				Marine bunkers	
						CO_2 IEF		CO_2 IEF				CO_2 IEF		CO_2 IEF	
	Methods	EF		Key category	Share of national total	Jet kerosene	Aviation gasoline	Jet kerosene	Aviation gasoline	Key category	Share of national total	Residual oil	Gas/diesel oil	Residual oil	Gas/diesel oil
					(%)	(t/TJ)		(t/TJ)			(%)	(t/TJ)		(t/TJ)	
IPCC default EF[b]			NCV			72.80	72.10	72.80	72.10			77.60	73.00	77.60	75.0 - 77.6
Australia[c]	T2	CS, D	GCV	L, T	1.36	72.53	69.79	72.53	NO	L	0.56	76.74	72.84	76.74	72.84
Austria	CS, T2, T3	CS	NCV		0.07	72.75	72.68	72.75	NO		0.01	NO	74.92	NO	74.92
Belarus	D, T1	CS, D	NCV		0.04	70.79	68.61	70.79	NO		0.01	NO	73.33	NO	NO
Belgium	CS, T1, T3	CS, D	NCV		0.02	70.79	68.73	70.79	NO		0.40	IE	73.35	76.59	73.33
Bulgaria	T1, T2	CR, CS, D	NCV		0.06	72.00	70.30	72.10	NO		0.01	NO	74.10	77.40	74.10
Canada[c]	CS, T1, T2, T3	CS	GCV	L, T	0.85	71.32	73.55	71.32	73.55	L	0.78	77.37	73.19	77.37	73.19
Croatia	T1	CR, D	NCV		0.36	70.79	68.61	70.79	NO		0.42	76.59	73.33	NO	NO
Cyprus	OTH, T1	D, OTH	NCV		0.31	70.68	NA	70.79	NA		-	NE	NE	76.59	73.33
Czech Republic	T1	CS, D	NCV		0.01	74.22	73.33	74.22	NO		0.01	NO	73.66	NO	NO
Denmark	T1	CS, D	NCV		0.35	71.69	72.36	72.00	73.00	L	1.06	77.97	73.89	77.95	73.69
Estonia	T2	CS, D	NCV		0.02	NO	73.26	73.22	NO		0.07	NO	73.21	76.59	73.33
European Union (15)	CR, CS, M, T1, T2, T3	CR, CS, D, M, OTH	NCV	L	0.43	71.96	71.11	72.02	69.57	L	0.46	77.11	73.62	77.24	73.88
European Union (28)	CR, CS, D, M, OTH, T1, T2, T3	CR, CS, D, M, OTH	NCV	T	0.35	71.96	71.21	72.04	69.61		0.37	77.11	73.60	77.24	73.88
Finland	M, T1, T3	CS, D	NCV	T	0.33	73.20	71.30	73.20	NO	L, T	0.79	78.80	73.60	78.80	74.10
France	T1, T2, T3	CS	NCV	L, T	1.04	71.59	73.00	71.59	NO		0.28	78.00	74.79	78.00	75.00
Germany	CS, T1, T2	CS, D	NCV		0.20	73.26	70.00	73.26	NO		0.10	NO	74.00	78.00	74.00
Greece	T1, T2	CS, D	NCV		0.44	70.43	68.61	70.40	NO	L, T	1.50	77.58	76.16	77.61	76.16
Hungary	T1, T2	CS, D	NCV		0.00	70.79	IE	70.79	NO		0.03	NO	73.33	NA	NA
Iceland	T1	D	NCV		0.47	70.79	68.61	70.79	69	T	0.31	76.59	73.33	76.59	73.33
Ireland	T1, T3	CS	NCV		0.02	71.40	69.96	71.40	NO		0.31	NO	73.30	76.00	73.30
Italy	T1, T2, T3	CS	NCV	L	0.47	71.50	70.00	71.50	NO	L	1.06	76.54	73.27	76.54	73.27
Japan[c]	T1	CS	GCV	L	0.71	70.67	70.59	70.67	NO	L, T	0.81	IE	72.29	IE	72.29
Kazakhstan	T1, T2	CS, D	NCV		0.25	72.53	70.14	72.53	NE		0.03	NO	73.26	NO	NE
Latvia	T1, T2, T3	CR, CS, D	NCV		0.02	73.55	70.20	72.91	NO		0.12	NO	74.00	76.60	74.00
Liechtenstein	T2, T3	CS	NCV		0.03	73.20	NO	73.20	NO		-	NO	NO	NO	NO
Lithuania	T1, T2	CS	NCV		0.01	72.24	71.62	72.24	NO		0.07	NO	72.89	77.60	72.89
Luxembourg	T1, T2, T3	CS, D	NCV		0.00	NO	69.30	71.50	69.30		0.01	NO	65.06	NO	73.45
Malta	CR, CS, D, T1	CR, D	NCV		0.04	71.50	69.30	71.50	69.30	L, T	1.05	NO	74.06	77.40	74.10
Monaco	T1	D	NCV		-	NO	NO	70.79	NO	L, T	2.43	NO	74.00	NO	74.00
Netherlands	T1, T2	CS, D	NCV		0.01	71.50	72.00	71.50	NO	T	0.36	NO	74.30	77.40	74.30
New Zealand[c]	D	CS	GCV	L, T	1.13	71.42	68.67	71.45	NO		0.38	76.16	NO	76.58	72.67
Norway	T1, T2	CS, PS	NCV	L, T	2.33	73.09	71.30	73.09	NO	L, T	3.59	78.82	73.55	78.82	73.55
Poland	T1, T2	CS, D	NCV		0.01	73.26	72.10	73.26	NO		0.00	77.60	73.08	77.60	74.10
Portugal	CR, T1, T2	CR, CS, D, OTH	NCV		0.54	70.60	69.51	70.60	69.51		0.33	76.59	73.33	76.59	73.33
Romania	T1, T2, T3	CS, D, OTH	NCV		0.10	72.24	70.00	72.24	NO	T	0.11	NO	72.83	NO	72.83
Russian Federation	T1	D	NCV		0.40	70.79	IE	71.50	NO	T	0.12	76.59	73.33	76.59	73.33
Slovakia	M, T1, T2	D	NCV		0.01	72.75	73.60	72.75	73.60		0.00	NO	75.01	NO	75.01
Slovenia	M, T1, T3	CS, D, M	NCV		0.01	IE	71.50	71.50	NO		-	NO	IE	76.60	NO
Spain	T1, T2, T3	CS, D, M	NCV	L	0.92	72.65	72.65	72.65	NO	L, T	0.78	76.78	72.64	76.78	72.64
Sweden	T1, T2	CS	NCV	L	0.89	71.50	70.00	71.50	NO	L, T	0.52	77.61	74.45	77.61	74.45
Switzerland	T2, T3	CS	NCV	T	0.27	73.20	IE	73.20	IE		0.24	NO	73.62	NO	73.60
Turkey	T1, T2	D	NCV	L, T	0.85	70.56	NO	71.50	NA		0.37	77.37	74.07	77.37	74.07
Ukraine	T1, T3	CS, D, OTH	NCV		0.06	72.54	68.61	71.50	NO		0.02	76.59	73.33	76.59	73.33
United Kingdom	CS, T1, T2, T3	CS	NCV		0.31	71.72	69.52	71.72	69.52		0.39	78.32	73.91	78.32	74.15
United States[c]	T2, T3	CS	GCV	L, T	2.03	71.39	68.98	70.26	NA	L	0.54	74.92	72.01	74.92	73.79

[a] 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.

[b] Source of default emission factors: IPCC Guidelines, volume 3, pages 1.89, 1.91 (for gas/diesel oil: single value for inland waterways and range for sea-going ships, boats).

[c] Australia, Canada, Japan, New Zealand and United States reported energy data on a gross calorific value (GCV) basis. 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.

Table 1.12

Domestic and international aviation - activity data (2012)

	Activity data in CRF based on GCV or NCV	Civil aviation						Aviation bunkers						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	GCV	104,218	107,957	3.6	2,833	2,587	-8.7	138,983	133,277	-4.1	NO	0		246,034	243,821	-0.9
Austria	NCV	641	1,376	114.5	110	0	-100.0	28,489	28,337	-0.5	NO	0		29,240	29,713	1.6
Belarus	NCV	471	0	-100.0	14	0	-100.0	3,311	0	-100.0	NO	0		3,797	0	-100.0
Belgium	NCV	349	0	-100.0	31	88	182.2	57,083	56,588	-0.9	NO	0		57,463	56,676	-1.4
Bulgaria	NCV	430	430	0.0	44	44	0.0	6,837	6,837	0.0	NO	0		7,311	7,311	0.0
Canada	GCV	84,735	144,148	70.1	2,403	2,285	-4.9	132,404	42,013	-68.3	104	0	-100.0	219,647	188,446	-14.2
Croatia	NCV	1,315	2,064	57.0	22	44	97.4	3,666	2,838	-22.6	NO	0		5,003	4,946	-1.1
Cyprus	NCV	411	0	-100.0	NA	0		11,405	11,352	-0.5	NA	0		11,816	11,352	-3.9
Czech Republic	NCV	16	817	4979.4	88	88	0.5	12,368	12,212	-1.3	NO	0		12,471	13,117	5.2
Denmark	NCV	2,536	1,247	-50.8	73	44	-40.1	34,870	35,002	0.4	1	0	-100.0	37,480	36,293	-3.2
Estonia	NCV	NO	43	100.0	47	0	-100.0	1,560	1,548	-0.8	NO	0		1,607	1,591	-1.0
European Union (15)	NCV	213,384	221,321	3.7	3,417	3,256	-4.7	1,765,514	1,740,167	-1.4	50	0	-100.0	1,982,365	1,964,744	-0.9
European Union (28)	NCV	217,886	226,739	4.1	3,937	3,740	-5.0	1,850,608	1,823,931	-1.4	51	0	-100.0	2,072,482	2,054,410	-0.9
Finland	NCV	2,750	2,752	0.1	31	44	41.0	25,800	25,628	-0.7	NO	0		28,581	28,424	-0.5
France	NCV	70,822	35,346	-50.1	1,020	968	-5.1	227,640	236,113	3.7	NO	0		299,482	272,427	-9.0
Germany	NCV	25,175	25,370	0.8	558	616	10.4	345,383	348,085	0.8	NO	0		371,116	374,071	0.8
Greece	NCV	6,867	7,826	14.0	90	0	-100.0	35,711	27,563	-22.8	NO	0		42,667	35,389	-17.1
Hungary	NCV	18	0	-100.0	IE	0		7,014	7,181	2.4	NO	0		7,032	7,181	2.1
Iceland	NCV	273	258	-5.7	22	0	-100.0	6,246	6,020	-3.6	1	0	-100.0	6,542	6,278	-4.0
Ireland	NCV	128	258	101.7	31	88	181.6	24,393	23,693	-2.9	NO	0		24,552	24,039	-2.1
Italy	NCV	29,925	28,509	-4.7	395	220	-44.4	130,291	129,817	-0.4	NO	0		160,612	158,546	-1.3
Japan	GCV	141,788	134,701	-5.0	66	45	-32.3	285,092	270,827	-5.0	NO	0		426,945	405,573	-5.0
Kazakhstan	NCV	9,465	2,107	-77.7	412	132	-67.9	10653	0	-100.0	NE	0		20,529	2,239	-89.1
Latvia	NCV	24	43	79.2	7	0	-100.0	4,984	4,945	-0.8	NO	0		5,015	4,988	-0.5
Liechtenstein	NCV	1			NO			15			NO			16		
Lithuania	NCV	6	0	-100.0	18	0	-100.0	2,634	2,623	-0.4	NO	0		2,658	2,623	-1.3
Luxembourg	NCV	NO	0		7	0	-100.0	15,581	15,523	-0.4	1	0	-100.0	15,588	15,523	-0.4
Malta	NCV	17	0	-100.0	1	0	-100.0	4,388	4,214	-4.0	1	0	-100.0	4,407	4,214	-4.4
Monaco	NCV	NO			NO			45			NO			45		
Netherlands	NCV	230	1,505	553.8	70	88	26.6	141,456	141,427	0.0	NO	0		141,755	143,020	0.9
New Zealand	GCV	12,184	11,615	-4.7	526	491	-6.8	35,775	34,488	-3.6	NO	0		48,486	46,593	-3.9
Norway	NCV	16,727	16,555	-1.0	70	88	26.1	16,881	16,856	-0.1	NO	0		33,678	33,499	-0.5
Poland	NCV	559	559	0.0	220	220	0.0	22,532	22,532	0.0	NO	0		23,311	23,311	0.0
Portugal	NCV	5,195	5,031	-3.2	17	44	155.4	38,487	38,657	0.4	39	0	-100.0	43,738	43,732	0.0
Romania	NCV	1,641	1,462	-10.9	44	44	0.1	5,552	4,945	-10.9	NO	0		7,237	6,451	-10.9
Russian Federation	NCV	130,996	276,576	111.1	IE	0		132,438	276,533	108.8	NO	0		263,434	553,109	110.0
Slovakia	NCV	64	0	-100.0	4	0	-100.0	1,225	1,548	26.3	0	0	-100.0	1,295	1,548	19.6
Slovenia	NCV	IE	0		24	44	80.1	929	989	6.5	NO	0		953	1,033	8.4
Spain	NCV	43,133	76,239	76.8	217	220	1.5	185,722	150,715	-18.8	NO	0		229,071	227,174	-0.8
Sweden	NCV	7,118	6,923	-2.7	91	88	-2.8	30,246	29,498	-2.5	NO	0		37,454	36,509	-2.5
Switzerland	NCV	1,867	2,709	45.1	IE	132		63,627	64,199	0.9	IE	0		65,494	67,040	2.4
Turkey	NCV	52,705	16,383	-68.9	NO	0		108,666	43,129	-60.3	NA	0		161,371	59,512	-63.1
Ukraine	NCV	3,060	0	-100.0	2	0	-100.0	10,243	0	-100.0	NO	0		13,304	0	-100.0
United Kingdom	NCV	24,754	28,939	16.9	771	748	-3.0	446,212	453,521	1.6	6	0	-100.0	471,744	483,208	2.4
United States	GCV	1,919,296	1,988,803	3.6	26,464	25,088	-5.2	966,700	893,516	-7.6	NA	0		2,912,460	2,907,408	-0.2

[a] Data provided by IEA on 9 May 2014.

[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 (2012)

	Activity data in CRF based on GCV or NCV	Navigation						Marine bunkers						Total					
		Residual oil			Gas / diesel oil			Residual oil			Gas / diesel oil			Residual oil			Gas / diesel oil		
		CRF	IEA[a,b]	Difference	CRF	IEA[a,b]	Difference	CRF	IEA[a,b]	Difference	CRF	IEA[a,b]	Difference	CRF	IEA[a,b]	Difference	CRF	IEA[a,b]	Difference
		(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)	(TJ)		(%)
Australia	GCV	4,927	4,899	-0.6	15,676	18,190	16.0	33,101	32,887	-0.6	3,231	3,067	-5.1	38,028	37,786	-0.6	18,907	21,257	12.4
Austria	NCV	NO	0		43	43	0.2	NO	0		609	682	11.9	NO	0		652	724	11.1
Belarus	NCV	NO	0		174	0	-100.0	NO	0		NO	0		NO	0		174	0	-100.0
Belgium	NCV	IE	0		6,311	6,049	-4.1	235,523	231,760	-1.6	21,349	21,300	-0.2	235,523	231,760	-1.6	27,659	27,349	-1.1
Bulgaria	NCV	NO	0		115	0	-100.0	760	760	0.0	1,904	1,917	0.7	760	760	0.0	2,018	1,917	-5.0
Canada	GCV	44,247	39,878	-9.9	30,682	29,351	-4.3	22,087	19,618	-11.2	892	980	9.8	66,334	59,496	-10.3	31,575	30,331	-3.9
Croatia	NCV	76	80	4.8	1,431	1,448	1.2	NO	0		NO	0		76	80	4.8	1,431	1,448	1.2
Cyprus	NCV	NE	0		NE	0		5,144	5,120	-0.5	2,990	2,939	-1.7	5,144	5,120	-0.5	2,990	2,939	-1.7
Czech Republic	NCV	NO	0		213	213	0.0	NO	0		NO	0		NO	0		213	213	0.0
Denmark	NCV	2,709	600	-77.8	4,314	5,581	29.4	10,222	11,080	8.4	13,040	10,394	-20.3	12,931	11,680	-9.7	17,354	15,975	-7.9
Estonia	NCV	NO	0		173	170	-1.5	5,710	13,000	127.7	1,418	3,664	158.4	5,710	13,000	127.7	1,591	3,834	141.0
European Union (15)	NCV	61,255	49,160	-19.7	137,615	116,894	-15.1	1,542,818	1,538,680	-0.3	247,104	275,707	11.6	1,604,073	1,587,840	-1.0	384,719	392,602	2.0
European Union (28)	NCV	61,342	49,240	-19.7	142,553	121,154	-15.0	1,608,886	1,613,400	0.3	271,057	304,675	12.4	1,670,228	1,662,640	-0.5	413,610	425,830	3.0
Finland	NCV	2,401	2,320	-3.4	2,203	2,982	35.4	2,848	3,280	15.2	1,780	1,789	0.5	5,249	5,600	6.7	3,983	4,771	19.8
France	NCV	2,131	2,960	38.9	5,721	6,092	6.5	95,981	92,680	-3.4	8,614	3,877	-55.0	98,112	95,640	-2.5	14,336	9,968	-30.5
Germany	NCV	NO	0		13,123	12,056	-8.1	87,667	86,920	-0.9	17,849	18,446	3.3	87,667	86,920	-0.9	30,972	30,502	-1.5
Greece	NCV	13,802	13,640	-1.2	7,731	8,350	8.0	82,986	82,560	-0.5	10,856	11,246	3.6	96,788	96,200	-0.6	18,586	19,596	5.4
Hungary	NCV	NO	0		252	256	1.4	NA	0		NA	0		NA,NO	0		252	256	1.4
Iceland	NCV	7	0	-100.0	179	170	-5.1	1,083	1,080	-0.3	1,352	1,363	0.9	1,090	1,080	-1.0	1,531	1,534	0.2
Ireland	NCV	NO	800	100.0	2,479	43	-98.3	992	960	-3.2	4,390	3,067	-30.1	992	1,760	77.4	6,868	3,110	-54.7
Italy	NCV	29,255	13,400	-54.2	31,962	27,520	-13.9	68,972	95,520	38.5	3,605	6,262	73.7	98,227	108,920	10.9	35,567	33,782	-5.0
Japan	GCV	IE	97,085		5,665	40,342	612.2	IE	165,544		453	3,280	624.9	IE	262,629		6,117	43,622	613.1
Kazakhstan	NCV	NO	0		1,091	213	-80.5	NO	0		NE	0		NO	0		1,091	213	-80.5
Latvia	NCV	NO	0		170	170	0.2	6,374	6,280	-1.5	3,697	3,706	0.2	6,374	6,280	-1.5	3,867	3,877	0.2
Liechtenstein	NCV	NO			NO			NO			NO			NO			NO		
Lithuania	NCV	NO	0		205	85	-58.4	4,156	4,200	1.1	850	852	0.2	4,156	4,200	1.1	1,055	937	-11.2
Luxembourg	NCV	NO	0		18	0	-100.0	NO	0		2	0	-100.0	NO	0		20	0	-100.0
Malta	NCV	NO	0		432	0	-100.0	38,628	40,120	3.9	9,492	12,482	31.5	38,628	40,120	3.9	9,924	12,482	25.8
Monaco	NCV	NO			27			NO			317			NO			344		
Netherlands	NCV	NO	0		9,410	7,412	-21.2	505,110	493,480	-2.3	56,822	66,754	17.5	505,110	493,480	-2.3	66,232	74,167	12.0
New Zealand	GCV	3,997	1,363	-65.9	NO	2,556	100.0	14,376	13,717	-4.6	1,741	1,917	10.1	18,373	15,080	-17.9	1,741	4,473	157.0
Norway	NCV	1,763	1,720	-2.5	21,405	29,990	40.1	7,972	7,280	-8.7	12,592	6,305	-49.9	9,736	9,000	-7.6	33,996	36,295	6.8
Poland	NCV	11	0	-100.0	141	128	-9.5	3,200	3,200	0.0	2,882	2,812	-2.4	3,211	3,200	-0.3	3,023	2,939	-2.8
Portugal	NCV	2,122	3,400	60.2	854	1,448	69.7	24,463	23,160	-5.3	2,876	2,087	-27.4	26,585	26,560	-0.1	3,730	3,536	-5.2
Romania	NCV	NO	0		1,791	1,789	-0.1	NO	0		597	596	-0.1	NO	0		2,388	2,386	-0.1
Russian Federation	NCV	10,204	10,160	-0.4	24,875	24,964	0.4	262,096	77,680	-70.4	60,893	54,400	-10.7	272,300	87,840	-67.7	85,768	79,364	-7.5
Slovakia	NCV	NO	0		15	0	-100.0	NO	0		124	0	-100.0	NO	0		139	0	-100.0
Slovenia	NCV	NO	0		IE	0		2,096	2,040	-2.7	NO	0		2,096	2,040	-2.7	IE,NO	0	
Spain	NCV	4,339	4,320	-0.4	31,882	31,439	-1.4	299,381	298,040	-0.4	50,371	49,672	-1.4	303,721	302,360	-0.4	82,253	81,110	-1.4
Sweden	NCV	1,974	1,840	-6.8	969	937	-3.3	64,421	59,920	-7.0	10,337	10,096	-2.3	66,395	61,760	-7.0	11,306	11,033	-2.4
Switzerland	NCV	NO	0		1,017	341	-66.5	NO	0		376	341	-9.3	NO	0		1,393	682	-51.1
Turkey	NCV	1,335	0	-100.0	20,333	19,937	-2.0	28,696	1,360	-95.3	4,983	6,518	30.8	30,031	1,360	-95.5	25,316	26,455	4.5
Ukraine	NCV	112	400	257.4	798	1,704	113.6	290	0	-100.0	795	0	-100.0	402	400	-0.5	1,593	1704	7.0
United Kingdom	NCV	4,033	5,880	45.8	22,004	6,944	-68.4	67,930	59,320	-12.7	48,329	70,034	44.9	71,963	65,200	-9.4	70,333	76,978	9.4
United States	GCV	222,685	140,459	-36.9	281,500	115,489	-59.0	484,752	514,640	6.2	96,713	128,396	32.8	707,437	655,099	-7.4	378,213	243,885	-35.5

[a] Data provided by IEA on 9 May 2014.

[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 - CH_4 (2012)

	Key category	Share of national total	Methods and EF used[a]		Activity data					CH_4 IEF			
					CRF			IEA[b]		Underground mines		Surface mines	
			Methods	EF	Underground mines	Surface mines	Total	Total	Difference	Mining activities	Post-mining activities	Mining activities	Post-mining activities
		(%)			(Mt)				(%)	(kg/t)			
IPCC default EF[c]										4.50-16.75	0.60-2.68	0.20-1.34	0-0.13
Australia	L, T	4.58	CS, T2, T3	CS, PS	95.8	452.7	548.5	430.8	-21.5	7.73	0.38	0.90	IE
Austria		-	T1	D	NO	NO	NO	0		NO	NO	NO	IE
Belarus		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Belgium		-	T1	D	NO	NO	NO	0		NO	NO	NO	NO
Bulgaria	L	1.54	T1	D	0.7	32.7	33.4	33.4	0.0	12.06	1.68	1.01	0.07
Canada	T	0.14	CS	CS	1.3	86.7	88.0	66.5	-24.4	2.18	IE	0.52	IE
Croatia		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Cyprus		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Czech Republic	L, T	2.48	T1, T2	CS, D	11.4	43.5	55.0	55.0	0	8.75	1.64	0.77	0.07
Denmark		-	NA	NA	NO	NE, NO	NE, NO	0		NO	NO	NE, NO	NE, NO
Estonia		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
European Union (15)	T	0.19	CR, CS, OTH, T1, T2, T3	CR, CS, D, OTH	20.9	262.7	283.6	282.5	-0.4	11.86	1.16	0.27	0.00
European Union (28)	L, T	0.43	CR, CS, D, OTH, T1, T2, T3	CR, CS, D, OTH, PS	112.4	445.0	557.4	564.2	1.2	6.34	0.67	0.37	0.02
Finland		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
France	T	-	T1, T2, T3	CS	NA	NA	NA	0		NA	NO	NA	NO
Germany	T	0.36	CS, T2	CS	10.8	185.4	196.2	197.0	0.4	14.03	0.58	0.01	IE
Greece	L, T	1.20	T1	D	NO	63.0	63.0	63.0	0	NO	NO	1.01	IE
Hungary	T	0.02	D, T2	CS, PS	0.8	8.5	9.3	9.3	-0.1	0.62	0.06	NA	NA
Iceland		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Ireland		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Italy		0.00	T1	CR, CS, D	0.1	NO	0.1	0.1	0	10.05	0.90	NO	NO
Japan	T	0.00	T1, T3	D, OTH	0.5	0.7	1.2	0	-100.0	2.24	1.64	0.77	0.07
Kazakhstan	L, T	8.52	T1, T2, T3	CS, D	10.6	109.9	120.5	133.5	10.7	33.64	0.67	7.16	NO
Latvia		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Liechtenstein		-	NA	NA	NO	NO	NO			NO	NO	NO	NO
Lithuania		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Luxembourg		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Malta		-	NA	NA	NA	NA	NA	0		NO	NO	NO	NO
Monaco		-	NA	NA	NO	NO	NO			NO	NO	NO	NO
Netherlands		-	OTH	OTH	NA	NA	NA	0		NA	NA	NA	NA
New Zealand		0.39	T1	D	0.6	4.3	4.9	4.9	0.1	14.02	1.60	1.01	0.07
Norway		0.05	T2	CS	0.1	1.6	1.6	1.2	-25.5	7.16	IE	0.54	IE
Poland	L, T	1.85	CS, T1, T2	CS, D	71.3	64.3	135.6	143.5	5.8	4.55	0.36	0.01	IE
Portugal		0.01	T1	D	NO	NO	NO	0		NO	IE	NO	IE
Romania	T	0.68	T1	D	0.8	33.2	33.9	33.9	0	12.06	1.68	0.80	0.07
Russian Federation	L, T	2.11	T2	CS	101.2	250.7	351.9	355.6	1.1	12.45	1.95	3.70	IE
Slovakia	L	0.78	T1, T2	CS, D	2.3	NO	2.3	2.3	0.0	6.37	0.60	NO	NO
Slovenia	L, T	1.27	T3	PS	4.3	NO	4.3	4.3	0.0	1.91	0.77	NO	NO
Spain	T	0.14	CR, CS, T2	CR, CS	3.9	4.2	8.1	6.2	-23.2	2.80	2.78	0.28	0.11
Sweden		-	T2	CS	NO	NO	NO	0		NO	NO	NO	NO
Switzerland		-	NA	NA	NO	NO	NO	0		NO	NO	NO	NO
Turkey	T	0.43	T1	D	2.3	68.1	70.4	71.5	1.5	11.73	2	0.82	0
Ukraine	L, T	4.93	T1, T2, T3	CS, D, M	86.9	0.0	86.9	65.5	-24.6	10.76	1.20	0.94	0.13
United Kingdom	T	0.27	T3	CS, D, OTH	6.2	10.1	16.3	16.3	0.0	13.73	1.16	0.34	IE
United States	L, T	0.86	T2, T3	CS	310.6	610.3	920.9	920.9	0.0	8.47	0.86	0.67	0.15

[a] 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.

[b] Data provided by IEA on 9 May 2014. The data does not include data on peat/peat products, oil shale and oil sand.

[c] Source of default emission factors: IPCC Guidelines, volume 3, pages 1.105–1.110 (Tier 1).

Table 1.15a

Fugitive emissions from fuels: oil and natural gas - CH_4, CO_2 (2012)

	CH_4				CO_2			
	Key category	Share of national total (%)	Methods and EF used[a]		Key category	Share of national total (%)	Methods and EF used[a]	
			Methods	EF			Methods	EF
Australia	L, T	1.14	CS, T1, T2, T3	CS, PS	L, T	1.23	CS, T1, T2, T3	CS, PS
Austria		0.30	CS, T1, T2, T3	CS, D, PS		0.30	CS, T2	CS, D, PS
Belarus	L, T	1.79	CS, D	CS, D		0.00	D	CS, D
Belgium		0.33	CS, M, T1	CS, D		0.08	T1, T3	D, PS
Bulgaria	L	1.02	T1	D		0.03	T1	D
Canada	L, T	6.45	CS	CS	L, T	2.15	CS	CS
Croatia	L, T	4.67	T1	D	L	1.91	CS, T1	CS, D
Cyprus		-	NA	NA		-	NA	NA
Czech Republic		0.41	T1, T2	CS, D		0.01	T1, T2	CS, D
Denmark		0.20	CS, T1, T2, T3	CS, OTH, PS		0.42	CS, T2, T3	CS, OTH, PS
Estonia		0.40	T1	D		-	NA	NA
European Union (15)	L, T	0.55	CR, CS, M, OTH, T1, T1b, T2, T3	CR, CS, D, OTH, PS	L	0.48	CS, D, T1, T2, T3	CS, D, OTH, PS
European Union (28)	L, T	0.81	CR, CS, D, M, OTH, T1, T1b, T2, T3	CR, CS, D, OTH, PS	L	0.45	CS, D, T1, T2, T3	CS, D, OTH, PS
Finland		0.06	CS, T1, T2	CS, D, PS		0.22	CS	CS, D
France		0.24	T1, T2, T3	CS	L	0.68	T1, T2, T3	CS
Germany	L	0.62	CS, T1, T2, T3	CS, D		0.15	CS, T1, T2	CS, D
Greece		0.18	T1	D		0.01	T1	D
Hungary	L, T	3.29	CS, D	CS, D, OTH		0.28	D, T1	D, PS
Iceland		0.06	CS, T1	D, OTH	L, T	3.81	CS, T1	D, OTH
Ireland		0.04	CS, T1	CS, D		-	NA	NA
Italy	L, T	1.07	T1, T2	CS, D	L	0.48	T1, T2	CS, D
Japan		0.02	CS, T1	CS, D		0.00	T1	D
Kazakhstan	L	2.55	CS, D, T1	CS, D	L, T	0.85	CS, T1	CS, D
Latvia		0.54	T2	PS		0.00	T2	PS
Liechtenstein	T	0.45	T3	CS		-	NA	NA
Lithuania	L, T	1.21	T1	D		0.04	T1	D
Luxembourg		0.34	T1	D		0.00	T1	D
Malta		-	NA	NA		-	NA	NA
Monaco	T	0.21	T3	CS		0.00	T3	CS
Netherlands	T	0.38	T1, T1b, T2, T3	CS, D, PS		0.41	CS, T1, T2, T3	CS, D, PS
New Zealand	L, T	0.79	D, T3	CS, D	L, T	1.70	D	CS, D
Norway	L, T	1.04	T2	CS	L, T	5.21	T2	CS, PS
Poland	L, T	1.19	T2	CS, D	T	0.46	T1, T2, T3	CS, D
Portugal	L, T	0.57	CR, OTH	CR, OTH	L, T	1.44	D	CS, D
Romania	L, T	5.46	T1	D		0.51	T1	D
Russian Federation	L, T	14.18	T1, T1b, T2	CS, D	L, T	1.61	T1, T1b	D
Slovakia	L, T	1.78	T1	CS		0.00	T1	CS
Slovenia		0.11	T1, T3	CS, D		0.00	T1, T3	CS
Spain		0.17	CR, CS, T1	CR, CS, D	L, T	0.97	CS, T1, T2	CS, D, PS
Sweden		0.12	CS, T1, T2	CS, D, PS	L, T	1.52	T2, T3	CS, PS
Switzerland	T	0.33	CS, D	CS, D		0.08	CS, D	CS, D
Turkey		0.07	T1	D		0.03	T1	D
Ukraine	L, T	6.00	T1, T2	CS, D		0.06	T1, T2	CS, D
United Kingdom	L, T	0.89	T2, T3	CS, PS	L	0.61	T2, T3	CS, PS
United States	L, T	2.49	M	M	L	0.55	M	M

[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.B.2 Oil and natural gas.

Table 1.15b

Fugitive emissions from fuels: oil and natural gas - oil - CH_4, CO_2 (2012)

	Oil																	
	Exploration				Production				Transport				Refining (R) / Storage (S)			
	CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data	
	Value		Unit	Description	Value		Unit	Description	Value		Unit	Description	Value		Unit	Description
IPCC default EF[b]					300 - 5,000		PJ	Oil produced	745.00		PJ	Oil tankered	20 - 250 (S) 90 - 1,400 (R)		PJ	Oil refined
Australia	NA	NA	Not specified	NA	3,385	NA	PJ	Crude oil and ORF produced	62	NA	PJ	Quantity shipped	1,047	155,245	PJ	Oil refined
Austria	IE	IE	Not specified	number of wells drilled	7,227,390	172,605,564	Mt	Oil throughput	IE	IE	Not specified	oil loaded in tankers	31,663	NA	Mt	Oil refined (SNAP 0401)
Belarus	NO	NO	Not specified	number of wells drilled	2,650	NA	PJ	PJ of oil produced	NE	NE	Not specified	PJ oil loaded in tankers	745	NA	PJ	(e.g. PJ oil refined)
Belgium	NO	NO	Not specified	(SPEC)	NO	NO	Not specified	(spec)	150	14	PJ	(PJ)	55	NA	PJ	(e.g. PJ oil refined)
Bulgaria	194	9,102	10^3 m^3	number of wells drilled	2,650	7,672	PJ	(e.g. PJ of oil produced)	25	2	10^3 m^3	(e.g. PJ oil loaded in tankers)	880	NO	PJ	(e.g. PJ oil refined)
Canada	IE	IE	Not specified	NA	2,282	1,675	10^3 m^3	Conventional Oil, Heavy Oil and Crude Oil Production	12	1	m^3	Convention, Heavy, and Crude Oil Production	12	3	TJ	Energy Consumption of Refineries
Croatia	64	0	Not specified	number of wells drilled	2,650	8,829	PJ	(e.g. PJ oil produced)	745	20	PJ	(e.g. PJ oil loaded in tankers)	135	NO	PJ	(e.g. PJ oil refined)
Cyprus	NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified		NO	NO	TJ	oil refined
Czech Republic	NO	NO	Not specified	(e.g. number of wells drilled)	5,288	7,305	PJ	(e.g. PJ of oil produced)	146	13	PJ	(e.g. PJ oil loaded in tankers)	1,150	NE	PJ	(e.g. PJ oil refined)
Denmark	IE, NO	NA, NO	Not specified	(e.g. number of wells drilled)	0	0	Mg	Oil produced	IE, NE, NO	NA, NE, NO	Mg	Oil produced	282	NA, NO	kt	Oil refined
Estonia	NO	NO	PJ	Shale Oil	IE	NO	PJ	(e.g. PJ of oil produced)	NO	NO	PJ	(e.g. PJ oil loaded in tankers)	NO	NO	PJ	(e.g. PJ oil refined)
European Union (15)	NE	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	NE	Not specified	not estimated
European Union (28)	NE	NE	Not specified		NE	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated
Finland	NO	NO	Not specified	(e.g. number of wells drilled)	NO	NO	Not specified	(e.g. PJ of oil produced)	NO	NO	Not specified	kt oil loaded in tankers	37	101	kt	kt oil refined
France	NO	NO	Not specified		43,623	7,852	PJ	PJ Produced	56	5	PJ	PJ Loaded	90	1,096,978	PJ	PJ Refined
Germany	64	0	Not specified	number of wells drilled	0	0	t	oil produced	0	NA	t	oil transported in pipelines	0	1	t	oil refined
Greece	NO	NO	Not specified	(e.g. number of wells drilled)	1,450	270	10^3 m^3	Crude oil and NGL production	NA	NA	PJ	Crude oil imports	880	IE	PJ	Refinery input (crude oil and NGL)
Hungary	IE	IE	Not specified	(e.g. number of wells drilled)	49,496	7,424	PJ	oil produced	6	1	10^3 m^3	pipeline and tankers	1,400	NO	PJ	oil refined
Iceland	NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified	
Ireland	NO	NO	Not specified	(e.g. number of wells drilled)	NO	NO	Not specified	(e.g. PJ of oil produced)	NO	NO	Not specified	(e.g. PJ oil loaded in tankers)	110	NO	PJ	(e.g. PJ oil refined)
Italy	NA	NA	Not specified	number of wells drilled	1,600	8	Gg	(Gg of oil produced)	6	1	Not specified	oil loaded in tankers	11	16,330	Gg	(Gg oil refined)
Japan	135	2,850	Not specified	number of wells drilled	1	0	10^3 l	oil produced	0	0	10^3 l	Oil & Condensate produced	91	NE	PJ	oil refined
Kazakhstan	NE	NE	Not specified		106	NA	kt	oil produced	30	NE	kt	oil transported by rail/sea	35	NA	kt	oil refined
Latvia	NO	NO	Not specified	(e.g. number of wells drilled)	NO	NO	PJ	(e.g. PJ of oil produced)	NO	NO	PJ	(e.g. PJ oil loaded in tankers)	NA	NA	PJ	(e.g. PJ oil refined)
Liechtenstein	NO	NO	Not specified	number of wells drilled	NO	NO	Not specified	oil produced	NO	NO	Not specified	oil loaded in tankers	NO	NO	Not specified	oil refined
Lithuania	270	5,700	Not specified	(wells drilled)	1,450	270	10^3 m^3	(conventional oil production)	5	0	10^3 m^3	oil transported by pipelines	745	NO	PJ	(e.g. PJ oil refined)
Luxembourg	NO	NO	Not specified	number of wells drilled	NO	NO	Not specified	oil produced	NO	NO	Not specified	oil loaded in tankers	NO	NO	Not specified	oil refined
Malta	NO	NO	Not specified	number of wells drilled	NO	NO	Not specified	oil produced	NO	NO	Not specified	oil loaded in tankers	NO	NO	Not specified	oil refined
Monaco	NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified	
Netherlands	IE	IE	Not specified	number of wells drilled/tested	IE	IE	PJ	Refery input: crude oil, NGL	6	1	t	oil transported by pipeline	273	312,708	PJ	Refery input: crude oil, NGL
New Zealand	IE	IE	Not specified	(e.g. number of wells drilled)	IE	IE	Not specified	(e.g. PJ of oil produced)	1	0	TJ	(e.g. PJ oil loaded in tankers)	1	NA	TJ	(e.g. PJ oil refined)
Norway	IE	IE	kg	number of wells drilled	IE	IE	10^6 m^3	oil produced	1,674	21,350	PJ	oil loaded in tankers	4,104	2,093,236	PJ	Oil refined
Poland	NA	NA	Not specified	NA	61,800	6,315,000	PJ	Production	6	1	Gg	oil ltransported by pipeline	745	NA	PJ	oil refined
Portugal	NO	NO	Mt	Stored Product	NO	NO	Not specified		30,549	233,426	Mt	Consumption of crude	19,088	13,594,512	Mt	Production (crude and other materials)
Romania	48,610	2,296,738	PJ	oil produced	545,355	69,282	PJ	(e.g. PJ of oil produced)	149	14	PJ	oil produced	880	NA	PJ	(e.g. PJ oil refined)
Russian Federation	74,455	220,846	Not specified	number of producing and capable wells	1,690,371	314,759	Mt	oil produced	6,295	571	Mt	(oil transported in pipelines)	36,871	NE	Mt	oil refined
Slovakia	NO	NO	Not specified	(e.g. number of wells drilled)	35,718	277	PJ	production	129	1	PJ	transport of crude oil (transfer)	129	1	PJ	refinin/storage
Slovenia	NO	NO	Not specified	(e.g. number of wells drilled)	NO	NO	TJ	(e.g. PJ of oil produced)	NO	NO	Not specified	(e.g. PJ oil loaded in tankers)	NO	NO	TJ	(e.g. PJ oil refined)
Spain	NO	NO	Not specified		1,706,000	317,995	Tg	Crude oil produced	27,000	NA	Tg	Transport of crude oil	336	44,235,617	Tg	Oil refined
Sweden	1	245,911	TJ	Fuel consumed for hydrogen production	NO	NO	Not specified	NO	745	NE	PJ	Oil loaded in tank ships	20,969	11,734,056	Mt	Petroleum coke
Switzerland	NO	NO	Not specified		NO	NO	Not specified		152	14	PJ		1,042	31,387	PJ	Crude oil used
Turkey	NE	NE	Not specified		NE	NE	Not specified		NE	NE	Not specified		NE	NA	Not specified	
Ukraine	71	203	Not specified	number of wells drilled and operated	1,450,000	270,000	10^3 m^3	oil produced	5	0	10^3 m^3	Crude oil transported by pipeline	1,650	NE	PJ	Oil refined
United Kingdom	25	3,200	t	Well testing fuel use	1,321	111	PJ	Oil produced (net)	61	NO	Gg	Offshore loading of oil only	2,013	NO	PJ	Oil refinery throughput (net)
United States	IE	NA	Not specified	IE	627,299	165,629	10^6 Bbl(oil US)	(e.g. Domestic Oil Production)	1,072	NA	10^6 Bbl(oil US)	Refinery Feed	3,436	2,550	10^6 Bbl(oil US)	Refinery Feed

[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 emissions factors: IPCC Guidelines, vol. 3, pages 1.119–1.121. For updated detailed emission factors on CH_4 and implied emissions factors on CO_2 and N_2O also look at the IPCC good practice guidance, table 2.16, pages 2.86–2.87.

Table 1.15c

Fugitive emissions from fuels: oil and natural gas - natural gas - CH_4, CO_2 (2012)

	Natural Gas															
	Production (P) / Processing (Pr)				Transmission				Distribution				Other leakage			
	CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data		CH_4 IEF[a]	CO_2 IEF	Activity data	
	Value		Unit	Description	Value		Unit	Description	Value		Unit	Description	Value		Unit	Description
IPCC default EF[b]	**15000-314000 (P) 288000-628000 (Pr)**		**PJ**	**Gas produced**	**57,000 - 628,000**		**PJ**	**Gas consumed/produced**	**57,000 - 628,000**		**PJ**	**Gas consumed/produced**	**0 - 384,000**		**PJ**	**Gas consumed**
Australia	1,525	IE	PJ	Gas produced	10,920	527	PJ	Gas transmitted	288,502	34,727	PJ	Utility sales	IE	IE	Not specified	NE
Austria	IE	50,913	10^6 m^3	gas produced	386	25	km	Pipelines length (km)	86	NA	km	Distribution network length	NO	NO	PJ	Gas consumed
Belarus	288,000	NA	PJ	PJ gas produced	8,383	NA	PJ	PJ gas consumed	IE	NA	Not specified	PJ gas consumed	83,378	NA	PJ	PJ gas consumed
Belgium	NO	NO	Not specified	(speci	4,163	NO	PJ	(e.g. PJ gas consumed)	25,300	751	PJ	PJ gas consumed	NO	NO	Not specified	(speci)
Bulgaria	227,000	5,715	PJ	(e.g. PJ gas produced)	2,500	16	km	Pipeline length	670	39	km	Pipeline length	263,360	NO	PJ	(e.g. PJ gas consumed)
Canada	1,296	42	10^6 m^3	Gross New Production of Natural Gas (also includes oil and Gas Well Drilling and Servicing)	3,281	24	km	Transmission Length	358	NE	km	Distribution Length	965	189	Not specified	Combined number of spills and total wells
Croatia	458,000	6,207,097	PJ	(e.g. PJ gas produced)	IE	604	PJ	gas consumed	IE	NO	Not specified	(e.g. PJ gas consumed)	250,027	NO	Not specified	(e.g. PJ gas consumed)
Cyprus	NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified	
Czech Republic	38,649	15	PJ	(e.g. PJ gas produced)	6,720	27	PJ	(e.g. PJ gas consumed)	113,216	451	PJ	(e.g. PJ gas consumed)	7,768	31	PJ	(e.g. PJ gas consumed)
Denmark	IE, NO	NA, NO	10^6 m^3	Gas produced	3	0	10^6 m^3	Gas transmission	53	2	10^6 m^3	Gas distributed	IE, NO	NA, NO	Not specified	Incl. in transmission
Estonia	NO	NO	PJ	(e.g. PJ gas produced)	NO	NO	PJ	(e.g. PJ gas consumed)	165,017	NO	PJ	Natural Gas	NO	NO	PJ	
European Union (15)	NE	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	NE	Not specified	
European Union (28)	NE	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated	NE	NE	Not specified	
Finland	NO	NO	Not specified	(e.g. PJ gas produced)	1,873	5,150	PJ	PJ gas consumed	116,477	320,312	PJ	PJ gas distributed via local networks	NO	NO	Not specified	t of natural gas released from pipelines
France	79	2,677,445	PJ	PJ Production	7,287	47	PJ	PJ Consumed	26,012	166	Not specified		NO	NO	Not specified	
Germany	6	2,899	TJ	production and processing	249	NO	km	high pressure pipelines	423	NO	km	distribution net	40	NO	TJ	gas consumed
Greece	415	114	10^6 m^3	Natural gas production	2,539	16	km	Length of transmission pipeline	615	NA	km	Length of distribution mains	IE	IE	Not specified	(e.g. PJ gas consumed)
Hungary	104,496	1,271,968	PJ	gas produced	3,400	16	km	Transmission pipeline lenght	520	4	km	Distribution pipeline length	IE	IE	Not specified	(e.g. PJ gas consumed)
Iceland	NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified		NO	NO	Not specified	
Ireland	1,786	NO	PJ	PJ of Gas produced	IE	IE	Not specified	(e.g. PJ gas consumed)	15,815	NO	PJ	PJ of gas consumed	NO	NO	PJ	(e.g. PJ gas consumed)
Italy	1,600	95	10^6 m^3	(Mm3 gas produced)	489	9	10^6 m^3	(Mm3 gas transported)	4,962	90	10^6 m^3	(Mm3 gas transported)	IE	IE	Not specified	
Japan	4	0	10^3 m^3	gas produced	363	NA	km	Pipelines length	466	NA	PJ	LNG & NG Consumption with Town Gas Production	IE	NA	Not specified	not estimated
Kazakhstan	2,100	16	10^6 m^3	gas produced	569	NE	10^6 m^3	gas transported, including transit	19,874	NE	10^6 m^3	gas consumed	0	NE	Not specified	
Latvia	NO	NO	TJ	(e.g. PJ gas produced)	15,578	18	TJ	amounts of gas leaked	15,578	18	TJ	amounts of gas leaked	15,578	18	Not specified	amounts of gas leaked
Liechtenstein	NO	NO	Not specified	gas produced	165	NO	km	gas consumed	46	NO	TJ	gas consumed	IE	NO	Not specified	
Lithuania	NO	NO	PJ	(e.g. PJ gas produced)	3,500,000	24,500	10^3 km	transmission mains	615,000	NO	10^3 km	distribution mains	IE	IE	PJ	(e.g. PJ gas consumed)
Luxembourg	NO	NO	Not specified	gas produced	13,195	24	PJ	gas consumed	30	1	TJ	gas consumed	IE	IE	Not specified	
Malta	NO	NO	Not specified	gas produced	NO	NO	Not specified	gas consumed	NO	NO	Not specified	gas consumed	NO	NO	Not specified	
Monaco	NO	NO	Not specified		NO	NO	Not specified		0	0	m^3	Gaz naturel	NO	NO	Not specified	
Netherlands	IE	IE	PJ	gas produced	2,063	59	PJ	gas transported	100,953	3,106	10^3 km	natural gas distribution network	IE	NE	Not specified	
New Zealand	IE	IE	Not specified	(e.g. PJ gas produced)	413,946	52,800	TJ	(e.g. PJ gas consumed)	13,926	2,208	TJ	(e.g. PJ gas consumed)	78	NA	TJ	(e.g. PJ gas consumed)
Norway	IE	IE	10^6 m^3	gas produced	IE	IE	Not specified	gas consumed	NE	IE	Not specified	gas consumed	NA, NE	NA, NE	Not specified	
Poland	95,994	23,607	PJ	Production	53,265	523	PJ	gas consumed	310,690	1,169	PJ	gas consumed	1,295	10	Not specified	NA
Portugal	NO	NO	Not specified		3,194	8,792	Gg	gas consumed	IE	IE	Gg	gas consumed	IE	IE	Not specified	
Romania	74,449	2,572	PJ	(e.g. PJ gas produced)	1,540	16	PJ	pipeline lenghts (Km)	769	IE	km	pipeline network	216,499	NE	PJ	(e.g. PJ gas consumed)
Russian Federation	3,629	122	10^6 m^3	gas produced	8,915	5	kt	(total gas transmission)	20,908	NE	10^6 m^3	gas consumed	8,904	NE	10^6 m^3	gas consumed
Slovakia	276,418	2,142	PJ	production	2,900	22	km	transfer	710	6	km	distribution	IE	IE	PJ	consumed
Slovenia	39	0	TJ	PJ gas produced	196	0	km	lenght of transport pipelines	82	0	km	lenght of pipelines	1	0	Not specified	(e.g. PJ gas consumed)
Spain	70,658	2,441	PJ	PJ gas produced (NCV)	496	13	PJ	PJ gas (NCV)	18,938	481	PJ	PJ gas consumed (NCV)	NE	NE	PJ	(e.g. PJ gas consumed)
Sweden	NO	NO	Not specified	NO	41	1	km	Length of pipeline	NA	NA	km	Length of pipeline	NO	NO	Not specified	NO
Switzerland	NO	NO	PJ	gas produced	595	10	PJ	See documentation box	17,937,567	312,000	PJ		IE	IE	GJ	(specify)
Turkey	NA	NA	Not specified		NE	NE	Not specified		NE	NE	Not specified		NE	NE	Not specified	
Ukraine	3,780	122	10^6 m^3	Natural Gas Produced	497,886	4,725	Mt	gas transmitted	8,207,231	19,458	10^3 km	Length of natural gas distribution network	320,810	1,155	PJ	Residential and Non-residential Gas Consumed
United Kingdom	2,202	95,344	PJ	Natural gas production (net)	3	0	TJ	Final gas consumption	87,954	2,961	PJ	Final gas consumption	2	0	TJ	Total gas use
United States	121,029	924,905	10^9 ft^3	(e.g. Total Natural Gas Produced)	81,208	2,487	10^9 ft^3	(e.g. Total Natural Gas Consumed)	48,282	1,443	10^9 ft^3	(e.g. Total Natural Gas Consumed)	IE	IE	Not specified	(e.g. PJ gas consumed)

[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 emissions factors: IPCC Guidelines, vol. 3, pages 1.119–1.121. For updated detailed emission factors on CH_4 and implied emissions factors on CO_2 and N_2O also look at the IPCC good practice guidance, table 2.16, pages 2.86–2.87.

Table 1.15d

Fugitive emissions from fuels: oil and natural gas - venting and flaring - CH_4, CO_2 (2012)

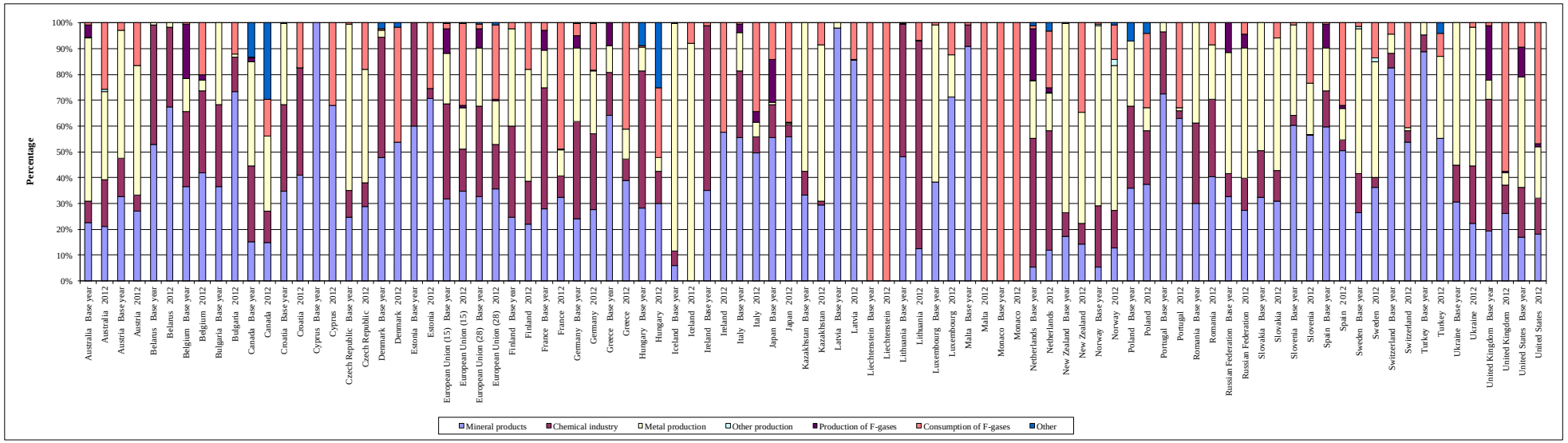
	Venting and flaring																					
	Oil							Gas							Combined							
	Venting[a]			Flaring[a]				Venting[a]			Flaring[a]				Venting[a]			Flaring[a]				
	CH_4 IEF[b]	Activity data		CH_4 IEF[b]	CO_2 IEF	Activity data		CH_4 IEF[b]	Activity data		CH_4 IEF[b]	CO_2 IEF	Activity data		CH_4 IEF[b]	Activity data		CH_4 IEF[b]	CO_2 IEF	Activity data	
	value	unit	Description	value		unit	Description	value	unit	Description	value		unit	Description	value	unit	Description	value		unit	Description
IPCC default EF[c]	1,000 -3,000	PJ	Oil produced	1,000 -3,000		PJ	Oil produced	6,000 - 209,000	PJ	Gas produced	6,000 - 209,000		PJ	Gas produced	3,000 - 14,000	PJ	Oil produced	3,000 - 14,000		PJ	Oil and gas produced
Australia	NA	Not specified	NA	7,594	639,296	PJ	Crude oil and ORF produced	22,809	PJ	PJ gas produced	1,846	1,046,478	PJ	Natural gas supplied	NA	Not specified	NA	NA	NA	PJ	PJ gas and oil produced
Austria	IE	Mt	oil produced	IE	IE	PJ	Oil consumed	IE	PJ	gas produced	IE	IE	PJ	gas consumed	IE	Mt	Oil Ptoduced	IE	IE	Mt	oil consumed
Belarus	IE	Not specified	PJ oil produced	IE	IE	Not specified	PJ gas consumption	IE	TJ	PJ gas produced	IE	NA	Not specified	PJ gas consumption	NO	PJ	Venting	5	55,820	TJ	Flaring
Belgium	NO	Not specified	(spec)	NO	NO	Not specified	(spec)	18	PJ	gas transported PJ	NO	NO	Not specified	(spec)	NO	Not specified	(spec)	IE	NA	Not specified	(spec)
Bulgaria	8,700	10^3 m^3	oil produced	21,000	34,000,000	10^6 m^3	(e.g. PJ gas consumption)	182	10^6 m^3	gas produced	2	3,550	10^6 m^3	(e.g. PJ gas consumption)	NO	Not specified		NO	NO	Not specified	
Canada	5,811	m^3	Conventional oil, Heavy Oil, and Crude Oil Production	1,447	1,793,024	10^6 m^3	Flared Gas	994	10^6 m^3	gross new production of natural Gas	206	314,455	10^6 m^3	Flared Gas	234	Not specified	Number of Wells Drilled (Number)	26	40,453	Not specified	Number of Wells Drilled (Number)
Croatia	NO	10^3 m^3	(specify)	IE	IE	Not specified	(specify)	457	10^6 m^3	(specify)	IE	IE	Not specified	(specify)	NO	Not specified		NO	NO	Not specified	(specify)
Cyprus	NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified	
Czech Republic	11,104	PJ	(e.g. PJ oil produced)	997	1,812,771	PJ	(e.g. PJ gas consumption)	NO	Not specified	(e.g. PJ gas produced)	NO	NO	PJ	(e.g. PJ gas consumption)	NO	Not specified		NO	NO	Not specified	
Denmark	NO	Not specified	(e.g. PJ oil produced)	0	53	GJ	Refinergy gas consumption	15	GJ	Venting in gas terminals	0	59	GJ	Gas consumption	NO	Not specified		NO	NO	Not specified	
Estonia	IE	PJ	(e.g. PJ oil produced)	NO	NO	PJ	Shale Oil	NO	PJ	(e.g. PJ gas produced)	NO	NO	PJ	Natural Gas	NO	PJ	Natural Gas	NO	NO	PJ	Oil and Gas
European Union (15)	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	Not specified	not estimated	NE	NE	Not specified	not estimated	NE	Not specified	not estimated	NE	NE	Not specified	not estimated
European Union (28)	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated	NE	Not specified	Not estimated	NE	NE	Not specified	Not estimated
Finland	NO	kt	kt oil refined	1	65,345	kt	used fuels, TJ	NO	Not specified	(e.g. PJ gas produced)	NO	NA	Not specified	(e.g. PJ gas consumption)	NO	Not specified		NO	NO	Not specified	
France	1,939	Not specified		116	147,103	PJ	PJ Consumed	IE	Not specified		6,694	2,961,857	Gg	gas consumed	NO	Not specified		NA	NA	PJ	PJ Consumed
Germany	IE	m^3		IE	IE	Gg		IE	m^3	vented natural gas	540	1,777	10^3 m^3	flared natural gas	IE	m^3		IE	IE	m^3	
Greece	6,343	10^3 m^3	Crude oil and NGL production	135	67,000	10^3 m^3	Crude oil and NGL production	337,000	10^6 m^3	Sour Natural gas production	30	4,867	10^6 m^3	Natural gas production	NO	Not specified		NO	NO	Not specified	
Hungary	2,000	PJ	PJ oil produced	687	2,537,288	PJ	Oil production	24,000	PJ	PJ gas produced	32	5,175	10^6 m^3	gas production	NA	Not specified		NA	NA	Not specified	Oil and gas produced, oil refining
Iceland	NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified	
Ireland	NO	Not specified	(e.g. PJ oil produced)	NO	NO	Not specified	(e.g. PJ gas consumption)	IE	Not specified	(e.g. PJ gas consumed)	NO	NO	PJ	quantity of gas flared	NO	Not specified		NO	NO	Not specified	
Italy	71	Gg	oil produced	6	56,017	Gg	oil produced	IE	Not specified		0	2	10^3 m^3	gas produced	NO	Not specified		NO	NO	Not specified	
Japan	1	10^3 l	oil produced	0	67	10^3 l	oil produced	IE	km	pipeline length	0	4	10^3 m^3	gas produced	IE	Not specified	included elsewhere	IE	IE	Not specified	included elsewhere
Kazakhstan	0	Not specified		NO	NO	Not specified		0	Not specified		NE	NE	Not specified		0	Not specified		657	1,887,132	10^6 m^3	gas flared
Latvia	NO	PJ	(e.g. PJ oil produced)	NO	NO	PJ	(e.g. PJ gas consumption)	NO	PJ	(e.g. PJ gas produced)	NO	NO	PJ	(e.g. PJ gas consumption)	NO	PJ		NO	NO	PJ	
Liechtenstein	NO	Not specified	oil produced	NO	NO	Not specified	gas consumed	NO	Not specified	gas produced	NO	NO	Not specified	gas consumed	NO	Not specified	gas produced	NO	NO	Not specified	Gas/Oil Produced
Lithuania	1,381	10^3 m^3	(conventional oil production and oil transported by tanker truck)	138	67,000	10^3 m^3	(conventional oil production	IE	km	(transmission pipeline)	NO	NO	PJ	(e.g. PJ gas consumption)	NO	PJ		NO	NO	PJ	
Luxembourg	NO	Not specified	oil produced	NO	NO	Not specified	gas consumed	NO	Not specified	gas produced	NO	NO	Not specified	gas consumed	NO	Not specified	combined oil and gas production	NO	NO	Not specified	combined oil and gas consumption
Malta	NO	Not specified	oil produced	NO	NO	Not specified	gas consumed	NO	Not specified	gas produced	NO	NO	Not specified	gas consumed	NO	Not specified	NO	NO	NO	Not specified	NO
Monaco	NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified		NO	Not specified		NO	NO	Not specified	
Netherlands	IE	10^6 m^3	oil produced	IE	IE	10^6 m^3	oil produced	IE	PJ	gas produced	IE	IE	PJ	gas produced	IE	PJ		IE	IE	Not specified	
New Zealand	IE	Not specified	(e.g. PJ oil produced)	IE	IE	Not specified	(e.g. PJ gas consumption)	IE	Not specified	(e.g. PJ gas produced)	IE	IE	TJ	(e.g. PJ gas consumption)	14,125	TJ		441	52,569	TJ	venting & flaring from oil & gas
Norway	IE	Not specified	(e.g. PJ oil produced)	9,456	75,650,118	PJ	Oil flared	IE	Not specified	(e.g. PJ gas produced)	39,686	72,883,963	PJ	Gas flared	1,842	PJ	Oil and gas produced	IE	IE	Not specified	
Poland	IE	10^3 m^3	oil produced	IE	IE	10^3 m^3	oil produced	IE	Not specified	NA	IE	IE	10^3 m^3	gas production	NO	Not specified	NA	NO	NO	Not specified	NA
Portugal	1,399	Mt	Oil refined	IE	IE	Not specified		NO	Not specified		IE	IE	Not specified		NO	Not specified		IE	IE	Not specified	
Romania	295,600	PJ	(e.g. PJ oil produced)	714	1,156,695	PJ	(e.g. PJ gas consumption)	392	PJ	gas produced (10^6 m^3)	11	1,800	PJ	gas produced (10^6 m^3)	NA	PJ	(PJ gas and oil produced)	NA	NA	PJ	(PJ gas and oil combined comsumption)
Russian Federation	1,610	kt	oil produced	IE	IE	kt	oil production	IE	km	length of pipelines	23	3,726	10^6 m^3	gas production	1,820	kt	(NGL production)	12,000	2,000,000	10^6 m^3	(Assotiated gas flaring)
Slovakia	6,429	PJ	production	6,429	50	PJ	production	1,200	km	transfer	29,920	232	PJ	production	NO	Not specified		NO	NO	Not specified	
Slovenia	NO	Not specified	(e.g. PJ oil produced)	NO	NO	Not specified	(e.g. PJ gas consumption)	NO	Not specified	(e.g. PJ gas produced)	NO	NO	Not specified	(e.g. PJ gas consumption)	NO	Not specified		NO	NO	Not specified	
Spain	NO	Not specified	(e.g. PJ oil produced)	500	4,938,826	Tg	(e.g. PJ gas consumption)	16,643,437	PJ	gas produced	5,497	55,994,515	PJ	(e.g. PJ gas consumption)	NO	Not specified		NO	NO	Not specified	
Sweden	IE	Not specified	IE	1	53,132	TJ	Refinery gas other liquid fuels	IE	Not specified	IE	IE	IE	Not specified	IE	IE	Not specified	IE	NA	NA	Not specified	NA
Switzerland	IE	Not specified		81	192,130	PJ	Crude oil used	IE	Not specified		NO	NO	Not specified		NO	Not specified	(specify)	NO	NO	Not specified	
Turkey	NE	Not specified		NE	NE	Not specified		NE	Not specified		NE	NE	Not specified		NE	Not specified		NE	NE	Not specified	
Ukraine	1,381,000	10^3 m^3	oil produced	137,500	67,000,000	10^3 m^3	oil produced	IE	10^6 m^3	gas transmission	11	1,800	10^6 m^3	Natural Gas Produced	IE	Not specified	__	IE	IE	Not specified	__
United Kingdom	NA	Not specified	None	11	2,604	t	Mass of gas flared	NA	Not specified	None	10	2,309	t	Mass of gas flared	IE	Not specified	None	IE	IE	Mg	Mass of gas flared
United States	IE	Not specified	oil produced	IE	IE	Not specified	(e.g. Total Natural Gas Consumption)	IE	Not specified	(e.g. Total Natural Gas Produced)	IE	IE	Not specified	(e.g. Total Natural Gas Consumption)	IE	Not specified		IE	54,706,667	10^12 Btu	Gas Flared

[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 emissions factors: IPCC Guidelines, vol. 3, pages 1.119–1.121. For updated detailed emission factors on CH_4 and implied emissions factors on CO_2 and N_2O also look at the IPCC good practice guidance, table 2.16, pages 2.86–2.87.

Figure 2.1

Contribution of subsectors to total GHG emissions in the industrial processes sector[a]



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 2.1

Mineral products - CO_2 (2012)

	Methods and EF used[a]		Cement production					Lime production		
					Activity data (production)					
	Methods	EF	Key category	Share of national total (%)	Description[b]	Value (kt)	CO_2 IEF (t/t)	Key category	Share of national total (%)	CO_2 IEF (t/t)
IPCC default EF[c]							0.499 (cement)			
IPCC default EF[d]							0.51 (clinker)			0.59-0.86
Australia	T2	CS, D	L, T	0.6	Clinker production	6,425	0.55		0.2	0.8
Austria	CS, T1, T3	CS, D, PS	L, T	2.1	Clinker Production	3,206	0.52	L, T	0.7	0.7
Belarus	D, T1, T2	D	L, T	2.4	Used clincer production data	4,195	0.52		0.6	0.7
Belgium	T3	CS, PS	L, T	2.3	Clinker Production (kt)	4,869	0.54	L	1.4	0.8
Bulgaria	T1, T2	CS, D, PS	L	1.6	Klinker - kt	1,839	0.54	L, T	1.6	0.7
Canada	T1, T2	CS, D	L	0.9	Clinker Production Data	12,155	0.52		0.2	0.8
Croatia	T1, T2	CS, D	L, T	3.8	(e.g. cement or clinker production)	1,996	0.50		0.4	0.8
Cyprus	D, T1	CS, D	L, T	5.4	Clinker production	953	0.53		0.0	0.8
Czech Republic	CS, T1, T3	CR, CS, D, PS	L	1.2	(clinker production)	2,838	0.53	L, T	0.5	0.7
Denmark	CS, T1	CS, D, PS	L, T	1.6	2.A.1-Cement Production,,,Activity Data,,,(kt)	1,629	0.53		0.1	0.6
Estonia	T1, T2	D, PS	L, T	2.1	Clinker production	754	0.54		0.3	0.7
European Union (15)	CS, D, OTH, T1, T2, T3	CS, D, OTH, PS	L, T	1.6	2.A.1-Cement Production,,,Activity Data,,,(kt)	109,496	0.53		0.4	0.7
European Union (28)	CR, CS, D, OTH, T1, T2,	CR, CS, D, OTH, PS	L, T	1.6	2.A.1-Cement Production,,,Activity Data,,,(kt)	NE	NE	L	0.5	NE
Finland	T2	CS	L, T	0.8	clinker production	1,000	0.50	L	0.7	0.8
France	T2, T3	D, PS	L, T	1.5	kt of Clinker	14,178	0.53		0.4	0.7
Germany	CS	CS, D	L, T	1.4	(clinker production)	24,581	0.53		0.5	0.8
Greece	CS, T1	CS, D, PS	L, T	2.8	clinker production	5,856	0.53	T	0.2	0.8
Hungary	CS, D, T2	CS, D, PS	L, T	1.1	Clinker Production	1,333	0.51		0.2	0.7
Iceland	CS, D	CS, D	T	-	clinker production	NO	NO		-	NO
Ireland	T2	D, PS	L, T	2.0	Clinker production	2,189	0.54		0.4	0.8
Italy	T2	CS, D, PS	L, T	2.2	(clinker production)	19,204	0.52	L	0.4	0.7
Japan	CS, D, T2	CS, D	L, T	1.9	Clinker produced	49,883	0.50		0.4	0.4
Kazakhstan	D, T1a, T2	CS, D	L	0.8	clinker produced	3,642	0.60		0.2	0.7
Latvia	T1, T2, T3	D, OTH, PS	L, T	5.3	clinker production	1,129	0.51		0.0	0.8
Liechtenstein	NA	NA		-	Production	NO	NO		-	NO
Lithuania	CS, T1, T2	CS, D, PS	L, T	1.8	(clinker production)	730	0.54		0.2	0.8
Luxembourg	CS, T2	CS, PS	L, T	3.2	clinker production	758.241	0.49		-	NO
Malta	CS, D	CS, D		-	(not occuring)	NO	NO		-	NO
Monaco	CS	CS		-		NO	NO		-	NO
Netherlands	CS	CS, D, PS		0.2	Clinker production	610	0.51		-	IE
New Zealand	T1a, T2, T3	D, PS		0.7	Cement production	C	C		0.1	0.7
Norway	T2	CS	L, T	1.4	Production quantity	1,399	0.52	L, T	0.4	0.8
Poland	T1, T2, T3	CS, D, OTH, PS	L, T	1.6	Clinker production	11,807	0.54	T	0.3	0.8
Portugal	D, OTH, T3	D, OTH	L, T	3.7	Total clinker production	4,882	0.52		0.5	0.7
Romania	CR, CS, D, OTH, T2	CR, D, PS	L, T	2.7	clinker production data	5,874	0.54	L	1.1	C
Russian Federation	D, T2	CS, D	L, T	1.1	(clinker production)	49,933	0.53		0.4	0.7
Slovakia	T2	PS	L, T	2.5	Clinker Production	2,126	0.51	L, T	1.7	0.8
Slovenia	D, T2	CS, D	L, T	1.7	Clinker produced	605	0.54	T	0.4	0.7
Spain	CS, D, T2	CS, D, PS	L, T	2.6	Clinker production	16,719	0.52		0.4	0.7
Sweden	CS, D, T2	CS, D, PS	L, T	2.6	Produced amount of clinker	2,769	0.53	L, T	0.8	0.7
Switzerland	CS, T2	CS, D, PS	L, T	3.5	clinker production	3,368	0.53		0.1	C
Turkey	T1	D	L, T	6.9	clinker	58,300	0.52	L, T	1.0	0.7
Ukraine	T1, T2, T3	CS, D	L	0.8	clinker production	6,279	0.51		0.7	0.6
United Kingdom	T2	CS, D	L, T	0.6	clinker production kt	C	C		0.2	0.4
United States	CS, D, T2, T3	CS, D	L	0.5	Clinker Production	67,784	0.52		0.2	0.8

[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 products.

[b] 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.

[c] Source of default emission factors: IPCC Guidelines, volume 3, page 2.6.

[d] Source of default emission factors: IPCC good practice guidance, pages 3.13 and 3.22.

Table 2.2

Chemical industry - CO_2 and N_2O (2012)

	CO_2						N_2O								
	Methods and EF used[a]		Ammonia production				Methods and EF used[a]		Nitric acid production				Adipic acid production		
	Methods	EF	Key category	Share of national total (%)	Activity data (production) (kt)	CO_2 IEF (t/t)	Methods	EF	Key category	Share of national total (%)	Activity data (production) (kt)	N_2O IEF (t/t)	Key category	Share of national total (%)	N_2O IEF (t/t)
IPCC default EF[b]						1.5-1.6						0.002-0.019			0.59-0.86
Australia	CS, T1b, T2	CS, D		-	C	IE	CS, T3	CS		-	C	IE		-	NO
Austria	CS, T2, T3	CS, PS	L	0.6	479	1.1	CS	PS	T	0.1	535	0.000		-	NO
Belarus	T2	CS	L	1.5	1,014	1.3	T1	D		0.0	0	0.005		-	NO
Belgium	T3	D, PS	L, T	1.0	965	1.2	T3	PS	L, T	0.6	1,971	0.001		-	NO
Bulgaria	D, T2	D, PS	T	0.6	C	C	T3	PS	T	0.2	C	C		-	NO
Canada	D	CS	L	0.8	4,524	1.3	CS, D, T3	CS, D		0.2	889	0.004	T	0.0	NA
Croatia	T1a	PS	L, T	1.9	416	1.2	T1	PS	L, T	2.6	288	0.008		-	NO
Cyprus	NA	NA		-	0	NO	NA	NA		-	0	NO		-	NO
Czech Republic	T1	CS	L	0.4	239	2.4	CS, T1	CS, PS	T	0.3	550	0.003		-	NO
Denmark	CS	D		-	NO	NO	NA	NA	T	-	NO	NA, NO		-	NO
Estonia	T1a	PS	T	0.1	17	1.4	NA	NA		-	NO	NO		-	NO
European Union (15)	CS, D, T1, T1a, T1b, T2, T3	CS, D, PS	L	0.4	9,319	1.7	CS, D, T2, T3	CR, CS, D, OTH, PS	T	0.1	NE	NE	T	0.0	NE
European Union (28)	CS, D, T1, T1a, T1b, T2, T3	CR, CS, D, OTH, PS	L	0.6	NE	NE	CS, D, T1, T2, T3	CR, CS, D, OTH, PS	T	0.2	NE	NE	T	0.0	NE
Finland	CS, T2	CS, PS		-	NO	NO	T2	PS	T	0.3	611	0.001		-	NO
France	T2	D, PS	T	0.3	997	1.3	T2	PS	T	0.1	2,178	0.001	T	0.0	C
Germany	CS, T2, T3	CS, D, PS	L, T	0.8	3,125	2.4	T3	PS		0.3	2,477	0.004	T	0.0	C
Greece	T1, T1a	CS	T	0.2	107	1.7	D	D	T	0.3	141	0.007		-	NO
Hungary	D, T2	D	L, T	0.8	197	2.4	T2	PS	T	0.0	651	0.000		-	NO
Iceland	NA	NA		-	NO	NO	NA	NA		-	NO	NO		-	NO
Ireland	NA	NA	T	-	NO	NO	NA	NA	T	-	NO	NO		-	NO
Italy	D, T2	PS	T	0.2	576	1.8	T2	D, PS	T	0.0	431	0.001	T	0.0	0.00
Japan	T1	CS		0.1	1,020	1.8	D, T1	CS, PS		0.0	453	0.003	T	0.0	C
Kazakhstan	T1, T2	D		0.1	102	1.5	NA	NA		-	NO	NO		-	NO
Latvia	NA	NA		-	NO	NO	NA	NA		-	NO	NO		-	NO
Liechtenstein	NA	NA		-	NO	NO	NA	NA		-	NO	NO		-	NO
Lithuania	T3	PS	L, T	10.7	1,116	2.1	T2	PS	L, T	2.8	1,223	0.002		-	NO
Luxembourg	NA	NA		-	NO	NO	NA	NA		-	NO	NO		-	NO
Malta	D	D		-	NO	NO	NA	NA		-	NO	NO		-	NO
Monaco	NA	NA		-	NO	NO	NA	NA		-	NO	NO		-	NO
Netherlands	CS, T1, T1b	CS, D, PS	L, T	1.3	C	C	T2	PS	T	0.1	C	C		-	NO
New Zealand	T2	CS, PS		0.2	113	1.5	NA	NA		-	NO	NO		-	NO
Norway	T2	CS, D, PS	L, T	0.7	378	1.4	CS, T2, T3	PS	L, T	0.5	1,707	0.001		-	NO
Poland	T1, T2	CR, CS	L, T	1.1	2,467	1.7	T1	CS	T	0.2	2,323	0.001		-	NO
Portugal	D	CS	T	-	C	NO	D	CR, OTH, PS	T	0.1	C	C		-	NO
Romania	D, T1a	D, PS	L, T	2.3	1,042	2.6	D	CR, D	L, T	0.8	984	0.003	T	-	NO
Russian Federation	D, T1a, T3	CS, D	L, T	0.7	13,836	1.2	D	D		0.2	7,497	0.002		-	NO
Slovakia	T2	CS, PS	L, T	1.2	377	1.3	T1, T2	D, PS	L, T	0.7	551	0.002		-	NO
Slovenia	D	D		-	NO	NO	NA	NA		-	NO	NO		-	NO
Spain	D, T3	PS		0.2	547	1.3	T3	PS	T	0.0	676	0.001		-	NA
Sweden	CS, D	PS		-	NO	NO	CS, T2	PS	T	0.1	265	0.001		-	NO
Switzerland	CS, T2	PS		-	C	IE	CS, T2	PS		0.1	C	C		-	NO
Turkey	NA	NA	T	-	IE	IE	NA	NA		-	IE	IE		-	NO
Ukraine	T1, T3	CS, D	L, T	1.6	5,049	1.3	T1, T3	CS	L, T	0.8	2,337	0.004		0.0	0.01
United Kingdom	CS, T2	CS, OTH		0.2	1,017	0.9	CS	CS	T	0.0	1,135	0.000	T	-	NO
United States	CS, D, OTH	CS, D, OTH		0.1	10,305	0.9	T2, T3	CS, D, OTH		0.2	7,000	0.007	T	0.1	0.02

[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] Source of default emission factors: ammonia; IPCC Guidelines, volume 3, page 2.16 nitric acid and adipic acid; IPCC good practice guidance, pages 3.34 and 3.44.

Table 2.3

Metal production - CO_2 (2012)

	Methods and EF used[a]		Iron and steel[b]							Aluminium production			
						Steel		Pig iron					
	Methods	EF	Key category	Share of national total	CO_2 IEF	Activity Data (production)	CO_2 IEF	Activity Data (production)	CO_2 IEF	Key category	Share of national total	Activity Data (production)	CO_2 IEF
				(%)	t/t	(kt)	t/t	(kt)	t/t		(%)	(kt)	t/t
IPCC default EF[c]					1.5-1.6								1.5-1.8
Australia	T1b, T2	CS	L, T	1.2	0.9	5,357	NA	NO	NO	L	0.6	1,943	1.6
Austria	CS, T1, T2	D, PS	L, T	6.8	0.3	6,746	0.1	5,751	0.8	T	-	NO	NO
Belarus				0.0	IE, NO	IE	IE	NO	NO		-	NO	NO
Belgium	CS, T3	PS	T	0.4	0.0	6,981	0.1	4,078	IE		-	NO	NO
Bulgaria	D, T2	CS, D	T	0.1	0.1	654	0.1	NO	NO		-	C	NO
Canada	CS, T2	CS, OTH	L, T	1.4	0.5	13,507	0.1	7,654	1.1	L, T	0.7	2,784	1.7
Croatia	T2	D		0.0	0.3	1	0.3	NO	NO	T	-	NO	NO
Cyprus	NA	NA		-	NA, NO	0	NO	0	NO		-	0	NO
Czech Republic	T2	D	L, T	4.0	0.3	5,164	1.0	3,935	IE		-	NO	NO
Denmark	NA	NA		-	NA, NO	NO	NA, NO	NO	NA, NO		-	NO	NO
Estonia	NA	NA		-	NA, NO	NO	NO	NO	NO		-	NO	NO
European Union (15)	CS, D, T1, T1a, T2, T3	CR, CS, D, PS	L, T	0.9	NE	NE	NE	NE	NE		0.1	NE	NE
European Union (28)	CS, D, T1, T1a, T1b, T2, T3	CR, CS, D, PS	L, T	1.0	NE	NE	NE	NE	NE		0.1	NE	NE
Finland	CS, T1, T2, T3	CS, D	L, T	3.7	0.5	3,759	0.6	IE	IE		-	NO	NO
France	T2	CS, PS	L, T	0.4	0.1	15,653	0.1	9,456	0.1		0.1	350	1.6
Germany	CS, T2, T3	CS	L, T	1.7	0.2	42,661	0.4	27,048	IE		0.1	410	1.4
Greece	CS	CS, PS		0.1	0.1	1,247	0.1	NO	NO		0.2	165	1.6
Hungary	CS, T1	CS, D		0.4	0.6	1,542	0.1	1,228	0.0		-	NO	NO
Iceland	T2, T3	D, PS		-	NA, NO	NO	NO	NO	NO	L, T	27.8	821	1.5
Ireland	NA	NA		-	NO	NO	NO	NO	NO		-	NO	NO
Italy	T2	CR, CS, PS	T	0.3	0.0	27,257	0.0	9,424	0.1		0.0	99	1.6
Japan	CS	OTH		0.0	NA, NE	NE	IE	NE	IE		-	4	IE
Kazakhstan	T1a, T2	D, PS	L, T	2.1	1.0	2,985	0.2	2,707	2.0		0.2	249	1.9
Latvia	T2	PS		0.0	0.2	12	0.2	NO	NO		-	NO	NO
Liechtenstein	NA	NA		-	NO	NO	NO	NO	NO		-	NO	NO
Lithuania	T1	D		0.0	0.8	NO	NO	4	0.8		-	NO	NO
Luxembourg	CS, T2	CS	L, T	0.8	0.0	2,208	0.0	NO	NO		-	NO	NO
Malta	NA	NA		-	NA, NO	NO	NO	NO	NO		-	NO	NO
Monaco	NA	NA		-	NA, NO	NO	NO	NO	NO		-	NO	NO
Netherlands	T1a, T2	CS, D	L, T	0.6	0.2	6,896	0.0	NO	IE		0.1	114	1.4
New Zealand	T2	D, PS	L, T	2.3	C, IE, NO	C	C	IE	IE		0.7	325	1.6
Norway	T2, T3	CS, PS		0.1	0.0	682.132	0.0	NO	NO	L, T	3.2	1,140	1.5
Poland	CS, T1, T3	CS, D	T	0.4	0.2	IE	IE	3,941	0.1		0.0	11	1.8
Portugal	T2	PS		0.1	0.0	1,959	0.0	NO	NO		-	NO	NO
Romania	T1b, T2, T3	CS, D, PS	L, T	1.8	0.3	3,447	0.1	1,468	1.3		0.3	202	1.9
Russian Federation	T1b, T2, T3	CS, D, PS	L, T	3.4	0.7	70,392	0.1	50,459	1.4		0.3	C	C
Slovakia	T2, T3	CS, PS	L, T	8.4	0.8	4,236	0.8	NA	IE	T	0.6	161	1.5
Slovenia	D, T2	D, PS		0.2	0.1	671	0.1	NO	NO	T	0.6	83	1.5
Spain	D, T2	CS, PS	L, T	0.4	0.1	13,628	0.0	C	C		0.2	C	C
Sweden	CS, D, T2	PS	L, T	3.6	0.1	1,644	0.1	2,908	0.7	T	0.3	131	1.5
Switzerland	CS	CS		0.0	0.0	1,252	0.0	NO	NO	T	-	NO	NO
Turkey	T2	CS	L, T	4.5	0.4	53,119	0.1	C	IE		-	NA	IE
Ukraine	T3	CS	L, T	5.4	0.4	32,287	0.1	28,487	0.6		-	NO	NO
United Kingdom	T2	CS		0.1	0.1	1,966	0.0	7,183	IE		0.0	60	1.5
United States	T1, T2	CS, D	L, T	0.8	0.5	52,415	0.2	33,683	0.4		0.1	2,070	1.7

[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 production.

[b] In addition to data reported here, CO_2 emission estimates from sinter (2.C.1.3) were reported by European Union, Poland, Spain, Sweden and the United States; CO_2 emission estimates from coke (2.C.1.4) were reported by Australia, European Union, Finland, Poland, Turkey and the United States.

[c] Source of default emission factors: IPCC Guidelines, volume 3, pages 2.28 and 2.33.

Table 2.4

Metal production - PFCs and SF_6 (2012)

	PFCs								SF_6							
	Methods and EF used[a]		Aluminium production - PFCs						Methods and EF used[b]		SF_6 used in magnesium foundries					
						IEF		Ratio					Activity data (production)			
	Methods	EF	Key category	Share of national total	Activity data (aluminium production)	CF_4	C_2F_6	IEF CF_4 / IEF C_2F_6	Methods	EF	Key category	Share of national total	Description	Value	SF6 IEF	Actual SF_6 emissions
				(%)	(kt)	(kg/t)						(%)		(t)	(kg/t)	(t)
IPCC default EF[c]						0.31-1.7	0.17								1,000[d]	
Australia	T1c	CS	T	0.0	1,943	0.02	0.00	9.1	NA	NA		-	(SF6 consumption)	NO	NO	NO
Austria	NA	NA	T	-	NO	NO	NO	-	T1	D	T	0.0	cast Magnesium [t]	3,600	0	0.2
Belarus	NA	NA		-	NO	NO	NO	-	NA	NA		-	NO	NO	NO	NO
Belgium	NA	NA		-	NO	NO	NO	-	NA	NA		-	Not occuring	NO	NO	NO
Bulgaria	NA	NA		-	C	NO	NO	-	NA	NA		-		NO	NO	NO
Canada	CS	OTH	T	0.2	2,784	0.07	0.01	11.9	D, T3	D		0.0	SF6 use	11	1,000	10.8
Croatia	NA	NA	T	-	NO	NO	NO	-	NA	NA		-		NO	NO	NO
Cyprus	NA	NA		-	0	NO	NO	-	NA	NA		-		0	NO	NO
Czech Republic	NA	NA		-	NO	NO	NO	-	NA	NA		-	NO	NO	NO	NO
Denmark	NA	NA		-	NO	NO	NO	-	NA	NA		-	2.C.4.2-Magnesium	NO	NO	NO
Estonia	NA	NA		-	NO	NO	NO	-	NA	NA		-	(Magnesium Foundries)	NO	NO	NO
European Union (15)	CR, CS, T2, T3	CS, D, PS	T	0.0	NE	NE	NE	-	D, T1, T2	CS, D, PS		0.0	2.C.4.2-Magnesium	NE	NE	9.5
European Union (28)	CR, CS, T1c, T2, T3	CS, D, PS	T	0.0	NE	NE	NE	-	D, T1, T2	CS, D, PS		0.0	2.C.4.2-Magnesium	NE	NE	9.7
Finland	NA	NA		-	NO	NO	NO	-	NA	NA		-	(SF6 consumption)	C	C	C
France	CR	PS	T	0.0	350	0.05	0.00	14.4	T2	CS, PS		0.0	SF6 consumption	C	C	7.2
Germany	T3	CS	T	0.0	410	0.02	0.00	8.3	D	D		0.0	Consumption Mg-Production	1	1,000	1.0
Greece	T3	PS		0.0	165	0.04	0.00	8.3	NA	NA		-		NO	NO	NO
Hungary	NA	NA		-	NO	NO	NO	-	NA	NA		-		NO	NO	NO
Iceland	T2	D	L, T	1.8	821	0.01	0.00	7.8	NA	NA		-		NO	NO	NO
Ireland	NA	NA		-	NO	NO	NO	-	NA	NA		-	NO	NO	NO	NO
Italy	T2	PS	T	0.0	99	0.04	0.01	8.3	NA	NA		-	consumption of SF6	NO	NO	NO
Japan	T1b	CS		0.0	4	0.30	0.03	10.0	CS	CS		0.0	SF6 consumption	8	1,000	8.0
Kazakhstan			T	0.5	249	0.68	0.10	6.8	NA	NA		-	(country spesific)	NO	NO	NO
Latvia	NA	NA		-	NO	NO	NO	-	NA	NA		-		NO	NO	NO
Liechtenstein	NA	NA		-	NO	NO	NO	-	NA	NA		-	NO	NO	NO	NO
Lithuania	NA	NA		-	NO	NO	NO	-	NA	NA		-		NO	NO	NO
Luxembourg	NA	NA		-	NO	NO	NO	-	NA	NA		-	magnesium production	NO	NO	NO
Malta	NA	NA		-	NO	NO	NO	-	NA	NA		-	(Not occuring)	NO	NO	NO
Monaco	NA	NA		-	NO	NO	NO	-	NA	NA		-		NO	NO	NO
Netherlands	T2	PS	T	0.0	114	0.04	0.00	9.0	NA	NA		-		NO	NO	NO
New Zealand	T2	D	T	0.1	325	0.02	0.00	8.3	NA	NA		-	SF6 consumption	NO	NA	NA
Norway	T2	CS	T	0.3	1,140	0.02	0.00	8.9	NA	NA	T	-	SF6 consumption	NO	NO	NO
Poland	T1c	D		0.0	11	0.37	0.03	13.8	T1	D		0.0	Magnesium alloy used for cast	182	1	0.2
Portugal	NA	NA		-	NO	NO	NO	-	NA	NA		-	(SF6 consumption)	NO	NO	NO
Romania	T2	D, PS	T	0.0	202	0.00	0.00	8.4	NA	NA		-	SF6 consumption	NO	NO	NO
Russian Federation	T2	D, PS	T	0.1	C	C	C	-	NA	NA		-	(SF6 consumption)	NO	NO	NO
Slovakia	T3	PS	T	0.1	161	0.02	0.00	10.1	NA	NA		-		NO	NO	NO
Slovenia	T3	PS	T	0.1	83	0.04	0.01	7.8	NA	NA		-		NO	NO	NO
Spain	T2	PS	T	0.0	C	C	C	-	NA	NA		-	NO	NO	NA	NA
Sweden	T2	D	T	0.1	131	0.06	0.01	7.8	D	D		0.0	SF6 consumption	1	850	1.1
Switzerland	NA	NA	T	-	NO	NO	NO	-	T1, T2, T3	D		0.1	(specify)	1	1,000	1.3
Turkey	NA	NA	T	-	NA	IE	IE	-	NA	NA		-		NA	NA	NA
Ukraine	NA	NA		-	NO	NO	NO	-	NA	NA		-	Magnesium Foundries	NO	NO	NO
United Kingdom	CS	CS, PS	T	0.0	60	0.09	0.01	7.8	T2	PS		-	SF6 consumption	IE	IE	IE
United States	T2	CS	T	0.0	2,070	0.15	0.03	5.5	D	CS		0.0	Magnesium Production and Processing	C	C	71.7

[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.C Metal production.

[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 SF_6 for all subcategories within the category 2.C Metal production.

[c] Source of default emission factors: IPCC good practice guidance, page 3.44.

[d] IPCC good practice guidance state that SF_6 emissions equal consumption in Magnesium Smelters and Foundries (IPCC good practice, page 3.48).

Table 2.5

Production of halocarbons and SF_6 - HFCs, PFCs and SF_6 (2012)

	HFCs							PFCs		SF_6	
	Methods and EF used[a]		Production of HCFC-22					Methods and EF used[a]		Methods and EF used[a]	
					Activity data (HCFC-22 production)		IEF				
	Methods	EF	Key category	Share of national total	CRF	International[b]	HFC-23	Methods	EF	Methods	EF
				(%)	(t)		(kg/t)				
IPCC default EF[c]							40.0				
Australia	NA	NA	T	-	NO		NO	NA	NA	NA	NA
Austria	NA	NA		-	NO		NO	NA	NA	NA	NA
Belarus	NA	NA		-	NO		NO	NA	NA	NA	NA
Belgium	NA	NA		-	NO		NO			NA	NA
Bulgaria	NA	NA		-	NO		NO	NA	NA	NA	NA
Canada	NA	NA		-	NA		NO	NA	NA	NA	NA
Croatia	NA	NA		-	NO		NO	NA	NA	NA	NA
Cyprus	NA	NA		-	NO		NO	NA	NA	NA	NA
Czech Republic	NA	NA		-	NO		NO	NA	NA	NA	NA
Denmark	NA	NA		-	NO		NO	NA	NA	NA	NA
Estonia	NA	NA		-	NO		NO	NA	NA	NA	NA
European Union (15)	CS, T1, T2, T3	PS	T	0.0	C, NO	X	C, NO	CS, T2	PS	T3	PS
European Union (28)	CS, T1, T2, T3	PS	T	0.0	C, NO	X	C, NO	CS, T2	PS	T3	PS
Finland	NA	NA		-	NO		NO	NA	NA	NA	NA
France	T2	PS	T	0.0	C	X	C	T2	PS	NA	NA
Germany	T3	PS		-	NO	X	NO	NA	NA	T3	PS
Greece	NA	NA	T	-	NO		NO	NA	NA	NA	NA
Hungary	NA	NA		-	NO		NO	NA	NA	NA	NA
Iceland	NA	NA		-	NO		NO	NA	NA	NA	NA
Ireland	NA	NA		-	NO		NO	NA	NA	NA	NA
Italy	CS	PS		0.0	C	X	C	CS	PS	NA	NA
Japan	CS	CS	T	0.0	54,388	X	16.0	CS	CS	CS	CS
Kazakhstan	NA	NA		-	NO		NO	NA	NA	NA	NA
Latvia	NA	NA		-	NO		NO	NA	NA	NA	NA
Liechtenstein	NA	NA		-	NO		NO	NA	NA	NA	NA
Lithuania	NA	NA		-	NO		NO	NA	NA	NA	NA
Luxembourg	NA	NA		-	NO		NO	NA	NA	NA	NA
Malta	NA	NA		-	NO		NO	NA	NA	NA	NA
Monaco	NA	NA		-	NO		NO	NA	NA	NA	NA
Netherlands	T1, T2	PS	T	0.1	C	X	C	NA	NA	NA	NA
New Zealand	NA	NA		-	NO		NO	NA	NA	NA	NA
Norway	NA	NA		-	NO		NO	NA	NA	NA	NA
Poland	NA	NA		-	NO		NO	NA	NA	NA	NA
Portugal	NA	NA		-	NO		NO	NA	NA	NA	NA
Romania	NA	NA		-	NO		NO	NA	NA	NA	NA
Russian Federation	D, T2	D, PS	T	0.2	31,534	X	57.6	D	D	D	PS
Slovakia	NA	NA		-	NO		NO	NA	NA	NA	NA
Slovenia	NA	NA		-	NO		NO	NA	NA	NA	NA
Spain	T2	PS	T	-	NO		NO	NA	NA	NA	NA
Sweden	NA	NA		-	NO		NO	NA	NA	NA	NA
Switzerland	NA	NA		-	NO		NO	NA	NA	NA	NA
Turkey	NA	NA		-	NA		NA	NA	NA	NA	NA
Ukraine	NA	NA		-	NO		NO	NA	NA	NA	NA
United Kingdom	T2	PS		-	IE		IE	T2	PS	NA	NA
United States	M, T2	CS, M	T	0.1	95,685	X	3.9	NA	NA	NA	NA

[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, PFCs and SF_6 for all subcategories within the category 2.E Production of halocarbons and SF_6.

[b] "X" denotes that HCFC-22 production was reported to the Ozone Secretariat for 2012. For EU "X" denotes that data were reported by one or several of its member states. Source of information: Ozone secretariat 28 February 2014.

[c] Source of default emission factors: IPCC Guidelines, volume 3, page 2.35.

Table 2.6a

Consumption of halocarbons and SF_6 - HFCs (2012)

	Methods and EF used[a]		HFC-23			HFC-32			HFC-41			HFC-431-0mee			HFC-125		
	Methods	EF	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A
			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)		
Australia	M	CS, D	IE, NO	4.68	IE, NO	IE, NO	40.64	IE, NO	IE, NO	NA, NO	IE, NA, NO	IE, NO	1.21	IE, NO	IE, NO	3,168.21	IE, NO
Austria	CS	CS	C, IE, NE, NO	10.07	C, IE, NE, NO	83.37	35.88	2.32	NO	NO	NO	NO	NO	NO	716.77	395.81	1.81
Belarus	NA	NA	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	T1, T2	CS, D, PS	-2.97	2.21598	-1.34	122.64	38.11	3.22	NO	NO	NO	NO	NO	NO	1,048.38	578.21	1.81
Bulgaria	T2	D	IE, NA, NO	0.23	IE, NA, NO	IE, NA, NO	33.76	IE, NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	IE, NA, NO	173.62	IE, NA, NO
Canada	T2	D	10.94	9.08	1.21	123.89	86.06	1.44	IE, NA, NO	IE, NA, NO	IE, NA, NO	2.00	2.01	1.00	1,861.07	1,655.85	1.12
Croatia	T2	D	NO	NO	NO	14.49	6.20	2.34	NO	NO	NO	NO	NO	NO	219.24	67.26	3.26
Cyprus	CS	OTH	NA, NO	NA, NE, NO	NA, NE, NO	42.46	25.05	1.69	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	296.63	130.88	2.27
Czech Republic	D, T1, T2	CS, D	1.17	4.13	0.28	222.66	120.65	1.85	NA, NE, NO	NO	NA, NE, NO	NA, NE, NO	NO	NA, NE, NO	1,194.79	728.88	1.64
Denmark			1.40	1.40	1.00	14.69	10.66	1.38	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	207.56	175.58	1.18
Estonia	T2	CS	NE, NO	0.68	NE, NO	NE, NO	2.50	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	48.26	NE, NO
European Union (15)	CR, CS, D, M, T1, T2, T3	CS, D, OTH, PS	286.32	1,360.18	0.21	1,296.64	1,328.37	0.98	IE, NA, NE, NO	IE, NA, NO	IE, NA, NE, NO	378.63	485.88	0.78	13,459.40	17,457.29	0.77
European Union (28)	CR, CS, D, M, T1, T1a, T1b, T2, T3	CS, D, M, OTH, PS	IE	1,367.29	IE	IE	1,709.74	IE	IE	IE, NA, NE, NO	IE, NA, NE, NO	IE	487.16	IE	IE	20,991.67	IE
Finland	T1, T2	D	0.95	C, NA, NO	C, NA, NO	37.68	19.04	1.98	NO	NO	NO	NO	NO	NO	466.03	302.21	1.54
France	CR, M, T2	CS, PS	91.14	28.50	3.20	264.33	253.76	1.04	NA	NO	NA, NO	378.63	378.63	1.00	2,030.44	4,245.48	0.48
Germany	CS, T2	CS, D	274.33	83.75	3.28	500.20	114.15	4.38	NO	NO	NO	C, IE, NO	C, NO	C, IE, NO	4,292.73	1,626.27	2.64
Greece	CS, T2	D	NE	150.75	NE	NE	197.83	NE	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	1,318.03	NE
Hungary	T2	CS, D	1.88	1.66	1.14	10.15	6.04	1.68	NO	NO	NO	NO	NO	NO	345.18	236.60	1.46
Iceland	T1, T2	D	NO	0.01	NO	0.16	0.09	1.78	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	105.62	51.77	2.04
Ireland	T1, T2, T3	CS	7.34	2.89	2.54	25.96	16.74	1.55	NO	NO	NO	NO	NO	NO	334.78	242.89	1.38
Italy	CS, T2	CS, D, PS	-87.75	109.19	-0.80	117.94	145.55	0.81	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	1,050.72	2,795.09	0.38
Japan	CS, T1	CS, D	10,181.34	5.48	1,856.53	IE, NE	780.20	IE, NE	NO	IE, NA, NO	IE, NA, NO	IE, NE	IE, NA, NO	IE, NA, NE, NO	IE, NE	3,358.49	IE, NE
Kazakhstan			NE, NO	NA, NO	NA, NE, NO	15.83	15.83	1.00	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	176.38	176.38	1.00
Latvia	T2	D, OTH	NO	0.05	NO	2.85	0.21	13.34	NO	NO	NO	NO	NO	NO	63.96	8.13	7.87
Liechtenstein	CS	CS, D	NO	NO	NO	NO	0.08	NO	NO	NO	NO	NO	NO	NO	NO	2.18	NO
Lithuania	T1, T2	CS, D	NO	NO	NO	0.76	1.14	0.67	NO	NO	NO	NO	NO	NO	110.73	50.35	2.20
Luxembourg	CS	CS	NE	NA, NO	NA, NE, NO	NE	0.90	NE	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	16.90	NE
Malta	CS, M	CS, M	NE, NO	0.00	NE, NO	7.41	5.32	1.39	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	123.47	51.91	2.38
Monaco	CS, T1a	CS, D	NO	NA, NO	NA, NO	0.21	0.15	1.33	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	1.26	1.01	1.25
Netherlands	CS, T2	CS	NE, NO	IE, NO	IE, NE, NO	NE, NO	14.76	NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	374.37	NE, NO
New Zealand	T1a, T2	CS, D	-1.17	NA, NE, NO	NA, NE, NO	106.21	49.61	2.14	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	905.80	660.13	1.37
Norway	T2	CS	0.93	5.68	0.16	62.25	16.79	3.71	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	447.63	276.73	1.62
Poland	T1, T1a, T1b, T2	D	NO	IE, NA, NO	IE, NA, NO	NO	114.97	NO	NO	NA, NO	NA, NO	NO	1.28	NO	NO	1,559.42	NO
Portugal			1.87	2.12	0.88	108.83	68.55	1.59	NO	NO	NO	NO	NO	NO	3,101.16	468.43	6.62
Romania	T2	D	0.25	0.36	0.69	38.07	55.49	0.69	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	223.16	325.30	0.69
Russian Federation	T1, T1a, T2	D	916.02	276.34	3.31	927.81	172.01	5.39	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	9,391.20	1,963.64	4.78
Slovakia	T2	CS	0.02	0.01	2.35	26.39	16.67	1.58	NO	NO	NO	NO	NO	NO	234.73	116.88	2.01
Slovenia	T1, T2	CS, D	NO	NO	NO	6.47	1.70	3.81	NO	NO	NO	NO	NO	NO	84.99	36.90	2.30
Spain	D, T1, T2	D, OTH	NE, NO	949.07	NE, NO	C, NE	123.71	C, NE	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	1,801.95	NE, NO
Sweden	CS, T2	CS, D, PS	NE, NO	0.74	NE, NO	21.00	6.00	3.50	NO	NO	NO	NO	NO	NO	213.22	84.14	2.53
Switzerland	T1, T2	CS, D	56.02	6.02	9.31	67.20	18.35	3.66	NA, NO	NO	NA, NO	2.65	1.52	1.74	771.14	282.88	2.73
Turkey			NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE
Ukraine	T1a, T2	D	5.90	NA, NO	NA, NO	200.32	31.44	6.37	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	1,588.18	187.77	8.46
United Kingdom	T2, T3	CS	IE, NE	19.64	IE, NE	IE, NE	286.27	IE, NE	IE, NE	IE, NA, NO	IE, NA, NE, NO	IE, NE	107.25	IE, NE	IE, NE	3,070.39	IE, NE
United States	M, T2	CS, M	698.18	190.61	3.66	14,949.06	4,110.28	3.64	NE, NO	NA, NO	NA, NE, NO	C, IE, NE	C, NA, NO	C, IE, NA, NE, NO	87,771.62	31,731.97	2.77

[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 HFCs for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 2.6b

Consumption of halocarbons and SF_6 - HFCs (2012)

	Methods and EF used[a]		HFC-134			HFC-134a			HFC-152a			HFC-143			HFC-143a		
	Methods	EF	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A
			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)		
Australia	M	CS, D	IE, NO	1.27	IE, NO	IE, NO	4,206.08	IE, NO	IE, NO	NA, NO	IE, NA, NO	IE, NO	NA, NO	IE, NA, NO	IE, NO	411.56	IE, NO
Austria	CS	CS	NO	NO	NO	1,146.88	612.04	1.87	IE, NE, NO	NO	IE, NE, NO	NO	NO	NO	624.75	376.00	1.66
Belarus	NA	NA	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	T1, T2	CS, D, PS	NO	NO	NO	1,266.46	874.05	1.45	37.40	37.37	1.00	NO	NO	NO	783.86	600.34	1.31
Bulgaria	T2	D	NA, NO	NO	NA, NO	IE, NA, NO	185.74	IE, NA, NO	IE, NA, NO	24.57	IE, NA, NO	NA, NO	NO	NA, NO	IE, NA, NO	34.70	IE, NA, NO
Canada	T2	D	IE, NA, NO	0.00	IE, NA, NO	9,615.22	4,059.18	2.37	215.16	189.83	1.13	IE, NA, NO	IE, NA, NO	IE, NA, NO	1,753.88	1,771.43	0.99
Croatia	T2	D	NO	NO	NO	175.41	346.00	0.51	IE, NO	NO	IE, NO	NO	NO	NO	248.14	63.54	3.91
Cyprus	CS	OTH	NA, NO	NA, NE, NO	NA, NE, NO	196.29	90.68	2.16	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	80.91	11.48	7.05
Czech Republic	D, T1, T2	CS, D	NA, NE, NO	NO	NA, NE, NO	1,202.16	903.09	1.33	NA, NE, NO	0.12	NA, NE, NO	NA, NE, NO	NO	NA, NE, NO	301.53	298.99	1.01
Denmark			NE, NO	NE, NO	NE, NO	184.68	292.08	0.63	1.82	0.68	2.69	NE, NO	NE, NO	NE, NO	223.32	197.90	1.13
Estonia	T2	CS	NE, NO	NO	NE, NO	NE, NO	51.48	NE, NO	NE, NO	4.78	NE, NO	NE, NO	NO	NE, NO	NE, NO	58.31	NE, NO
European Union (15)	CR, CS, D, M, T1, T2, T3	CS, D, OTH, PS	IE, NA, NE, NO	4.99	IE, NA, NE, NO	26,662.84	31,044.48	0.86	414.74	208.83	1.99	IE, NA, NE, NO	IE, NA, NO	IE, NA, NE, NO	9,232.84	16,506.31	0.56
European Union (28)	CR, CS, D, M, T1, T1a, T1b, T2, T3	CS, D, M, OTH, PS	IE	4.99	IE	IE	38,106.26	IE	IE	306.41	IE	IE	IE, NA, NE, NO	IE, NA, NE, NO	IE	19,625.14	IE
Finland	T1, T2	D	NO	NO	NO	466.62	291.17	1.60	14.07	0.05	302.78	NO	NO	NO	410.07	303.73	1.35
France	CR, M, T2	CS, PS	NA	NO	NA, NO	5,856.70	6,705.46	0.87	50.41	15.80	3.19	NA	NO	NA, NO	1,413.63	4,467.77	0.32
Germany	CS, T2	CS, D	NO	NO	NO	12,066.51	5,723.68	2.11	33.82	33.98	1.00	NO	NO	NO	2,656.51	1,467.23	1.81
Greece	CS, T2	D	NE	NA, NO	NA, NE, NO	NE	1,591.48	NE	NE	29.80	NE	NE	NA, NO	NA, NE, NO	NE	562.83	NE
Hungary	T2	CS, D	NO	NO	NO	537.17	468.52	1.15	NO	0.04	NO	NO	NO	NO	391.62	268.68	1.46
Iceland	T1, T2	D	NO	NA, NO	NA, NO	32.45	20.90	1.55	NO	0.02	NO	NO	NA, NO	NA, NO	143.21	71.29	2.01
Ireland	T1, T2, T3	CS	NO	NO	NO	279.87	420.67	0.67	13.45	0.29	45.70	NO	NO	NO	333.26	259.60	1.28
Italy	CS, T2	CS, D, PS	NA, NO	NO	NA, NO	2,436.81	2,414.51	1.01	242.83	NO	NO	NA, NO	NO	NA, NO	1,030.31	3,336.80	0.31
Japan	CS, T1	CS, D	NO	IE, NA, NO	IE, NA, NO	IE, NE	3,376.03	IE, NE	IE, NE	138.04	IE, NE	NO	IE, NA, NO	IE, NA, NO	IE, NE	IE, NA, NO	IE, NA, NE, NO
Kazakhstan			NE, NO	NA, NO	NA, NE, NO	634.24	634.24	1.00	NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	613.74	613.74	1.00
Latvia	T2	D, OTH	NO	NO	NO	48.15	58.63	0.82	NO	0.08	NO	NO	NO	NO	77.06	16.09	4.79
Liechtenstein	CS	CS, D	NO	NO	NO	NO	3.97	NO	NO	NO	NO	NO	NO	NO	NO	2.10	NO
Lithuania	T1, T2	CS, D	NO	NO	NO	9.03	116.67	0.08	NO	0.04	NO	NO	NO	NO	171.74	69.45	2.47
Luxembourg	CS	CS	NE	NA, NO	NA, NE, NO	NE	33.17	NE	NE	0.04	NE	NE	NA, NO	NA, NE, NO	NE	16.26	NE
Malta	CS, M	CS, M	NE, NO	NO	NE, NO	69.94	54.17	1.29	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	135.82	53.63	2.53
Monaco	CS, T1a	CS, D	NO	NA, NO	NA, NO	3.26	4.77	0.68	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	0.42	0.42	1.00
Netherlands	CS, T2	CS	NE, NO	IE, NO	IE, NE, NO	NE, NO	557.39	NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	431.20	NE, NO
New Zealand	T1a, T2	CS, D	NO	NA, NO	NA, NO	490.36	445.16	1.10	NA, NO	NA, NE, NO	NA, NE, NO	NO	NA, NO	NA, NO	651.70	648.01	1.01
Norway	T2	CS	0.00	1.58	0.00	480.43	392.56	1.22	3.61	0.33	10.79	NO	0.28	NO	212.74	232.47	0.92
Poland	T1, T1a, T1b, T2	D	NO	NA, NO	NA, NO	NO	3,957.00	NO	NO	67.96	NO	NO	NA, NO	NA, NO	NO	1,943.21	NO
Portugal			NO	NO	NO	2,209.33	818.11	2.70	3.77	38.37	0.10	NO	NO	NO	1,574.61	268.02	5.87
Romania	T2	D	NE, NO	NO	NE, NO	356.08	519.08	0.69	0.00	0.00	0.69	NE, NO	NO	NE, NO	88.44	128.93	0.69
Russian Federation	T1, T1a, T2	D	NE, NO	NA, NO	NA, NE, NO	6,266.47	3,243.85	1.93	121.89	86.36	1.41	NE, NO	NA, NO	NA, NE, NO	4,427.76	1,470.10	3.01
Slovakia	T2	CS	NO	NO	NO	259.91	176.07	1.48	NO	0.00	NO	NO	NO	NO	180.03	127.74	1.41
Slovenia	T1, T2	CS, D	NO	NO	NO	89.88	134.65	0.67	NO	NO	NO	NO	NO	NO	79.37	44.10	1.80
Spain	D, T1, T2	D, OTH	NE, NO	NA	NA, NE, NO	NE, NO	2,520.90	NE, NO	NE, NO	7.81	NE, NO	NE, NO	NA	NA, NE, NO	C, NE	1,741.45	C, NE
Sweden	CS, T2	CS, D, PS	NO	NO	NO	749.75	580.42	1.29	31.24	26.44	1.18	NO	NO	NO	186.25	76.68	2.43
Switzerland	T1, T2	CS, D	NA, NO	NO	NA, NO	1,032.68	660.19	1.56	0.07	0.16	0.41	NA, NO	NO	NA, NO	575.88	274.21	2.10
Turkey			NA, NE	NA, NE	NA, NE	NA, NE	4,681.30	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE
Ukraine	T1a, T2	D	NO	NA, NO	NA, NO	998.58	398.79	2.50	0.15	NA, NO	NA, NO	NO	NA, NO	NA, NO	922.93	38.62	23.90
United Kingdom	T2, T3	CS	IE, NE	5.02	IE, NE	IE, NE	7,723.37	IE, NE	IE, NE	18.42	IE, NE	IE, NE	IE, NA, NO	IE, NA, NE, NO	IE, NE	2,433.48	IE, NE
United States	M, T2	CS, M	NE, NO	C, NA, NO	C, NA, NE, NO	112,302.96	82,835.25	1.36	C, IE, NE	C, NA, NO	C, IE, NA, NE, NO	NE, NO	C, NA, NO	C, NA, NE, NO	32,013.57	18,910.18	1.69

[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 HFCs for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 2.6c

Consumption of halocarbons and SF_6 - HFCs (2012)

	Methods and EF used[a]		HFC-227ea			HFC-236fa			HFC-245ca			Unspecified HFCs			Total		
	Methods	EF	P[b] 2.F(p) (Gg CO_2 equivalent)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p) (Gg CO_2 equivalent)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p) (Gg CO_2 equivalent)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p) (Gg CO_2 equivalent)	A[c] 2.F(a)	Ratio P / A	P[b] 2.F(p) (Gg CO_2 equivalent)	A[c] 2.F(a)	Ratio P / A
Australia	M	CS, D	IE, NO	111.43	IE, NO	IE, NO	0.03	IE, NO	IE, NO	NA, NO	IE, NA, NO	10,685.59	NA, NO	NA, NO	10,685.59	7,945.11	1.34
Austria	CS	CS	2.41	0.00	2,000.00	NO	NO	NO	NO	NO	NO	19.38	1.65	11.74	2,593.55	1,431.45	1.81
Belarus	NA	NA	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NA, NE, NO	NA, NE, NO
Belgium	T1, T2	CS, D, PS	3.52	9.90	0.36	NO	NO	NO	NO	NO	NO	NO	NO	NO	3,259.30	2,140.19	1.52
Bulgaria	T2	D	IE, NA, NO	3.78	IE, NA, NO	IE, NA, NO	NO	IE, NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	IE, NA, NO	456.41	25.34
Canada	T2	D	40.11	9.46	4.24	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	NA, NO	NA, NO	NA, NO	13,622.28	7,782.90	1.75
Croatia	T2	D	9.21	2.63	3.50	NO	NO	NO	NO	NO	NO	NO	NO	NO	666.49	485.62	1.37
Cyprus	CS	OTH	11.28	0.34	32.72	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	0.71	NA, NO	NA, NO	1.29	NA, NO	627.57	260.44	2.41
Czech Republic	D, T1, T2	CS, D	23.75	6.55	3.63	37.80	19.91	1.90	0.55	0.44	1.25	NA, NE, NO	NO	NA, NE, NO	2,984.41	2,082.75	1.43
Denmark			NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	0.30	0.30	1.00	633.77	678.60	0.93
Estonia	T2	CS	NE, NO	1.35	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	167.36	NE, NO
European Union (15)	CR, CS, D, M, T1, T2, T3	CS, D, OTH, PS	1,342.49	974.98	1.38	68.00	26.14	2.60	IE, NA, NE, NO	IE, NA, NO	IE, NA, NE, NO	109,877.28	1,284.46	85.54	163,019.17	70,681.90	2.31
European Union (28)	CR, CS, D, M, T1, T1a, T1b, T2, T3	CS, D, M, OTH, PS	IE	1,076.29	IE	IE	66.34	IE	IE	1.16	IE	184,569.97	1,297.47	142.25	184,569.97	85,039.92	2.17
Finland	T1, T2	D	2.38	C, NO	C, NO	NO	NO	NO	NO	NO	NO	NO	9.34	NO	1,397.79	925.53	1.51
France	CR, M, T2	CS, PS	952.00	264.21	3.60	NA	NO	NA, NO	NA	NO	NA, NO	907.71	290.22	3.13	11,944.98	16,852.99	0.71
Germany	CS, T2	CS, D	133.33	67.82	1.97	68.00	16.98	4.00	NO	NO	NO	NO	NA, NO	NA, NO	20,025.45	9,133.85	2.19
Greece	CS, T2	D	NE	38.33	NE	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	3,889.05	NE
Hungary	T2	CS, D	12.27	22.89	0.54	1.51	1.39	1.09	NO	NO	NO	NO	NO	NO	1,299.79	1,005.81	1.29
Iceland	T1, T2	D	0.16	0.04	3.76	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	281.60	144.12	1.95
Ireland	T1, T2, T3	CS	150.34	38.93	3.86	NO	NO	NO	NO	NO	NO	NO	NO	NO	1,145.00	982.01	1.17
Italy	CS, T2	CS, D, PS	97.15	187.05	0.52	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	5,888.12	9,241.25	0.64
Japan	CS, T1	CS, D	NO	88.01	NO	NO	IE, NA, NO	IE, NA, NO	NO	IE, NA, NO	IE, NA, NO	36,858.40	15,085.84	2.44	47,039.74	22,832.09	2.06
Kazakhstan			NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	1,440.18	1,440.18	1.00
Latvia	T2	D, OTH	NO	0.46	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	192.03	83.65	2.30
Liechtenstein	CS	CS, D	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	8.33	15.50
Lithuania	T1, T2	CS, D	NO	2.77	NO	NO	0.24	NO	NO	NO	NO	NO	NO	NO	292.26	240.66	1.21
Luxembourg	CS	CS	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	67.26	NE
Malta	CS, M	CS, M	2.26	2.68	0.84	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	3.39	NE, NO	338.90	171.11	1.98
Monaco	CS, T1a	CS, D	0.00	0.04	0.01	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	5.15	6.39	0.81
Netherlands	CS, T2	CS	NE, NO	IE, NO	IE, NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	IE, NO	IE, NE, NO	NE, NO	495.94	NE, NO	NE, NO	1,873.67	3.12
New Zealand	T1a, T2	CS, D	1.16	1.77	0.66	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	2,154.06	1,804.69	1.19
Norway	T2	CS	0.71	IE, NA, NO	IE, NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	1,208.30	972.34	1.24
Poland	T1, T1a, T1b, T2	D	NO	44.20	NO	NO	12.18	NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	7,700.22	0.25
Portugal			NO	3.73	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	6,999.58	1,667.32	4.20
Romania	T2	D	2.86	4.17	0.69	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	-20.35	NO	NO	688.51	1,033.33	0.67
Russian Federation	T1, T1a, T2	D	491.72	147.02	3.34	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	22,542.87	7,359.32	3.06
Slovakia	T2	CS	15.73	8.19	1.92	7.68	6.48	1.18	NO	NO	NO	NO	NO	NO	724.48	452.03	1.60
Slovenia	T1, T2	CS, D	1.29	1.29	1.00	NO	NO	NO	NO	NO	NO	NO	NO	NO	262.00	218.63	1.20
Spain	D, T1, T2	D, OTH	NE, NO	130.45	NE, NO	NE, NO	9.16	NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	C, NE, NO	7,284.50	C, NE, NO
Sweden	CS, T2	CS, D, PS	3.73	0.12	30.25	NO	NO	NO	NO	NO	NO	NA, NO	NO	NA, NO	1,205.19	774.54	1.56
Switzerland	T1, T2	CS, D	1.67	1.71	0.98	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	2,507.30	1,245.04	2.01
Turkey			NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	4,681.30	NA, NE
Ukraine	T1a, T2	D	55.76	6.29	8.86	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	4.46	63.29	0.07	3,776.27	726.20	5.20
United Kingdom	T2, T3	CS	IE, NE	268.39	IE, NE	IE, NE	IE, NA, NO	IE, NA, NE, NO	IE, NE	IE, NA, NO	IE, NA, NE, NO	102,088.68	IE, NA, NO	IE, NA, NO	102,088.68	13,932.23	7.33
United States	M, T2	CS, M	C, IE, NE	C, NA, NO	C, IE, NA, NE, NO	1,437.35	935.05	1.54	C, NE, NO	C, NA, NO	C, NA, NE, NO	23,817.98	8,187.44	2.91	272,990.72	146,900.78	1.86

[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 HFCs for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 2.7a

Consumption of halocarbons and SF_6 - PFCs (2012)

	Methods and EF used[b]		CF_4			C_2F_6			C_3F_8			C_4F_{10}			c-C_4F_8		
	Methods	EF	P[c] 2.F(p)	A[d] 2.F(a)	Ratio P / A	P[c] 2.F(p)	A[d] 2.F(a)	Ratio P / A	P[c] 2.F(p)	A[d] 2.F(a)	Ratio P / A	P[c] 2.F(p)	A[d] 2.F(a)	A[d] Ratio P / A	P[c] 2.F(p)	A[d] 2.F(a)	Ratio P / A
			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)			(Gg CO_2 equivalent)		
Australia	NA	NA	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO
Austria	CS	CS	C, IE, NO	IE, NO	C, IE, NO	C, IE, NO	IE, NO	C, IE, NO	C, IE, NO	IE, NO	C, IE, NO	C, IE, NO	NO	C, IE, NO	IE, NO	IE, NO	IE, NO
Belarus	NA	NA	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	T1, T2	CS, D, PS	15.80	3.5984	4.39	12.35	2.38464	5.18	0.10	1.937595724	0.05	NO	NO	NO	NO	NO	NO
Bulgaria	T2	D	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	IE, NA, NO	0.04	IE, NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO
Canada	T2	D	36.81	6.94	5.30	0.89	11.25	0.08	0.11	14.12	0.01	NA, NO	NA, NE, NO	NA, NE, NO	0.28	0.07	3.70
Croatia	NA	NA	NO	NO	NO	NO	NO	NO	0.02	NO	NO	NO	NO	NO	NO	NO	NO
Cyprus	NA	NA	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO
Czech Republic	D, T2	CS, D	NA, NE, NO	NO	NA, NE, NO	1.38	1.21	1.14	NA, NE, NO	5.23	NA, NE, NO	NA, NE, NO	NO	NA, NE, NO	NA, NE, NO	NO	NA, NE, NO
Denmark			1.17	1.17	1.00	NE, NO	NE, NO	NE, NO	NE, NO	5.63	NE, NO	NE, NO	NE, NO	NE, NO	1.74	1.74	1.00
Estonia	NA	NA	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO
European Union (15)	CS, T1, T1a, T2, T3	CS, D, PS	2,934.18	186.96	15.69	2,599.72	239.37	10.86	2,658.64	47.89	55.52	IE, NA, NE, NO	2.38	IE, NA, NE, NO	2,238.37	20.23	110.63
European Union (28)	CS, D, T1, T1a, T2, T3	CS, D, PS	IE	186.96	IE	IE	240.58	IE	IE	54.52	IE	IE	14.55	IE	IE	20.23	IE
Finland	T2	D	NO	C, NA, NO	C, NA, NO	NO	NA, NO	NA, NO	0.48	0.41	1.17	NO	NO	NO	C, NO	C, NO	C, NO
France			158.22	34.27	4.62	218.15	63.38	3.44	89.64	4.53	19.78	NA	NO	NA, NO	13.80	0.48	28.84
Germany	CS, T2	CS, D	661.15	62.08	10.65	505.01	40.10	12.59	186.20	20.63	9.02	NO	NO	NO	40.01	3.04	13.16
Greece	T2	D	NE	NA, NO	NA, NE, NO	NE	60.24	NE	NE	NA, NO	NA, NE, NO	NE	NO	NE, NO	NE	NA, NO	NA, NE, NO
Hungary	T2	CS	NO	NO	NO	NO	NA, NO	NA, NO	1.36	1.37	1.00	NO	NO	NO	NO	NO	NO
Iceland	T2	D	NO	NA, NO	NA, NO	NO	0.00	NO	NO	0.00	NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO
Ireland	T1a	CS	5.51	3.64	1.51	39.19	1.57	25.00	NO	NO	NO	NO	NO	NO	8.73	2.82	3.09
Italy	CS	PS	2,092.32	65.95	31.72	1,825.02	19.88	91.80	2,380.40	0.01	204,729.77	NO	NO	NO	2,174.09	12.05	180.41
Japan	CS, T1	CS, D	3,185.00	IE, NA, NE, NO	IE, NA, NE, NO	IE, NE	IE, NA, NE, NO	IE, NA, NE, NO	IE, NE	IE, NA, NE, NO	IE, NA, NE, NO	NO	IE, NA, NE, NO	IE, NA, NE, NO	IE, NE	IE, NA, NE, NO	IE, NA, NE, NO
Kazakhstan	NA	NA	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO
Latvia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein	CS	CS	NO	NO	NO	NO	NO	NO	NO	0.05	NO	NO	NO	NO	NO	NO	NO
Lithuania	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	CS	CS	NO	NO	NO	NO	NO	NO	NO	0.16	NO	NO	NO	NO	NO	NO	NO
Malta	D	CS	NE, NO	NO	NE, NO	NE, NO	0.00	NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO
Monaco	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	IE, NA, NO	IE, NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO
Netherlands	CS	PS	C, NE	NA, NO	C, NA, NE, NO	C, NE	NA, NO	C, NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO
New Zealand	NA	NA	IE, NA, NO	NA, NO	IE, NA, NO	IE, NA, NO	NA, NO	IE, NA, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO
Norway	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	-0.09	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO
Poland	T1	D	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	12.17	NO	NO	NA, NO	NA, NO
Portugal	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Romania	NA	NA	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO
Russian Federation	T1	D	-32.00	1.67	-19.13	10.65	NA, NO	NA, NO	10.01	6.15	1.63	NE, NO	NA, NO	NA, NE, NO	160.64	118.09	1.36
Slovakia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Slovenia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	T1, T2	D	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	2.38	NE, NO	NE, NO	NA	NA, NE, NO
Sweden	CS	CS, D	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	1.82	3.66	0.50	NO	NO	NO	NO	NO	NO
Switzerland	T1, T2	CS, D	34.92	16.60	2.10	33.12	2.59	12.77	NA, NO	6.15	NA, NO	NA, NO	NO	NA, NO	0.52	0.06	9.12
Turkey	NA	NA	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE
Ukraine	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO
United Kingdom	T1, T2, T3	CS	IE, NE, NO	16.25	IE, NE, NO	IE, NE, NO	51.82	IE, NE, NO	IE, NE, NO	10.97	IE, NE, NO	IE, NE, NO	IE, NA, NO	IE, NA, NE, NO	IE, NE, NO	0.10	IE, NE, NO
United States	M, T2	CS, M	1,640.47	1,227.71	1.34	5,493.28	1,537.58	3.57	212.75	95.06	2.24	C, IE, NE, NO	C, NA, NO	IE, NA, NE, NO	1,119.01	65.06	17.20

[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 PFCs for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 2.7b

Consumption of halocarbons and SF_6 - PFCs (2012)

	Methods and EF used[a]		C_5F_{12}			C_6F_{14}			Unspecified PFCs			Total		
	Methods	EF	P^b 2.F(p)	A^c 2.F(a)	Ratio P / A	P^b 2.F(p)	A^c 2.F(a)	Ratio P / A	P^b 2.F(p)	A^c 2.F(a)	Ratio P / A	P^b 2.F(p)	A^c 2.F(a)	Ratio P / A
			($Gg\ CO_2$ equivalent)			($Gg\ CO_2$ equivalent)			($Gg\ CO_2$ equivalent)			($Gg\ CO_2$ equivalent)		
Australia	NA	NA	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO
Austria	CS	CS	NO	NO	NO	NO	NO	NO	285.89	40.46	7.07	285.89	40.46	7.07
Belarus	NA	NA	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NA, NE, NO	NA, NE, NO
Belgium	T1, T2	CS, D, PS	NO	NO	NO	0.18	0.1776	1.00	NO	NO	NO	28.43	8.098235724	3.51
Bulgaria	T2	D	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	IE, NA, NO	0.04	IE, NA, NO
Canada	T2	D	NA, NO	0.01	NA, NO	NA, NO	0.07	NA, NO	NA, NO	NA, NE, NO	NA, NE, NO	38.09	32.47	1.17
Croatia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.02	NA, NO	NA, NO
Cyprus	NA	NA	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO	NA, NO	NA, NE, NO	NA, NE, NO
Czech Republic	D, T2	CS, D	NA, NE, NO	NO	NA, NE, NO	NA, NE, NO	0.14	NA, NE, NO	NA, NE, NO	NO	NA, NE, NO	1.38	6.57	0.21
Denmark			NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	2.91	8.54	0.34
Estonia	NA	NA	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NA, NO	NA, NE, NO
European Union (15)	CS, T1, T1a, T2, T3	CS, D, PS	IE, NA, NE, NO	IE, NA, NO	IE, NA, NE, NO	3,543.22	186.78	18.97	479.71	154.79	3.10	14,453.85	838.40	17.24
European Union (28)	CS, D, T1, T1a, T2, T3	CS, D, PS	IE	IE, NA, NE, NO	IE, NA, NE, NO	IE	186.92	IE	14,486.25	154.82	93.57	14,486.25	858.57	16.87
Finland	T2	D	NO	NO	NO	NO	NO	NO	NO	1.48	NO	0.48	1.89	0.25
France			NA	NO	NA, NO	3,534.91	178.46	19.81	NA	NO	NA, NO	4,014.72	281.12	14.28
Germany	CS, T2	CS, D	NO	NO	NO	8.14	8.14	1.00	NO	NA, NO	NA, NO	1,400.51	134.00	10.45
Greece	T2	D	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	NA, NO	NA, NE, NO	NE	60.24	NE
Hungary	T2	CS	NO	NO	NO	NO	NO	NO	NO	NO	NO	1.36	1.37	1.00
Iceland	T2	D	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	0.00	NO
Ireland	T1a	CS	NO	NO	NO	NO	NO	NO	NO	NO	NO	53.43	8.03	6.65
Italy	CS	PS	NO	NO	NO	NO	NO	NO	NO	NO	NO	8,471.83	97.90	86.54
Japan	CS, T1	CS, D	IE, NE	IE, NA, NE, NO	IE, NA, NE, NO	IE, NE	IE, NA, NE, NO	IE, NA, NE, NO	7,173.30	2,627.09	2.73	10,358.30	2,627.09	3.94
Kazakhstan	NA	NA	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO
Latvia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA, NO	NA, NO
Liechtenstein	CS	CS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.05	10.54
Lithuania	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA, NO	NA, NO
Luxembourg	CS	CS	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	0.16	NO
Malta	D	CS	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	0.00	NE, NO
Monaco	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	IE, NA, NO	IE, NA, NO
Netherlands	CS	PS	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	C, NE	112.85	C, NE	C, NE, NO	112.85	C, NE, NO
New Zealand	NA	NA	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	NA, NO	IE, NA, NO	NA, NE, NO	IE, NA, NE, NO
Norway	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	-0.09	NA, NO	NA, NO
Poland	T1	D	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	12.17	NO
Portugal	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA, NO	NA, NO
Romania	NA	NA	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NO	NE, NO	NE, NO	NA, NO	NA, NE, NO
Russian Federation	T1	D	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	NE, NO	NA, NO	NA, NE, NO	149.30	125.91	1.19
Slovakia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA, NO	NA, NO
Slovenia	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA, NO	NA, NO
Spain	T1, T2	D	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	NA	NA, NE, NO	NE, NO	2.38	NE, NO
Sweden	CS	CS, D	NO	NO	NO	NO	NO	NO	NO	NO	NO	1.82	3.66	0.50
Switzerland	T1, T2	CS, D	NA, NO	NO	NA, NO	13.69	7.68	1.78	NA, NO	NA, NO	NA, NO	82.25	33.08	2.49
Turkey	NA	NA	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE
Ukraine	NA	NA	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO	NO	NA, NO	NA, NO
United Kingdom	T1, T2, T3	CS	IE, NE, NO	IE, NA, NO	IE, NA, NE, NO	IE, NE, NO	IE, NA, NO	IE, NA, NE, NO	193.82	IE, NA, NO	IE, NA, NO	193.82	79.14	2.45
United States	M, T2	CS, M	C, IE, NE, NO	C, NA, NO	IE, NA, NE, NO	C, IE, NE, NO	C, NA, NO	IE, NA, NE, NO	IE, NE, NO	NA, NO	IE, NA, NE, NO	8,465.51	2,925.41	2.89

[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 PFCs for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 2.8

Consumption of halocarbons and SF_6 - SF_6 (2012)

	Methods and EF used[a]		SF_6		
	Methods	EF	P[b] 2.F(p)	A[c] 2.F(a)	Ratio P / A
			(Gg CO_2 equivalent)		
Australia	T2	CS	NE, NO	134.11	NE, NO
Austria	CS	CS	333.85	321.50	1.04
Belarus	D	D	NE, NO	2.27	NE, NO
Belgium	T2	CS, D, PS	25.41	117.00	0.22
Bulgaria	T2	D	IE, NA, NO	11.96	46.78
Canada	T1, T3	OTH	NE, NO	186.61	1.01
Croatia	T2	PS	5.07	9.60	0.53
Cyprus	CS	OTH	52.58	0.09	601.65
Czech Republic	T3	D	155.59	92.11	1.69
Denmark			62.00	118.05	0.53
Estonia	T2, T3	CS	NE, NO	1.96	NE, NO
European Union (15)	CS, T1, T1a, T2, T3	CS, D, PS	11,892.02	5,528.42	2.15
European Union (28)	CS, T1, T1a, T2, T3	CS, D, OTH, PS	126,139.02	5,932.82	21.26
Finland	T1, T2	D	126.89	36.85	3.44
France			5,499.85	499.83	11.00
Germany	CS, T2, T3	CS, D	C	3,157.03	C
Greece	CS	CS	NA, NE	5.11	NA, NE
Hungary	T1	CS, D	153.36	153.36	1.00
Iceland	T2	CS	NE, NO	5.57	2.54
Ireland	T1, T1a	CS	61.53	39.21	1.57
Italy	CS, T3	CS, PS	2,814.08	355.72	7.91
Japan	CS, T1	CS, D	26,736.93	1,264.83	21.14
Kazakhstan	NA	NA	NE, NO	NA, NO	NA, NE, NO
Latvia	T2	D	NE, NO	13.69	1.04
Liechtenstein	T3	CS	11.26	0.00	23,550.00
Lithuania	T2, T3	CS	IE, NE, NO	4.19	3.48
Luxembourg	CS	CS	NE	8.14	NE
Malta	CS	PS	NE, NO	0.47	NE, NO
Monaco	D	D	0.13	0.16	0.77
Netherlands	CS, T2, T3	D, PS	C, NE	196.05	C, NE
New Zealand	T2, T3	CS	41.62	20.20	2.06
Norway	T2, T3	CS	237.37	60.33	3.93
Poland	T1	D	NO	37.72	2,996.08
Portugal			2,232.80	45.23	49.36
Romania	T2	D	NE, NO	40.79	4.70
Russian Federation	T2	D	7,124.56	234.19	30.42
Slovakia	T2	CS	108.02	21.40	5.05
Slovenia	T2	CS, D	-11.51	17.06	-0.67
Spain	T2	CS, D	NE, NO	219.81	NE, NO
Sweden	CS, T2	CS, D, PS	535.12	29.47	18.16
Switzerland	T1, T2, T3	CS, D	105.92	192.27	0.55
Turkey	T1	D	1,141.78	971.13	1.18
Ukraine	T2, T3	D	888.10	11.52	77.09
United Kingdom	T3	CS	200.49	381.07	0.53
United States	M, T2, T3	CS, M	19,608.16	6,672.94	2.94

[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 SF_6 for all subcategories within the category 2.F Consumption of halocarbons and SF_6.

[b] P = Potential emissions

[c] A = Actual emissions

Table 3.1

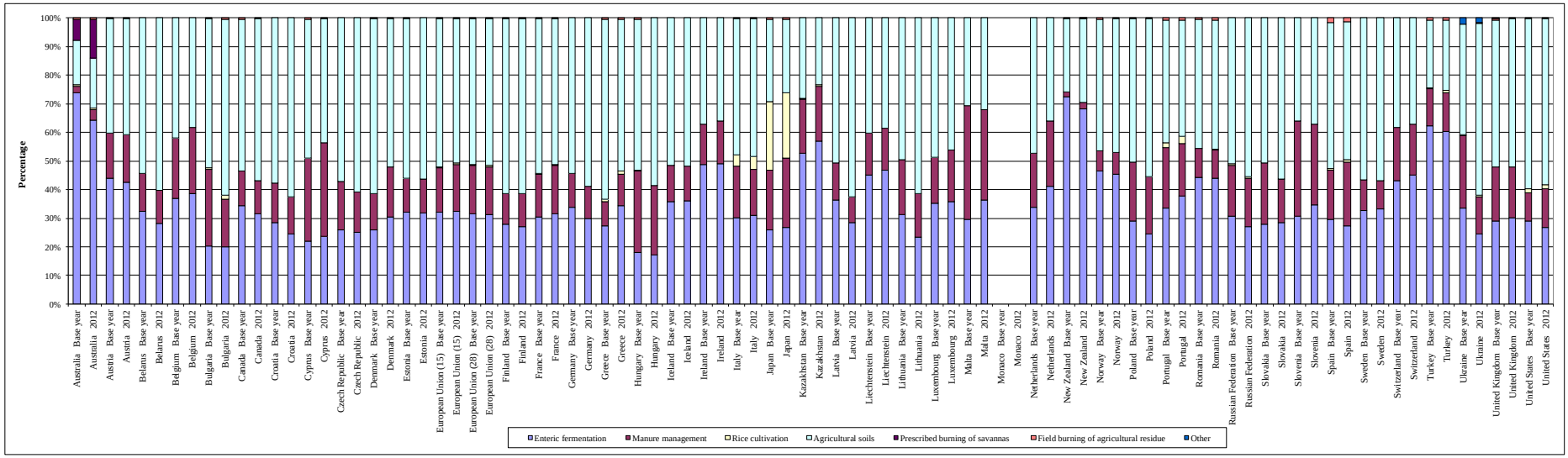
Solvent and other product use - CO_2 and N_2O (2012)

	Methods and EF used[a]		Key category (CO_2)	Methods and EF used[a]		Key category (N_2O)	Paint application		Degreasing and dry cleaning			
	CO_2			N_2O			CO_2		CO_2		N_2O	
	Methods	EF		Methods	EF		Share of national total (%)	CO_2 IEF (t/t)	Share of national total (%)	CO_2 IEF (t/t)	Share of national total (%)	N_2O IEF (t/t)
Australia	NA	NA		NA	NA		-	NA	-	NA	-	NA
Austria	CR, CS	CS		CS	D		0.1	1.16	0.0	1.46	-	NA
Belarus	NA	NA		T1	D		-	NA	-	NA	-	NA
Belgium	NA	NA		T1	CS		-	NA	-	NA	-	NA
Bulgaria	D, T1	D	T	D	CS, D		0.0	1.49	0.0	1.87	-	NA
Canada	NA	NA		T1	OTH		-	IE	-	IE	-	NA
Croatia	OTH	OTH		T1	D		0.0	0.73	0.1	NA	-	NE
Cyprus	CS	OTH		CS	OTH		0.1	0.01	0.0	0.00	-	NE
Czech Republic	CR	CS		D	D		0.1	3.14	0.0	3.14	-	NA
Denmark	CS, OTH, T1	CS, D, OTH		CS, OTH, T1	D, OTH		0.0	0.17	0.0	0.00	-	NA, NE
Estonia	T1	D		T2	CS		0.0	2.20	0.0	2.20	-	NO
European Union (15)	CR, CS, D, M, OTH, T1, T2	CR, CS, D, M, OTH, PS		CS, D, OTH, T1	CS, D, OTH		0.1	NE	0.0	NE	-	NA, NE, NO
European Union (28)	CR, CS, D, M, OTH, T1, T2, T3	CR, CS, D, M, OTH, PS		CS, D, OTH, T1, T2, T3	CS, D, OTH, PS		0.1	NE	0.0	NE	-	NA, NE, NO
Finland	T2	CS		CS	CS		0.0	2.20	0.0	2.20	-	NO
France	CR	CS, PS	T	T1	CS		0.1	2.36	0.0	0.89	-	NA
Germany	CS	CS		CS	CS		0.1	2.20	0.0	2.20	-	NO
Greece	CR	CR		OTH	OTH		0.0	0.00	0.0	0.00	-	NA
Hungary	D	D		CS	PS	T	0.0	0.55	0.0	0.68	-	NO
Iceland	T1, T2	D		T1	D		0.0	0.72	0.0	1.39	-	NO
Ireland	CR, CS	CR, CS		NA	NA		0.0	3.12	0.0	3.12	-	NA
Italy	CR, CS	CR, CS		CS	CS		0.1	0.58	0.0	2.34	-	NA
Japan	NA	NA		CS	OTH		-	NA	-	NE	-	NA
Kazakhstan	NA	NA		NA	NA		-	NE	-	NE	-	NE
Latvia	T3	CS		T3	D		0.1	0.30	0.0	0.62	-	NO
Liechtenstein	CS	CS	T	CS	CS		0.1	0.32	0.0	8.46	-	NO
Lithuania	CR	D		D	D		0.2	3.12	0.1	3.12	-	NE
Luxembourg	M	M		CS	CS		0.0	1.86	0.0	1.65	-	NA
Malta	NA	NA		CS	CS		-	NA	-	NA	-	NA
Monaco	CS	CS		CS	CS		0.1	0.39	0.0	0.09	-	NE
Netherlands	CS	CS		CS	CS		0.0	2.74	0.0	0.58	-	NO
New Zealand	NA	NA		D	D		-	NE	-	NE	-	NA
Norway	T2	CS		CS	CS		0.0	3.00	0.0	3.00	-	NA
Poland	CS	CS		CS	CS		0.1	3.12	0.0	3.12	-	NA
Portugal	CR, D	CR, CS, OTH		D	D		0.1	NE	0.0	NE	-	NO
Romania	CR	CR		NA	NA		0.0	NE	0.0	NE	-	NE
Russian Federation	NA	NA		CS	CS		-	NE	-	NE	-	NE
Slovakia	T1	D		T1	CS		0.1	1.57	0.0	NA	-	NO
Slovenia	NA	NA		D	D		-	NE	-	NE	-	NA
Spain	D	CR		CS	CS		0.1	0.50	0.0	2.81	-	NO
Sweden	CS	CS		CS	CS		0.1	1.28	0.0	0.65	-	NA
Switzerland	CS	CS	T	CS	CS		0.1	0.32	0.0	1.84	-	NA
Turkey	NA	NA		NA	NA		-	NE	-	NE	-	NE
Ukraine	NA	NA		OTH	OTH		-	NE	-	NE	-	NE
United Kingdom	NA	NA		NA	NA		-	NE	-	NE	-	NE
United States	NA	NA		CS	D		-	NE	-	NE	-	NE

[a] Information on methods and emission factors in this table is as reported by Parties in the table Summary 3 of the CRF. It may not reflect the actual method or type of emission factor used for all subcategories within the Solvent and other product use sector.

Figure 4.1

Contribution of subsectors to total GHG emissions in the agriculture sector[a]



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 4.1

Enteric fermentation - CH_4 (2012)

	Key category	Share of national total	Methods and EF used[a]		Cattle					Sheep				Swine			
					Activity data (population size)			Dairy cattle[b]	Non-dairy cattle[b]	Activity data (population size)			CH_4 IEF	Activity data (population size)			CH_4 IEF
			Methods	EF	CRF	FAO[c]	Difference	CH_4 IEF		CRF	FAO[c]	Difference		CRF	FAO[c]	Difference	
		(%)			(thousands of head)		(%)	(kg/head/yr)		(thousands of head)		(%)	(kg/head/yr)	(thousands of head)		(%)	(kg/head/yr)
IPCC default EF[d]								56-118[e]	44-56[e]				8.0				1.5
Australia	L, T	10.3	CS, T1, T2	CS, D	27,282	28,418	4.2	113	72	74,488	74,722	0.3	6.7	2,137	2,138	0.0	1.4
Austria	L, T	4.0	T1, T2	CS, D	1,956	1,977	1.1	119	56	365	361	-0.9	8.0	2,983	3,005	0.7	1.5
Belarus	L, T	7.4	T1, T2	CS, D	4,307	4,247	-1.4	109	51	56	53	-6.6	8.0	4,116	3,989	-3.1	1.5
Belgium	L	3.1	T1, T2	CS, D	2,502	2,438	-2.5	132	48	106	119	12.2	8.0	6,656	6,448	-3.1	1.5
Bulgaria	L, T	2.1	T1, T2	CS, D	542	558	2.9	109	63	1,408	1,455	3.3	6.6	570	608	6.8	1.5
Canada	L, T	2.5	T1, T2	CS, D	12,868	12,215	-5.1	128	56	1,012	887	-12.4	8.0	12,791	12,668	-1.0	1.5
Croatia	L, T	3.1	T1, T2	CS, D	451	452	0.2	107	66	679	679	0.0	8.0	1,166	1,182	1.4	1.5
Cyprus	L, T	2.1	T1, T2	CS, D, OTH	60	57	-4.5	98	48	350	347	-0.8	8.0	395	395	0.0	1.5
Czech Republic	L, T	1.5	T1, T2	CS, D	1,354	1,354	0	119	48	221	221	0	8.0	1,579	1,579	0	1.5
Denmark	L, T	5.5	T1, T2	CS, D, OTH	1,609	1,609	0.0	134	40	189	241	27.4	12.7	12,331	12,331	0	1.1
Estonia	L, T	2.2	T1, T2	CS, D	246	238	-3.1	131	61	77	84	9.2	8.0	375	366	-2.5	1.0
European Union (15)	L	3.3	CS, T1, T2, T3	CS, D, OTH	74,643	74,670	0.0	123	46	83,820	84,526	0.8	7.1	118,429	122,573	3.5	1.2
European Union (28)	L, T	3.2	CS, T1, T2, T3	CS, D, OTH	87,832	87,858	0.0	118	47	97,494	97,771	0.3	8.3	144,416	148,811	3.0	1.2
Finland	L, T	2.5	T1, T2	CS, D, OTH	913	913	0	130	IE	130	130	0	8.4	1,290	1,290	0.0	IE
France	L, T	5.7	T3	CS	19,255	19,009	-1.3	120	51	8,439	7,464	-11.6	9.4	13,926	13,765	-1.2	0.8
Germany	L, T	2.2	CS, T1, T2, T3	CS, D	12,507	12,477	-0.2	135	46	1,643	1,658	0.9	8.0	23,648	28,132	19.0	1.2
Greece	L, T	2.8	T1, T2	CS, D	683	680	-0.4	106	48	8,813	9,585	8.8	9.1	866	1,128	30.3	1.5
Hungary	L, T	2.4	T1, T2	CS, D	728	694	-4.7	123	51	1,141	1,081	-5.3	8.0	2,952	3,025	2.5	1.5
Iceland	L, T	5.5	T1, T2	CS, D, OTH	72	73	1.8	93	47	744	474	-36.4	8.4	44	36	-17.5	1.5
Ireland	L, T	15.1	CS, T1, T2	CS, D	6,709	6,754	0.7	113	47	4,843	5,170	6.8	6.0	1,532	1,571	2.5	1.1
Italy	L	2.3	T1, T2	CS, D	5,743	6,092	6.1	116	48	7,016	7,016	0.0	8.0	8,662	9,351	8.0	1.5
Japan		0.5	CS, T1	CS, D	4,101	4,172	1.7	100	56	14	13	-9.5	4.1	9,701	9,735	0.3	1.1
Kazakhstan	L, T	4.3	T1, T2	CS, D	6,373	5,702	-10.5	93	49	17,182	15,200	-11.5	5.0	1,341	1,204	-10.2	1.0
Latvia	L, T	6.3	T1, T2	CS, D	393	381	-3.1	118	52	84	80	-4.3	8.0	355	375	5.6	1.5
Liechtenstein	L, T	4.9	T2	CS	6	6	0	122	81	4	4	3.9	10.4	2	2	2.9	1.4
Lithuania	L, T	5.5	T1, T2	CS, D, OTH	693	752	8.6	110	50	78	60	-23.0	10.7	807	790	-2.1	1.1
Luxembourg	L	2.0	T1, T2	CS, D, OTH	188	188	0	120	55	8	8	0	8.0	90	90	0	1.5
Malta		0.9	T1	CS, D	16	16	0	100	48	12	12	0	8.0	45	45	0	1.5
Monaco		-	NA	NA	NO			NO	NO	NO			NO	NO			NO
Netherlands	L, T	3.4	T1, T2	CS, D	3,879	3,879	0.0	128	73	1,043	1,043	0.0	8.0	12,234	12,234	0.0	1.5
New Zealand	L, T	31.5	D, T1, T2	CS, D	10,180	10,180	0	80	59	31,263	31,263	0	12.1	314	314	0	1.1
Norway	L, T	3.9	T1, T2	CS, D	774	862	11.3	145	118	1,512	2,224	47.1	14.3	561	848	51.2	1.5
Poland	L, T	2.2	T1, T2	CS, D	5,777	5,777	0.0	100	46	267	267	0.0	7.7	11,581	11,581	0	1.5
Portugal	L, T	4.0	T1, T2	CS, D	1,506	1,498	-0.5	131	57	2,163	2,092	-3.3	8.7	1,973	2,024	2.6	1.3
Romania	L, T	6.7	T2	CS	1,989	1,989	0.0	89	59	8,834	8,533	-3.4	19.8	5,234	5,364	2.5	1.5
Russian Federation	L, T	1.7	CS, T1, T2	CS, D	20,506	20,134	-1.8	104	56	22,366	20,767	-7.1	8.0	17,966	17,258	-3.9	1.3
Slovakia	L, T	2.1	T1, T2	CS, D	471	463	-1.6	110	54	410	394	-4	9.8	631	580	-8	1.5
Slovenia	L, T	3.4	T1, T2	CS, D	460	460	0	104	50	114	120	5.1	8.0	296	347	17.3	1.5
Spain	L, T	3.0	CS, T1, T2	CS, D	5,909	5,813	-1.6	103	42	16,339	16,814	2.9	8.6	26,482	25,250	-4.6	1.0
Sweden	L, T	4.4	CS, T1, T2	CS, D	1,500	1,444	-3.8	130	50	611	611	0.0	8.0	1,363	1,474	8.1	1.5
Switzerland	L, T	4.9	T2	CS	1,565	1,570	0.4	123	81	417	414	-1	10.4	1,544	1,547	0.2	1.1
Turkey	L, T	4.4	T1	D	13,962	12,386	-11.3	66	44	27,425	25,032	-8.7	5.1	3	2	-38.1	1.0
Ukraine	L, T	2.2	T1, T2, T3	CS, D, OTH	4,536	4,426	-2.4	110	76	1,083	1,093	0.9	9.6	7,475	7,373	-1.4	1.5
United Kingdom	L, T	2.7	T1, T2	CS, D	9,900	9,900	0.0	111	43	32,215	32,215	0.0	5.0	4,481	4,481	0.0	1.5
United States	L	2.2	M, T1, T2	CS, D, M	95,259	90,769	-4.7	121	59	5,365	5,365	0	8.0	66,516	66,413	-0.2	1.5

[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 or type of emission factor used for the various livestock types within the category 4.A Enteric fermentation - CH_4.

[b] Information on implied emission factors reported by Bulgaria, Croatia, Estonia, Iceland, Liechtenstein, Luxembourg, Netherlands, Norway, Switzerland and Ukraine refers to mature dairy cattle and mature non-dairy respectively, as these Parties have used Option B to report livestock types within the category 4.A Enteric fermentation.

[c] Source of international statistics: FAOSTAT data, downloaded on 17 February 2014 from http://faostat.fao.org/site/573/default.aspx.

[d] Source of default emission factors: IPCC Guidelines, volume 3, tables 4-3 and 4-4 (pages 4.10–4.11).

[e] For dairy and non-dairy cattle, IPCC default emission factors (in kg CH_4/head/year) are provided by regions as shown below (see footnote c for source reference).

	North America	Western Europe	Eastern Europe	Oceania	Asia
Dairy cattle	**118**	**100.0**	**81**	**68**	**56**
Non-dairy cattle	**47**	**48.0**	**56**	**53**	**44**

Table 4.2

Manure management - CH_4 (2012)

	Key category	Share of national total	Methods and EF used[a]		Cattle		Sheep	Swine
					Dairy cattle[b]	Non-dairy cattle[b]		
			Methods	EF	CH_4 IEF			
		(%)			(kg/head/yr)			
IPCC default EF[c]					6 to 81	1 to 38	0.19 to 0.37	3 to 20
Australia		0.3	CS, M, T2	CS, D	8.59	0.04	0.00	23.09
Austria	L, T	0.4	T1, T2	CS, D	9.16	4.11	0.19	1.17
Belarus		0.9	T1, T2	CS, D	5.14	2.44	0.19	4.64
Belgium	L	1.2	T2	CS, D	17.45	2.81	0.62	7.73
Bulgaria	L, T	0.8	T1, T2	CS, D	3.24	1.34	0.12	37.50
Canada		0.4	T1, T2	CS, D	27.77	2.70	0.26	5.00
Croatia	L	0.7	T1	D	14.00	4.00	0.19	4.00
Cyprus		1.2	T1	D	19.00	13.00	0.28	10.00
Czech Republic		0.4	T1, T2	CS, D	19.95	8.65	0.19	3.00
Denmark	L, T	2.4	CS, T1, T2	CS, D	33.56	9.19	1.40	2.30
Estonia		0.2	T1, T2	CS, D	10.52	1.12	0.19	1.99
European Union (15)	L	1.1	CS, T1, T2	CS, D, OTH	29.04	8.04	0.34	6.85
European Union (28)	L	1.0	CS, T1, T2	CS, D, OTH	25.43	7.81	0.34	6.80
Finland	T	0.4	T2	CS	15.22	IE	0.19	IE
France	L, T	2.1	T2	CS, D	39.83	8.59	0.19	12.92
Germany	L	0.5	T1, T2	CS, D	19.62	8.28	0.27	3.31
Greece		0.4	T1, T2	CS, D	10.99	1.32	0.72	7.00
Hungary	L, T	2.0	T1, T2	CS	50.29	25.33	0.19	11.32
Iceland		0.9	T1, T2	CS, D	28.00	10.97	0.63	3.00
Ireland	L, T	3.8	T1, T2	CS, D	20.82	10.05	0.15	12.71
Italy	T	0.4	T1, T2	CS, D	6.57	3.42	0.22	3.68
Japan		0.2	CS, T1	CS, D	59.74	2.07	0.28	0.70
Kazakhstan		0.3	T1	CS, D	6.00	4.00	0.10	4.00
Latvia	L	0.9	T1, T2	CS, D	12.40	3.15	0.19	4.00
Liechtenstein	L	0.9	T2	D	25.11	11.20	1.28	5.47
Lithuania	L, T	2.3	T1, T2	CS, D	25.16	10.59	0.24	13.70
Luxembourg	L	0.8	T1, T2	CS, D, OTH	39.96	3.71	0.19	19.52
Malta		0.7	T1	CS, D	44.00	20.00	0.28	10.00
Monaco		-	NA	NA	NO	NO	NO	NO
Netherlands	L	1.4	T1, T2	CS, D	43.09	3.53	0.17	2.95
New Zealand	L	0.9	T1, T2	CS, D	3.48	0.80	0.12	5.94
Norway		0.3	T2	CS	17.96	7.45	0.19	2.57
Poland	L	0.6	T1, T2	CS, D	13.36	2.24	0.16	5.63
Portugal	L, T	1.5	T2	CS	5.32	1.42	1.78	20.76
Romania		0.5	T2	CS	3.76	1.88	0.38	3.06
Russian Federation		0.2	CS, T1, T2	CS, D	4.94	4.51	0.19	6.75
Slovakia		0.4	T1, T2	CS, D	12.89	3.97	0.19	4.00
Slovenia	L, T	2.1	T1, T2	CS, D	57.76	21.86	0.19	14.08
Spain	L	2.0	CS, T1, T2	CS, D	72.68	2.70	0.23	9.39
Sweden	L, T	0.5	T1, T2	CS, D	9.39	6.36	0.19	1.65
Switzerland	L	1.3	T2	CS, D	26.04	13.02	1.30	5.48
Turkey	T	0.4	T1	D	10.34	1.00	0.12	3.65
Ukraine	T	0.4	T1, T2	CS, D	6.10	8.52	0.40	5.86
United Kingdom	L	1.1	T1, T2	CS, D	42.90	15.01	0.30	19.02
United States	L, T	0.8	M, T1, T2	CS, D, M	93.46	1.58	0.54	14.38

[a] 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 - CH_4.

[b] Information on implied emission factors reported by Bulgaria, Croatia, Estonia, Iceland, Liechtenstein, Luxembourg, Netherlands, Norway, Switzerland and Ukraine refers to mature dairy cattle and mature non-dairy respectively, as these Parties have used Option B to report livestock types within the category 4.B manure management.

[c] Source of default emission factors: IPCC Guidelines,volume 3, tables 4-5 and 4-6 (pages 4.12–4.13). Default emission factors are provided according to climate regions (cool, temperate, warm), as shown below.

Default IPCC emission factors according to climate regions[c]

	Dairy cattle			Non-dairy cattle			Swine		
	cool	temperate	warm	cool	temperate	warm	cool	temperate	warm
North America	36	54	76	1	2	3	10	14	18
Western Europe	14	44	81	6	20	38	3	10	19
Eastern Europe	6	19	33	4	13	23	4	7	11
Oceania	31	32	33	5	6	7	20	20	20
Asia	7	16	27	1	1	2	1	4	7

	Sheep		
	cool	temperate	warm
Developed countries	0.19	0.28	0.37

Table 4.3

Manure management - N_2O (2012)

	Key category	Share of national total	Methods and EF used[a]		Animal waste management systems (AWMS)				N excretion rates				
					Anaerobic lagoons	Liquid systems	Solid storage and dry lot	Other	Dairy cattle[b]	Non-dairy cattle[b]	Sheep	Swine	Poultry
			Methods	EF	N_2O IEF (kg N2O-N/kg N)				(kg N / head / year)				
		(%)											
IPCC default EF					0.001[c]	0.001[c]	0.02[c]	0.005[d]	60 to 100[e]	40 to 70[e]	16 to 20[e]	12 to 20[e]	0.6[e]
Australia		0.3	CS, M, T1, T2	D	0.001	0.001	0.020	0.018	120	39	7	12	0.7
Austria	L	1.1	T1	D	NO	0.001	0.020	0.014	100	46	13	9	0.5
Belarus	L	2.1	T1	D	NO	0.001	0.020	NO	77	37	16	10	0.6
Belgium	L	0.7	T1	D	NO	0.001	0.020	0.001	118	55	8	10	0.6
Bulgaria	L, T	0.9	D	D	0.001	0.001	0.020	0.001	72	54	15	8	0.9
Canada		0.5	T1	D	NE	0.001	0.020	0.005	102	44	4	11	0.5
Croatia	L, T	0.9	T1	D	0.001	0.001	0.020	0.005	100	50	16	20	0.6
Cyprus	L	1.7	T1	D	NO	NO	0.013	0.002	100	70	12	16	0.6
Czech Republic	L, T	0.5	T1, T2	CS, D	NO	0.001	0.020	0.005	136	69	20	20	0.6
Denmark	L	0.7	CS, D, T1, T2	CS, D	NO	0.001	0.020	0.016	138	43	17	8	0.5
Estonia	T	0.6	T2	D	NO	0.001	0.020	0.020	118	46	16	10	0.6
European Union (15)	L	0.6	CS, D, T1, T2	CS, D	0.001	0.002	0.018	0.008	117	50	8	9	0.6
European Union (28)	L, T	0.7	CS, D, T1, T2	CS, D	0.001	0.002	0.019	0.008	109	50	8	10	0.6
Finland	L	0.7	D	D	NO	0.001	0.016	0.020	130	51	10	IE	0.6
France	L, T	1.0	T2	D	NA	0.001	0.020	NA	115	58	17	7	0.5
Germany		0.3	T1, T2	CS, D	NO	0.003	0.009	NO	117	44	8	11	0.8
Greece	L	0.5	D	D	NA	0.001	0.020	NA	103	46	11	16	0.6
Hungary	L, T	1.4	T1	CS, D	NO	0.001	0.020	0.012	100	50	20	10	0.6
Iceland		1.0	T1	D	NO	0.001	0.020	NO	95	42	14	9	0.7
Ireland	L	0.8	T1	D	NO	0.001	0.020	NO	100	50	7	8	0.5
Italy	L	0.8	T2	CS, D	NO	0.001	0.020	0.020	116	52	16	13	0.5
Japan		0.3	CS, D	CS, D	NO	0.000	0.005	0.012	85	51	12	13	1.0
Kazakhstan	L, T	1.2	T1	CS, D	NA	NA	0.020	NA	70	50	16	20	0.6
Latvia	L, T	1.1	T1	CS, D	NA	0.001	0.020	0.001	70	50	13	10	0.6
Liechtenstein		0.6	CS	D	NO	0.001	0.020	NO	115	80	9	10	0.7
Lithuania	L, T	1.2	T1	D	NA	0.001	0.020	0.005	101	49	16	11	0.6
Luxembourg		0.3	T1	D	NO	0.001	0.020	0.001	102	68	17	11	0.8
Malta		0.1	CS	CS	NO	NA, NE, NO	NA, NE, NO	NO	NA	NA	NA	NA	NA
Monaco		-	NA	NA	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	L	0.5	T2	D	NO	0.001	0.020	NO	122	78	7	9	0.6
New Zealand		0.0	T1	D	0.001	NO	0.020	0.001	117	77	17	11	NA
Norway		0.3	CS, T1a, T2	D	NA	0.001	0.020	NA	125	64	10	13	0.3
Poland	L	1.2	T2	CS, D	NO	0.001	0.020	NO	87	58	7	14	0.3
Portugal	T	0.4	D	D	0.001	0.001	0.020	NO	117	50	8	9	0.6
Romania	L, T	1.0	D	D	0.001	0.001	0.020	0.008	54	38	4	18	1.1
Russian Federation	L, T	0.8	T1	CS, D	NO	0.001	0.020	NO	96	61	16	21	0.8
Slovakia	L, T	0.8	T2	D	NO	0.001	0.020	NO	88	43	8	11	0.8
Slovenia	L, T	0.7	D	CS, D	NO	0.001	0.020	0.003	111	42	20	12	0.6
Spain	L	0.4	CS, D, T2	D	NO	0.001	0.020	0.006	110	43	5	9	0.5
Sweden	L, T	0.8	T2	D	NO	0.001	0.020	0.020	124	42	6	9	0.4
Switzerland	L, T	0.7	CS	D	NO	0.001	0.020	NO	108	80	9	9	0.5
Turkey	T	0.7	T1	D	NA	NA, NO	NA	NA	83	45	14	7	NE
Ukraine	L	0.8	T2	D	0.001	0.001	0.020	0.005	75	68	9	12	0.3
United Kingdom	L	0.5	T1	D	NO	0.001	0.020	0.017	123	54	5	10	0.6
United States		0.3	M, T1, T2	D	0.005	0.007	0.019	0.004	125	51	11	10	0.4

[a] 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 N_2O from 4.B Manure management.

[b] Information on N excretion rates reported by Bulgaria, Croatia, Estonia, Iceland, Liechtenstein, Luxembourg, Netherlands, Norway, Switzerland and Ukraine refers to mature dairy cattle and mature non-dairy respectively, as these Parties have used Option B to report livestock types within the category 4.B manure management.

[c] Source of default emission factors: IPCC good practice guidance, tables 4.12 (page 4.43).

[d] Source of default emission factors: IPCC Guidelines, volume 3, table 4-22 (pages 4.104).

[e] Source of default N excretion rates: IPCC Guidelines, volume 3, table 4-20 (pages 4.99). Default values are provided by regions as shown below.

IPCC defaults:

	North America	Western Europe	Eastern Europe	Oceania	Asia
Dairy cattle	100		70	80	60
Non-dairy cattle	70		50	60	40
Sheep	16	20	16	20	12
Swine	20			16	
Poultry	0.6				

Table 4.4
Agricultural soils - N_2O (2012)

	Methods and EF used[a]		Direct soil emissions								Pasture, range and paddock manure			Indirect soil emissions					
					Synthetic fertilizers		Animal manure	N-fixing crops	Crop residue	Cultivation of histosols						Atmospheric deposition		Nitrogen leaching and run-off	
					Activity data														
	Methods	EF	Key category	Share of national total	Use of synthetic fertilizers	N_2O IEF	N_2O IEF				Key category	Share of national total	N_2O IEF	Key category	Share of national total	Activity data	N_2O IEF	Activity data	N_2O IEF
				(%)	(kg N / year)	(kg N_2O-N / kg N)				(kg N_2O-N / ha)		(%)	(kg N_2O-N / kg N)		(%)	(kg N / year)	(kg N_2O-N / kg N)	(kg N / year)	(kg N_2O-N / kg N)
IPCC default EF						0.0125 (0.0025-0.0225)[b]		0.0125[b]		8, 16 (2-15)[c]			0.03)[d]				0.2)[e]		0.025 (0.002-0.12)[e]
Australia	CS, T1, T2, T3	CS, D	L, T	1.0	1,020,205,990	0.0057	0.0100	0.0125	0.0125	8.00	L, T	0.7	0.004	L, T	1.1	747,702,141	0.010	416,144,364	0.012
Austria	CS, T1a, T1b, T2	D	L, T	2.3	102,975,572	0.0125	0.0125	0.0125	0.0125	NO		0.1	0.020	L, T	1.4	49,436,194	0.010	74,998,797	0.025
Belarus	T1, T1a, T1b	D	L, T	10.8	501,480,000	0.0125	0.0125	0.0125	0.0125	8.00		0.8	0.020	L, T	4.1	114,264,508	0.010	254,976,762	0.025
Belgium	T1a	CS, D	L	1.7	136,034,104	0.0125	0.0125	0.0125	0.0125	8.00	L	0.6	0.020	L	0.7	49,887,728	0.010	46,616,304	0.025
Bulgaria	T1, T1a, T1b	D	L, T	3.7	211,847,400	0.0125	0.0125	0.0125	0.0125	NO	T	0.4	0.020	L, T	2.3	40,907,529	0.010	96,669,194	0.025
Canada	CS, T1, T2	CS, D	L, T	2.5	2,311,000,000	0.0092	0.0115	NO	0.0091	8.00		0.4	0.019	L, T	1.7	565,919,520	0.010	731,238,165	0.025
Croatia	T1, T1a, T1b	D	L	4.2	98,721,046	0.0125	0.0125	0.0125	0.0125	8.00		0.7	0.020	L	3.0	24,108,858	0.010	54,802,448	0.025
Cyprus	T1, T1a	D	L, T	2.1	4,392,674	0.0125	0.0125	0.0125	0.0125	5.00		-	NO	L, T	1.7	6,542,598	0.010	10,546,009	0.025
Czech Republic	T1, T2	CS, D	L, T	2.2	223,221,780	0.0125	0.0125	0.0125	0.0125	NO		0.2	0.020	L, T	1.4	58,452,206	0.010	124,881,939	0.025
Denmark	CS, D, T1a, T1b	CS, D	L, T	5.8	181,345,117	0.0125	0.0125	0.0125	0.0125	7.96		0.4	0.020	L, T	3.2	60,494,609	0.010	148,938,556	0.020
Estonia	T1, T1b, T2	D	L, T	2.2	29,680,200	0.0125	0.0125	0.0125	0.0125	8.00		0.4	0.020	L, T	1.3	8,189,618	0.010	17,231,126	0.025
European Union (15)	CR, CS, D, T1, T1a, T1b, T2	CS, D	L	2.6	7,256,388,526	0.0124	0.0124	0.0125	0.0125	7.75	L	0.8	0.020	L	1.8	2,366,764,802	0.010	4,383,879,721	0.025
European Union (28)	CR, CS, D, T1, T1a, T1b, T2	CS, D	L	2.8	9,662,053,759	0.0124	0.0124	0.0125	0.0125	7.83	L	0.7	0.020	L, T	1.8	2,970,216,730	0.010	5,670,457,900	0.025
Finland	D, T1, T2	CS, D	L, T	4.5	136,875,559	0.0125	0.0125	0.0125	0.0125	8.40		0.3	0.020	L, T	1.0	28,410,050	0.010	36,545,326	0.025
France	CR, T1, T2	CS, D	L, T	4.2	1,826,841,588	0.0125	0.0125	0.0125	0.0125	8.09	L	1.7	0.020	L, T	3.4	562,278,667	0.010	1,147,922,294	0.025
Germany	CS, T1, T2	D	L, T	2.7	1,566,673,913	0.0125	0.0125	0.0125	0.0125	8.00		0.1	0.020	L, T	1.5	454,394,050	0.010	952,197,341	0.025
Greece	D, T1, T1a, T1b	CS, D	L, T	1.4	157,900,500	0.0125	0.0125	0.0125	0.0125	8.00	L	1.3	0.020	L, T	1.6	63,234,418	0.010	121,168,376	0.025
Hungary	T1	D	L	4.7	281,646,000	0.0125	0.0125	0.0125	0.0125	NO		0.4	0.020	L	3.1	58,676,943	0.010	134,956,414	0.025
Iceland	T1, T1b	CS, D	L, T	3.1	10,617,299	0.0125	0.0125	NO	0.0125	0.96	L, T	1.9	0.020	L, T	2.9	4,732,173	0.010	8,867,810	0.025
Ireland	T1a, T1b	CS, D	L, T	4.3	290,435,223	0.0125	0.0125	0.0125	0.0125	NO	L, T	4.6	0.020	L	2.1	85,456,086	0.010	68,515,602	0.025
Italy	CS, T1	CS, D	L	1.7	613,436,514	0.0125	0.0125	0.0125	0.0125	8.00		0.3	0.020	L	1.6	324,089,253	0.010	457,253,369	0.025
Japan	CS, T1, T1b	CS, D		0.2	387,018,917	0.0066	0.0062	0.0062	0.0125	1.35		0.0	0.011		0.2	250,768,629	0.010	255,116,431	0.012
Kazakhstan	T2	CS, D	T	0.4	105,264,000	0.0100	0.0100	0.0100	0.0100	NO	L, T	1.1	0.014	T	0.2	104,522,591	0.010	254,210,737	0.001
Latvia	T1, T1a, T1b	CS, D	L, T	9.2	58,680,000	0.0125	0.0125	0.0125	0.0125	8.00	L, T	0.8	0.020	L, T	3.8	12,765,688	0.010	28,928,532	0.025
Liechtenstein	CS, T1b	D	L	2.4	153,591	0.0125	0.0125	0.0125	0.0125	8.00		0.5	0.020	L	1.1	187,099	0.010	136,139	0.025
Lithuania	T1, T1b	D	L, T	9.1	136,269,000	0.0125	0.0125	0.0125	0.0125	8.00		0.9	0.020	L, T	4.4	29,095,287	0.010	66,354,431	0.025
Luxembourg	T1, T1a, T1b	D	L	1.1	13185000	0.0125	0.0125	0.0125	0.0125	NO		0.4	0.020	L	1.0	4,040,637	0.010	8,258,456	0.025
Malta	T1, T1a, T1b	D		0.6	436834	0.0100	0.0200	0.0125	0.0125	NO		-	NO		0.2	876,557	0.010	426,724	0.007
Monaco	NA	NA		-	NO	NO	NO	NO	NO	NO		-	NO		-	NO	NO	NO	NO
Netherlands	T1, T1b, T2	CS, D	L, T	1.7	218,077,080	0.0130	0.0087	0.0100	0.0100	4.70	L, T	0.5	0.033	L, T	0.7	97,841,995	0.010	78,435,683	0.025
New Zealand	T1a, T2	CS, D	L, T	2.5	327,229,355	0.0100	0.0100	0.0100	0.0100	8.00	L, T	7.6	0.008	L, T	3.4	195,312,993	0.010	137,399,603	0.025
Norway	CS, T1, T1a, T1b	CS, D	L, T	2.5	94,356,258	0.0125	0.0125	0.0125	12.5000	8.00		0.4	0.020	L	1.1	19,831,350	0.010	40,379,499	0.025
Poland	T1, T1a, T1b	CS, D	L, T	3.1	985,230,000	0.0125	0.0125	0.0125	0.0125	8.00		0.1	0.020	L	1.9	234,380,186	0.010	515,775,279	0.025
Portugal	T1a, T1b	D	L, T	1.5	92,706,685	0.0125	0.0125	0.0125	0.0125	NO	L	1.2	0.020	L, T	1.6	35,812,759	0.010	74,050,814	0.025
Romania	T1, T1b	D	L, T	3.9	260,966,700	0.0125	0.0125	0.0125	0.0125	NO	L	0.7	0.020	L, T	2.3	97,597,066	0.010	189,890,049	0.025
Russian Federation	CS, T1, T1a, T1b	CS, D	L, T	2.5	1,061,806,860	0.0142	0.0125	IE	0.0125	7.00		0.2	0.020	L, T	0.8	675,598,795	0.010	1,190,366,003	0.025
Slovakia	T1b, T2	CS, D	L, T	2.9	90,903,600	0.0125	0.0125	0.0125	0.0125	NO		0.2	0.020	L, T	1.0	21,656,747	0.010	26,867,064	0.025
Slovenia	D, T1, T1a, T1b	CS, D	L, T	1.9	23,670,000	0.0125	0.0125	0.0125	0.0125	8.00		0.3	0.020	L	1.5	10,033,311	0.010	18,994,969	0.025
Spain	CS, T1a, T1b	D	L, T	2.5	769,053,181	0.0125	0.0125	0.0125	0.0125	NO	L	0.9	0.020	L, T	1.9	194,743,383	0.010	467,760,403	0.025
Sweden	CS, T1, T1a, T1b, T2	CS, D	L, T	4.2	146,728,138	0.0080	0.0250	0.0125	0.0125	8.00	L, T	0.8	0.020	L	1.4	36,138,178	0.010	53,136,000	0.025
Switzerland	CS, T1b	D	L, T	2.2	43,708,253	0.0125	0.0125	0.0125	0.0125	8.00	L, T	0.4	0.020	L, T	1.3	48,620,080	0.010	35,971,627	0.025
Turkey	T1, T1a	D	L, T	1.7	1,431,945,947	0.0064	0.0064	0.0064	0.6364	NA		0.1	0.020		0.0	145705.1051	0.010	13	7500
Ukraine	CS, T1, T1a, T2	D	L, T	3.9	793,773,450	0.0125	0.0125	IE	0.0125	8.00		0.4	0.020	L	1.1	215,124,671	0.010	281,282,840	0.025
United Kingdom	T1, T1a, T2	CS, D	L	1.9	1,011,100,031	0.0125	0.0125	0.0125	0.0125	8.00	L	1.0	0.020	L	1.6	322,631,646	0.010	652,464,141	0.025
United States	CS, D, M, T1, T3	CS, D, M	L, T	3.6	11,656,084,893	0.0120	0.0108	IE	0.0120	9.09		0.4	0.013	L	0.7	5,000,603,918	0.009	10,093,046,242	0.005

[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 - N_2O.

[b] Source of default emission factors: IPCC good practice guidance, table 4-17, page 4.60 (see also IPCC Guidelines, volume 3; table 4-18, page 4.89). IEFs for N-fixing crops and crop residues are shown in the unit kg N_2O-N/kg N. The unit of the IPCC default emission factor is also kg N_2O-N/kg N.

[c] For cultivation of histosols the two default values refer to temperate and tropical, respectively. It should be noted that default emission factors for histosols have been updated from 5 to 8 and from 10 to 16 for temperate and tropical, respectively (table 4.17, page 4.60 of IPCC good practice guidance). The values in parenthesis indicate the range as presented in the IPCC Guidelines, volume 3; table 4-18, page 4.89.

[d] Source of default emission factor: IPCC Guidelines, volume 3, table 4-22, page 4.104 (Pasture range and paddock). See also IPCC good practice guidance, table 4.12, page 4.43.

[e] Source of default emission factor: IPCC Guidelines, volume 3, table 4-23, page 4.105 (default emission factors for indirect emissions). See also IPCC good practice guidance, table 4.12, page 4.43.

Table 4.5

Agricultural soils: parameters (fractions) used to estimate N_2O emissions in the agricultural soils category (2012)

	$Frac_{BURN}$	$Frac_{FUEL}$	$Frac_{GRAZ}$	$Frac_{NCRBF}$	$Frac_{NCRO}$	$Frac_{R}$	$Frac_{GASF}$	$Frac_{GASM}$	$Frac_{LEACH}$
	(kg N / kg crop-N)	(kg N / kg N excreted)		(kg N / kg of dry biomass)	(kg N / kg of dry biomass)	(kg N / kg crop-N)	(NH_3-N + NO_X-N / kg of synth. fert. N applied)	(NH_3-N + NO_X-N / kg N excreted)	(kg N / kg of fertilizer or manure N)
IPCC default EF	0.1[a]	no default[b]	no default[b]	0.03[a]	0.015[a]	0.45[a]	0.1[a]	0.2[a]	0.3 (0.1-0.8)[a]
Australia	NA	NO	NA	NA	NA	NA	0.10	0	0.30
Austria	0.00	0	0.06	0.03	0.009	0.34	0.04	0.27	0.30
Belarus	NO	NO	0.27	0.02	0.010	NA	0.10	0.20	0.30
Belgium	NO	NO	0.30	0.02	0.009	0.50	0.04	0.21	0.13
Bulgaria	0.03	0	0.33	0.03	0.015	0.50	0.10	0.20	0.30
Canada	IE	NO	0.33	0.01	0.008	0.46	0.10	0.31	0.19
Croatia	NO	NO	0.25	0.03	0.017	0.45	0.08	0.20	0.30
Cyprus	0.10	NA	NA	NA	NA	0.50	0.10	0.20	0.30
Czech Republic	NO	NO	0.16	0.03	0.015	0.45	0.10	0.20	0.30
Denmark	0.01	NO	0.08	0.04	0.017	0.87	0.03	0.19	0.33
Estonia	NO	NO	0.32	0.03	0.020	0	0.10	0.20	0.30
European Union (15)	NA	NA	0.34	0.03	0.012	0.57	0.06	0.22	0.25
European Union (28)	NA	NA	0.28	0.03	0.015	0.52	0.08	0.21	0.28
Finland	0.00	NA	0.18	NA	0.005	NA	0.01	0.25	0.15
France	0.01	NO	0.48	0.03	0.008	NA	0.10	0.20	0.30
Germany	NO	NO	0.11	0.04	0.024	0.65	0.04	0.29	0.30
Greece	0.10	0	0.67	0.01	0.005	0.52	0.10	0.20	0.30
Hungary	NO	NO	0.17	0.03	0.007	NO	0.10	0.20	0.30
Iceland	NO	NO	0.48	NO	0.005	0.54	0.10	0.20	0.30
Ireland	NO	NO	0.61	0.01	0.011	NO	0.02	0.18	0.10
Italy	0.10	NO	0.18	0.03	0.015	0.45	0.10	0.30	0.30
Japan	0.10	NA	NA	NA	NA	NA	0.10	0.20	0.30
Kazakhstan	NO	NO	0.01	0.02	NO	NO	0.10	0.20	0.01
Latvia	NO	NO	0.29	0.02	0.030	0.45	0.10	0.20	0.30
Liechtenstein	NO	NO	0.22	0.03	0.011	0.74	0.04	0.31	0.20
Lithuania	NO	NO	0	0	0	0	0	0	0
Luxembourg	NO	NO	0.45	0.03	0.015	0.50	0.10	0.20	0.30
Malta	0	0	0	0.01	NE	0.45	0.10	0.20	0.30
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	NO	NO	0.14	NE	NE	NE	0.07	0.17	0.12
New Zealand	0.50	NO	IE	NA	NA	NA	0.10	0.10	0.07
Norway	0.04	NO	0.26	0.01	0.011	0.66	0.01	0.21	0.22
Poland	0.03	NO	0.08	0.03	0.014	0.51	0.10	0.20	0.30
Portugal	0.06	NO	0.54	0.02	0.013	0.67	0.06	0.19	0.32
Romania	0.10	NO	0.25	0.03	0.016	NA	0.10	0.20	0.30
Russian Federation	NO	NO	0.17	NA	NA	NA	0.10	0.20	0.30
Slovakia	NO	NO	0.17	NA	NA	NE	0.10	0.20	0.30
Slovenia	NO	NO	0.14	0.03	0.007	0.46	0.10	0.20	0.30
Spain	0.19	NO	0.39	0.02	0.005	NA	0.09	0.16	0.30
Sweden	NO	NO	0.33	0.01	0.010	0.64	0.01	0.33	0.21
Switzerland	NO	NO	0.18	0.03	0.014	0.73	0.04	0.40	0.20
Turkey	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ukraine	NO	NO	0.32	NE	NE	NE	0.15	0.20	0.22
United Kingdom	0	0.01	0.59	0.03	0.015	0.52	0.10	0.20	0.30
United States	0.03	NA	NA	NA	NA	NA	0.07	0.31	0.20

Abbreviations of fractions:

$Frac_{FUEL}$	Fraction of livestock N excretion in excrements burned for fuel	$Frac_{BURN}$	Fraction of crop residue burned
$Frac_{GRAZ}$	Fraction of livestock N excreted and deposited onto soil during grazing	$Frac_{GASF}$	Fraction of synthetic fertilizer N applied to soils that volatises as NH_3 and NO_X
$Frac_{NCRBF}$	Fraction of N in N-fixing crop	$Frac_{GASM}$	Fraction of livestock N excretion that volatilises as NH_3 and NO_X
$Frac_{NCRO}$	Fraction of N in non-N-fixing crop	$Frac_{LEACH}$	Fraction of N input to soils that is lost through leaching and run-off
$Frac_{R}$	Fraction of total above-ground crop biomass that is removed from the field as a crop product		

[a] Source of IPCC default fractions: IPCC Guidelines, volume 3, tables 4.19 and 4.24 (pages 4.94 and 4.106). (See also IPCC good practice guidance, table 4.19, page 4.74).

[b] Countries are recommended to obtain country-specific data.

Table 5.1a

Methods and emission factors used (2012)[a]

	Forest Land						Cropland						Grassland					
	CO_2		CH_4		N_2O		CO_2		CH_4		N_2O		CO_2		CH_4		N_2O	
	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF
Australia	T1, T2, T3	CS, M	CS	CS	CS	CS	T3	M	CS	CS	CS, T2	CS	T2, T3	M	CS	CS	CS	CS
Austria	T2, T3	CS	T1	CS, D	T1	CS, D	T1, T2	CS, D	NA	NA	T1, T2	CS, D	T2	CS	NA	NA	NA	NA
Belarus	T1	CS, D	T1	D	T1	D	T1	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	CS, T1, T2	CS	NA	NA	NA	NA	CS, T1, T2	CS	NA	NA	CS, T2	CS	CS, T1, T2	CS	NA	NA	NA	NA
Bulgaria	T1, T2	CS, D	T1	D	T1	D	T1, T2	CS, D	NA	NA	T2	CS	T1	CS	NA	NA	NA	NA
Canada	T3	CS	T2	CS	T2	CS	T1, T2, T3	CS, D	T2	CS	T2	CS	NA	NA	T1	D	T1	D
Croatia	D, T1, T2	CS, D	D, T1	D	D, T1	D	T1	CS, D	NA	NA	T1	CS, D	D, T1	CS, D	D	D	D	D
Cyprus	D	D	D	D	D	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	CS, T1, T2	CS, D	CS, T1	CS, D	CS, T1	CS, D	CS, T1, T2	CS, D	NA	NA	T1, T2	CS, D	CS, T1, T2	CS, D	NA	NA	NA	NA
Denmark	CS, T2	CS, D	NA	NA	T1	D	CS, T1, T2	CS, D	NA	NA	T1	CS	CS, D, T2	CS, D	T2	D	T2	D
Estonia	T1, T2	D, OTH	T2	D	T2	CS, D	T1, T2	D	NA	NA	T1	D	T1, T2	D, OTH	T2	D	T2	D
European Union (15)	CS, D, OTH, T1, T2, T3	CS, D, OTH	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D
European Union (28)	CS, D, OTH, T1, T2, T3	CS, D, OTH	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D, OTH	D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D, OTH	CS, D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D
Finland	T2, T3	CS, D	T2	D	T1, T2	CS, D	D, T1	CS, D	NA	NA	T1	D	CS, D, T1	CS, D	NA	NA	NA	NA
France	T2, T3	CS	T2, T3	CS	T2, T3	CS	CS, T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS
Germany	CS, T2	CS	T2	D	CS, T2	D	CS	CS	NA	NA	CS, T1	D	CS	CS	NA	NA	NA	NA
Greece	OTH, T2	CS, D, OTH	T1	D	T1	D	T1, T2	CS, D	NA	NA	T1	D	T1, T2	CS, D	T1	D	T1	D
Hungary	T1, T2	CS, D	T1	D	T1	D	T1, T2	CS, D	T1	D	T1	D	T1, T2	CS, D	T1	D	T1	D
Iceland	D, T1, T2, T3	CS, D	T2	CS, D	T1, T2	CS, D	T1, T2	CS, D	NA	NA	NA	NA	T1, T2, T3	CS, D	T2	CS, D	T2	CS, D
Ireland	D, T1, T2, T3	CS, D	D, T1	D	D, T1	D	T1	D	NA	NA	D, T1	D	T1, T3	CS, D	NA	NA	NA	NA
Italy	T1, T2, T3	CS, D	T2	CS, D	T2	CS, D	T1	CS, D	T1	D	T1	D	T1, T2, T3	CS, D	T1	CS	T1	CS
Japan	T1, T2, T3	CS, D	T1	D	T1, T2	CS, D	T1, T2	CS, D	NA	NA	T1	D	T1, T2	CS, D	NA	NA	NA	NA
Kazakhstan	T2	CS	T1	D	T1	D	T2	CS	NA	NA	NA	NA	T1, T2	CS, D	T1	D	T1	D
Latvia	T1, T2	CS, D	T1, T2	CS	T1, T2	CS, D	D, T2	CS, D	NA	NA	T2	CS, D	T1, T2	CS, D	T1, T2	D	T1, T2	D
Liechtenstein	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	T2	CS	T2	CS	NA	NA	NA	NA
Lithuania	T2	CS, D	T1	D	T1	D	T1	CS, D	T1	D	T1, T2	CS, D	T1	CS, D	T1	D	T1	D
Luxembourg	T1, T2	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	T1	D	T1	CS, D	NA	NA	NA	NA
Malta	D	D	NA	NA	NA	NA	T1	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	CS, T1, T2	CS, D	CS	D	CS	D	CS, T1	CS, D	NA	NA	D, T1	CS	CS, T1, T2	CS, D	CS	D	CS	D
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	T1, T2	CS, D	T1, T2	CS, D
Norway	T2, T3	CR, CS	T1	D	T1	D	T1, T2, T3	CS, D	NA	NA	T2	CS, D	T1, T2, T3	CS, D	NA	NA	NA	NA
Poland	D, T2	CS, D	D, T2	CS, D	D, T1, T2	CS, D	D, T1, T2	CS, D	NA	NA	T1	D	D, T1, T2	CS, D	D, T1	CS, D	D, T1	CS, D
Portugal	CS, T2	CS, D	D	D	D	D	D, T2	CS, D	D	D	D	D	T2	CS, D	D	D	D	D
Romania	T1, T2, T3	CS, D	T1	D	T1	D	T1, T2	CS, OTH	NA	NA	T1	D	D, T1	CS, D	NA	NA	NA	NA
Russian Federation	CS, T2	CS	T1, T2	CS, D	T1, T2	CS, D	T1	D	NA	NA	NA	NA	CS, T1, T3	CS, D	T1	D	T1	D
Slovakia	T2	CS, D	T2	D	T2	D	T1, T2	CS, D	NA	NA	T1	D	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	NA	NA	NA	NA
Spain	CS, T1, T2	CS, D	CS	D	CS	D	T1, T2	CS, D	NA	NA	T1	D	T1, T2	CS, D	CS	D	CS	D
Sweden	T1, T2, T3	CS	T1	D	T1	D	T1, T2, T3	CS, D	NA	NA	CS, T1	CS, D	T1, T2, T3	CS	T1	CS	T1	CS
Switzerland	T2	CS	T1	CS	T1	D	T2	CS	NA	NA	T1	D	T2	CS	T1	CS	T1	D
Turkey	T1, T2	CS, D	T1, T2	CS, D	T1	CS, D	T2	CS, D	NA	NA	NA	NA	T1	D	NA	NA	NA	NA
Ukraine	T1, T2	CS, D	T1	D	T1	D	CS, T1, T2	CS, D	NA	NA	T1	D	CS, T2	CS, D	T1	D	T1	D
United Kingdom	CS, D, T3	CS	D	CS	D, T1	CS	CS, D, T3	CS	D	CS	D	CS	CS, D, T3	CS, D	D	CS	D	CS
United States	T3	CS	T2	D	D, T2	D	T1, T2, T3	CS, D	NA	NA	NA	NA	T2, T3	CS	NA	NA	NA	NA

[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 5.1b

Methods and emission factors used (2012)[a]

	Wetlands						Settlements						Other Land					
	CO_2		CH_4		N_2O		CO_2		CH_4		N_2O		CO_2		CH_4		N_2O	
	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF	Method	EF
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA
Belarus	T2	CS	NA	NA	T1	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	CS, T1	CS	NA	NA	NA	NA	CS, T1	CS	NA	NA	NA	NA	CS, T1	CS	NA	NA	NA	NA
Bulgaria	T1	CS	NA	NA	NA	NA	T1	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Canada	T2, T3	CS	NA	NA	NA	NA	T1, T2, T3	CS	T2	CS	T2	CS	NA	NA	NA	NA	NA	NA
Croatia	T1	D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	T1	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark	CS, D	CS, D	NA	NA	T1	D	CS, T1	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estonia	T2	CS, OTH	T2	CS	T2	CS	T2	OTH	NA	NA	NA	NA	T2	OTH	NA	NA	NA	NA
European Union (15)	CS, D, T1, T2, T3	CS, D, OTH	T1, T2, T3	CS, D	D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D	D, T2, T3	CS	D, T2, T3	CS	CS, T1, T2, T3	CS, D	NA	NA	NA	NA
European Union (28)	CS, D, T1, T2, T3	CS, D, OTH	D, T1, T2, T3	CS, D	D, T1, T2, T3	CS, D	CS, D, T1, T2, T3	CS, D, OTH	D, T2, T3	CS	D, T2, T3	CS	CS, D, T1, T2, T3	CS, D, OTH	NA	NA	NA	NA
Finland	T1, T2	CS, D	T1, T2	CS, D	T2	CS	T2	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	T2, T3	CS	NA	NA	NA	NA
Germany	CS, T1	CS, D	NA	NA	T2	D	CS, T1	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	T1, T2	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA
Hungary	T1	D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	RA, T2	CS	RA, T2	CS	NA	NA	T1, T3	CS	NA	NA	NA	NA	NA	NA	T2	CS, D	T2	CS, D
Ireland	CS, T1, T3	CS, D, OTH	NA	NA	D, T1	D	T1, T2, T3	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	T2	CS, D	NA	NA	NA	NA	T1a, T1b, T2	CS, D	NA	NA	NA	NA	T2	CS, D	NA	NA	NA	NA
Kazakhstan			T1	D	T1	D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	T1, T2	CS, D	NA	NA	T1	D	T2	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA
Lithuania	T1	D	NA	NA	T1	D	T1	D	NA	NA	NA	NA	T1	D	NA	NA	NA	NA
Luxembourg	T1	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA
Malta	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	T1a	D	NA	NA	T1	D	NA	NA	NA	NA	NA	NA
Netherlands	T1	D	NA	NA	NA	NA	T1	D	NA	NA	NA	NA	T1	D	NA	NA	NA	NA
New Zealand	T1, T2	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA
Norway	T2, T3	CR, CS	NA	NA	T1	D	T2, T3	CS	NA	NA	NA	NA	T2, T3	CS	NA	NA	NA	NA
Poland	T1, T2	D	D, T1	CS, D	D, T1	CS, D	T1, T2	CS, D	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	T2	CS, D	NA	NA	NA	NA	T2	CS, D	NA	NA	NA	NA	T2	CS, D	NA	NA	NA	NA
Romania	T1	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA
Russian Federation	T1	D	T1	D	T1	D	CS, T1, T2	CS	NA	NA	NA	NA	T1	CS	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA
Slovenia	D, T1, T2	CS, D	NA	NA	NA	NA	D, T2	CS, D	NA	NA	NA	NA	D, T2	CS, D	NA	NA	NA	NA
Spain	T1, T2	CS, D	NA	NA	NA	NA	T1, T2	CS, D	NA	NA	NA	NA	T1	CS, D	NA	NA	NA	NA
Sweden	T2	CS	NA	NA	NA	NA	T1, T2, T3	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	T2	CS	T1	CS	NA	NA	T2	CS	NA	NA	NA	NA	T2	CS	NA	NA	NA	NA
Turkey	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	T1	D	NA	NA	T1	D	T2	CS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	CS, D	CS, D	NA	NA	D	CS	CS, D, T3	CS	D	CS	D	CS	NA	NA	NA	NA	NA	NA
United States	T1	D	NA	NA	T1	D	T2, T3	CS	NA	NA	T1	D	NA	NA	NA	NA	NA	NA

[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 5.2a

Forest land remaining forest land - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
			CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
	Total area (kha)	Area of organic soil (kha)	Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	108,540.68	NA, NO	0.17	-0.01	0.16	-0.11	0.00	NA, NO
Austria	3,851.27	NA, NO	2.38	-2.07	0.31	0.06	-0.18	NO
Belarus	8,085.60	NE	1.55	-0.68	0.87	NE	NE	NE
Belgium	688.87	NO	1.00	-0.16	0.84	-0.01	0.57	NO
Bulgaria	3,644.82	NO	0.75	IE, NO	0.75	NO	NO	NO
Canada	231,682.69	IE	3.47	-3.41	0.06	0.02	0.03	IE
Croatia	2,044.13	NO	1.83	-0.93	0.90	NO	NO	NO
Cyprus	173.60	NE	0.29	NE	0.29	NE	NE	NE
Czech Republic	2,562.47	18.67	3.03	-2.21	0.81	NO	NO	NA, NO
Denmark	538.39	26.29	1.78	IE, NA, NO	1.78	0.51	NA	-0.34
Estonia	2,214.37	484.94	0.28	IE	0.28	0.04	0.15	-0.27
European Union (15)	120,457.84	10,448.30	1.26	-0.67	0.59	0.00	0.09	-0.39
European Union (28)	156,606.68	12,042.79	1.33	-0.66	0.67	0.00	0.07	-0.40
Finland	21,893.32	5,923.16	1.62	-1.15	0.47	IE	0.13	-0.34
France	22,457.25	NO	1.84	-1.04	0.80	-0.04	0	NO
Germany	10,849.43	222.47	1.03	IE	1.03	-0.10	0.27	-0.68
Greece	3,354.07	NO	0.15	IE, NO	0.15	NA, NO	NA, NO	NA, NO
Hungary	1,899.99	6.46	0.39	IE, NO	0.39	NO	NO	-0.68
Iceland	87.41	0.50	0.11	IE	0.11	IE, NE	NE	-0.16
Ireland	449.57	268.50	6.12	-6.41	-0.29	0.43	NO	-0.21
Italy	7,707.50	NO	2.60	-1.76	0.83	0.02	NE, NO	NO
Japan	24,934.90	66.19	0.83	IE, NA	0.83	-0.02	0.03	NO
Kazakhstan	14,110.00	NO	0.18	NO	0.18	IE	NE	NO
Latvia	3,148.08	428.89	3.04	-1.85	1.19	0.02	NO	-0.68
Liechtenstein	5.90	NO	3.20	-2.36	0.84	0.00	0.01	NO
Lithuania	2,071.36	325.20	1.12	IE	1.12	0.04	NO	-0.34
Luxembourg	89.53	NO	3.06	-1.74	1.32	NO	NO	NO
Malta	0.21	NO	6.77	NE	6.77	NE	NE	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	340.95	9	2.61	-0.41	2.20	0.11	NO	NE
New Zealand	9,096.31	17.83	1.22	-1.15	0.08	0.16	0.00	-0.10
Norway	12,042.85	716.02	0.93	-0.38	0.55	0.16	0.00	-0.64
Poland	8,707.10	234.08	1.11	IE	1.11	-0.04	0.11	-0.68
Portugal	3,864.30	NO	1.97	-1.15	0.83	0.00	0.01	NO
Romania	6,579.92	95.33	1.81	-0.99	0.83	NO	NO	-0.68
Russian Federation	777,727.45	1,950.20	0.30	-0.12	0.18	0.03	0.03	-0.71
Slovakia	1,985.25	NO	2.50	-1.53	0.97	NO	NO	NO
Slovenia	1,117.55	0.92	1.45	NA	1.45	0.00	NO	NO
Spain	14,251.32	NO	0.49	IE	0.49	NE	NE	NA
Sweden	27,754.62	3,765.14	0.32	IE	0.32	0.02	0.16	-0.60
Switzerland	1,184.06	3.39	2.99	-2.27	0.72	-0.23	0.00	-0.68
Turkey	20,610.18	NO	0.94	-0.31	0.63	0.13	NE	NO
Ukraine	10,355.84	192.60	1.89	-0.52	1.36	0.30	NO	-0.68
United Kingdom	2,372.14	233.28	2.25	-1.20	1.04	0.22	0.35	1.87
United States	286,397.20	NA	0.50	IE	0.50	0.12	0.14	IE

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.2b

Forest land remaining forest land - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	18,300.00	-936.02	17,363.97	-11,398.47	325.62	NA, NO	-23,067.46
Austria	9,153.62	-7,978.69	1,174.93	227.69	-691.23	NO	-2,608.44
Belarus	12,520.90	-5,491.59	7,029.31	NE	NE	NE	-25,774.14
Belgium	685.47	-107.83	577.64	-8.50	395.41	NO	-3,536.67
Bulgaria	2,732.52	IE, NO	2,732.52	NO	NO	NO	-10,019.23
Canada	804,638.89	-790,799.60	13,839.29	5,673.25	7,491.48	IE	-99,014.72
Croatia	3,736.81	-1,899.74	1,837.07	NO	NO	NO	-6,735.92
Cyprus	49.68	NE	49.68	NE	NE	NE	-182.18
Czech Republic	7,752.23	-5,674.33	2,077.90	NO	NO	NA, NO	-7,618.97
Denmark	960.39	IE, NA, NO	960.39	273.47	NA	-8.92	-4,491.41
Estonia	611.03	IE	611.03	93.47	252.80	-129.68	-3,034.62
European Union (15)	151,997.04	-80,576.63	71,420.42	-156.63	9,379.88	-4,095.14	-280,677.93
European Union (28)	207,707.00	-103,510.33	104,196.67	-251.17	10,597.57	-4,856.03	-402,185.83
Finland	35,532.52	-25,186.85	10,345.67	IE	2,147.01	-2,041.37	-38,321.45
France	41,226.28	-23,243.75	17,982.53	-946.78	0	0	-62,464.42
Germany	11,226.33	IE	11,226.33	-1,105.93	2,869.28	-151.28	-47,074.09
Greece	502.11	IE, NO	502.11	NA, NO	NA, NO	NA, NO	-1,841.07
Hungary	746.43	IE, NO	746.43	NO	NO	-4.40	-2,720.78
Iceland	9.80	IE	9.80	IE, NE	NE	-0.08	-35.64
Ireland	2,749.39	-2,881.78	-132.39	195.11	NO	-56.00	-24.62
Italy	20,017.62	-13,602.52	6,415.11	179.32	NE, NO	NO	-24,179.55
Japan	20,805.50	IE, NA	20,805.50	-417.77	700.68	NO	-77,324.15
Kazakhstan	2,480.00	NO	2,480.00	IE	NE	NO	-9,093.33
Latvia	9,556.34	-5,810.07	3,746.27	66.68	NO	-291.54	-12,911.84
Liechtenstein	18.84	-13.90	4.94	0.02	0.05	NO	-18.36
Lithuania	2,316.95	IE	2,316.95	83.78	NO	-111.27	-8,394.67
Luxembourg	274.39	-155.94	118.44	NO	NO	NO	-434.28
Malta	1.42	NE	1.42	NE	NE	NO	-5.21
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	891.39	-140.99	750.40	37.47	NO	NE	-2,888.83
New Zealand	11,120.93	-10,432.81	688.12	1,486.06	-2.88	-1.87	-7,954.60
Norway	11,198.48	-4,517.42	6,681.06	1,978.20	37.78	-458.67	-30,207.36
Poland	9,690.15	IE	9,690.15	-337.48	964.88	-159.17	-37,247.38
Portugal	7,630.50	-4,426.32	3,204.17	-10.02	30.52	NO	-11,823.81
Romania	11,935.55	-6,505.55	5,430.00	NO	NO	-64.83	-19,672.29
Russian Federation	235,509.17	-96,385.85	139,123.32	23,115.57	22,210.18	-1,384.64	-671,236.23
Slovakia	4,960.31	-3,044.01	1,916.30	NO	NO	NO	-7,026.44
Slovenia	1,620.54	NA	1,620.54	-0.98	NO	NO	-5,938.37
Spain	6,991.39	IE	6,991.39	NE	NE	NA	-25,635.10
Sweden	8,837.17	IE	8,837.17	471.25	3,881.02	-2,273.54	-40,024.94
Switzerland	3,537.60	-2,682.79	854.81	-270.89	0.54	-2.31	-2,134.56
Turkey	19,340.29	-6,312.66	13,027.63	2,595.04	NE	NO	-57,283.11
Ukraine	19,522.67	-5,426.12	14,096.55	3,116.23	NO	-130.97	-62,633.30
United Kingdom	5,325.61	-2,851.94	2,473.67	531.40	750.04	435.98	-15,367.32
United States	142,187.09	IE	142,187.09	35,288.94	40,704.57	IE	-799,995.55

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.3a

Land converted to forest land - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	1136.28	NO	1.54	IE, NO	1.54	1.09	0.13	NO
Austria	161.73	NO	1.72	-0.52	1.20	1.24	0.73	NO
Belarus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	26.57	NO	1.94	NO	1.94	NO	1.21	NO
Bulgaria	204.76	NO	2.25	-0.39	1.86	0.27	-1.10	NO
Canada	72.02	IE, NO	3.40	-1.25	2.15	0.51	-0.19	IE, NO
Croatia	290.39	NO	0.14	-0.01	0.13	NE, NO	0.04	NO
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	46.18	NA, NO	1.87	NA, NO	1.87	NA, NO	0.14	NA, NO
Denmark	94.37	10.25	NA, NO	-0.19	-0.19	-0.02	0.15	-0.34
Estonia	54.83	7.85	0.45	-0.17	0.28	0.31	-0.37	-0.57
European Union (15)	6267.67	308.18	2.03	-0.63	1.40	0.23	0.31	-0.69
European Union (28)	8265.44	356.02	1.84	-0.49	1.35	0.21	0.28	-0.65
Finland	130.82	45.94	0.85	0.00	0.85	IE, NO	-0.09	-1.55
France	1167.40	5.57	1.54	-0.18	1.37	0.31	0.24	-10.48
Germany	400.18	23.17	3.64	-0.40	3.24	0.47	-0.45	-0.68
Greece	33.25	NO	2.49	-1.30	1.19	NE, NO	NE, NO	NO
Hungary	155.64	NO	1.93	-0.01	1.92	NE, NO	NO	NO
Iceland	46.49	3.12	0.89	-0.02	0.87	0.14	0.39	-0.16
Ireland	292.91	161.24	4.70	-1.57	3.13	0.71	NO	-0.45
Italy	1434.04	NO	2.85	-1.91	0.94	0.02	0.16	NO
Japan	24.58	NO	2.80	-0.01	2.79	0.93	0.15	NO
Kazakhstan	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	198.10	4.79	0.35	NO	0.35	0.12	NO	0.68
Liechtenstein	0.29	NO	1.51	NO	1.51	NO	NO	NO
Lithuania	113.43	17.81	1.60	IE	1.60	1.20	NO	-0.34
Luxembourg	6.58	NO	1.65	-0.07	1.58	NO	0.89	NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	56.24	3.73	3.16	-0.47	2.69	NE	0.14	NE
New Zealand	856.07	1.81	8.95	-0.15	8.80	-0.23	-0.54	-0.68
Norway	63.96	6.48	0.65	-0.11	0.53	2.55	-0.62	-1.90
Poland	646.63	17.38	1.05	NO	1.05	NO	0.11	-0.68
Portugal	497.28	NO	2.41	-0.46	1.95	0.01	0.69	NO
Romania	167.01	NO	2.90	-0.01	2.90	0.15	1.93	NO
Russian Federation	120408.57	IE, NO	0.01	0.00	0.01	0.00	0.00	NA, NO
Slovakia	28.81	NO	1.59	NO	1.59	0.42	1.25	NO
Slovenia	92.00	NA, NO	0.99	NA	0.99	NA, NO	1.49	NA, NO
Spain	1129.61	NO	1.18	IE, NO	1.18	0.26	0.62	NA, NO
Sweden	561.40	39.27	0.92	IE	0.92	0.32	0.02	-1.11
Switzerland	50.42	0.11	1.57	-0.86	0.70	1.51	0.59	-0.32
Turkey	1067.96	NO	0.96	-0.16	0.79	0.10	NE, NO	NO
Ukraine	265.56	NO	0.53	0.00	0.53	0.16	0.01	NO
United Kingdom	275.68	19.02	0.94	-0.02	0.92	0.03	1.10	2.71
United States	11512.44	NA	IE	IE	IE	IE	IE	IE

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.3b

Land converted to forest land - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	1,755.11	IE, NO	1,755.11	1,236.46	152.56	NO	-11,528.46
Austria	278.52	-84.86	193.66	201.08	117.66	NO	-1,878.80
Belarus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	51.64	NO	51.64	NO	32.21	NO	-307.45
Bulgaria	460.70	-79.07	381.63	55.08	-225.06	NO	-776.04
Canada	244.88	-90.36	154.53	36.69	-13.48	IE, NO	-651.70
Croatia	40.94	-2.10	38.84	NE, NO	12.99	NO	-190.06
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	86.21	NA, NO	86.21	NA, NO	6.38	NA, NO	-339.52
Denmark	NA, NO	-17.66	-17.66	-1.79	12.61	-3.49	37.83
Estonia	24.87	-9.44	15.42	16.75	-17.20	-4.48	-38.48
European Union (15)	12,735.89	-3,974.80	8,761.09	1,469.10	1,840.84	-213.29	-43,478.38
European Union (28)	15,202.20	-4,067.36	11,134.84	1,737.94	2,184.25	-232.42	-54,356.92
Finland	111.14	-0.50	110.64	IE, NO	-7.86	-71.12	-116.10
France	1,799.80	-204.56	1,595.25	357.04	276.63	-58.32	-7,958.81
Germany	1,457.20	-158.66	1,298.53	188.63	-168.64	-15.76	-4,776.83
Greece	82.74	-43.13	39.61	NE, NO	NE, NO	NO	-145.24
Hungary	300.32	-1.10	299.22	NE, NO	NO	NO	-1,097.14
Iceland	41.34	-0.74	40.60	6.56	16.84	-0.50	-232.79
Ireland	1,377.42	-461.09	916.33	207.18	NO	-72.79	-3,852.66
Italy	4,083.88	-2,742.35	1,341.53	34.81	228.07	NO	-5,882.85
Japan	68.82	-0.24	68.58	22.92	3.57	NO	-348.59
Kazakhstan	NO	NO	NO	NO	NO	NO	NO
Latvia	69.69	NO	69.69	23.54	NO	3.26	-353.77
Liechtenstein	0.43	NO	0.43	NO	NO	NO	-1.58
Lithuania	181.81	IE	181.81	136.12	NO	-6.09	-1,143.39
Luxembourg	10.86	-0.48	10.38	NO	5.83	NO	-59.43
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	177.64	-26.57	151.07	NE	7.31	NE	-580.71
New Zealand	7,661.29	-131.57	7,529.72	-195.98	-457.05	-1.23	-25,210.06
Norway	41.42	-7.21	34.21	162.82	-35.80	-12.31	-546.03
Poland	679.49	NO	679.49	NO	71.66	-11.82	-2,710.86
Portugal	1,198.05	-229.83	968.23	3.09	345.13	NO	-4,826.95
Romania	485.06	-0.85	484.21	25.40	321.59	NO	-3,047.72
Russian Federation	1,348.84	-445.12	903.73	204.43	281.56	NA, NO	-5,095.62
Slovakia	45.78	NO	45.78	11.95	35.99	NO	-343.63
Slovenia	91.46	NA	91.46	NA, NO	137.07	NA, NO	-837.92
Spain	1,331.11	IE, NO	1,331.11	291.67	698.41	NA, NO	-8,511.03
Sweden	517.28	IE	517.28	177.94	12.50	-43.41	-2,435.82
Switzerland	78.94	-43.48	35.46	76.15	29.86	-0.04	-518.61
Turkey	1,021.49	-174.60	846.89	108.85	NE, NO	NO	-3,504.39
Ukraine	141.05	-0.19	140.86	43.32	3.60	NO	-688.50
United Kingdom	258.69	-5.11	253.59	9.47	281.14	51.60	-2,184.57
United States	IE	IE	IE	IE	IE	IE	IE

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.4a

Cropland remaining cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
			CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
	Total area (kha)	Area of organic soil (kha)	Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	21,712.93	NO	NO	NO	NO	NA	-0.03	NO
Austria	1,373.86	NO	0.11	-0.15	-0.04	NO	0.04	NO
Belarus	119.90	NE	2.10	-0.95	1.15	NE	NE	NE
Belgium	811.21	1.90	0.01	0.00	0.01	NO	-0.29	-10.00
Bulgaria	3,551.47	NO	0.12	-0.17	-0.05	NO	0.00	NO
Canada	46,369.89	16.15	0.00	0.00	0.00	-0.01	0.08	-5.00
Croatia	1,525.36	2.46	0.17	-0.19	-0.02	NO	0.00	-10.00
Cyprus	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	3,187.00	NO	0.00	NO	0.00	NO	0.00	NO
Denmark	2,590.24	50.89	0.01	-0.04	-0.03	NO	-0.06	-10.62
Estonia	1,041.08	21.93	IE	0.00	0.00	NO	0.08	-5.00
European Union (15)	75,454.18	1,239.14	0.03	-0.04	-0.01	0.00	-0.01	-7.50
European Union (28)	118,411.56	1,906.00	0.03	-0.03	0.00	0.00	0.00	-5.43
Finland	2,322.63	286.98	0.00	0.00	0.00	NE	-0.02	-5.01
France	13,883.99	0	0.10	-0.10	0	NO	0	0
Germany	12,557.39	560.76	NO	NO	NO	NO	NO	-11.00
Greece	3,564.77	6.66	0.06	-0.02	0.04	NO	NE	-10.00
Hungary	5,108.86	NO	0.01	-0.01	0.00	NO	0.08	NO
Iceland	122.73	54.51	NO	NO	NO	NO	NE	-5.00
Ireland	236.28	NO	NO	NO	NO	NO	0.02	NO
Italy	8,597.88	24.69	0.00	-0.10	-0.10	NA	NO	-10.00
Japan	3,882.76	176.76	NA	NA	NA	NA	0.00	-2.15
Kazakhstan	35,724.20	NO	0.00	NO	0.00	NO	C	NO
Latvia	1,679.42	87.48	NO	NO	NO	NO	NO	-3.71
Liechtenstein	1.76	0.13	NO	NO	NO	NO	NO	-9.52
Lithuania	1,371.98	9.60	0.00	0.00	0.00	NO	NO	-1.00
Luxembourg	56.57	NO	0.14	-0.17	-0.03	NO	NO	NO
Malta	11.84	NO	0.05	NE, NO	0.05	NE, NO	NE	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	630.74	16.21	NE	NE	NE	NE	NO	IE
New Zealand	408.98	9.51	0.01	-0.01	0.00	NE	0.00	-9.89
Norway	914.45	60.54	0.00	0.00	0.00	NO	0.01	-6.67
Poland	14,109.27	534.35	0.03	-0.01	0.02	NO	0.00	-1.00
Portugal	2,168.97	NO	0.03	-0.01	0.02	NO	0.01	NO
Romania	9,696.67	5.00	0.04	0.00	0.04	0.00	0.00	NO
Russian Federation	90,895.01	2,507.30	0.01	-0.01	0.01	NO	-0.35	-5.92
Slovakia	1,508.99	NO	0.17	0.00	0.17	NO	0.01	NO
Slovenia	165.44	6.0458	0.07	-0.01	0.06	NA, NO	0.00	-10.00
Spain	19,603.72	NO	IE	0.00	0.00	NE	0.05	NA
Sweden	2,883.10	141.05	0.04	IE	0.04	0.00	-0.02	-3.74
Switzerland	388.51	10.93	NO	-0.21	-0.21	NO	NO	-9.52
Turkey	545.71	18.80	NE	-0.95	-0.95	NE	0.98	-9.51
Ukraine	34,715.47	108.19	0.04	0.00	0.04	NO	-0.27	-10.00
United Kingdom	4,180.17	150.31	0.04	NA, NO	0.04	IE, NO	-0.34	-1.90
United States	145,099.24	526.94	NE	NE	NE	NE	0.09	-11.46

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.4b

Cropland remaining cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	NO	NO	NO	NA	-692.41	NO	2,538.83
Austria	154.78	-203.20	-48.42	NO	60.32	NO	-43.65
Belarus	251.79	-113.40	138.39	NE	NE	NE	-507.43
Belgium	8.70	-1.48	7.22	NO	-235.61	-18.99	907.05
Bulgaria	421.87	-603.90	-182.02	NO	-5.22	NO	686.55
Canada	24.49	-21.38	3.12	-477.58	3,492.14	-80.76	-10,768.68
Croatia	257.21	-295.25	-38.04	NO	0.00	-24.60	229.65
Cyprus	NA	NA	NA	NA	NA	NA	NA
Czech Republic	0.51	NO	0.51	NO	4.07	NO	-16.80
Denmark	27.80	-101.94	-74.14	NO	-158.40	-540.19	2,833.36
Estonia	IE	-2.82	-2.82	NO	85.12	-109.64	100.24
European Union (15)	2,167.51	-2,738.78	-571.27	0.00	-737.80	-9,293.75	38,877.00
European Union (28)	4,063.33	-3,812.48	250.85	1.43	-247.38	-10,356.56	37,956.08
Finland	0.97	-0.46	0.50	NE	-47.29	-1,439.06	5,448.12
France	1,419.08	-1,419.08	0	NO	0	0	NO
Germany	NO	NO	NO	NO	NO	-6,168.35	22,617.28
Greece	197.51	-68.78	128.74	NO	NE	-66.65	-227.67
Hungary	38.61	-27.86	10.76	NO	426.73	NO	-1,604.12
Iceland	NO	NO	NO	NO	NE	-272.53	999.26
Ireland	NO	NO	NO	NO	3.76	NO	-13.80
Italy	6.51	-846.27	-839.77	NA	NO	-246.90	3,984.45
Japan	NA	NA	NA	NA	-18.28	-380.24	1,461.22
Kazakhstan	0.01	NO	0.01	NO	C	NO	-0.04
Latvia	NO	NO	NO	NO	NO	-324.17	1,188.61
Liechtenstein	NO	NO	NO	NO	NO	-1.20	4.39
Lithuania	6.69	-4.94	1.75	NO	NO	-9.60	28.81
Luxembourg	8.19	-9.63	-1.44	NO	NO	NO	5.28
Malta	0.55	NE, NO	0.55	NE, NO	NE	NO	-2.01
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	NE	NE	NE	NE	NO	IE	IE, NE, NO
New Zealand	5.40	-3.92	1.48	NE	-0.79	-94.06	342.34
Norway	4.41	-1.18	3.23	NO	11.18	-403.83	1,427.89
Poland	470.43	-132.69	337.75	NO	-50.67	-534.35	906.65
Portugal	67.11	-29.32	37.79	NO	17.55	NO	-202.93
Romania	434.81	-2.70	432.10	1.43	19.39	NO	-1,660.72
Russian Federation	1,198.02	-564.38	633.65	NO	-30,515.52	-14,852.59	164,026.37
Slovakia	252.83	-1.58	251.25	NO	11.18	NO	-962.24
Slovenia	12.30	-1.97	10.33	NA, NO	-0.18	-60.46	184.45
Spain	IE	-58.62	-58.62	NE	1,033.87	NA	-3,575.94
Sweden	102.21	IE	102.21	0.00	-47.47	-527.61	1,733.86
Switzerland	NO	-79.95	-79.95	NO	NO	-104.06	674.69
Turkey	NE	-516.86	-516.86	NE	515.40	-178.84	661.07
Ukraine	1,528.17	-6.30	1,521.87	NO	-9,266.53	-1,081.93	32,364.19
United Kingdom	174.65	NA, NO	174.65	IE, NO	-1,364.54	-286.31	5,412.75
United States	NE	NE	NE	NE	13,254.15	-6,038.64	-26,456.89

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.5a

Land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	4552.93	NO	0.06	-0.23	-0.17	-0.32	-0.24	NO
Austria	51.47	NO	0.54	-0.48	0.06	-0.04	-0.99	NO
Belarus	1276.60	NE	NE, NO	NE, NO	NE, NO	NE, NO	NE	NE
Belgium	151.21	NO	NO	-0.11	-0.11	-0.01	-1.58	NO
Bulgaria	266.17	NO	0.25	-0.32	-0.07	NO	-0.72	NO
Canada	419.28	C, IE, NE, NO	C, NE, NO	-2.25	-2.25	-17.66	17.29	C, IE, NE, NO
Croatia	14.44	NO	0.55	-0.34	0.21	NO	-1.11	NO
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	45.86	NO	0.00	-0.14	-0.14	0.00	-0.34	NA, NO
Denmark	76.58	0.00	1.66	-1.38	0.28	-0.04	0.01	-5.00
Estonia	10.14	0.70	IE, NO	-0.37	-0.37	-0.01	-1.37	-5.00
European Union (15)	8603.09	168.76	0.14	-0.25	-0.11	-0.02	-1.04	-7.38
European Union (28)	10224.15	177.92	0.13	-0.23	-0.10	-0.01	-1.02	-7.15
Finland	115.97	51.55	0.20	-0.78	-0.58	0.00	-0.51	-4.90
France	4446.44	18.52	NO	-0.15	-0.15	-0.02	-1.18	-3.48
Germany	1246.58	83.31	0.59	-0.59	0.00	-0.01	-0.79	-11.00
Greece	0.10	NO	NO	-0.07	-0.07	NO	-0.85	NO
Hungary	103.55	NO	0.14	-0.11	0.03	-0.01	-0.91	NO
Iceland	5.40	2.87	0.10	-0.75	-0.65	IE, NE, NO	0.10	-5.00
Ireland	144.22	NO	NO	-0.12	-0.12	NO	-0.60	NO
Italy	50.31	NO	NO	NO	NO	NO	-1.07	NO
Japan	52.94	IE, NO	IE, NA	-0.58	-0.58	-0.21	-0.14	IE, NO
Kazakhstan	NO	NO	NO	NO	NO	NE, NO	NE, NO	NO
Latvia	15.91	2.18	NO	IE, NO	IE, NO	NO	-1.62	-8.21
Liechtenstein	0.09	0.00	0.28	-0.36	-0.08	NO	-0.30	-9.52
Lithuania	741.71	5.19	IE, NE, NO	-0.05	-0.05	NO	-1.35	-1.00
Luxembourg	6.77	NO	0.43	-0.38	0.05	0.00	-0.61	NO
Malta	194.18	NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	313.65	12.00	0.80	-1.21	-0.41	-0.05	-0.65	NE
New Zealand	67.12	0.97	0.38	-0.05	0.34	0.00	-0.65	-9.96
Norway	19.90	5.87	NO	-0.51	-0.51	-2.23	1.15	-6.67
Poland	28.86	1.09	NO	NO	NO	NO	-1.02	NO
Portugal	219.14	NO	0.15	-0.34	-0.19	-0.06	-0.73	NO
Romania	102.78	IE, NO	NO	-0.10	-0.10	NO	-0.06	IE, NO
Russian Federation	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO
Slovakia	25.66	NO	NO	-0.06	-0.06	-0.01	-0.71	NO
Slovenia	71.80	NA, NO	0.02	-0.56	-0.53	-0.06	-0.48	NA, NO
Spain	494.10	NO	0.03	-0.02	0.02	0.00	-0.86	NA, NO
Sweden	68.92	3.37	0.16	-0.16	0.00	-0.11	-0.28	-3.73
Switzerland	16.74	0.26	0.04	-0.08	-0.04	0.00	-0.18	-9.17
Turkey	221.09	NA, NE	1.23	NA, NE	1.23	NA, NE	-0.27	NA, NE
Ukraine	170.43	NO	NO	NO	NO	NO	-0.01	NO
United Kingdom	1220.15	0.16	IE, NO	0.00	0.00	0.00	-1.13	-1.00
United States	12796.14	98.82	NE	NE	NE	NE	-0.26	-13.21

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.5b

Land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	277.18	-1,034.50	-757.33	-1,449.11	-1,100.61	NO	12,125.82
Austria	27.67	-24.51	3.16	-1.94	-50.76	NO	181.65
Belarus	NE, NO	NE, NO	NE, NO	NE, NO	NE	NE	NE, NO
Belgium	NO	-16.41	-16.41	-1.57	-239.58	NO	944.39
Bulgaria	65.50	-85.17	-19.68	NO	-190.44	NO	770.44
Canada	C, NE, NO	-943.35	-943.35	-7,405.04	7,247.60	C, IE, NE, NO	4,036.25
Croatia	7.97	-4.87	3.10	NO	-16.07	NO	47.55
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	0.22	-6.57	-6.35	-0.11	-15.78	NA, NO	81.53
Denmark	127.04	-105.53	21.51	-3.32	1.01	-0.01	-70.37
Estonia	IE, NO	-3.78	-3.78	-0.07	-12.93	-3.49	74.30
European Union (15)	1,224.25	-2,143.71	-919.45	-142.05	-8,779.48	-1,246.03	40,652.36
European Union (28)	1,313.85	-2,344.11	-1,030.26	-148.21	-10,210.82	-1,272.59	46,426.89
Finland	22.99	-90.76	-67.78	-0.32	-32.73	-252.61	1,295.94
France	NO	-678.17	-678.17	-80.89	-5,226.66	-64.38	22,183.72
Germany	734.35	-735.10	-0.75	-14.61	-918.41	-916.46	6,784.16
Greece	NO	-0.01	-0.01	NO	-0.08	NO	0.33
Hungary	14.19	-11.54	2.65	-1.28	-93.86	NO	339.11
Iceland	0.55	-4.06	-3.51	IE, NE, NO	0.26	-14.33	64.43
Ireland	NO	-16.62	-16.62	NO	-86.41	NO	377.75
Italy	NO	NO	NO	NO	-53.81	NO	197.32
Japan	IE, NA	-30.56	-30.56	-11.14	-7.39	IE, NO	179.99
Kazakhstan	NO	NO	NO	NE, NO	NE, NO	NO	NE, NO
Latvia	NO	IE, NO	IE, NO	NO	-22.31	-17.87	147.34
Liechtenstein	0.03	-0.03	-0.01	NO	-0.03	-0.02	0.21
Lithuania	IE, NE, NO	-36.43	-36.43	NO	-993.12	-5.19	3,794.05
Luxembourg	2.90	-2.59	0.32	-0.01	-4.12	NO	13.97
Malta	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	NO	IE, NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	250.75	-378.53	-127.79	-16.58	-196.92	NE	1,251.35
New Zealand	25.70	-3.16	22.54	0.00	-42.83	-9.65	109.76
Norway	NO	-10.14	-10.14	-44.45	16.16	-39.18	284.56
Poland	NO	NO	NO	NO	-28.31	NO	103.81
Portugal	32.28	-74.48	-42.19	-13.97	-160.15	NO	793.15
Romania	NO	-10.49	-10.49	NO	-6.16	IE, NO	61.06
Russian Federation	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO
Slovakia	NO	-1.48	-1.48	-0.16	-18.12	NO	72.47
Slovenia	1.72	-40.07	-38.36	-4.56	-34.23	NA, NO	282.86
Spain	15.57	-7.53	8.04	-1.30	-426.12	NA, NO	1,537.74
Sweden	10.71	-10.92	-0.22	-7.38	-18.23	-12.58	140.81
Switzerland	0.62	-1.33	-0.71	-0.01	-2.97	-2.37	22.26
Turkey	272.48	NA, NE	272.48	NA, NE	-60.47	NA, NE	-777.39
Ukraine	NO	NO	NO	NO	-2.22	NO	8.15
United Kingdom	IE, NO	-3.80	-3.80	-0.17	-1,372.64	-0.16	5,048.15
United States	NE	NE	NE	NE	-3,288.32	-1,305.11	16,842.57

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.6a

Forest land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	4,552.93	NO	0.06	-0.23	-0.17	-0.32	-0.24	NO
Austria	3.48	NO	0.26	-1.25	-0.98	-0.56	-0.99	NO
Belarus	NO	NE	NO	NO	NO	NO	NE	NE
Belgium	2.60	NO	NO	-6.31	-6.31	-0.60	-2.13	NO
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO
Canada	414.49	C, IE, NO	C, NO	-2.28	-2.28	-17.87	17.50	C, IE, NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO
Cyprus	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	2.28	NO	NO	-2.29	-2.29	-0.05	-0.39	NO
Denmark	1.27	IE, NO	1.07	-13.43	-12.35	-2.61	-0.14	IE, NO
Estonia	NO	NO	NO	NO	NO	NO	NO	NO
European Union (15)	367.17	37.61	0.10	-2.58	-2.48	-0.36	-1.05	-5.12
European Union (28)	392.85	39.79	0.10	-2.50	-2.40	-0.36	-1.07	-5.29
Finland	85.92	35.811	0.20	-0.98	-0.78	0.00	-0.33	-4.9
France	158.37	0	NO	-4.28	-4.28	-0.51	-1.36	0
Germany	29.50	1.47	0.20	-1.39	-1.19	-0.50	0.04	-11.00
Greece	0.01	NO	NO	NO	NO	NO	-0.91	NO
Hungary	1.35	NO	IE	-2.00	-2.00	-0.95	-0.50	NO
Iceland	NE	NE	NE	NE	NE	NE	NE	NE
Ireland	NO	NO	NO	NO	NO	NO	NO	NO
Italy	NO	NO	NO	NO	NO	NO	NO	NO
Japan	16.67	NO	NA	-1.83	-1.83	-0.67	-0.44	NO
Kazakhstan	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	15.91	2.18	NO	IE	IE, NO	NO	-1.62	-8.21
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	0.70	NO	0.54	-1.08	-0.53	-0.01	-0.81	NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	2.49	0.08	1.03	-19.61	-18.59	-6.64	-0.36	NE
New Zealand	0.78	0.01	0.35	NA	0.35	NA, NE	-0.04	-4.41
Norway	13.47	1.56	NO	-0.75	-0.75	-3.30	1.30	-6.67
Poland	NO	NO	NO	NO	NO	NO	NO	NO
Portugal	52.42	NO	0.20	-0.86	-0.66	-0.10	-1.53	NO
Romania	NO	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO
Slovakia	0.35	NO	NO	-0.65	-0.65	-0.44	-1.45	NO
Slovenia	5.80	NA, NO	NA	-4.11	-4.11	-0.79	-1.19	NA
Spain	25.07	NO	IE	-0.30	-0.30	-0.06	-1.00	NA
Sweden	4.92	0.24	IE	-0.99	-0.99	-1.50	0.45	-3.73
Switzerland	0.03	0.01	NO	-4.14	-4.14	-0.56	-0.79	-9.52
Turkey	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	3.73	NO	NO	NO	NO	NO	NO	NO
United Kingdom	0.42	IE, NO	IE, NO	-2.06	-2.06	-0.41	-1.25	IE, NO
United States	149.05	2.87	NE	NE	NE	NE	-0.49	-21.44

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.6b

Forest land converted to cropland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	277.18	-1,034.50	-757.33	-1,449.11	-1,100.61	NO	12,125.82
Austria	0.91	-4.33	-3.43	-1.94	-3.45	NO	32.33
Belarus	NO	NO	NO	NO	NE	NE	NE, NO
Belgium	NO	-16.41	-16.41	-1.57	-5.54	NO	86.26
Bulgaria	NO	NO	NO	NO	NO	NO	NO
Canada	C, NO	-943.35	-943.35	-7,405.04	7,251.86	C, IE, NO	4,020.64
Croatia	NO	NO	NO	NO	NO	NO	NO
Cyprus	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	-5.22	-5.22	-0.11	-0.90	NO	22.83
Denmark	1.36	-17.05	-15.69	-3.32	-0.18	IE, NO	70.34
Estonia	NO	NO	NO	NO	NO	NO	NO
European Union (15)	38.55	-948.92	-910.38	-133.48	-345.01	-192.59	5,798.66
European Union (28)	38.55	-980.87	-942.32	-139.59	-376.29	-210.46	6,118.41
Finland	17.18	-83.99	-66.81	-0.32	-16.76	-175.47	950.97
France	NO	-678.17	-678.17	-80.89	-215.21	0	3,572.31
Germany	5.88	-41.02	-35.13	-14.61	1.02	-16.22	238.09
Greece	NO	NO	NO	NO	-0.01	NO	0.04
Hungary	IE	-2.69	-2.69	-1.28	-0.67	NO	16.98
Iceland	NE	NE	NE	NE	NE	NE	NE
Ireland	NO	NO	NO	NO	NO	NO	NO
Italy	NO	NO	NO	NO	NO	NO	NO
Japan	NA	-30.55	-30.55	-11.14	-7.29	NO	179.59
Kazakhstan	NO	NO	NO	NO	NO	NO	NO
Latvia	NO	IE	IE, NO	NO	-22.31	-17.87	147.34
Liechtenstein	NO	NO	NO	NO	NO	NO	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO
Luxembourg	0.38	-0.75	-0.37	-0.01	-0.56	NO	3.46
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	2.56	-48.94	-46.38	-16.58	-0.88	NE	234.04
New Zealand	0.27	NA	0.27	NA, NE	-0.03	-0.03	-0.77
Norway	NO	-10.14	-10.14	-44.45	15.48	-10.42	181.61
Poland	NO	NO	NO	NO	NO	NO	NO
Portugal	10.27	-45.00	-34.72	-5.32	-80.07	NO	440.40
Romania	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	-0.23	-0.23	-0.16	-0.51	NO	3.26
Slovenia	NA	-23.81	-23.81	-4.56	-6.90	NA	129.33
Spain	IE	-7.53	-7.53	-1.39	-24.95	NA	124.20
Sweden	IE	-4.87	-4.87	-7.38	2.11	-0.90	40.48
Switzerland	NO	-0.11	-0.11	-0.01	-0.02	-0.06	0.74
Turkey	NA	NA	NA	NA	NA	NA	NA
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom	IE, NO	-0.86	-0.86	-0.17	-0.53	IE, NO	5.73
United States	NE	NE	NE	NE	-71.19	-61.62	486.94

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.7a

Grassland remaining grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	433355.69	NO	NO	NO	NO	0.00	0.00	NO
Austria	1733.05	12.95	NO	NO	NO	NO	0.00	-0.25
Belarus	3154.00	NE	NE	NE	NE	NE	NE	NE
Belgium	540.42	0.82	NO	NO	NO	NO	-0.16	-2.50
Bulgaria	1545.01	NO	NO	NO	NO	NO	NO	NO
Canada	NE	NE	NE	NE	NE	NE	NE	NE
Croatia	1166.41	0.23	NO	NO	NO	NO	NO	-2.50
Cyprus	NE	NE	NE	NE	NE	NE	NE	NE
Czech Republic	914.05	NO	NO	NO	NO	NO	0.00	NO
Denmark	502.27	24.66	0.12	-0.31	-0.19	NA, NO	IE, NA, NO	-0.88
Estonia	286.10	34.10	IE	-0.40	-0.40	0.00	NO	-0.91
European Union (15)	60501.89	1279.05	0.09	-0.08	0.01	0.00	0.02	-3.37
European Union (28)	86676.72	1587.21	0.06	-0.06	0.00	0.00	0.01	-2.80
Finland	182.73	51.53	NE	NE	NE	NA	0.58	-3.20
France	10556.69	0	0.18	-0.18	0	NO	0	0
Germany	5723.39	592.49	0.04	-0.05	0.00	NO	0.00	-4.73
Greece	4791.00	NO	NO	0.00	0.00	NO	NO	NO
Hungary	1114.26	NO	NO	NO	NO	NO	-0.11	NO
Iceland	4873.47	319.99	0.00	IE, NO	0.00	0.00	0.00	-0.25
Ireland	4164.62	377.28	NO	NO	NO	NO	0.01	-0.19
Italy	7079.79	NO	0.44	-0.38	0.06	0.00	NE, NO	NO
Japan	920.09	40.22	NA	NA	NA	NA	NA	NA, NE, NO
Kazakhstan	65658.80	NA	0.00	NO	0.00	NE	0.03	NO
Latvia	553.51	28.67	0.03	-0.01	0.02	0.00	NO	-1.60
Liechtenstein	4.41	0.04	0.05	-0.04	0.01	NO	0.01	-8.16
Lithuania	837.57	87.94	NO	NO	NO	NO	NO	-0.25
Luxembourg	60.75	NO	NO	NO	NO	NO	NO	NO
Malta	9989.97	NO	NE	NE	NE	NE	NE	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	991.99	176.97	NE	NE	NE	NE	NO	-6.54
New Zealand	14502.35	174.14	0.00	0.00	0.00	0.00	0.00	-2.21
Norway	199.83	2.69	0.09	-0.06	0.03	NO	-0.09	-6.67
Poland	4130.11	156.42	NO	NO	NO	NO	-0.02	-0.25
Portugal	380.06	NO	NO	NO	NO	NO	0.19	NO
Romania	4601.84	NO	NO	NO	NO	NO	NO	NO
Russian Federation	86215.70	1765.30	NA	NA	NA	NA	0.01	-5.82
Slovakia	786.60	NO	NO	NO	NO	NO	NO	NO
Slovenia	249.42	0.81	NA	NA	NA	NA	NA	-2.50
Spain	11636.85	NO	NE	NE	NE	NE	NE	NA
Sweden	387.65	49.83	0.10	IE	0.10	0.21	-0.07	-1.66
Switzerland	1343.77	5.99	0.01	-0.01	0.00	NO	0.01	-8.89
Turkey	NE	3.19	NE	NA	NA, NE	NA	NE	-0.92
Ukraine	6917.59	368.71	NO	NO	NO	NO	0.00	-2.50
United Kingdom	13270.70	1210.10	NO	NO	NO	NO	0.11	IE, NO
United States	165274.39	303.64	NE	NE	NE	NE	-0.01	-2.72

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.7b

Grassland remaining grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	NO	NO	NO	78.82	-461.94	NO	1,404.77
Austria	NO	NO	NO	NO	2.79	-3.24	1.66
Belarus	NE	NE	NE	NE	NE	NE	NE
Belgium	NO	NO	NO	NO	-88.28	-2.05	331.21
Bulgaria	NO	NO	NO	NO	NO	NO	NO
Canada	NE	NE	NE	NE	NE	NE	NE
Croatia	NO	NO	NO	NO	NO	-0.56	2.07
Cyprus	NE	NE	NE	NE	NE	NE	NE
Czech Republic	NO	NO	NO	NO	0.35	NO	-1.27
Denmark	62.77	-157.54	-94.77	NA, NO	IE, NA, NO	-21.79	427.40
Estonia	IE	-115.44	-115.44	-0.91	NO	-31.16	540.91
European Union (15)	5,351.17	-5,027.98	323.20	106.92	1,396.78	-4,306.60	9,092.25
European Union (28)	5,366.83	-5,147.80	219.02	107.50	1,207.52	-4,447.38	10,682.24
Finland	NE	NE	NE	NA	75.78	-164.91	326.80
France	1,892.10	-1,892.10	0	NO	0	0	NO
Germany	240.82	-265.04	-24.22	NO	-5.46	-2,803.36	10,387.79
Greece	NO	-0.11	-0.11	NO	NO	NO	0.40
Hungary	NO	NO	NO	NO	-126.22	NO	462.79
Iceland	2.48	IE, NO	2.48	0.79	2.05	-80.00	273.82
Ireland	NO	NO	NO	NO	44.53	-70.93	96.81
Italy	3,118.17	-2,713.23	404.94	26.50	NE, NO	NO	-1,581.96
Japan	NA	NA	NA	NA	NA	NA, NE, NO	NA, NE, NO
Kazakhstan	0.01	NO	0.01	NE	2,000.00	NO	-7,333.37
Latvia	15.65	-4.38	11.27	1.49	NO	-45.94	121.67
Liechtenstein	0.22	-0.19	0.03	NO	0.03	-0.36	1.10
Lithuania	NO	NO	NO	NO	NO	-21.99	80.62
Luxembourg	NO	NO	NO	NO	NO	NO	NO
Malta	NE	NE	NE	NE	NE	NO	NE, NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	NE	NE	NE	NE	NO	-1,158.00	4,246.00
New Zealand	46.94	-39.19	7.75	0.01	-2.28	-384.00	1,387.90
Norway	18.10	-12.88	5.23	NO	-17.02	-17.91	108.90
Poland	NO	NO	NO	NO	-63.38	-39.10	375.79
Portugal	NO	NO	NO	NO	73.51	NO	-269.55
Romania	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NA	NA	NA	NA	1,055.48	-10,274.05	33,801.40
Slovakia	NO	NO	NO	NO	NO	NO	NO
Slovenia	NA	NA	NA	NA	NA	-2.02	7.41
Spain	NE	NE	NE	NE	NE	NA	NA, NE
Sweden	37.32	IE	37.32	80.42	-24.30	-82.65	-39.56
Switzerland	10.02	-6.97	3.05	NO	13.42	-53.21	134.74
Turkey	NE	NA	NA, NE	NA	NE	-2.93	10.73
Ukraine	NO	NO	NO	NO	30.09	-921.77	3,269.47
United Kingdom	NO	NO	NO	NO	1,318.21	IE, NO	-4,833.44
United States	NE	NE	NE	NE	-1,009.55	-825.92	6,730.03

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.8a

Land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	13,319.65	NO	0.06	-0.17	-0.11	-0.20	-0.32	IE, NO
Austria	57.15	NO	0.27	-0.94	-0.67	-0.40	0.88	NO
Belarus	IE, NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	123.90	NO	NO	-0.29	-0.29	-0.02	1.50	NO
Bulgaria	267.00	NO	0.32	-0.42	-0.10	NO	0.74	NO
Canada	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	50.43	NO	0.14	-0.36	-0.22	NO	1.07	NO
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	176.38	NO	0.04	-0.05	-0.01	0.00	0.49	NA, NO
Denmark	51.31	IE, NO	1.04	-1.66	-0.62	-0.04	-0.02	IE, NA
Estonia	50.65	4.17	0.09	-0.11	-0.01	-0.08	0.89	-1.60
European Union (15)	9,901.23	168.36	0.07	-0.26	-0.19	-0.04	0.84	-2.25
European Union (28)	11,891.41	255.01	0.07	-0.26	-0.18	-0.04	0.82	-1.51
Finland	84.07	21.564	0.42	-0.27	0.15	0.00	0.94	-3.20
France	3,752.26	84.09	NO	-0.13	-0.13	-0.02	1.10	-2.41
Germany	366.43	22.22	0.68	-0.78	-0.09	-0.20	0.78	-3.91
Greece	344.31	NO	NO	-0.11	-0.11	0.00	0.84	NO
Hungary	80.24	NO	0.07	-0.41	-0.34	-0.05	0.79	NO
Iceland	316.07	41.05	0.09	IE, NO	0.09	IE, NO	0.48	-0.80
Ireland	170.29	1.82	NO	NO	NO	IE, NO	0.58	-0.23
Italy	1,839.13	NO	NO	-0.25	-0.25	NO	0.94	NO
Japan	33.21	IE, NO	0.22	-0.22	0.00	-0.08	1.04	NO
Kazakhstan	47.60	NO	42.56	NO	42.56	NO	NO	NO
Latvia	154.56	8.01	NO	NO	NO	NO	1.11	2.30
Liechtenstein	0.43	0.01	0.33	-1.49	-1.16	-0.04	0.06	-9.52
Lithuania	694.98	72.97	0.01	IE, NE, NO	0.01	NO	1.32	-0.25
Luxembourg	11.83	NO	0.18	-0.31	-0.14	0.00	1.18	NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	353.77	22.28	0.97	-1.25	-0.28	-0.22	0.56	NE
New Zealand	196.96	1.12	0.15	-5.72	-5.58	-0.43	0.60	-2.22
Norway	22.87	1.86	0.14	-0.62	-0.48	-3.21	2.05	-6.67
Poland	39.47	1.49	NO	NO	NO	NO	0.11	IE, NO
Portugal	292.42	NO	0.04	-0.14	-0.11	-0.04	-0.35	NO
Romania	213.75	NO	NO	0.00	0.00	NO	-0.18	NO
Russian Federation	35,694.00	IE, NO	0.26	NA, NO	0.26	0.21	0.41	IE, NA, NO
Slovakia	84.72	NO	0.07	-0.01	0.06	-0.01	0.70	NO
Slovenia	178.00	NA, NO	0.16	-1.35	-1.20	-0.23	-0.04	NA, NO
Spain	636.78	NO	IE, NA	-0.73	-0.73	-0.11	0.41	NA
Sweden	91.71	11.79	0.22	-1.04	-0.82	-0.27	0.39	-1.60
Switzerland	54.48	0.58	0.12	-1.11	-0.99	-0.37	0.60	-8.61
Turkey	222.81	NA, NE	NA, NE	-1.59	-1.59	NA, NE	0.27	NA, NE
Ukraine	758.27	NO	NO	NO	NO	NO	NO	NO
United Kingdom	1,730.65	4.60	0.00	-0.06	-0.06	-0.01	0.62	-0.25
United States	14,224.83	99.23	NE	NE	NE	NE	0.19	-3.04

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.8b

Land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	845.09	-2,262.42	-1,417.33	-2,656.28	-4,264.59	IE, NO	30,573.37
Austria	15.61	-53.70	-38.09	-23.05	50.34	NO	39.58
Belarus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Belgium	NO	-35.70	-35.70	-2.84	185.66	NO	-539.45
Bulgaria	85.44	-110.95	-25.51	NO	198.06	NO	-632.69
Canada	NO	NO	NO	NO	NO	NO	NO
Croatia	7.14	-18.21	-11.07	NO	53.99	NO	-157.39
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	7.41	-9.35	-1.94	-0.21	85.65	NA, NO	-306.19
Denmark	53.53	-85.13	-31.60	-1.92	-1.24	IE, NA	127.43
Estonia	4.78	-5.45	-0.66	-4.27	41.38	-6.68	-109.15
European Union (15)	731.19	-2,617.03	-1,885.84	-379.97	8,142.35	-378.54	-20,159.35
European Union (28)	885.50	-3,036.45	-2,150.95	-430.95	9,583.75	-385.01	-24,261.73
Finland	35.16	-22.38	12.78	-0.08	58.97	-69.00	-9.78
France	NO	-497.80	-497.80	-74.85	4,023.17	-202.33	-11,910.05
Germany	250.41	-285.14	-34.72	-72.13	267.30	-86.78	-270.11
Greece	NO	-37.51	-37.51	-0.01	287.60	NO	-916.96
Hungary	5.79	-33.22	-27.43	-4.39	63.11	NO	-114.71
Iceland	27.84	IE, NO	27.84	IE, NO	131.73	-32.76	-465.00
Ireland	NO	NO	NO	IE, NO	97.22	-0.41	-354.97
Italy	NO	-450.96	-450.96	NO	1,719.90	NO	-4,652.76
Japan	7.37	-7.45	-0.07	-2.71	34.43	NO	-116.01
Kazakhstan	2,026.00	NO	2,026.00	NO	NO	NO	-7,428.67
Latvia	NO	NO	NO	NO	162.36	18.44	-662.93
Liechtenstein	0.14	-0.64	-0.50	-0.02	0.02	-0.09	2.14
Lithuania	9.35	IE, NE, NO	9.35	NO	818.42	-18.24	-2,968.26
Luxembourg	2.10	-3.71	-1.61	-0.03	13.98	NO	-45.22
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	343.59	-441.30	-97.72	-78.71	187.24	NE	-39.65
New Zealand	29.11	-1,127.34	-1,098.23	-83.99	117.19	-2.48	3,914.21
Norway	3.21	-14.11	-10.90	-73.49	43.07	-12.39	196.93
Poland	NO	NO	NO	NO	4.06	IE, NO	-14.88
Portugal	11.00	-41.89	-30.89	-12.11	-102.98	NO	535.27
Romania	NO	-0.01	-0.01	NO	-37.68	NO	138.19
Russian Federation	9,121.79	NA, NO	9,121.79	7,547.31	14,698.40	IE, NA, NO	-115,014.18
Slovakia	6.22	-1.26	4.96	-1.09	59.54	NO	-232.50
Slovenia	28.19	-240.98	-212.79	-41.02	-7.49	NA, NO	958.12
Spain	IE, NA	-462.56	-462.56	-72.39	263.28	NA	996.14
Sweden	19.78	-95.33	-75.56	-25.15	30.85	-18.86	325.33
Switzerland	6.54	-60.25	-53.71	-19.95	32.56	-5.01	169.07
Turkey	NA, NE	-353.68	-353.68	NA, NE	59.67	NA, NE	1,078.05
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom	0.00	-105.88	-105.87	-16.69	1,070.83	-1.15	-3,472.77
United States	NE	NE	NE	NE	2,628.67	-301.35	-8,533.49

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.9a

Forest land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Activity data		IEF (Mg C/ha)					
	Total area (kha)	Area of organic soil (kha)	CSC[a] in living biomass/area			Net CSC[a] in DOM[b]/area	Net CSC[a] in soils/area	
			Increase	Decrease	Net Change		Mineral soils	Organic soils
Australia	13,319.65	NO	0.06	-0.17	-0.11	-0.20	-0.32	NO
Austria	30.55	NO	0.26	-1.44	-1.18	-0.75	0.78	NO
Belarus	NO	NE	NO	NO	NO	NO	NE	NE
Belgium	7.70	NO	NO	-4.64	-4.64	-0.37	-0.44	NO
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO
Canada	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO
Cyprus	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	2.35	NO	NO	-3.99	-3.99	-0.09	0.07	NO
Denmark	1.71	IE	0.32	-5.77	-5.44	-1.12	-0.16	IE
Estonia	5.76	0.25	IE	-0.75	-0.75	-0.76	0.23	-1.60
European Union (15)	1,030.95	15.80	0.09	-1.64	-1.54	-0.36	-0.01	-2.60
European Union (28)	1,129.87	16.05	0.09	-1.74	-1.65	-0.37	-0.11	-2.58
Finland	13.87	3.80	0.425	-0.71	-0.29	-0.01	-0.11	-3.20
France	440.56	0	NO	-1.13	-1.13	-0.17	-0.05	0
Germany	98.70	6.44	0.65	-2.05	-1.41	-0.73	0.81	-3.53
Greece	1.12	NO	NO	-0.02	-0.02	-0.01	-1.43	NO
Hungary	1.56	NO	IE	-14.41	-14.41	-2.81	NO	NO
Iceland	NO	NO	NO	NO	NO	NO	NO	NO
Ireland	6.58	0.37	NO	NO	NO	NO	NO	-0.13
Italy	NO	NO	NO	NO	NO	NO	NO	NO
Japan	2.61	NO	0.39	-2.85	-2.46	-1.04	2.49	NO
Kazakhstan	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein	0.13	NO	0.43	-4.53	-4.10	-0.13	-1.21	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	3.67	NO	0.03	-0.64	-0.60	-0.01	0.35	NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	21.99	1.40	0.80	-11.28	-10.48	-3.58	0.41	NE
New Zealand	165.28	0.84	0.16	-6.80	-6.64	-0.51	0.66	-2.30
Norway	22.27	1.26	0.14	-0.63	-0.49	-3.30	2.05	-6.67
Poland	NO	NO	NO	NO	NO	NO	NO	NO
Portugal	50.42	NO	0.01	-0.21	-0.19	-0.10	-0.88	NO
Romania	32.75	NO	NO	NO	NO	NO	-1.75	NO
Russian Federation	NO	NO	NO	NO	NO	NO	NO	NO
Slovakia	2.50	NO	NO	-0.50	-0.50	-0.44	-0.70	NO
Slovenia	54.00	NA	NA	-4.38	-4.38	-0.76	-1.02	NA, NO
Spain	287.52	NO	IE	-1.49	-1.49	-0.26	-0.13	NA
Sweden	29.49	3.79	IE	-3.23	-3.23	-0.78	0.22	-1.60
Switzerland	12.69	0.02	0.00	-4.71	-4.71	-1.57	-0.66	-6.18
Turkey	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	4.27	NO	NO	NO	NO	NO	NO	NO
United Kingdom	37.08	IE, NO	IE, NO	-2.80	-2.80	-0.45	-0.41	IE, NO
United States	1,073.42	3.97	NE	NE	NE	NE	0.11	-5.02

[a] CSC = carbon stock change.
[b] DOM = dead organic matter.

Table 5.9b

Forest land converted to grassland - AD, IEFs, carbon stock changes in pools and net CO_2 emissions/removals (2012)

	Emissions/Removals (Gg C)						Net CO_2 (Gg)
	CSC[a] in living biomass			Net CSC[a] in DOM[b]	Net CSC[a] in soils		
	Gains	Losses	Net Change		Mineral soils	Organic soils	
Australia	845.09	-2,262.42	-1,417.33	-2,656.28	-4,264.59	NO	30,573.37
Austria	7.92	-43.87	-35.95	-23.05	23.85	NO	128.88
Belarus	NO	NO	NO	NO	NE	NE	NE, NO
Belgium	NO	-35.70	-35.70	-2.84	-3.42	NO	153.86
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	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	-9.35	-9.35	-0.21	0.17	NO	34.44
Denmark	0.56	-9.88	-9.32	-1.92	-0.27	IE	42.22
Estonia	IE	-4.30	-4.30	-4.39	1.24	-0.40	28.75
European Union (15)	96.54	-1,688.12	-1,591.58	-372.18	-11.25	-41.01	7,392.06
European Union (28)	96.54	-1,961.82	-1,865.28	-423.28	-124.18	-41.41	8,998.54
Finland	5.89	-9.87	-3.98	-0.08	-1.13	-12.17	63.63
France	NO	-497.80	-497.80	-74.85	-21.75	0	2,179.44
Germany	63.68	-202.54	-138.86	-72.13	74.86	-22.73	582.44
Greece	NO	-0.03	-0.03	-0.01	-1.61	NO	6.04
Hungary	IE	-22.54	-22.54	-4.39	NO	NO	98.75
Iceland	NO	NO	NO	NO	NO	NO	NO
Ireland	NO	NO	NO	NO	NO	-0.05	0.18
Italy	NO	NO	NO	NO	NO	NO	NO
Japan	1.02	-7.45	-6.43	-2.71	6.49	NO	9.74
Kazakhstan	NO	NO	NO	NO	NO	NO	NO
Latvia	NO	NO	NO	NO	NO	NO	NO
Liechtenstein	0.06	-0.59	-0.53	-0.02	-0.16	NO	2.58
Lithuania	NO	NO	NO	NO	NO	NO	NO
Luxembourg	0.13	-2.35	-2.22	-0.03	1.28	NO	3.54
Malta	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO
Netherlands	17.63	-247.97	-230.34	-78.71	8.54	NE	1,101.86
New Zealand	26.77	-1,123.75	-1,096.98	-84.03	108.66	-1.93	3,939.00
Norway	3.21	-14.03	-10.82	-73.49	43.07	-8.42	182.10
Poland	NO	NO	NO	NO	NO	NO	NO
Portugal	0.72	-10.37	-9.65	-4.99	-44.19	NO	215.69
Romania	NO	NO	NO	NO	-57.31	NO	210.15
Russian Federation	NO	NO	NO	NO	NO	NO	NO
Slovakia	NO	-1.26	-1.26	-1.09	-1.76	NO	15.06
Slovenia	NA	-236.26	-236.26	-41.02	-55.27	NA, NO	1,219.33
Spain	IE	-428.51	-428.51	-73.79	-38.13	NA	1,981.56
Sweden	IE	-95.33	-95.33	-23.09	5.78	-6.07	435.27
Switzerland	0.00	-59.76	-59.76	-19.95	-8.34	-0.10	323.19
Turkey	NA	NA	NA	NA	NA	NA	NA
Ukraine	NO	NO	NO	NO	NO	NO	NO
United Kingdom	IE, NO	-103.91	-103.91	-16.69	-15.06	IE, NO	497.44
United States	NE	NE	NE	NE	115.04	-19.90	-348.85

[a] CSC = carbon stock change.

[b] DOM = dead organic matter.

Table 5.10

Direct N_2O emissions from N-fertilization - AD, IEFs and N_2O emissions (base year and 2012)

	Forest Land remaining Forest Land						Land converted to Forest Land					
	Base year[a]			2012			Base year[a]			2012		
	Total amount of fertilizer applied	N_2O-N emissions per unit of fertilizer	N_2O emissions	Total amount of fertilizer applied	N_2O-N emissions per unit of fertilizer	N_2O emissions	Total amount of fertilizer applied	N_2O-N emissions per unit of fertilizer	N_2O emissions	Total amount of fertilizer applied	N_2O-N emissions per unit of fertilizer	N_2O emissions
	(Gg N/yr)	(kg N_2O-N/kg N)	(Gg)	(Gg N/yr)	(kg N_2O-N/kg N)	(Gg)	(Gg N/yr)	(kg N_2O-N/kg N)	(Gg)	(Gg N/yr)	(kg N_2O-N/kg N)	(Gg)
Australia	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Austria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Belarus	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
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	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Denmark	IE, NE, NO	IE, NA, NE	IE, NA, NE	IE, NE, NO	IE, NA, NE	IE, NA, NE	IE, NE, NO	IE, NA, NE	IE, NA, NE	IE, NE, NO	IE, NA, NE	IE, NA, NE
Estonia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
European Union (15)	14.88	0.01	0.27	9.30	0.01	0.17	1.54	0.01	0.02	0.45	0.01	0.00
European Union (28)	14.88	0.01	0.27	9.30	0.01	0.17	1.54	0.01	0.02	0.45	0.01	0.00
Finland	4.40	0.01	0.09	2.46	0.01	0.05	IE	IE	IE	IE	IE	IE
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	NO	NO	NO	NO	NO	NO	NA	NA	NO	NA	NA
Hungary	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Iceland	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.01	0.00	0.01	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	0.29	0.01	0.00	0.18	0.01	0.00	IE	IE	IE	IE	IE	IE
Kazakhstan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
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	1.05	0.00	0.00	0.42	0.00	0.00	IE	IE	IE	IE	IE	IE
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	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Russian Federation	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
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	10.48	0.01	0.19	6.84	0.01	0.12	NO	NO	NO	NO	NO	NO
Switzerland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Turkey	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Ukraine	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
United Kingdom	NO	NO	NO	NO	NO	NO	1.54	0.01	0.02	0.45	0.01	0.00
United States	13.25	0.01	0.21	73.54	0.01	1.16	IE	IE	IE	IE	IE	IE

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 5.11

N_2O emissions from disturbance associated with land-use conversion to cropland - AD, IEF and N_2O emissions (base year and 2012)

	Base year[a]			2012		
	Land area converted	N_2O-N emissions per area converted	N_2O emissions	Land area converted	N_2O-N emissions per area converted	N_2O emissions
	(kha)	(kg N_2O-N/ha)	(Gg)	(kha)	(kg N_2O-N/ha)	(Gg)
Australia	3,149.79	0.10	0.51	4,552.93	0.05	0.39
Austria	41.09	1.01	0.07	51.47	1.00	0.08
Belarus	1,171,600.00	IE, NE, NO	IE, NE, NO	1,276,600.00	IE, NE, NO	IE, NE, NO
Belgium	10.75	1.59	0.03	148.18	1.48	0.34
Bulgaria	266.17	0.89	0.37	266.17	0.89	0.37
Canada	2,623.49	0.01	0.04	850.62	0.03	0.04
Croatia	7.33	1.36	0.02	14.44	1.39	0.03
Cyprus	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO	NE, NO
Czech Republic	57.27	0.39	0.04	33.97	0.39	0.02
Denmark	0.86	0.60	0.00	76.57	0.03	0.00
Estonia	NO	NO	NO	10.14	1.06	0.02
European Union (15)	7,869.99	0.74	9.12	12,355.57	0.65	12.64
European Union (28)	8,490.86	0.74	9.88	13,058.21	0.69	14.11
Finland	76.52	0.19	0.02	114.94	0.22	0.04
France	2,271.49	1.11	3.95	4,215.71	1.13	7.46
Germany	961.72	0.74	1.11	1,180.62	0.77	1.43
Greece	0.00	0.70	0.00	0.10	0.71	0.00
Hungary	10.83	0.88	0.01	103.32	0.76	0.12
Iceland	43.65	IE, NA, NE, NO	IE, NA, NE, NO	5.40	IE, NA, NE, NO	IE, NA, NE, NO
Ireland	NO	NA, NO	NA, NO	144.20	0.50	0.11
Italy	136.15	0.89	0.19	50.31	0.89	0.07
Japan	493.13	0.29	0.23	52.94	0.15	0.01
Kazakhstan	NO	NO	NO	NO	NO	NO
Latvia	1.91	3.69	0.01	16.33	4.48	0.12
Liechtenstein	0.07	0.31	0.00	0.09	0.34	0.00
Lithuania	22.37	0.72	0.03	30.36	0.72	0.03
Luxembourg	6.87	0.85	0.01	6.08	0.83	0.01
Malta	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO
Netherlands	14.20	0.55	0.01	306.84	0.52	0.25
New Zealand	40.36	0.39	0.02	67.12	0.43	0.05
Norway	0.59	3.68	0.00	18.35	3.60	0.10
Poland	NO	NO	NO	28.86	14.88	0.67
Portugal	527.55	1.36	1.13	218.28	0.70	0.24
Romania	9.00	0.01	0.00	102.71	0.01	0.00
Russian Federation	NO	NO	NO	NO	NO	NO
Slovakia	144.91	0.90	0.20	24.56	0.78	0.03
Slovenia	72.00	0.40	0.05	71.80	0.40	0.04
Spain	50.83	0.72	0.06	494.10	0.72	0.56
Sweden	15.33	2.50	0.06	50.32	2.50	0.20
Switzerland	20.25	0.57	0.02	14.59	0.50	0.01
Turkey	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE
Ukraine	0.04	0.46	0.00	95.87	0.03	0.00
United Kingdom	3,756.61	0.42	2.48	5,297.86	0.22	1.85
United States	NE	NE	NE	NE	NE	NE

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 5.12

CO_2 emissions from agricultural lime application in cropland and grassland (base year and 2012)

	Cropland						Grassland					
	Base year[a]			2012			Base year[a]			2012		
	Total amount of lime applied	CO_2 emissions per unit of lime	CO_2 emissions	Total amount of lime applied	CO_2 emissions per unit of lime	CO_2 emissions	Total amount of lime applied	CO_2 emissions per unit of lime	CO_2 emissions	Total amount of lime applied	CO_2 emissions per unit of lime	CO_2 emissions
	(Mg/yr)	($MgCO_2$-C/Mg)	(Gg)	(Mg/yr)	($MgCO_2$-C/Mg)	(Gg)	(Mg/yr)	($MgCO_2$-C/Mg)	(Gg)	(Mg/yr)	($MgCO_2$-C/Mg)	(Gg)
Australia	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Austria	205,230	0.12	90.30	197,702	0.12	86.99	IE	IE	IE	IE	IE	IE
Belarus	5,221,200	0.12	2,297.33	1,535,300	0.12	675.53	NO	NO	NO	NO	NO	NO
Belgium	82,139	0.12	36.14	68,952	0.12	30.34	63,519	0.12	27.95	45,936	0.12	20.21
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Canada	442,755	0.13	203.62	626,205	0.13	287.80	IE	IE	IE	IE	IE	IE
Croatia	NO	NO	NO	42,292	0.03	5.08	NO	NO	NO	NO	NO	NO
Cyprus	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Czech Republic	2,517,500	0.12	1,107.70	249,508	0.12	109.78	118,280	0.12	52.04	13,132	0.12	5.78
Denmark	1,416,684	0.12	622.92	437,341	0.12	192.30	19	0.13	0.01	9	0.13	0.00
Estonia	136,000	0.12	59.84	34,807	0.12	15.32	NO	NO	NO	NO	NO	NO
European Union (15)	10,937,726	0.11	4,536.55	10,188,240	0.11	4,174.53	2,379,781	0.12	1,067.51	1,235,094	0.12	551.37
European Union (28)	15,245,440	0.15	8,534.32	10,609,625	0.12	4,643.22	2,565,886	0.12	1,149.39	2,061,512	0.12	915.00
Finland	1,300,047	0.13	611.62	388,005	0.13	179.53	13,633	0.13	6.25	31,900	0.13	14.62
France	2,714,528	0.09	851.83	2,923,834	0.09	950.74	NO	NO	NO	NO	NO	NO
Germany	2,635,649	0.12	1,158.93	4,194,316	0.12	1,844.30	IE	IE	IE	IE	IE	IE
Greece	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Hungary	320,135	0.12	143.78	29,946	0.12	13.19	NO	NO	NO	NO	NO	NO
Iceland	NE	NE	NE	9,410	0.12	4.03	NO	NO	NO	NO	NO	NO
Ireland	83,308	0.12	36.66	53,191	0.12	23.40	723,592	0.12	318.38	468,164	0.12	205.99
Italy	NO	NO	NO	22,413	0.12	9.86	NO	NO	NO	NO	NO	NO
Japan	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Kazakhstan	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	10,500	0.12	4.62	21,600	0.12	9.50	NO	NO	NO	NO	NO	NO
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	900,000	0.12	396.00	6,000	0.12	2.64	NO	NO	NO	NO	NO	NO
Luxembourg	1340	0.12	0.59	11500	0.12	5.06	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO
Malta	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	IE	IE, NA	IE, NA	IE	IE, NA	IE, NA	IE	IE	IE	IE	IE	IE
New Zealand	52,336	0.12	23.03	93,395	0.12	41.09	797,281	0.12	350.80	1,422,763	0.12	626.02
Norway	492,407	0.12	220.85	123,030	0.12	54.94	NO	NO	NO	NO	NO	NO
Poland	5,206	122.45	2,337.30	643	126.03	297.10	IE	IE	IE	IE	IE	IE
Portugal	28,184	0.12	12.60	28,184	0.12	12.60	IE	IE	IE	IE	IE	IE
Romania	NO	NO	NO	NO	NO	NO	101,234	0.12	44.54	813,286	0.12	357.85
Russian Federation	21,980,000	0.12	9,671.20	1,553,799	0.12	683.67	IE	IE	IE	IE	IE	IE
Slovakia	101,400	0.12	44.62	35,089	0.12	15.44	NO	NO	NO	NO	NO	NO
Slovenia	100,000	0.12	44.00	1,500	0.12	0.66	IE	IE	IE	IE	IE	IE
Spain	188,154	0.12	82.80	102,572	0.12	45.13	NO	NO	NO	NO	NO	NO
Sweden	383,500	0.12	169.68	193,325	0.12	85.39	IE	IE	IE	IE	IE	IE
Switzerland	51,300	0.12	22.57	74,050	0.12	32.58	IE	IE	IE	IE	IE	IE
Turkey	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA, NE	NA	NA	NA	NA	NA	NA
Ukraine	6,931	120.00	3,049.51	432	120.00	190.26	NO	NO	NO	NO	NO	NO
United Kingdom	1,900,510	0.12	863.16	1,568,305	0.12	709.49	1,583,601	0.12	716.94	693,381	0.12	312.43
United States	24,666,866	0.08	7,083.85	22,738,086	0.09	7,380.58	IE	IE	IE	IE	IE	IE

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 5.13

Biomass burning - CO_2 emissions from forest land (base year and 2012)

	Base year[a]					2012				
	Activity Data			CO_2 IEF	CO_2 Emission	Activity Data			CO_2 IEF	CO_2 Emission
	Description	Unit	Value	(Mg/activity data unit)	(Gg)	Description	Unit	Value	(Mg/activity data unit)	(Gg)
Australia	Area burned	ha	1,020,153.21	IE	IE	Area burned	ha	2,184,089.88	IE	IE
Austria	Area burned	ha	200	IE, NO	IE, NO	Area burned	ha	55	IE, NO	IE, NO
Belarus	Biomass burned	kg dm	44,364,355	0.00	36.31	Biomass burned	kg dm	30,352,750	0.00	45.99
Belgium	Area burned	ha	19	275.68	5.24	Area burned	ha	NO	NO	NO
Bulgaria	Area burned	ha	462	30.31	14.00	Area burned	ha	13,046	30.31	395.46
Canada	Area burned	ha	344,847	109.39	37,724.05	Area burned	ha	978,515	119.69	117,117.10
Croatia		Not specified	NA	NA	125.16		Not specified	NA	NA	218.10
Cyprus	Area burned	ha	314	40.03	12.56	Area burned	ha	3,041	44.84	136.37
Czech Republic		Not specified	NA	NA	1,052.84		Not specified	NA	NA	638.96
Denmark	Area burned	ha	NA, NO	NA, NE, NO	NA, NE, NO	Area burned	ha	NA, NO	NA, NE, NO	NA, NE, NO
Estonia	Area burned	ha	117	IE, NO	IE, NO	Area burned	ha	1	IE, NO	IE, NO
European Union (15)	Biomass burned	kg dm	IE, NA, NE, NO	IE, NA, NE, NO	3,839.10	Biomass burned	kg dm	IE, NA, NE, NO	IE, NA, NE, NO	2,837.83
European Union (28)	Biomass burned	kg dm	IE, NA, NE, NO	IE, NA, NE, NO	5,682.66	Biomass burned	kg dm	IE, NA, NE, NO	IE, NA, NE, NO	5,011.68
Finland	Area burned	ha	4,188	0.82	3.44	Area burned	ha	421	2.02	0.85
France		Not specified	NA	NA	1,595.88		Not specified	NA	NA	269.20
Germany	Area burned	ha	1,606	IE, NO	IE, NO	Area burned	ha	269	IE, NO	IE, NO
Greece	Area burned	ha	7,718	IE, NO	IE, NO	Area burned	ha	3,690	IE, NO	IE, NO
Hungary		Not specified	NA	IE, NO	IE, NO		Not specified	NA	IE, NO	IE, NO
Iceland	Area burned	ha	NE, NO	NE, NO	NE, NO	Area burned	ha	0	NE, NO	NE, NO
Ireland	Area burned	ha	389	260.65	101.39	Area burned	ha	95	220.37	20.93
Italy	Area burned	ha	63,574	IE, NO	IE, NO	Area burned	ha	51,338	IE, NO	IE, NO
Japan	Biomass burned	kg dm	50,661,463	IE, NO	IE, NO	Biomass burned	kg dm	9,475,185	IE, NO	IE, NO
Kazakhstan	Area burned	ha	1,020	IE, NO	IE, NO	Area burned	ha	4,600	IE, NO	IE, NO
Latvia	Biomass burned	kg dm	113,579,690	0.00	26.41	Biomass burned	kg dm	60,411,055	0.00	11.31
Liechtenstein	Biomass burned	kg dm	NO	NO	NO	Biomass burned	kg dm	NO	NO	NO
Lithuania	Area burned	ha	134	IE, NO	IE, NO	Area burned	ha	20	IE, NO	IE, NO
Luxembourg	Biomass burned	kg dm	NO	NO	NO	Biomass burned	kg dm	NO	NO	NO
Malta	Biomass burned	kg dm	NO	NE, NO	NE, NO	Biomass burned	kg dm	NO	NE, NO	NE, NO
Monaco		Not specified	NO	NO	NO		Not specified	NO	NO	NO
Netherlands		Not specified	NA	NA	5.50		Not specified	NA	NA	7.72
New Zealand	Biomass burned	kg dm	133,297,404	IE	IE	Biomass burned	kg dm	117,399,765	IE	IE
Norway	Area burned	ha	936	IE, NO	IE, NO	Area burned	ha	60	IE, NO	IE, NO
Poland	Area burned	ha	7,341	59.94	440.05	Area burned	ha	7,236	53.20	384.97
Portugal	Area burned	ha	65,248	30.15	1,967.28	Area burned	ha	55,210	29.07	1,605.02
Romania	Area burned	ha	93	30.72	2.86	Area burned	ha	6,624	30.72	203.46
Russian Federation	Area burned	Not specified	NA	IE, NA, NO	IE, NA, NO	Area burned	Not specified	NA	IE, NO	IE, NO
Slovakia	Biomass burned	kg dm	67,470,136	0.00	119.83	Biomass burned	kg dm	82,922,897	0.00	146.62
Slovenia	Area burned	ha	IE, NA, NO	IE, NA, NO	IE, NA, NO	Area burned	ha	607	63.63	38.60
Spain	Biomass burned	Not specified	NA	NA	3.63	Biomass burned	Not specified	NA	NA	105.23
Sweden	Area burned	ha	1,673	IE, NO	IE, NO	Area burned	ha	1,134	IE, NO	IE, NO
Switzerland		Not specified	1,102	23.01	25.36		Not specified	22	23.00	0.51
Turkey	Area burned	Not specified	NA	IE, NE, NO	IE, NE, NO	Area burned	Not specified	NA	IE, NE, NO	IE, NE, NO
Ukraine	Biomass burned	kg dm	32,163	2.64	84.96	Biomass burned	kg dm	116,440	1.70	198.10
United Kingdom	Biomass burned	kg dm	31,659,139.57	0.00	156.74	Biomass burned	kg dm	166,920,817	0.00	828.88
United States	Area burned	ha	498,468	IE, NE	IE, NE	Area burned	ha	2,351,778	IE, NE	IE, NE

[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Romania (1989) and Slovenia (1986).

Table 5.14

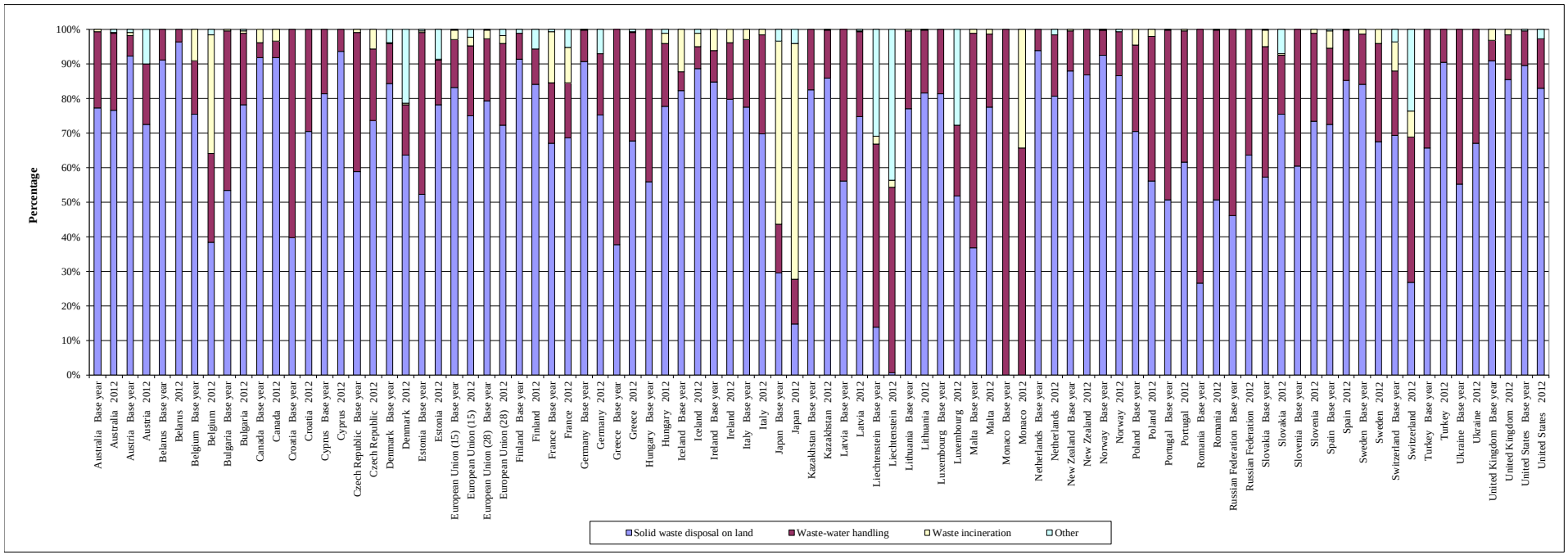
Land Area (2012)

Area (kha)	CRF						Total	FAO[a]	difference	FAO[a]	difference
	Forest land	Cropland	Grassland	Wetlands	Settlements	Other land		Total country area	%	Forest	%
Australia	109,677	26,266	446,675	13,487	1,598	172,945	770,648	774,122	0.5	148,376	35.3
Austria	4,013	1,425	1,790	148	538	472	8,387	8,388	0.0	3,892	-3.0
Belarus	8,086	1,397	3,154	14	NE,NO	NE,NO	12,650	20,760	64.1	8,669	7.2
Belgium	715	962	664	52	640	19	3,053	3,053	0.0	679	-5.1
Bulgaria	3,850	3,818	1,812	231	856	535	11,100	11,100	0.0	3,982	3.4
Canada	231,755	46,789	NE,NO	542	2,411	NE,NO	281,497	998,467	254.7	310,134	33.8
Croatia	2,335	1,540	1,217	74	256	238	5,659	5,659	0.0	1,923	-17.6
Cyprus	174	NA,NE,NO	NE,NO	NE	NA,NE	NE,NO	174	925	432.8	173	-0.2
Czech Republic	2,609	3,233	1,090	164	683	107	7,887	7,887	0.0	2,659	1.9
Denmark	633	2,667	554	153	522	216,386	220,914	45,494	-79.4	546	-13.7
Estonia	2,269	1,051	337	506	308	52	4,523	4,523	0.0	2,210	-2.6
European Union (15)	126,726	84,057	70,403	19,383	21,090	11,020	332,679				
European Union (28)	164,872	128,636	98,568	23,752	28,001	12,751	456,580	438,599	-3.9	159,293	-3.4
Finland	22,024	2,439	267	6,445	1,431	1,237	33,842	33,842	0.0	22,157	0.6
France	23,625	18,330	14,309	1,128	5,504	950	63,846	54,919	-14.0	16,002	-32.3
Germany	11,250	13,804	6,090	704	3,914	19	35,780	35,713	-0.2	11,076	-1.5
Greece	3,387	3,565	5,135	301	535	272	13,196	13,196	0.0	3,933	16.1
Hungary	2,056	5,212	1,195	265	574	2	9,303	9,303	0.0	2,038	-0.8
Iceland	134	128	5,190	682	51	4,083	10,268	10,300	0.3	31	-77.0
Ireland	742	381	4,335	1,149	117	387	7,112	7,028	-1.2	748	0.7
Italy	9,142	8,648	8,919	519	2,251	655	30,134	30,134	0.0	9,227	0.9
Japan	24,959	3,936	953	1,339	3,778	2,831	37,796	37,796	0.0	24,988	0.1
Kazakhstan	14,110	35,724	65,706	53	NO	NO	115,594	272,490	135.7	3,303	-76.6
Latvia	3,346	1,695	708	448	254	4	6,456	6,448	-0.1	3,365	0.6
Liechtenstein	6	2	5	0	2	1	16	16	-0.3	7	11.6
Lithuania	2,185	2,114	1,533	342	343	14	6,530	6,530	0.0	2,168	-0.8
Luxembourg	96	63	73	1	25	0	259	259	0.2	87	-9.7
Malta	0	206	9,990	25	9	0	10,231	32	-99.7	0	43.1
Monaco	NO	NO	NO	NO	0	NO	0				
Netherlands	397	944	1,346	849	605	38	4,180	4,154	-0.6	365	-8.1
New Zealand	9,952	476	14,699	679	224	894	26,925	26,771	-0.6	8,261	-17.0
Norway	12,107	934	223	3,782	685	14,647	32,378	38,518	19.0	10,141	-16.2
Poland	9,354	14,138	4,170	1,369	2,146	92	31,268	31,268	0.0	9,364	0.1
Portugal	4,362	2,388	672	193	579	1,142	9,337	9,209	-1.4	3,460	-20.7
Romania	6,747	9,799	4,816	838	1,141	499	23,839	23,839	0.0	6,609	-2.0
Russian Federation	898,136	90,895	121,910	225,067	13,771	360,046	1,709,825	1,709,824	0.0	809,150	-9.9
Slovakia	2,014	1,535	871	94	233	157	4,904	4,904	0.0	1,933	-4.0
Slovenia	1,210	237	427	14	109	30	2,027	2,027	0.0	1,255	3.8
Spain	15,381	20,098	12,274	418	1,313	1,167	50,651	50,560	-0.2	18,349	19.3
Sweden	28,316	2,952	479	7,152	1,831	4,385	45,116	45,030	-0.2	28,203	-0.4
Switzerland	1,234	405	1,398	187	315	588	4,128	4,129	0.0	1,245	0.8
Turkey	21,678	767	223	NA,NE,NO	NA,NE	NA	22,668	78,356	245.7	11,453	-47.2
Ukraine	10,621	34,886	7,676	3,403	2,535	1,039	60,161	60,355	0.3	9,731	-8.4
United Kingdom	2,648	5,400	15,001	172	1,290	250	24,761	24,361	-1.6	2,888	9.1
United States	297,910	157,895	179,499	1,429	24,720	18,948	680,402	983,151	44.5	304,405	2.2

[a] Source of data for total country area and forest area: FAO secretariat, downloaded on 3 June 2014 from http://faostat.fao.org/site/377/default.aspx#ancor. At the time of download, the data on 2012 were not available and therefore 2011 data were used.

Figure 6.1

Contribution of subsectors to total GHG emissions in the waste sector[a]



[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 and 11/CP.4, some Parties with economies in transition use base years other than 1990: Bulgaria (1988), Hungary (average of 1985 to 1987), Poland (1988), Romania (1989) and Slovenia (1986).

Table 6.1

Solid waste disposal on land, waste-water handling and waste incineration (2012)

	Activity data		Solid waste disposal on land							Waste-water handling										Waste incineration			
			CH_4							CH_4								N_2O from human sewage		CO_2 from non-biogenic waste			
	Population (million)		Methods and EF used[a]		Key category	Share of national total	Emissions per capita[e]	CH_4 IEF		Methods and EF used[b]		Key category	Share of national total	Emissions per capita[e]	CH_4 IEF				Emissions per capita[e]	N_2O IEF	Methods and EF used[c]		Key category	Share of national total
	CRF	World Bank[d]	Methods	EF				Managed	Unmanaged	Methods	EF				Domestic / commercial		Industrial				Methods	EF		
															Wastewater	Sludge	Waste-water	Sludge						
						(%)	(kg)	(t/t)	(t/t)				(%)	(kg)	(kg / kg DC)				(kg)	(kg N_2O -N/kg sewage N)				(%)
IPCC default EF[f]																				0.01				
Australia	23	23	T2, T3	D	L, T	1.65	19	0.08	NA	T2, T3	CS, D	T	0.40	4.62	0.07	0.09	0.07	0.03	0.06	0.01	T2	CS		0.01
Austria	8	8	T2	CS, D	L, T	1.50	7	0.39	NO	D	CS, D		0.03	0.13	0.00	NA	NA	NA	0.08	0.01	D	CS, D		0.00
Belarus	10	9	T1	D	L, T	6.77	30	NO	0.06	NA	NA		-	NE	NE	NE	NE	NE	0.06	0.01	NA	NA		-
Belgium	11	11	CS	CS	L, T	0.50	2	0.05	NO	CR, T1	CR, D		0.07	0.40	NE	NE	NA	NA	0.11	0.01	T1	D, PS	T	0.44
Bulgaria	7	7	T2	CS, D	L, T	4.63	18	0.01	0.10	D	CS, D	L, T	0.95	3.79	0.15	0.67	0.03	0.13	0.07	0.01	T1	D		0.03
Canada	35	35	CS	CS	L, T	2.71	26	0.05	IE	CS, T3	CS, D, PS		0.05	0.43	NA	NO	0.00	NO	0.06	0.01	CS, T2	CS, D		0.07
Croatia	4	4	T2	CS	L, T	3.01	9	0.04	0.02	T1	D	L	0.87	2.55	0.18	NO	0.00	NO	0.08	0.00	T1	D		0.00
Cyprus	1	1	T1	D	L, T	10.11	39	0.10	NO	D	D	T	0.44	1.70	0.09	NO	0.01	NA	0.07	0.01	NA	NA		-
Czech Republic	11	11	T2	CS, D	L, T	2.11	13	0.06	NO	CS, T1, T2	CS, D		0.39	2.31	0.09	0.26	0.06	0.06	0.08	0.01	T1	D		0.16
Denmark	6	6	T2	CS, D	L, T	1.32	6	0.03	0.02	CS	CS		0.14	0.62	0.19	IE, NE, NO	IE, NA, NE	IE, NE, NO	0.02	NE	T1	CS, D		0.01
Estonia	1	1	T2	D	L, T	1.25	9	0.12	NO	T1	D	T	0.03	0.21	0.00	IE	0.00	IE	0.08	0.01	T1	D		0.00
European Union (15)	400	400	CS, T2	CS, D, OTH	L, T	2.13	9	0.07	0.89	CR, CS, D, T1, T2	CR, CS, D		0.30	1.27	NE	NE	NE	NE	0.07	0.01	D, T1, T2, T3	CR, CS, D, PS		0.06
European Union (28)	21,899	506	CS, D, M, T1, T2, T3	CS, D, M, OTH	L, T	2.24	10	0.06	0.22	CR, CS, D, T1, T2	CR, CS, D	L	0.45	1.93	NE	NE	NE	NE	0.08	NE	CS, D, T1, T1a, T2, T3	CR, CS, D, PS		0.06
Finland	5	5	T2	CS, D	L, T	2.85	15	0.09	NO	D	CS, D		0.19	1.00	0.23	IE	0.00	IE	0.05	0.00	NA	NA		-
France	66	66	T2	CS	L, T	1.76	6	0.04	0.33	T1	CS		0.25	0.91	0.10	NA	0.00	NA	0.03	0.00	T1, T2	CS, PS		0.25
Germany	81	80	T2	CS, D	L, T	1.09	6	1.35	NO	D	CS, D		0.00	0.01	0.00	NO	NA	NO	0.09	0.01	NA	NA		-
Greece	11	11	T2	CS, D	L, T	2.89	14	0.02	0.27	CS, D	CS, D	L, T	1.00	4.68	0.05	IE	0.25	0.25	0.11	0.01	D	CS, D		0.00
Hungary	10	10	T2	D	L, T	3.99	12	0.02	NA	CS	CS, D		0.50	1.48	0.15	IE	0.02	IE	0.09	0.01	T2	D		0.15
Iceland	0	0	T2	CS, D	L, T	3.62	24	0.06	IE	T1	CS, D		0.08	0.04	0.02	IE	NO	NO	0.01	0.01	T2	D		0.15
Ireland	5	5	T2	CS, D	L, T	1.37	8	0.11	NO	T1	D		0.03	2.89	NO	0.11	NO	0.02	1.46	0.01	T1	D		0.07
Italy	59	60	T2	CS	L, T	2.46	9	0.07	NO	D	D	L, T	0.59	2.13	0.60	0.60	0.25	IE	0.10	0.01	D	CS		0.04
Japan	129	128	CS, T3	CS	T	0.22	1	0.25	NO	CS, D	CS, D		0.11	0.55	NA	IE	NA	IE	0.00	NE	CS	CS	L	0.89
Kazakhstan	17	17	T2	CS	L, T	1.23	10	0.04	0.11				0.03	0.20	0.04	NA	NA	NO	0.09	0.01	D	D		0.00
Latvia	2	2	T2	CS, D	L, T	4.08	10	0.03	3.69	D	D	L	0.91	2.34	0.09	0.25	0.02	NA	0.08	0.01	D	D		0.00
Liechtenstein	0	0	T2	CS		0.00	0	NO	NO	CS	CS		0.03	0.09	IE	NA	IE	NO	0.09	0.01	CS	CS		0.01
Lithuania	3	3	T2	D	L, T	3.65	13	0.04	NO	T1	D		0.47	1.63	0.08	IE	IE	IE	0.08	0.01	T1	D		0.01
Luxembourg	1	1	T2	D		0.22	2	0.05	NO	T1	CS		0.02	0.26	0.16	IE	NO	NO	IE	IE	NA	NA		-
Malta	0	0	M	M	L, T	1.60	6	0.02	NA	D	CS		0.00	0.00	0.00	IE	IE	IE	0.11	0.01	CS	CS		0.02
Monaco	0	0	NA	NA		-	NA, NO	NO	NO	NA	NA		-	NA, NO	NO	NO	NO	NO	0.07	0.01	NA	NA		-
Netherlands	17	17	T2	CS	L, T	1.55	8	0.05	NO	T2	CS		0.10	0.57	0.06	IE	0.00	IE, NE	0.02	NA	NA	NA		-
New Zealand	4	4	T2	CS, D	L, T	4.10	34	0.04	NO	D, OTH, T1, T2	CS, OTH		0.38	3.11	0.35	0.15	NE	0.00	0.08	0.01	D	D		0.00
Norway	5	5	T2	CS, D	L, T	1.96	10	0.71	NO	T1	D		0.02	0.09	0.00	IE	IE	IE	IE	IE	NA	NA		-
Poland	39	39	D, T3	D	L, T	2.14	11	0.02	NA	CS, D	CS, D	L, T	1.32	6.52	0.03	0.49	0.03	0.06	0.09	0.01	D	CS		0.07
Portugal	10	11	T2	CS, D	L, T	7.34	23	0.05	NO	D	CS, D	L, T	3.68	11.44	0.13	0.47	0.04	IE	0.11	0.01	D	CS, D		0.03
Romania	21.414	20	T2	CS, D	L, T	2.50	7	0.02	0.07	D	CS, D	L, T	1.90	5.05	0.24	0.162	0.02	IE	0.09	0.01	D	D		0.01
Russian Federation	143	144	T1, T2	CS, D	L, T	2.33	18	0.04	0.02	D	CS, D	L, T	1.14	8.67	0.13	0.19	0.06	IE	0.10	0.01	NA	NA		-
Slovakia	5	5	T1, T2	CS, D	L, T	3.82	14	0.04	NO	T1	CS, D		0.69	2.59	0.22	IE	0.03	IE	0.04	0.00	T1a	D		0.02
Slovenia	2	2	T2	CS, D	L, T	1.90	8	0.06	NO	T1	CS, D	T	0.34	1.47	0.02	0.25	0.01	0.02	0.09	0.01	D	D		0.03
Spain	47	47	T2	CS, D, OTH	L, T	3.22	11	0.04	1.72	D, T1	CS, D		0.18	0.63	0.01	0.23	0.00	0.13	0.09	0.01	T2	CR, CS		0.00
Sweden	10	10	T2	CS, D	L, T	1.90	5	0.11	NO	CS, T1	CS, D	L	0.53	1.53	NA	NA	NA	NO	0.01	0.01	T3	PS		0.10
Switzerland	8	8	CS, D	CS, D	T	0.31	1	NO	NO	CS, D	CS, D		0.02	0.06	0.00	NO	IE	IE	0.10	0.01	CS	CS		0.02
Turkey	NA	74	T1	D	L, T	7.45	21	0.08	0.05	T1	D	T	0.35	0.99	0.09	NA	NE	NE	0.08	NA	NA	NA		-
Ukraine	46	46	T3	CS, D	L, T	1.90	8	0.02	0.02	T2	CS, D	T	0.66	2.75	0.04	0.21	0.01	0.07	0.07	0.01	T1	D		0.00
United Kingdom	64	64	OTH, T2	CS, D	L, T	3.18	14	0.12	NO	CS, OTH, T1	CS, D, OTH		0.28	1.23	IE	0.09	0.18	IE	0.06	0.01	T2	CS		0.05
United States	318	314	M	M	L, T	1.59	16	0.05	NA	D	D		0.20	1.94	0.03	NE	0.03	NE	0.05	0.01	NA	NA		-

[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 6.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 6.B Waste-water handling.

[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 used or type of emission factor for all subcategories within the category 6.C Waste incineration.

[d] Source of population data: World Bank http://databank.worldbank.org/data/home.aspx, downloaded 14 May 2014.

[e] Calculated using World Bank population data.

[f] Source of default emission factors: IPCC Guidelines, volume 3, page 6.28.

Table 7.1

Selected values (forest parameters), elected activities under Article 3.4, accounting period and forest management cap[a]

	Minimum value for 'tree cover' (%)[b]	Minimum 'tree height' (m)[b]	Minimum area for 'Forest land' (ha)[b]	Forest Management[c]	Cropland Management[c]	Grazing Land Management[c]	Revegetation[c]	Accounting period[d]	FM CAP[e,f,g] (Mt C/yr)
Australia	20	2	0.20					Annuallly	0.00
Austria	30	2	0.05					CP	0.63
Belgium	20	5	0.50					CP	0.03
Bulgaria	10	5	0.10					CP	0.37
Croatia	10	2	0.10	X					0.265
Czech Republic	30	2	0.05	X				CP	0.32
Denmark[h]	10	5	0.50	X	X	X		Annuallly	0.05
Estonia	30	2	0.50					CP	0.10
European Union (15)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Finland	10	5	0.50	X				CP	0.16
France (KP)	10	5	0.50	X				Annuallly	0.88
Germany	10	5	0.10	X				CP	1.24
Greece	25	2	0.30	X				CP	0.09
Hungary	30	5	0.50	X				Annuallly	0.29
Iceland	10	2	0.50				X	CP	0.00
Ireland	20	5	0.10					CP	0.05
Italy	10	5	0.50	X				CP	0.18
Japan	30	5	0.30	X			X	CP	13.00
Latvia	20	5	0.10	X				CP	0.34
Liechtenstein	20	3	0.06					Annuallly	0.01
Lithuania	30	5	0.10	X				CP	0.28
Luxembourg	10	5	0.50					CP	0.01
Monaco	10	5	0.50					Annuallly	0.00
Netherlands	20	5	0.50					CP	0.01
New Zealand	30	5	1.00					CP	0.20
Norway	10	5	0.50	X				CP	0.40
Poland	10	2	0.10	X				CP	0.82
Portugal	10	5	1.00	X	X	X		CP	0.22
Romania	10	5	0.25	X			X	CP	1.10
Russian Federation	18	5	1.00	X				Annuallly	33.00
Slovakia	20	5	0.30					CP	0.50
Slovenia	30	2	0.25	X				CP	0.36
Spain	20	3	1.00	X	X			CP	0.67
Sweden	10	5	0.50	X				CP	0.58
Switzerland	20	3	0.06	X				Annuallly	0.50
Ukraine	30	5	0.10	X				CP	1.11
United Kingdom (UK)	20	2	0.10	X				CP	0.37

[a] As either reported by a Party in its initial report under the Kyoto Protocol, and subsequently reviewed under Article 8 of the Kyoto Protocol and recorded in the compilation and accounting database, or included in a decision of the COP/MOP. These parameters are fixed for the first commitment period under the Kyoto Protocol. The Forest management CAP is from the appendix to the annex to decision 16/CMP.1.

[b] As reported by Party in accordance with paragraph 8(b) of the annex to decision 13/CMP.1 using the definitions and ranges outlined in paragraph 1(a) of the annex to decision 16/CMP.1.

[c] Accounting for activities under Article 3, paragraph 4, of the Kyoto Protocol is optional, and is marked with an 'X' in the appropriate column.

[d] Each Party specified in its initial report whether it intends to account for activities under Article 3, paragraph 3 and 4, of the Kyoto Protocol 'annually' or over the commitment period (CP), in accordance with paragraph 8(d) of the annex to decision 13/CMP.1.

[e] In accordance with paragraph 11 of the annex to decision 16/CMP.1, for the first commitemnt period only, additions and substractions from the assigned amount of a Party resulting from forest management under Article 3, paragraph 4, after the application of paragraph 10 of the annex to decision 16/CMP.1 and resulting from forest management projects under Article 6, shall not exceed this value times 5.

[f] In accordance with paragraph 10 of the annex to decision 16/CMP.1, for the first commitment period, a Party that incurs a net source of emissions under Article 3, paragraph 3, activities may account for emissions/removals under Forest Management under Article 3, paragraph 4, up to a level equal to the net source of emissions under Article 3, paragraph 3, but no greater than 9.0 megatonnes of carbon times 5, if the total emissions/removals in the managed forest since 1990 is equal to, or larger than, the net source of emissions incurred under Article 3, paragraph 3.

[g] The value in the appendix to the annex to decision 16/CMP.1 for Italy was revised by decision 8/CMP.2.

[h] Includes Greenland but excludes Faroe Islands.

Table 7.2a

Activity coverage in the reporting of information relating to activities under Article 3.3 for 2012[a]

	Afforestation and reforestation										Deforestation									
	Change in carbon pool reported					Greenhouse gas sources reported					Change in carbon pool reported					Greenhouse gas sources reported				
	Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Fertilization[b]	Liming	Biomass burning[c]			Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Disturbance associated with LU conversion to CL	Liming	Biomass burning[c]		
						N_2O	CO_2	CO_2	CH_4	N_2O						N_2O	CO_2	CO_2	CH_4	N_2O
Australia	R	R	R	R	R	IE	R	IE	R	R	R	R	R	R	R	R	R	IE	IE, R	IE, R
Austria	R	R	R	R	R	NO	NO	NO	NO	NO	R	R	R	R	R	R	R	NO	NO	NO
Belgium	R	R	NR	NR	R	NO	NO	NO	NO	NO	R	R	R	R	R	R	R	NO	NO	NO
Bulgaria	R	IE	R	NR	R	NO	NO	NO	NO	NO	R	IE	R	R	R	NO	NO	NO	NO	NO
Croatia	R	IE	IE	NO	R	NO	NO	IE	IE	IE	R	IE	IE	IE	R	NE	NO	NO	NO	NO
Czech Republic	R	R	IE	R	R	NO	NO	NO	NO	NO	R	R	IE	R	R	R	NO	NO	NO	NO
Denmark[d]	R	R	R	R	R	IE, NO	IE	NO	NO	NO	NO, R	NO, R	NO, R	NO, R	NO, R	NO, R	IE	NO	NO	NO
Estonia	R	R	R	R	R	NO	NO	R	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
European Union (15)	NO, R	IE, NO, R	IE, NO, NR, R	IE, NO, NR, R	NO, NR, R	IE, NO, R	IE, NO	IE, NE, NO, R	IE, NE, NO, R	IE, NE, NO, R	R	IE, R	IE, R	IE, R	R	IE, NO, R	IE, NO, R	IE, NE, NO, NR, R	IE, NE, NO, R	IE, NE, NO, R
Finland	R	R	IE	IE	R	NO	NO	NO, R	NO, R	NO, R	R	R	IE	IE, R	R	R	R	IE, NO	IE, NO	IE, NO
France (KP)	R	R	R	R	R	NO	NO	R	R	R	R	R	R	R	R	R	R	R	R	R
Germany	NO, R	NO, R	NO, R	NO, R	NO, R	NO	IE	IE, NO	IE, NO	IE, NO	R	R	R	R	R	IE, R	NO	NO	NO	NO
Greece	R	R	NR	NR	NR	NO	NO	IE	R	R	R	R	R	R	R	R	NO	NO	NO	NO
Hungary	R	R	NR	NR	NR	IE	NO	IE	R	R	R	R	R	R	R	R	NO	IE	R	R
Iceland	R	R	R	NO	R	R	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Ireland	R	R	R	R	R	IE	NO	R	R	R	R	R	R	R	R	NO	R	NO	NO	NO
Italy	R	R	R	R	R	NO	NO	IE	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
Japan	R	R	R	R	R	IE	NO	IE	R	R	R	R	R	R	R	R	R	NO	NO	NO
Latvia	R	R	NR	R	R	NO	NO	NO	NO	NO	R	R	NR	R	R	NO	NO	NO	NO	NO
Liechtenstein	R	IE	NR	NR	R	NO	NO	NO	NO	NO	R	IE	R	R	R	NO	NO	NO	NO	NO
Lithuania	R	R	R	NO	R	NO	NO	IE	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
Luxembourg	R	IE	IE	NO	R	NO	NO	NO	NO	NO	R	IE	IE	R	R	NO	NO	NO	NO	NO
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	R	R	NR	NR	R	NO	NO	NE	NE	NE	R	R	R	R	R	R	R	NE	NE	NE
New Zealand	R	R	R	R	R	IE	IE	R	R	R	R	R	R	R	R	R	R	IE	NE	NE
Norway	R	R	R	R	R	R	NO	IE, NO	R	R	R	R	R	R	R	R	R	IE, NO	NO	NO
Poland	R	R	R	R	R	NO	NO	R	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
Portugal	R	R	R	IE	R	IE	NO	R	R	R	R	R	R	IE	R	R	NO	R	R	R
Romania	R	R	R	NR	R	IE	NO	R	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
Russian Federation	R	R	R	R	R	NA	NA	IE	R	R	R	R	R	R	R	NO	NA	NO	NO	NO
Slovakia	R	R	R	NO	R	NA	NO	R	R	R	R	R	R	R	R	R	NO	NO	NO	NO
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	R	IE	IE	R	R	R	NO	NO	NO	NO
Spain	R	IE	R	R	R	NO	NO	NO, R	NO, R	NO, R	R	IE	R	R	R	R	R	NE	NE	NE
Sweden	R	R	R	R	R	NO	NO	NO	NO	NO	R	R	R	R	R	R	NO	NO	NO	NO
Switzerland	R	R	NR	NR	R	NO	NO	NO	NO	NO	R	R	R	R	R	R	NO	NO	NO	NO
Ukraine	R	R	R	R	R	NO	NO	R	R	R	R	R	R	R	R	NO	NO	NO	NO	NO
United Kingdom	R	IE	R	IE	R	R	NO	R	R	R	R	IE	R	IE	R	R	R	R	R	R

[a] As reported in Table NIR 1. "Summary Table - activity coverage and other information relating to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol".

[b] N_2O emissions from fertilization for cropland management, grazing land management and revegetation should be reported in the Agriculture sector. If a Party is unable to separate fertilizer applied to forest land from Agriculture, it may report N_2O emissions from fertilization in the agriculture sector.

[c] If CO_2 emissions from biomass burning are not already included under changes in carbon stock, they should be reported under biomass burning; this also includes the carbon component of CH_4.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.2b

Activity coverage in the reporting of information relating to elected activities under Article 3.4 for 2012[a]

	Forest management											Cropland management										
	Change in carbon pool reported					Greenhouse gas sources reported						Change in carbon pool reported					Greenhouse gas sources reported					
	Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Fertilization[b]	Drainage of soil under FM	Liming	Biomass burning[c]			Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Disturbance associated with LU conversion to CL	Liming	Biomass burning[c]		
						N_2O	N_2O	CO_2	CO_2	CH_4	N_2O						N_2O	CO_2	CO_2	CH_4	N_2O
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	R	IE	NO	NO	NO	NO	NO	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	R	R	IE	R	NR	NO	NO	R	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[d]	R	R	R	R	R	IE, NO	NO, R	IE	NO	NO	NO	R	IE	NO	NO	NO, R	NO, R	R	NO	NO	NO
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	NA, R	IE, NA, R	IE, NA, NR, R	IE, NA, NR, R	NA, NR, R	IE, NA, NO, R	NA, NE, NO, R	IE, NA, NO, R	IE, NA, NE, NO	NA, NO, R	NA, NO, R	NA, R	IE, NA, R	NA, NR, R	IE, NA, NR, R	NA, R	NA, R	NA, R	IE, NA, NO, NR, R	IE, NA, NO, NR, R	IE, NA, NO, NR, R
Finland	R	R	IE	IE	R	R	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	R	R	R	R	R	NO	NO	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	R	R	R	R	R	NO	NO, R	IE, R	IE, NO	NO, R	NO, R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	R	R	NR	NR	NR	NO	NO	NO	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	R	R	NR	NR	NR	IE	NO	NO	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	R	R	R	R	NR	NO	NO	NO	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	R	R	R	R	R	R	NO	NO	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	R	R	NR	R	R	NO	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	R	R	R	R	R	NO	R	NO	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	R	R	R	R	R	R	R	R	IE, NO	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	R	R	R	R	R	NO	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	R	R	R	IE	R	IE	NO	NO	R	R	R	R	R	R	IE	R	R	R	NR	R	R
Romania	R	R	NR	NR	R	IE	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation	R	R	R	R	R	NA	R	NA	IE	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	R	R	NR	R	NR	NO	NO	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	R	IE	NR, R	NR, R	NR, R	NO	NO	NO	R	R	R	R	IE	R	R	R	R	R	IE, NE	IE, NE	IE, NE
Sweden	R	R	R	R	R	R	NE	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	R	R	R	R	R	NO	NR	NO	IE, R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	R	R	R	R	NO	NO	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	R	IE	R	IE	R	NO	R	NO	R	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] As reported in Table NIR 1. "Summary Table - activity coverage and other information relating to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol".

[b] N_2O emissions from fertilization for cropland management, grazing land management and revegetation should be reported in the Agriculture sector. If a Party is unable to separate fertilizer applied to forest land from Agriculture, it may report N_2O emissions from fertilization in the Agriculture sector.

[c] If CO_2 emissions from biomass burning are not already included under changes in carbon stock, they should be reported under biomass burning; this also includes the carbon component of CH_4.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.2c

Activity coverage in the reporting of information relating to elected activities under Article 3.4 for 2012[a]

	Grazing land management									Revegetation								
	Change in carbon pool reported					Greenhouse gas sources reported				Change in carbon pool reported					Greenhouse gas sources reported			
	Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Liming	Biomass burning[b]			Above-ground biomass	Below-ground biomass	Litter	Deadwood	Soil	Liming	Biomass burning[b]		
						CO_2	CO_2	CH_4	N_2O						CO_2	CO_2	CH_4	N_2O
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[c]	R	IE	NO	NO	NO, R	IE	NO, R	NO, R	NO, R	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	NA, R	IE, NA, R	NA, NR, R	IE, NA, NR, R	NA, R	IE, NA	NA, NR, R	NA, R	NA, R	NA	NA	NA	NA	NA	NA	NA	NA	NA
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	R	IE	IE	NO	R	NO	NO	NO	NO
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	R	R	R	IE	R	R	NO	NO	NO
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	R	R	R	IE	R	IE	NR	R	R	NA	NA	NA	NA	NA	NA	NA	NA	NA
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA	R	R	R	NO	R	NO	NO	NO	NO
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] As reported in Table NIR 1. "Summary Table - activity coverage and other information relating to activities under Article 3, paragraph 3, and elected activities under Article 3, paragraph 4, of the Kyoto Protocol".

[b] If CO_2 emissions from biomass burning are not already included under changes in carbon stock, they should be reported under biomass burning; this also includes the carbon component of CH_4.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.3a

Afforestation and reforestation - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	1,136	NO	5.43	-11.79	-6.35	1.35	-3.02	-1.68	0.92	2.14	0.53	NO	16.28	4,442.1	-3,023.6	1,418.5	1,111.9	-775.3	336.6	545.6	690.8	152.6	NO	-11,528.5
Austria	196	NO	1.41	-0.45	0.96	0.36	-0.10	0.26	1.01	0.02	0.60	NO	-10.45	276.5	-88.2	188.3	70.8	-18.8	52.0	198.5	3.1	117.7	NO	-2,051.9
Belgium	27	NO	1.62	NO	1.62	0.32	NO	0.32	NO	NO	1.21	NO	-11.57	43.0	NO	43.0	8.6	NO	8.6	NO	NO	32.2	NO	-307.4
Bulgaria	226	NO	2.44	-0.35	2.09	NO,IE	NO,IE	NO,IE	0.24	NO	-1.00	NO	-4.92	551.7	-78.7	473.0	NO,IE	NO,IE	NO,IE	55.1	NO	-225.1	NO	-1,111.2
Croatia	22	NA,NO	2.19	-0.09	2.10	NO,IE,NA	NO,IE,NA	NO,IE,NA	NO,IE,NA	NA,NO	0.59	NA,NO	-9.83	48.6	-2.1	46.5	NO,IE,NA	NO,IE,NA	NO,IE,NA	NO,IE,NA	NA,NO	13.0	NA,NO	-218.2
Czech Republic	48	NO	1.65	NO	1.65	0.33	NO	0.33	IE,NO	NO	0.13	NO	-7.77	78.8	NO	78.8	15.8	NO	15.8	IE,NO	NO	6.4	NO	-369.9
Denmark[a]	94	10	NO,IE	-0.13	-0.13	NO,IE	-0.06	-0.06	0.02	-0.03	0.15	-0.34	0.40	NO,IE	-12.4	-12.4	NO,IE	-5.3	-5.3	1.4	-3.2	12.6	-3.5	37.8
Estonia	29	7	1.14	IE,NA	1.14	0.45	IE,NA	0.45	0.30	0.00	-0.71	-0.57	-4.47	33.4	IE,NA	33.4	13.1	IE,NA	13.1	8.7	0.0	-15.7	-3.9	-130.5
European Union (15)	6,773	321	6.65	-7.75	-1.10	1.49	-1.70	-0.21	0.25	0.06	1.05	-0.93	0.20	12,185.5	-3,669.3	8,516.2	2,460.0	-673.1	1,786.9	1,078.3	309.9	1,867.8	-158.7	-49,134.9
Finland	167	63	0.63	0.00	0.63	0.22	IE,NA	0.22	IE,NA	IE,NA	-0.05	-1.39	-1.08	105.8	-0.5	105.3	36.3	IE,NA	36.3	IE,NA	IE,NA	-5.1	-87.3	-180.8
France (KP)	1,346	NO	1.28	-0.20	1.08	0.48	NO	0.48	0.20	0.04	0.21	NO	-7.35	1,726.5	-273.7	1,452.9	643.9	NO	643.9	275.4	49.0	276.6	NO	-9,892.0
Germany	491	29	3.03	-0.23	2.80	0.61	-0.09	0.52	0.44	0.03	-0.36	-0.68	-12.49	1,488.3	-115.0	1,373.3	300.0	-43.6	256.3	214.6	16.9	-168.6	-19.6	-6,134.0
Greece	33	NO	2.09	-1.09	1.00	0.40	-0.21	0.19	NE,NA	NE,NA	NE,NA	NO,NA	-4.37	69.5	-36.2	33.4	13.2	-6.9	6.3	NE,NA	NE,NA	NE,NA	NO,NA	-145.2
Hungary	171	NO	3.05	0.00	3.05	0.76	0.00	0.76	NE	NE	NE	NO	-13.96	269.2	-0.6	268.6	67.3	-0.5	66.8	NE	NE	NE	NO	-1,229.9
Iceland	42	3	0.51	IE,NA	0.51	0.13	IE,NA	0.13	0.14	NA,NO	0.39	-0.16	-4.14	21.2	IE,NA	21.2	5.4	IE,NA	5.4	5.9	NA,NO	15.2	-0.4	-173.0
Ireland	293	161	14.75	-7.26	7.50	3.23	-0.68	2.55	1.09	0.20	NO,NA	-0.89	-40.33	1,141.1	-443.3	697.7	236.4	-17.8	218.6	160.9	46.3	NO,NA	-72.8	-3,852.7
Italy	1,670	NA,NO	2.27	-1.50	0.77	0.46	-0.30	0.16	0.01	0.01	0.15	NA,NO	-4.03	3,788.4	-2,502.3	1,286.1	771.7	-509.4	262.3	24.9	15.8	248.3	NA,NO	-6,737.2
Japan	32	NA,NO	2.40	-0.01	2.40	0.62	0.00	0.62	0.27	0.79	0.09	NA,NO	-15.29	77.7	-0.2	77.5	20.1	0.0	20.1	8.7	25.5	2.9	NA,NO	-494.4
Latvia	219	6	0.26	NA,NO	0.26	0.06	NA,NO	0.06	0.10	0.01	NA,NO	-0.68	-1.50	56.1	NA,NO	56.1	13.6	NA,NO	13.6	22.0	1.3	NA,NO	-3.7	-327.4
Liechtenstein	0	NE,NO,IE	1.47	NO	1.47	IE,NO	IE,NO	IE,NO	NO	NO	0.26	NO	-6.35	0.0	NO	0.0	IE,NO	IE,NO	IE,NO	NO	NO	0.0	NO	-0.2
Lithuania	35	5	1.13	IE,NA	1.13	0.26	IE,NA	0.26	1.10	NA,NO	-0.71	-2.24	-5.66	39.2	IE,NA	39.2	9.0	IE,NA	9.0	38.2	NA,NO	-20.8	-12.2	-195.9
Luxembourg	9	NO	3.24	-0.06	3.19	IE,NO	IE,NO	IE,NO	IE,NO	NO	0.67	NO	-14.15	28.2	-0.5	27.7	IE,NO	IE,NO	IE,NO	IE,NO	NO	5.8	NO	-122.9
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	50	0	3.46	-0.06	3.40	0.84	-0.39	0.45	NA,NE	NA,NE	0.18	-468.26	-13.06	174.0	-3.0	171.0	42.1	-19.6	22.5	NA,NE	NA,NE	8.9	-23.1	-657.5
New Zealand	663	1	10.00	-7.70	2.31	2.17	-1.73	0.44	-0.92	-0.27	-1.37	-1.80	-0.67	4,942.9	-111.4	4,831.5	1,019.3	-72.7	946.6	-48.6	-90.5	-464.1	-1.3	-18,970.2
Norway	57	6	0.60	-0.11	0.50	0.20	-0.03	0.17	6.02	0.05	-1.85	-1.90	-17.47	33.4	-5.9	27.5	11.3	-1.8	9.5	168.9	1.3	-40.1	-11.3	-571.4
Poland	687	20	0.85	NO	0.85	0.20	NO	0.20	NO	NO	0.09	-0.68	-4.09	585.1	NO	585.1	136.6	NO	136.6	NO	NO	58.6	-13.5	-2,811.3
Portugal	611	NO	5.08	-7.70	-2.63	1.14	-1.93	-0.80	-0.04	IE	1.50	NO	7.20	1,277.4	-169.4	1,108.0	253.6	-51.7	201.9	3.1	IE	345.1	NO	-6,079.8
Romania	28	NO	4.01	NO	4.01	1.00	NO	1.00	0.06	NO,IE	0.89	NO	-21.86	110.5	NO	110.5	27.6	NO	27.6	1.6	NO,IE	24.5	NO	-601.8
Russian Federation	568	NA,NO	1.89	-0.63	1.27	0.48	-0.16	0.32	0.05	0.31	0.50	NA,NO	-8.97	1,076.9	-355.4	721.5	271.9	-89.7	182.2	29.9	174.5	281.6	NA,NO	-5,095.6
Slovakia	36	NA,NO	1.24	NA,NO	1.24	0.28	NA,NO	0.28	0.41	NA,NO	1.36	NA,NO	-12.10	44.8	NA,NO	44.8	10.2	NA,NO	10.2	14.9	NA,NO	48.9	NA,NO	-435.8
Slovenia	NO	NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
Spain	1,226	NA,NO	1.12	IE,NA	1.12	IE,NA	IE,NA	IE,NA	0.09	0.15	0.57	NA	-7.08	1,378.4	IE,NA	1,378.4	IE,NA	IE,NA	IE,NA	112.7	178.9	698.4	NA	-8,684.5
Sweden	232	32	1.14	IE,NO	1.14	0.36	IE,NO	0.36	0.27	0.01	-0.11	-0.57	-5.89	264.4	IE,NO	264.4	83.3	IE,NO	83.3	62.3	3.1	-21.4	-18.1	-1,370.1
Switzerland	2	0	3.94	-2.09	1.85	1.09	-0.55	0.53	-0.04	-0.24	0.90	-1.36	-10.93	4.3	-1.7	2.6	1.2	-0.4	0.7	0.0	-0.2	1.5	0.0	-17.1
Ukraine	283	NO	1.06	-0.01	1.05	0.23	IE,NO	0.23	0.29	0.12	0.11	NO	-6.61	135.2	-1.6	133.6	29.6	IE,NO	29.6	36.2	14.5	5.1	NO	-803.4
United Kingdom	327	26	1.30	-0.08	1.22	IE	IE	IE	0.07	IE	1.05	2.49	-9.03	424.0	-24.9	399.1	IE	IE	IE	24.4	IE	317.2	65.7	-2,956.7

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3b

Afforestation and reforestation (units of land not harvested since the beginning of the commitment period) - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	880	NO	4.89	IE, NO	4.89	1.23	IE, NO	1.23	0.50	0.23	0.03	NO	-25.20	4,303.1	IE, NO	4,303.1	1,081.7	IE, NO	1,081.7	438.1	198.5	24.2	NO	-22,167.0
Austria	196	NO	1.41	-0.45	0.96	0.36	-0.10	0.26	1.01	0.02	0.60	NO	-10.45	276.5	-88.2	188.3	70.8	-18.8	52.0	198.5	3.1	117.7	NO	-2,051.9
Belgium	27	NO	1.62	NO	1.62	0.32	NO	0.32	NO	NO	1.21	NO	-11.57	43.0	NO	43.0	8.6	NO	8.6	NO	NO	32.2	NO	-307.4
Bulgaria	226	NO	2.44	-0.35	2.09	IE, NO	IE, NO	IE, NO	0.24	NO	-1.00	NO	-4.92	551.7	-78.7	473.0	IE, NO	IE, NO	IE, NO	55.1	NO	-225.1	NO	-1,111.2
Croatia	22	NO	2.19	-0.09	2.10	IE, NO	IE, NO	IE, NO	IE, NO	NO	0.59	NO	-9.83	48.6	-2.1	46.5	IE, NO	IE, NO	IE, NO	IE, NO	NO	13.0	NO	-218.2
Czech Republic	48	NO	1.65	NO	1.65	0.33	NO	0.33	IE	NO	0.13	NO	-7.77	78.8	NO	78.8	15.8	NO	15.8	IE	NO	6.4	NO	-369.9
Denmark[a]	94	10	IE, NO	-0.13	-0.13	IE, NO	-0.06	-0.06	0.02	-0.03	0.15	-0.34	0.40	IE, NO	-12.4	-12.4	IE, NO	-5.3	-5.3	1.4	-3.2	12.6	-3.5	37.8
Estonia	29	7	1.14	IE	1.14	0.45	IE	0.45	0.30	0.00	-0.71	-0.57	-4.47	33.4	IE	33.4	13.1	IE	13.1	8.7	0.0	-15.7	-3.9	-130.5
European Union (15)	6,749	320	1.79	-0.52	1.27	0.36	-0.09	0.27	0.16	0.05	0.29	-0.49	-7.31	12,067.8	-3,494.2	8,573.6	2,432.7	-634.2	1,798.5	1,076.1	309.7	1,850.2	-158.1	-49,316.6
Finland	167	63	0.63	0.00	0.63	0.22	IE	0.22	IE	IE	-0.05	-1.39	-1.08	105.8	-0.5	105.3	36.3	IE	36.3	IE	IE	-5.1	-87.3	-180.8
France (KP)	1,346	NO	1.28	-0.20	1.08	0.48	NO	0.48	0.20	0.04	0.21	NO	-7.35	1,726.5	-273.7	1,452.9	643.9	NO	643.9	275.4	49.0	276.6	NO	-9,892.0
Germany	491	29	3.03	-0.23	2.80	0.61	-0.09	0.52	0.44	0.03	-0.36	-0.68	-12.49	1,488.3	-115.0	1,373.3	300.0	-43.6	256.3	214.6	16.9	-168.6	-19.6	-6,134.0
Greece	33	NO	2.09	-1.09	1.00	0.40	-0.21	0.19	NA, NE	NA, NE	NA, NE	NA, NO	-4.37	69.5	-36.2	33.4	13.2	-6.9	6.3	NA, NE	NA, NE	NA, NE	NA, NO	-145.2
Hungary	143	NO	1.60	0.00	1.59	0.40	0.00	0.40	NE	NE	NE	NO	-7.28	228.3	-0.6	227.7	57.1	-0.5	56.6	NE	NE	NE	NO	-1,042.4
Iceland	42	3	0.51	IE	0.51	0.13	IE	0.13	0.14	NO	0.39	-0.16	-4.14	21.2	IE	21.2	5.4	IE	5.4	5.9	NO	15.2	-0.4	-173.0
Ireland	287	160	3.76	-1.43	2.33	0.77	-0.05	0.73	0.55	0.16	NA, NO	-0.45	-12.87	1,079.5	-410.7	668.8	222.6	-14.3	208.4	157.8	46.1	NA, NO	-72.3	-3,698.9
Italy	1,670	NO	2.27	-1.50	0.77	0.46	-0.30	0.16	0.01	0.01	0.15	NO	-4.03	3,788.4	-2,502.3	1,286.1	771.7	-509.4	262.3	24.9	15.8	248.3	NO	-6,737.2
Japan	32	NO	2.40	-0.01	2.40	0.62	0.00	0.62	0.27	0.79	0.09	NO	-15.29	77.7	-0.2	77.5	20.1	0.0	20.1	8.7	25.5	2.9	NO	-494.4
Latvia	219	6	0.26	NO	0.26	0.06	NO	0.06	0.10	0.01	NO	-0.68	-1.50	56.1	NO	56.1	13.6	NO	13.6	22.0	1.3	NO	-3.7	-327.4
Liechtenstein	0	IE, NE, NO	1.47	NO	1.47	IE	IE	IE	NO	NO	0.26	NO	-6.35	0.0	NO	0.0	IE	IE	IE	NO	NO	0.0	NO	-0.2
Lithuania	35	5	1.13	IE	1.13	0.26	IE	0.26	1.10	NO	-0.71	-2.24	-5.66	39.2	IE	39.2	9.0	IE	9.0	38.2	NO	-20.8	-12.2	-195.9
Luxembourg	9	NO	3.24	-0.06	3.19	IE	IE	IE	IE	NO	0.67	NO	-14.15	28.2	-0.5	27.7	IE	IE	IE	IE	NO	5.8	NO	-122.9
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	50	0	3.46	-0.06	3.40	0.84	-0.39	0.45	NE	NE	0.18	-468.26	-13.06	174.0	-3.0	171.0	42.1	-19.6	22.5	NE	NE	8.9	-23.1	-657.5
New Zealand	657	1	7.50	-0.10	7.40	1.55	-0.09	1.45	-0.07	-0.14	-0.70	-1.12	-29.14	4,927.1	-63.2	4,863.9	1,015.3	-62.3	953.0	-43.2	-89.6	-459.8	-1.2	-19,151.1
Norway	55	6	0.60	-0.11	0.50	0.20	-0.03	0.17	2.97	0.02	-0.78	-1.90	-10.11	33.4	-5.9	27.5	11.3	-1.8	9.5	164.5	1.3	-38.6	-11.3	-560.8
Poland	687	20	0.85	NO	0.85	0.20	NO	0.20	NO	NO	0.09	-0.68	-4.09	585.1	NO	585.1	136.6	NO	136.6	NO	NO	58.6	-13.5	-2,811.3
Portugal	592	NO	2.06	-0.05	2.02	0.41	-0.03	0.38	0.01	IE	0.55	NO	-10.83	1,221.3	-26.9	1,194.3	240.0	-16.2	223.8	3.9	IE	327.6	NO	-6,415.2
Romania	28	NO	4.01	NO	4.01	1.00	NO	1.00	0.06	IE, NO	0.89	NO	-21.86	110.5	NO	110.5	27.6	NO	27.6	1.6	IE, NO	24.5	NO	-601.8
Russian Federation	568	NO	1.89	-0.63	1.27	0.48	-0.16	0.32	0.05	0.31	0.50	NO	-8.97	1,076.9	-355.4	721.5	271.9	-89.7	182.2	29.9	174.5	281.6	NO	-5,095.6
Slovakia	36	NO	1.24	NO	1.24	0.28	NO	0.28	0.41	NO	1.36	NO	-12.10	44.8	NO	44.8	10.2	NO	10.2	14.9	NO	48.9	NO	-435.8
Slovenia	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	1,226	NO	1.12	IE	1.12	IE	IE	IE	0.09	0.15	0.57	NA	-7.08	1,378.4	IE	1,378.4	IE	IE	IE	112.7	178.9	698.4	NA	-8,684.5
Sweden	232	32	1.14	IE	1.14	0.36	IE	0.36	0.27	0.01	-0.11	-0.57	-5.89	264.4	IE	264.4	83.3	IE	83.3	62.3	3.1	-21.4	-18.1	-1,370.1
Switzerland	2	0	1.31	NO	1.31	0.36	NO	0.36	NO	NO	0.90	-0.68	-9.36	2.2	NO	2.2	0.6	NO	0.6	NO	NO	1.5	0.0	-15.9
Ukraine	176	NO	0.31	NO	0.31	0.07	NO	0.07	0.07	0.03	-0.11	NO	-1.37	53.8	NO	53.8	11.7	NO	11.7	13.1	5.5	-18.4	NO	-240.8
United Kingdom	327	26	1.30	-0.08	1.22	IE	IE	IE	0.07	IE	1.05	2.49	-9.03	424.0	-24.9	399.1	IE	IE	IE	24.4	IE	317.2	65.7	-2,956.7

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3c

Afforestation and reforestation (units of land harvested since the beginning of the commitment period) - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	257	NO	0.54	-11.79	-11.25	0.12	-3.02	-2.90	0.42	1.92	0.50	NO	41.47	139.0	-3,023.6	-2,884.6	30.2	-775.3	-745.1	107.5	492.3	128.4	NO	10,638.5
Austria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Belgium	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	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	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Denmark[a]	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE, NA	IE, NA	IE,NA	IE	IE	IE	IE	IE	IE	IE	IE	IE, NA	IE, NA	NA,IE
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	24	1	4.86	-7.23	-2.37	1.13	-1.61	-0.48	0.09	0.01	0.76	-0.44	7.51	117.7	-175.1	-57.4	27.3	-38.9	-11.6	2.2	0.2	17.5	-0.5	181.7
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	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	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Greece	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	28	NO	1.46	IE	1.46	0.36	IE	0.36	NE	NE	NE	NO	-6.67	40.9	IE	40.9	10.2	IE	10.2	NE	NE	NE	NO	-187.5
Iceland	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	6	1	11.00	-5.83	5.17	2.45	-0.63	1.83	0.54	0.04	NA, NO	-0.44	-27.45	61.6	-32.6	29.0	13.7	-3.5	10.2	3.0	0.2	NA, NO	-0.5	-153.7
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	6	0	2.50	-7.60	-5.10	0.63	-1.64	-1.01	-0.85	-0.14	-0.67	-0.68	28.47	15.9	-48.3	-32.4	4.0	-10.4	-6.4	-5.4	-0.9	-4.2	0.0	180.8
Norway	1	NO	NO	NO	NO	NO	NO	NO	3.05	0.02	-1.07	NO	-7.36	NO	NO	NO	NO	NO	NO	4.4	0.0	-1.5	NO	-10.6
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Portugal	19	NO	3.02	-7.66	-4.64	0.73	-1.90	-1.17	-0.04	IE	0.94	NO	18.03	56.1	-142.5	-86.4	13.6	-35.4	-21.8	-0.8	IE	17.5	NO	335.4
Romania	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Switzerland	1	0	2.63	-2.09	0.54	0.73	-0.55	0.18	-0.04	-0.24	0.00	-0.68	-1.57	2.1	-1.7	0.4	0.6	-0.4	0.1	0.0	-0.2	0.0	0.0	-1.2
Ukraine	107	NO	0.76	-0.01	0.74	0.17	IE	0.17	0.21	0.08	0.22	NO	-5.24	81.4	-1.6	79.8	18.0	IE	18.0	23.1	9.1	23.5	NO	-562.5
United Kingdom	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3d

Deforestation - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	6,693	NO	0.00	-0.30	-0.30	0.00	-0.13	-0.13	-0.17	-0.28	-0.40	NO	4.73	2.9	-2,036.7	-2,033.8	0.3	-880.6	-880.2	-1,129.0	-1,899.5	-2,683.3	NO	31,628.0
Austria	69	NO	0.21	-0.94	-0.73	0.05	-0.23	-0.18	-0.56	0.00	-0.68	NO	7.88	14.4	-64.8	-50.4	3.6	-16.0	-12.4	-38.8	0.0	-46.7	NO	543.7
Belgium	25	NO	NO	-3.17	-3.17	NO	-0.63	-0.63	-0.28	-0.07	-1.35	NO	20.17	NO	-77.8	-77.8	NO	-15.6	-15.6	-6.8	-1.7	-33.3	NO	495.8
Bulgaria	4	NO	0.04	-3.37	-3.33	IE, NO	IE, NO	IE, NO	-0.33	-0.17	-3.34	NO	26.28	0.1	-12.7	-12.5	IE, NO	IE, NO	IE, NO	-1.2	-0.6	-12.6	NO	98.9
Croatia	12	NO	0.03	-0.88	-0.85	IE	IE	IE	IE	IE	-3.64	NO	16.48	0.3	-11.0	-10.6	IE	IE	IE	IE	IE	-45.5	NO	205.8
Czech Republic	14	NO	NO	-2.61	-2.61	NO	-0.52	-0.52	IE, NA	-0.07	-0.05	NO	11.90	NO	-37.1	-37.1	NO	-7.4	-7.4	IE, NA	-0.9	-0.7	NO	169.4
Denmark[a]	6	NO	0.33	-3.90	-3.56	IE, NA	-0.77	-0.77	-0.83	-0.08	0.09	NA	18.89	1.9	-22.5	-20.6	IE, NA	-4.4	-4.4	-4.8	-0.5	0.5	NA	109.3
Estonia	21	5	NO	-2.91	-2.91	NO	-0.69	-0.69	-1.07	-0.10	-0.76	-1.63	21.01	NO	-60.5	-60.5	NO	-14.3	-14.3	-22.3	-2.1	-12.1	-7.9	437.1
European Union (15)	2,584	125	0.08	-1.62	-1.54	0.03	-0.37	-0.34	-0.34	-0.05	-0.73	-3.32	11.46	199.4	-4,182.3	-3,982.9	73.1	-947.1	-874.0	-869.6	-132.5	-1,801.1	-414.8	29,608.1
Finland	324	71	0.03	-0.77	-0.74	IE, NA, NE, NO	-0.22	-0.22	IE, NO	-0.01	-0.23	-4.16	7.59	10.1	-250.2	-240.1	IE, NA, NE, NO	-72.6	-72.6	IE, NO	-3.6	-58.6	-296.4	2,461.5
France (KP)	1,055	NO	NO	-1.91	-1.91	NO	-0.47	-0.47	-0.23	-0.07	-0.72	NO	12.49	NO	-2,020.1	-2,020.1	NO	-497.6	-497.6	-245.5	-73.1	-756.9	NO	13,174.8
Germany	255	13	0.44	-2.00	-1.56	0.16	-0.35	-0.19	-0.75	-0.09	0.30	-4.20	9.28	113.0	-510.9	-397.9	40.8	-89.9	-49.1	-192.1	-21.8	71.9	-56.3	2,366.3
Greece	5	NO	NO	-1.58	-1.58	NO	-0.61	-0.61	-0.65	-0.05	-2.46	NO	19.59	NO	-8.1	-8.1	NO	-3.1	-3.1	-3.3	-0.3	-12.6	NO	100.3
Hungary	10	NO	IE	-2.83	-2.83	IE	-0.71	-0.71	-0.68	-0.19	-0.36	NO	17.49	IE	-28.7	-28.7	IE	-7.2	-7.2	-6.9	-2.0	-3.7	NO	177.4
Iceland	0	NO	NO	IE, NO	IE, NO	NO	IE, NO	IE, NO	IE, NO	NO	-0.61	NA, NO	2.24	NO	IE, NO	IE, NO	NO	IE, NO	IE, NO	IE, NO	NO	0.0	NA, NO	0.1
Ireland	17	7	NA, NO	-2.06	-2.06	NA, NO	-0.51	-0.51	-0.22	-0.56	-0.37	-0.34	13.58	NA, NO	-34.0	-34.0	NA, NO	-8.4	-8.4	-3.6	-9.2	-3.7	-2.2	224.1
Italy	40	NO	NO	-4.35	-4.35	NO	-0.92	-0.92	-0.27	-0.14	-7.58	NO	48.64	NO	-175.8	-175.8	NO	-37.1	-37.1	-10.8	-5.8	-306.3	NO	1,964.5
Japan	343	0	0.00	-0.78	-0.78	0.00	-0.20	-0.20	-0.11	-0.28	-0.17	NO	5.68	0.2	-267.4	-267.2	0.8	-69.1	-68.3	-39.3	-97.7	-59.6	NO	1,950.6
Latvia	38	5	NO	-1.57	-1.57	NO	-0.38	-0.38	-0.39	-0.02	-6.21	-3.39	30.02	NO	-60.3	-60.3	NO	-14.6	-14.6	-14.9	-0.9	-206.2	-17.9	1,154.3
Liechtenstein	0	IE	NO	-2.78	-2.78	IE	IE	IE	-0.31	-0.08	-1.88	NO	18.52	NO	-0.1	-0.1	IE	IE	IE	0.0	0.0	0.0	NO	0.4
Lithuania	1	0	IE	-5.10	-5.10	IE	-1.17	-1.17	-1.97	-0.27	-5.91	-5.91	52.89	IE	-6.4	-6.4	IE	-1.5	-1.5	-2.5	-0.3	-6.2	-1.2	66.0
Luxembourg	7	NO	0.12	-0.70	-0.58	IE	IE	IE	IE	-0.01	-0.36	NO	3.50	0.8	-4.9	-4.1	IE	IE	IE	IE	-0.1	-2.5	NO	24.4
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	53	3	0.33	-3.32	-2.99	0.13	-0.63	-0.49	-1.53	-0.08	0.00	-6.52	20.00	17.4	-176.3	-159.0	7.1	-33.3	-26.2	-81.6	-4.2	-0.2	-18.9	1,063.7
New Zealand	152	1	0.07	-6.13	-6.06	0.12	-1.30	-1.19	-0.29	-0.26	0.72	-2.27	26.04	10.2	-928.3	-918.2	17.8	-197.6	-179.8	-44.7	-39.5	108.1	-2.0	3,945.9
Norway	137	10	0.02	-1.13	-1.12	0.01	-0.31	-0.31	-3.05	-0.25	0.08	-6.67	18.77	2.4	-154.8	-152.4	0.8	-42.9	-42.1	-416.9	-34.2	10.3	-64.2	2,565.0
Poland	13	NO	NO	-2.75	-2.75	NO	-0.63	-0.63	-1.07	-0.08	-1.74	NO	22.99	NO	-34.7	-34.7	NO	-8.0	-8.0	-13.4	-1.0	-22.0	NO	289.6
Portugal	342	NO	0.12	-0.38	-0.26	0.06	-0.08	-0.02	-0.03	IE	-1.17	NO	5.39	41.7	-130.1	-88.3	21.6	-28.0	-6.4	-9.1	IE	-399.1	NO	1,844.2
Romania	110	NO	NO	-3.70	-3.70	NO	-0.03	-0.03	-0.83	-0.08	-1.99	NO	24.34	NO	-405.9	-405.9	NO	-3.3	-3.3	-91.0	-9.2	-217.9	NO	2,666.2
Russian Federation	31	NO	0.24	-36.75	-36.51	0.61	-9.59	-8.98	-8.38	-9.22	-63.78	NO	465.18	7.2	-1,123.5	-1,116.3	18.8	-293.2	-274.4	-256.2	-281.9	-1,949.9	NO	14,221.9
Slovakia	8	NO	NO	-3.51	-3.51	NO	-0.79	-0.79	-0.01	-0.07	-0.03	NO	16.15	NO	-28.0	-28.0	NO	-6.3	-6.3	-0.1	-0.6	-0.2	NO	128.8
Slovenia	7	NO	IE	-5.68	-5.68	IE	IE	IE	IE	-0.90	-2.01	NO	31.51	IE	-39.7	-39.7	IE	IE	IE	IE	-6.3	-14.0	NO	220.1
Spain	105	NO	IE	-1.08	-1.08	IE	IE	IE	-0.07	-0.11	-0.40	NA	6.13	IE	-113.4	-113.4	IE	IE	IE	-7.7	-11.6	-42.0	NA	640.6
Sweden	228	31	IE	-2.02	-2.02	IE	-0.62	-0.62	-1.07	0.00	-0.89	-1.32	17.06	IE	-460.5	-460.5	IE	-141.0	-141.0	-243.9	-0.7	-174.9	-40.9	3,893.7
Switzerland	7	0	NO	-4.15	-4.15	NO	-1.34	-1.34	-0.95	-0.29	-1.76	-5.21	31.13	NO	-29.6	-29.6	NO	-9.5	-9.5	-6.7	-2.1	-12.5	-0.2	221.9
Ukraine	50	NO	NO	-0.13	-0.13	NO	-0.02	-0.02	0.00	0.00	-0.06	NO	0.79	NO	-6.5	-6.5	NO	-1.2	-1.2	-0.1	0.0	-2.8	NO	39.3
United Kingdom	54	IE	IE	-2.48	-2.48	IE	IE	IE	-0.40	IE	-0.69	IE	13.10	IE	-132.9	-132.9	IE	IE	IE	-21.5	IE	-36.8	IE	701.4

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3e

Forest management - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	2,335	NO	1.83	-0.93	0.90	IE, NO	IE, NO	IE, NO	NO	NO	NO	NO	-3.30	4,267.7	-2,169.6	2,098.0	IE, NO	IE, NO	IE, NO	NO	NO	NO	NO	-7,692.8
Czech Republic	2,561	19	2.52	-1.85	0.68	0.50	-0.37	0.14	IE, NO	NO	NE, NO	NO	-2.97	6,456.6	-4,726.0	1,730.6	1,291.3	-945.2	346.1	IE, NO	NO	NE, NO	NO	-7,614.8
Denmark[a]	538	26	1.46	IE, NO	1.46	0.33	IE, NO	0.33	0.47	0.04	NA, NR	-0.34	-8.34	784.0	IE, NO	784.0	176.4	IE, NO	176.4	253.5	20.0	NA, NR	-8.9	-4,491.4
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	112,004	10,190	1.00	-0.51	0.50	0.22	-0.12	0.11	-0.01	0.00	0.09	-0.43	-2.36	112,384.9	-56,614.3	55,770.6	25,161.8	-13,062.4	12,099.4	-1,198.0	387.1	9,280.8	-4,349.0	-263,966.5
Finland	21,827	5,903	1.26	-0.89	0.37	0.35	-0.27	0.08	IE	IE	0.13	-0.35	-1.69	27,509.5	-19,386.3	8,123.2	7,637.2	-5,800.6	1,836.6	IE	IE	2,141.0	-2,067.0	-36,790.5
France (KP)	21,525	NO	1.47	-0.87	0.60	0.42	-0.21	0.21	0.00	-0.04	0.00	NO	-2.80	31,562.8	-18,649.8	12,913.0	9,005.2	-4,524.8	4,480.3	28.5	-942.6	-58.3	NO	-60,209.6
Germany	10,758	217	0.90	IE	0.90	0.13	IE	0.13	-0.05	-0.05	0.27	-0.68	-4.34	9,698.6	IE	9,698.6	1,433.6	IE	1,433.6	-537.9	-558.7	2,846.2	-147.5	-46,692.6
Greece	1,229	NO	0.41	-0.11	0.30	0.14	-0.03	0.11	NA, NE	NA, NE	NA, NE	NA, NO	-1.50	504.9	-134.6	370.3	170.0	-38.2	131.8	NA, NE	NA, NE	NA, NE	NA, NO	-1,841.1
Hungary	1,655	6	0.30	IE	0.30	0.10	IE	0.10	NE	NE	NE	-0.68	-1.44	491.4	IE	491.4	163.8	IE	163.8	NE	NE	NE	-4.4	-2,386.4
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	7,471	NO	2.31	-1.56	0.74	0.44	-0.26	0.18	0.00	0.00	NE	NO	-3.40	17,235.5	-11,688.8	5,546.7	3,304.3	-1,960.4	1,343.9	19.1	10.6	NE	NO	-25,374.2
Japan	15,321	43	0.77	-0.02	0.75	0.20	-0.01	0.19	0.00	-0.03	0.03	NO	-3.47	11,844.4	-285.4	11,558.9	3,012.9	-77.3	2,935.6	71.3	-492.7	420.1	NO	-53,142.0
Latvia	3,128	428	2.44	-1.49	0.95	0.59	-0.36	0.23	NO	0.02	NO	-0.68	-4.03	7,635.2	-4,674.1	2,961.1	1,855.6	-1,135.9	719.6	NO	50.2	NO	-290.8	-12,613.5
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	2,150	338	0.93	IE	0.93	0.21	IE	0.21	0.04	0.04	NO	-0.34	-4.30	2,001.5	IE	2,001.5	457.9	IE	457.9	90.6	83.8	NO	-115.1	-9,235.0
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	12,050	717	0.74	-0.30	0.44	0.19	-0.08	0.11	0.14	0.03	0.00	-0.64	-2.51	8,899.7	-3,596.1	5,303.6	2,295.5	-920.8	1,374.6	1,645.7	332.2	37.8	-457.7	-30,199.8
Poland	8,667	232	0.85	IE	0.85	0.26	IE	0.26	0.00	-0.04	0.11	-0.68	-4.29	7,406.3	IE	7,406.3	2,239.2	IE	2,239.2	10.1	-325.8	960.6	-157.4	-37,154.6
Portugal	3,751	NO	1.61	-0.98	0.63	0.33	-0.20	0.13	0.00	IE	0.00	NO	-2.79	6,056.0	-3,687.9	2,368.1	1,241.6	-738.4	503.2	-10.0	IE	-7.4	NO	-10,464.0
Romania	6,345	95	1.53	-0.89	0.64	0.27	-0.04	0.23	NO	NO	NO	-0.68	-3.15	9,691.8	-5,638.2	4,053.6	1,737.7	-266.7	1,471.0	NO	NO	NO	-64.8	-20,019.2
Russian Federation	617,115	1,950	0.28	-0.12	0.16	0.08	-0.04	0.04	0.00	0.03	0.01	-0.71	-0.89	175,195.5	-74,116.1	101,079.5	48,350.8	-22,269.8	26,081.0	2,849.5	15,852.0	5,327.5	-1,384.6	-549,284.8
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	1,185	1	1.17	IE	1.17	0.28	NO	0.28	NO	0.00	NO	NO	-5.31	1,389.6	IE	1,389.6	328.0	NO	328.0	NO	-1.0	NO	NO	-6,294.3
Spain	14,445	NO	0.45	IE	0.45	IE	IE	IE	0.00	0.00	0.00	NA	-1.64	6,569.9	IE	6,569.9	IE	IE	IE	-24.3	-39.8	-33.3	NA	-23,732.3
Sweden	28,138	3,817	0.23	IE	0.23	0.08	IE	0.08	-0.05	0.07	0.16	-0.60	-1.41	6,518.6	IE	6,518.6	2,193.5	IE	2,193.5	-1,440.4	1,897.7	3,934.7	-2,305.0	-39,596.9
Switzerland	1,233	3	2.26	-1.72	0.54	0.68	-0.50	0.18	-0.03	-0.19	0.00	-0.68	-1.82	2,784.7	-2,115.6	669.2	836.1	-617.6	218.5	-36.6	-239.0	0.6	-2.4	-2,237.4
Ukraine	9,391	193	1.73	-0.56	1.17	0.26	IE	0.26	0.02	0.31	NO	0.68	-6.52	16,239.4	-5,248.1	10,991.3	2,451.7	IE	2,451.7	215.8	2,900.4	NO	131.0	-61,197.3
United Kingdom	2,325	227	2.56	-1.32	1.24	IE	IE	IE	0.22	IE	0.22	0.79	-6.37	5,952.3	-3,066.9	2,885.5	IE	IE	IE	514.8	IE	460.3	179.3	-14,812.9

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3f

Cropland management - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[a]	2,644	51	0.05	-0.07	-0.02	IE	IE	IE	NA	NA	-0.06	-10.62	1.05	122.0	-175.8	-53.8	IE	IE	IE	NA	NA	-160.1	-540.2	2,765.4
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	25,135	51	0.01	-0.01	-0.01	0.00	0.00	0.00	0.00	IE, NA, NE	0.01	-10.62	0.05	193.0	-351.1	-158.1	21.4	-24.3	-2.9	-9.0	IE, NA, NE	368.3	-540.2	1,253.5
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	2,335	NO	0.03	-0.02	0.01	0.01	-0.01	0.00	0.00	IE	-0.03	NO	0.09	71.0	-42.8	28.2	21.4	-24.3	-2.9	-7.7	IE	-75.8	NO	213.4
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	20,157	NO	IE	-0.01	-0.01	IE	IE	IE	0.00	NE	0.03	NA	-0.09	IE	-132.4	-132.4	IE	IE	IE	-1.3	NE	604.3	NA	-1,725.2
Sweden	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3g

Cropland management - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for the base year

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Austria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Belgium	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Croatia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Denmark[a]	2,715	74	0.04	-0.04	0.01	IE	IE	IE	NA	NA	-0.15	-10.57	1.55	120.4	-98.5	21.9	IE	IE	IE	NA	NA	-385.8	-787.5	4,221.7
Estonia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
European Union (15)	26,688	74	0.02	0.00	0.02	0.00	0.00	0.00	0.00	-	-0.05	-10.57	0.24	519.4	-110.0	409.4	10.4	-6.0	4.4	-86.5	-	-1,285.1	-787.5	6,399.2
Finland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
France (KP)	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Germany	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Greece	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Hungary	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Iceland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Ireland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Italy	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Japan	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Latvia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Norway	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Poland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Portugal	2,974	NO	0.02	0.00	0.01	0.00	0.00	0.00	-0.03	IE	-0.29	NO	1.11	46.7	-11.5	35.2	10.4	-6.0	4.4	-86.4	IE	-857.1	NO	3,313.9
Romania	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Spain	20,999	NO	0.02	IE	0.02	IE	IE	IE	0.00	NE	0.00	NA	-0.05	352.3	IE	352.3	IE	IE	IE	-0.2	NE	-42.2	NA	-1,136.4
Sweden	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3h

Grazing land management - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[a]	528	25	0.21	-0.44	-0.23	IE	IE	IE	NA	NA	0.00	-0.88	0.99	112.8	-231.8	-119.0	IE	IE	IE	NA	NA	-2.2	-21.8	524.5
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	886	17	0.14	-0.29	-0.15	0.01	-0.02	0.00	0.00	IE, NA	0.04	-1.25	0.53	122.9	-254.8	-131.9	10.2	-14.1	-3.9	-3.9	IE, NA	32.6	-21.5	471.6
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	601	NO	0.02	-0.04	-0.02	0.02	-0.02	-0.01	-0.01	IE	0.06	NO	-0.09	10.1	-23.0	-13.0	10.2	-14.1	-3.9	-3.9	IE	34.9	NO	-51.6
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3i

Grazing land management - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for the base year

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Austria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Belgium	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Croatia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Denmark[a]	643	31	0.02	-0.04	-0.03	IE	IE	IE	NA	NA	0.00	-0.95	0.28	9.7	-28.8	-19.1	IE	IE	IE	NA	NA	-0.2	-29.2	177.6
Estonia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
European Union (15)	931	23	0.02	-0.07	-0.04	0.03	-0.02	0.01	-0.04	-	-0.30	-1.25	1.45	23.0	-63.5	-40.5	24.0	-18.0	6.0	-33.8	-	-269.4	-29.1	1,345.0
Finland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
France (KP)	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Germany	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Greece	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Hungary	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Iceland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Ireland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Italy	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Japan	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Latvia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Norway	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Poland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Portugal	529	NO	0.03	-0.07	-0.04	0.05	-0.03	0.01	-0.06	IE	-0.51	NO	2.21	13.5	-34.8	-21.4	24.0	-18.0	6.0	-33.8	IE	-269.2	NO	1,167.6
Romania	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Spain	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Sweden	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3j

Revegetation - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for 2012

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	262	NO	0.06	IE	0.06	IE	IE	IE	IE	NO	0.51	NA	-2.07	14.8	IE	14.8	IE	IE	IE	IE	NO	133.3	NA	-543.1
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	80	NO	2.47	0.00	2.46	0.64	0.00	0.64	0.04	IE, NO	0.81	NO	-14.51	197.4	-0.3	197.1	51.3	-0.1	51.2	3.4	IE, NO	65.1	NO	-1,161.9
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Romania	103	NO	2.36	NO	2.36	0.59	NO	0.59	0.01	NO	0.20	NO	-11.61	243.8	NO	243.8	61.0	NO	61.0	1.5	NO	20.4	NO	-1,197.7
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] Includes Greenland but excludes Faroe Islands.

Table 7.3k

Revegetation - area, implied carbon stock change factors and emissions and removals from the change in carbon stocks for the base year

	Area (kha)		Implied carbon stock change factor (Mg C/ha)										Implied emission/ removal factor per area (Mg CO_2/ha)	Change in carbon stock (Gg C)										Net CO_2 emissions/ removals (Gg CO_2)
	Total	Organic Soil	Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil			Above-ground biomass			Below-ground biomass			Litter	Deadwood	Soil		
			Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic		Increase	Decrease	Net change	Increase	Decrease	Net change			Mineral	Organic	
Australia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Austria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Belgium	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Croatia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Denmark[a]	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Estonia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
European Union (15)	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Finland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
France (KP)	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Germany	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Greece	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Hungary	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Iceland	168	NO	0.06	IE	0.06	IE	IE	IE	IE	NO	0.51	NA	-2.08	9.5	IE	9.5	IE	IE	IE	IE	NO	85.8	NA	-349.5
Ireland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Italy	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Japan	6	NO	2.21	-0.01	2.20	0.58	0.00	0.57	0.04	IE, NO	0.80	NO	-13.27	13.0	-0.1	12.9	3.4	0.0	3.4	0.3	IE, NO	4.7	NO	-77.8
Latvia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Monaco	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Norway	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Poland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Portugal	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Romania	88	NO	2.39	NO	2.39	0.60	NO	0.60	0.07	NO	1.85	NO	-18.02	210.6	NO	210.6	52.7	NO	52.7	6.4	NO	162.8	NO	-1,585.7
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Spain	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Sweden	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
Ukraine	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	

[a] Includes Greenland but excludes Faroe Islands.

Table 7.4

Direct N_2O emissions from N fertilization[a] for 2012

	A/R[b]: units of land not harvested since beginning of CP			A/R[b]: units of land harvested since beginning of CP			Forest management[c]		
	Total fertilizer	N_2O-N per unit of fertilizer	N_2O	Total fertilizer	N_2O-N per unit of fertilizer	N_2O	Total fertilizer	N_2O-N per unit of fertilizer	N_2O
	Gg N/yr	kg N_2O-N/kg N	Gg	Gg N/yr	kg N_2O-N/kg N	Gg	Gg N/yr	kg N_2O-N/kg N	Gg
Australia	IE	IE	IE	IE	IE	IE	NA	NA	NA
Austria	NO	NO	NO	NO	NO	NO	NA	NA	NA
Belgium	NO	NO	NO	NO	NO	NO	NA	NA	NA
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	NO	NO	NO	NO	NO	NO
Denmark[d]	IE	IE	IE	IE	IE	IE	IE	IE	IE
Estonia	NO	NO	NO	NO	NO	NO	NA	NA	NA
European Union (15)	0.45	0.01	0.00	IE, NA, NO	IE, NA, NO	IE, NA, NO	9.30	0.01	0.17
Finland	NO	NO	NO	NA	NA	NA	2.46	0.01	0.05
France (KP)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Germany	NO	NO	NO	NO	NO	NO	NO	NO	NO
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	IE	IE	IE	IE	IE	IE	IE	IE	IE
Iceland	0.01	0.01	0.00	NO	NA	NA	NA	NA	NA
Ireland	IE	IE	IE	IE	IE	IE	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	IE	IE	IE	NA	NA	NA	0.18	0.01	0.00
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Liechtenstein	NO	NO	NO	NO	NO	NO	NA	NA	NA
Lithuania	NO	NO	NO	NA	NA	NA	NO	NO	NO
Luxembourg	NO	NO	NO	NO	NO	NO	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NO	NO	NO	NO	NO	NO	NA	NA	NA
New Zealand	IE	IE	IE	IE	IE	IE	NA	NA	NA
Norway	0.00	0.00	0.00	IE	IE	IE	0.41	0.00	0.00
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO
Portugal	IE	IE	IE	IE	IE	IE	IE	IE	IE
Romania	IE	IE	IE	IE	IE	IE	IE	IE	IE
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	NO	NO	NO	NO	NO	NO	NO	NA	NA
Sweden	NO	NO	NO	NO	NO	NO	6.84	0.01	0.12
Switzerland	NO	NO	NO	NO	NO	NO	NO	NO	NO
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	0.45	0.01	0.00	IE	IE	IE	NO	NO	NO

[a] N_2O emissions from fertilization for Cropland Management, Grazing Land Management and Revegetation should be reported in the agriculture sector.

[b] A/R = afforestation/reforestation.

[c] If Forest Management is elected by the Party.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.5

N_2O emissions from drainage of soils[a,b] for 2012

	Organic soil			Mineral soil			Total		
	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O
	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	13.12	0.60	0.01	281.57	0.06	0.03	294.69	0.08	0.04
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	4,857.21	0.53	4.08	753.76	0.07	0.09	5,610.97	0.47	4.16
Finland	4,419.25	0.55	3.79	NE	NE	NE	4,419.25	0.55	3.79
France (KP)	NO	NO	NO	NO	NO	NO	NO	NO	NO
Germany	216.85	0.60	0.20	NO	NO	NO	216.85	0.60	0.20
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NO	NO	NO	NO	NO	NO	NO	NO	NO
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NO	NO	NO	NO	NO	NO	NO	NO	NO
Latvia	428.37	0.60	0.40	604.47	0.06	0.06	1,032.84	0.28	0.46
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	172.60	0.28	0.08	NO	NO	NO	172.60	0.28	0.08
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	240.88	0.10	0.04	NO	NO	NO	240.88	0.10	0.04
Poland	231.54	2.19	0.80	8,435.50	0.02	0.22	8,667.04	0.07	1.01
Portugal	NO	NO	NO	NO	NO	NO	NO	NO	NO
Romania	95.33	0.00	0.00	NO	NO	NO	95.33	0.00	0.00
Russian Federation	1,950.20	1.71	5.24	NO	NO	NO	1,950.20	1.71	5.24
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	NO	NO	NO	NO	NO	NO	NO	NO	NO
Sweden	NE	NE	NE	NE	NE	NE	NE	NE	NE
Switzerland	NE	NE	NE	NE	NE	NE	NE	NE	NE
Ukraine	192.60	0.10	0.03	NO	NO	NO	192.60	0.10	0.03
United Kingdom	208.03	0.20	0.06	472.33	0.08	0.06	680.36	0.12	0.13

[a] N_2O emissions from drainage of soils include those from Forest Management. N_2O emissions from drained cropland and grassland soils are covered in the agriculture sector under cultivation of histosols. Fertilization for Cropland Management, Grazing Land Management and Revegetation should be reported in the agriculture sector.

[b] If Forest Management is elected by the Party.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.6a

N_2O emissions from disturbance associated with land-use conversion to cropland (deforestation[a]) for 2012

	Deforestation								
	Organic Soil[b]			Mineral Soil			Total		
	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O
	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg
Australia	NO	NO	NO	6,692.77	0.09	0.94	6,692.77	0.09	0.94
Austria	NO	NO	NO	4.20	0.54	0.00	4.20	0.54	0.00
Belgium	NO	NO	NO	2.60	2.19	0.01	2.60	2.19	0.01
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	2.35	0.32	0.00	2.35	0.32	0.00
Denmark[c]	NO	NO	0.00	5.44	0.34	0.00	5.44	0.35	0.00
Estonia	NO	NO	NO	NO	NO	NO	NO	NO	NO
European Union (15)	38.60	0.03	0.00	343.99	0.93	0.50	382.59	0.84	0.50
Finland	36.61	IE	IE	51.25	0.20	0.02	87.86	0.11	0.02
France (KP)	NO	NO	NO	158.37	1.13	0.28	158.37	1.13	0.28
Germany	1.87	IE	IE	35.62	0.01	0.00	37.49	0.01	0.00
Greece	NO	NO	NO	0.01	0.67	0.00	0.01	0.67	0.00
Hungary	NO	NO	NO	1.63	0.34	0.00	1.63	0.34	0.00
Iceland	NO	NA	NA	NO	NA	NA	NO	NA	NA
Ireland	NO	NO	NO	NO	NO	NO	NO	NO	NO
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NO	NO	NO	27.00	0.20	0.01	27.00	0.20	0.01
Latvia	2.96	18.47	0.09	18.67	1.00	0.03	21.63	3.38	0.12
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	NO	NO	NO	0.92	0.64	0.00	0.92	0.64	0.00
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	0.11	8.53	0.00	2.72	0.74	0.00	2.83	1.05	0.00
New Zealand	0.01	23.00	0.00	0.77	0.06	0.00	0.78	0.27	0.00
Norway	1.89	8.00	0.02	12.51	1.39	0.03	14.40	2.25	0.05
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	NO	NO	NO	52.42	1.59	0.13	52.42	1.59	0.13
Romania	NO	NO	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NO	NO	NO	0.35	1.51	0.00	0.35	1.51	0.00
Slovenia	NO	NO	NO	3.57	0.94	0.01	3.57	0.94	0.01
Spain	NO	NA	NA	25.07	0.83	0.03	25.07	0.83	0.03
Sweden	IE	IE	IE	4.92	2.50	0.02	4.92	2.50	0.02
Switzerland	0.00	NO	NO	0.01	1.05	0.00	0.01	0.84	0.00
Ukraine	NO	NO	NO	NO	NO	NO	NO	NO	NO
United Kingdom	NO	NO	NO	0.45	0.45	0.00	0.45	0.45	0.00

[a] N_2O emissions associated with deforestation followed by the establishment of cropland should be reported under deforestation even if cropland management is not elected under Article 3.4.

[b] N_2O emissions from cropland are included in the agriculture sector.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.6b

N_2O emissions from disturbance associated with land-use conversion to cropland (cropland management[a,b]) for 2012

	Cropland management								
	Organic soil[c]			Mineral soil			Total		
	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O
	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Czech Republic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Denmark[d]	IE	NA	NA	75.30	0.00	0.00	75.30	0.00	0.00
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	IE, NA, NO	NA, NO	NA, NO	1,020.04	0.40	0.63	1,020.04	0.40	0.63
Finland	NA	NA	NA	NA	NA	NA	NA	NA	NA
France (KP)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Germany	NA	NA	NA	NA	NA	NA	NA	NA	NA
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NA	NA	NA	NA	NA	NA	NA	NA	NA
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Portugal	NO	NO	NO	475.70	0.15	0.11	475.70	0.15	0.11
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NA	NA	NA	NA	NA	NA	NA	NA	NA
Spain	NO	NA	NA	469.04	0.71	0.53	469.04	0.71	0.53
Sweden	NA	NA	NA	NA	NA	NA	NA	NA	NA
Switzerland	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NA	NA	NA	NA	NA	NA	NA	NA	NA

[a] This includes N_2O emissions in land subject to cropland management from disturbance of soils due to the conversion to cropland of lands other than forest lands.

[b] If Cropland Management is elected by the Party.

[c] N_2O emissions from cropland are included in the agriculture sector.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.6c

N_2O emissions from disturbance associated with land-use conversion to cropland (cropland management[a,b]) for the base year

	Cropland management								
	Organic soil[c]			Mineral soil			Total		
	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O	Area of drained soils	IEF	N_2O
	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg	kha	kg N_2O-N/ha	Gg
Australia	-	-	-	-	-	-	-	-	-
Austria	-	-	-	-	-	-	-	-	-
Belgium	-	-	-	-	-	-	-	-	-
Bulgaria	-	-	-	-	-	-	-	-	-
Croatia	-	-	-	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-	-	-	-
Denmark[d]	IE	NA	NA	0.80	NA	NA	0.80	NA	NA
Estonia	-	-	-	-	-	-	-	-	-
European Union (15)	IE, NO	NA, NO	NA, NO	469.09	1.60	1.18	469.09	1.60	1.18
Finland	-	-	-	-	-	-	-	-	-
France (KP)	-	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-	-
Greece	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-
Ireland	-	-	-	-	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-	-
Latvia	-	-	-	-	-	-	-	-	-
Liechtenstein	-	-	-	-	-	-	-	-	-
Lithuania	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	-	-	-
Monaco	-	-	-	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-
Portugal	NO	NO	NO	419.25	1.70	1.12	419.25	1.70	1.12
Romania	-	-	-	-	-	-	-	-	-
Russian Federation	-	-	-	-	-	-	-	-	-
Slovakia	-	-	-	-	-	-	-	-	-
Slovenia	-	-	-	-	-	-	-	-	-
Spain	NO	NA	NA	49.04	0.72	0.06	49.04	0.72	0.06
Sweden	-	-	-	-	-	-	-	-	-
Switzerland	-	-	-	-	-	-	-	-	-
Ukraine	-	-	-	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-	-	-	-

[a] This includes N_2O emissions in land subject to Cropland Management from disturbance of soils due to the conversion to cropland of lands other than Forest Lands.

[b] If Cropland Management is elected by the Party.

[c] N_2O emissions from cropland are included in the agriculture sector.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.6d

N_2O emissions from disturbance associated with land-use conversion to cropland (deforestation: units of land otherwise subject to elected activities under Article 3.4)[a,b] for 2012

	Deforestation: units of land otherwise subject to elected activities under Article 3.4 (information item)				
	Organic soil[c]	Mineral soil	Total		
	Area of drained soils	Area of drained soils	Area of drained soils	IEF	N_2O
	kha	kha	kha	kg N_2O-N/ha	Gg
Australia	NA	NA	NA		
Austria	NO	NO	NO		
Belgium	NO	NO	NO		
Bulgaria	NO	NO	NO		
Croatia	NA	NA	NA		
Czech Republic	NA	NA	NA		
Denmark[d]	IE	1.3	1.3		
Estonia	NA	NA	NA		
European Union (15)	IE, NA, NE, NO	477.0	477.0		
Finland	NA	NA	NA		
France (KP)	NE	NE	NE		
Germany	NA	NA	NA		
Greece	NA	NA	NA		
Hungary	NO	NO	NO		
Iceland	NA	NA	NA		
Ireland	NA	NA	NA		
Italy	NA	NA	NA		
Japan	NA	NA	NA		
Latvia	NA	NA	NA		
Liechtenstein	NO	NO	NO		
Lithuania	NO	NO	NO		
Luxembourg	NA	NA	NA		
Monaco	NA	NA	NA		
Netherlands	NA	NA	NA		
New Zealand	NA	NA	NA		
Norway	NA	NA	NA		
Poland	NA	NA	NA		
Portugal	NO	475.7	475.7		
Romania	NA	NA	NA		
Russian Federation	NA	NA	NA		
Slovakia	NA	NA	NA		
Slovenia	NA	NA	NA		
Spain	NO	NO	NO		
Sweden	NO	NO	NO		
Switzerland	NO	NO	NO		
Ukraine	NA	NA	NA		
United Kingdom	NO	NO	NO		

[a] N_2O emissions associated with deforestation followed by the establishment of cropland should be reported under deforestation even if cropland management is not elected under Article 3.4.

[b] Units of land subject to deforestation under Article 3.3 otherwise subject to elected activities under Article 3.4 are implicitly included under A.2. They are reported in table 3 for transparency purposes and to fulfil the requirement of paragraph 6(b) (ii) of the annex to decision 15/CMP.1.

[c] N_2O emissions from cropland are included in the agriculture sector.

[d] Includes Greenland but excludes Faroe Islands.

Table 7.7a

Carbon emissions from lime application[a] on Article 3.3 activities for 2012

	Afforestation and reforestation			A+R[b] (units of land not harvested since the beginning of CP)			A+R[b] (units of land harvested since the beginning of CP)			Deforestation			Total Article 3.3		
	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon
	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg
Australia	387.88	0.11	0.04	387.88	0.11	0.04	NO	NO	NO	50,137.33	0.11	5.47	50,525.21	0.11	5.51
Austria	NO	NO	NO	NO	NO	NO	NO	NO	NO	3,331.76	0.12	0.40	3,331.76	0.12	0.40
Belgium	NO	NO	NO	NO	NO	NO	NO	NO	NO	875.51	0.12	0.11	875.51	0.12	0.11
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Czech Republic	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Estonia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
European Union (15)	NA,NO,IE	NA,NO,IE	NA,NO,IE	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	IE, NA, NO	73,512.88	0.11	8.34	73,512.88	0.11	8.34
Finland	NA,NO	NA,NO	NA,NO	NO	NO	NO	NA	NA	NA	43,681.00	0.13	5.46	43,681.00	0.13	5.46
France (KP)	NO	NO	NO	NO	NO	NO	NO	NO	NO	22,750.21	0.09	2.02	22,750.21	0.09	2.02
Germany	IE,NO	IE,NO	IE,NO	IE	IE	IE	NO	NO	NO	NO	NO	NO	IE,NO	IE,NO	IE,NO
Greece	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hungary	NO	NO	NO	NO	NO	NO	NO	NO	NO	47.42	0.12	0.01	47.42	0.12	0.01
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NO	NO	NO	NO	NO	NO	NO	NO	NO	807.75	0.12	0.10	807.75	0.12	0.10
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA,NO	NA,NO	NA,NO	NO	NO	NO	NA	NA	NA	1,071.05	0.44	0.47	1,071.05	0.44	0.47
Latvia	NO	NO	NO	NO	NO	NO	NO	NO	NO	274.62	0.12	0.03	274.62	0.12	0.03
Liechtenstein	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Lithuania	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Luxembourg	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NO	NO	NO	NO	NO	NO	NO	NO	NO	1,914.47	0.13	0.24	1,914.47	0.13	0.24
New Zealand	NO	NO	NO	NO	NO	NO	NO	NO	NO	14,898.98	0.44	6.56	14,898.98	0.44	6.56
Norway	NO	NO	NO	NO	NO	NO	NO	NO	NO	1,806.16	0.45	0.81	1,806.16	0.45	0.81
Poland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NA	NA	NA	NA,NO	NA,NO	NA,NO
Portugal	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Romania	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Spain	NO	NO	NO	NO	NO	NO	NO	NO	NO	28.23	0.12	0.00	28.23	0.12	0.00
Sweden	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Switzerland	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	IE,NO	IE,NO	IE,NO	NO	NO	NO	IE	IE	IE	123.95	0.12	0.02	123.95	0.12	0.02

[a] Total for limestone and dolomite.

[b] A+R = afforestation and reforestation.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.7b

Carbon emissions from lime application[a] on Article 3.3 activities for the base year

	Afforestation and reforestation			A+R[b] (units of land not harvested since the beginning of CP)			A+R[b] (units of land harvested since the beginning of CP)			Deforestation			Total Article 3.3		
	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon
	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg
Australia				-	-	-	-	-	-	-	-	-			
Austria				-	-	-	-	-	-	-	-	-			
Belgium				-	-	-	-	-	-	-	-	-			
Bulgaria				-	-	-	-	-	-	-	-	-			
Croatia				-	-	-	-	-	-	-	-	-			
Czech Republic				-	-	-	-	-	-	-	-	-			
Denmark[c]	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE
Estonia				-	-	-	-	-	-	-	-	-			
European Union (15)	NA,NO,IE	NA,NO,IE	NA,NO,IE	IE, NA	IE, NA	IE, NA	IE, NA, NO	IE, NA, NO	IE, NA, NO	NA	NA	NA	NA,NO,IE	NA,NO,IE	NA,NO,IE
Finland				-	-	-	-	-	-	-	-	-			
France (KP)				-	-	-	-	-	-	-	-	-			
Germany				-	-	-	-	-	-	-	-	-			
Greece				-	-	-	-	-	-	-	-	-			
Hungary				-	-	-	-	-	-	-	-	-			
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland				-	-	-	-	-	-	-	-	-			
Italy				-	-	-	-	-	-	-	-	-			
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Latvia				-	-	-	-	-	-	-	-	-			
Liechtenstein				-	-	-	-	-	-	-	-	-			
Lithuania				-	-	-	-	-	-	-	-	-			
Luxembourg				-	-	-	-	-	-	-	-	-			
Monaco				-	-	-	-	-	-	-	-	-			
Netherlands				-	-	-	-	-	-	-	-	-			
New Zealand				-	-	-	-	-	-	-	-	-			
Norway				-	-	-	-	-	-	-	-	-			
Poland				-	-	-	-	-	-	-	-	-			
Portugal	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Russian Federation				-	-	-	-	-	-	-	-	-			
Slovakia				-	-	-	-	-	-	-	-	-			
Slovenia				-	-	-	-	-	-	-	-	-			
Spain	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sweden				-	-	-	-	-	-	-	-	-			
Switzerland				-	-	-	-	-	-	-	-	-			
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom				-	-	-	-	-	-	-	-	-			

[a] Total for limestone and dolomite.

[b] A+R = afforestation and reforestation.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.7c

Carbon emissions from lime application[a] on Article 3.4 activities for 2012

	Forest management[b]			Cropland management[b]			Grazing land management[b]			Revegetation[b]			Total Article 3.4[b]		
	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon
	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg
Australia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Austria	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Belgium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bulgaria	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Croatia	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Czech Republic	30.00	0.12	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.00	0.12	0.00
Denmark[c]	IE	IE	IE	437,340.78	0.12	52.45	9.25	0.13	0.00	NA	NA	NA	437,350.03	0.12	52.45
Estonia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
European Union (15)	138,815.43	0.12	16.65	568,067.87	0.12	68.19	IE, NA	IE, NA	IE, NA	NA	NA	NA	706,883.30	0.12	84.84
Finland	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
France (KP)	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Germany	138,815.43	0.12	16.65	NA	NA	NA	NA	NA	NA	NA	NA	NA	138,815.43	0.12	16.65
Greece	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Hungary	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Italy	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NO	NO	NO	NA	NA	NA	NA	NA	NA	86.59	0.13	0.01	86.59	0.13	0.01
Latvia	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Liechtenstein	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lithuania	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Luxembourg	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Monaco	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Netherlands	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
New Zealand	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Norway	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Poland	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Portugal	NO	NO	NO	28,183.72	0.12	3.44	IE	IE	IE	NA	NA	NA	28,183.72	0.12	3.44
Romania	NO	NO	NO	NA	NA	NA	NA	NA	NA	NO	NO	NO	NA,NO	NA,NO	NA,NO
Russian Federation	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovakia	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slovenia	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Spain	NO	NO	NO	102,543.38	0.12	12.31	NA	NA	NA	NA	NA	NA	102,543.38	0.12	12.31
Sweden	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Switzerland	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	NO	NO	NO	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA,NO	NA,NO	NA,NO

[a] Total for limestone and dolomite.

[b] If elected by the Party.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.7d

Carbon emissions from lime application[a] on Article 3.4 activities for the base year

	Forest management[b]			Cropland management[b]			Grazing land management[b]			Revegetation[b]			Total Article 3.4[b]		
	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon	Total lime applied	C emission per unit of lime	Carbon
	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg	Mg/yr	Mg C/Mg	Gg
Australia	-	-	-	-	-	-	-	-	-	-	-	-			
Austria	-	-	-	-	-	-	-	-	-	-	-	-			
Belgium	-	-	-	-	-	-	-	-	-	-	-	-			
Bulgaria	-	-	-	-	-	-	-	-	-	-	-	-			
Croatia	-	-	-	-	-	-	-	-	-	-	-	-			
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-			
Denmark[c]	IE	IE	IE	1,416,684.16	0.12	169.89	18.50	0.13	0.00	NA	NA	NA	1,416,702.66	0.12	169.89
Estonia	-	-	-	-	-	-	-	-	-	-	-	-			
European Union (15)	IE, NA	IE, NA	IE, NA	1,633,021.52	0.12	195.91	IE, NA	IE, NA	IE, NA	NA	NA	NA	1,633,021.52	0.12	195.91
Finland	-	-	-	-	-	-	-	-	-	-	-	-			
France (KP)	-	-	-	-	-	-	-	-	-	-	-	-			
Germany	-	-	-	-	-	-	-	-	-	-	-	-			
Greece	-	-	-	-	-	-	-	-	-	-	-	-			
Hungary	-	-	-	-	-	-	-	-	-	-	-	-			
Iceland	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ireland	-	-	-	-	-	-	-	-	-	-	-	-			
Italy	-	-	-	-	-	-	-	-	-	-	-	-			
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.30	0.13	0.00	6.30	0.13	0.00
Latvia	-	-	-	-	-	-	-	-	-	-	-	-			
Liechtenstein	-	-	-	-	-	-	-	-	-	-	-	-			
Lithuania	-	-	-	-	-	-	-	-	-	-	-	-			
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-			
Monaco	-	-	-	-	-	-	-	-	-	-	-	-			
Netherlands	-	-	-	-	-	-	-	-	-	-	-	-			
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-			
Norway	-	-	-	-	-	-	-	-	-	-	-	-			
Poland	-	-	-	-	-	-	-	-	-	-	-	-			
Portugal	NA	NA	NA	28,183.72	0.12	3.44	IE	IE	IE	NA	NA	NA	28,183.72	0.12	3.44
Romania	NA	NA	NA	NA	NA	NA	NA	NA	NA	NO	NO	NO	NA,NO	NA,NO	NA,NO
Russian Federation	-	-	-	-	-	-	-	-	-	-	-	-			
Slovakia	-	-	-	-	-	-	-	-	-	-	-	-			
Slovenia	-	-	-	-	-	-	-	-	-	-	-	-			
Spain	NA	NA	NA	188,153.64	0.12	22.58	NA	NA	NA	NA	NA	NA	188,153.64	0.12	22.58
Sweden	-	-	-	-	-	-	-	-	-	-	-	-			
Switzerland	-	-	-	-	-	-	-	-	-	-	-	-			
Ukraine	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
United Kingdom	-	-	-	-	-	-	-	-	-	-	-	-			

[a] Total for limestone and dolomite.

[b] If elected by the Party.

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8a

Emissions from biomass burning on afforestation and reforestation land for 2012

	Activity data[a]			Implied Emission Factor[a]			Emissions[a]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[b]	ha or kg dm		Mg/activity data unit			Gg		
Australia	bb	kg dm	224,189,076.18	NO,IE	0.00	0.00	NO,IE	0.81	0.01
Austria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Belgium	ab	ha	NO	NO	NO	NO	NO	NO	NO
Bulgaria	ab	ha	41.99	30.31	0.14	0.00	1.27	0.01	0.00
Croatia	ab	ha	52.23	13.14	0.02	0.00	0.69	0.00	0.00
Czech Republic	NA	NA	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	ab		NO	NO	NO	NO,NA	NO	NO	NO,NA
Estonia	ab	ha	5.00	NO,IE	0.03	0.00	NO,IE	0.00	0.00
European Union (15)	ab	ha	91,388,148.22	0.00	0.00	0.00	453.68	6.74	0.33
Finland	ab	ha	91,274.00	NA,NO	NA,NO	0.00	NA,NO	NA,NO	0.15
France (KP)	ab	ha	1,126.56	25.50	0.10	0.00	28.72	0.12	0.00
Germany			NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE	NO,IE
Greece	ab	ha	97.29	NO,IE,NA	0.03	0.00	NO,IE,NA	0.00	0.00
Hungary	bb	kg dm	2,173,385.00	NO,IE	0.00	0.00	NO,IE	0.02	0.00
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland	ab	ha	35.15	151.78	0.66	0.00	5.34	0.02	0.00
Italy	ab	ha	9,379.10	NO,IE,NA	0.50	0.02	NO,IE,NA	4.65	0.15
Japan	bb	kg dm	12,966.53	NA	0.00	0.00	NA	0.00	0.00
Latvia			NO	NO	NO	NO	NO	NO	NO
Liechtenstein			NO	NO	NO	NO	NO	NO	NO
Lithuania	ab	ha	1.20	NO,IE,NA	0.16	0.00	NO,IE,NA	0.00	0.00
Luxembourg	ab	ha	NO	NO	NO	NO	NO	NO	NO
Monaco			NA	NA	NA	NA	NA	NA	NA
Netherlands			NA	NA	NA	NA	1.20	0.01	0.00
New Zealand	bb	kg dm	19,894,870.59	IE	0.00	0.00	IE	0.22	0.00
Norway	ab	ha	0.29	NO,IE	0.07	0.00	NO,IE	0.00	0.00
Poland	ab	ha	573.28	53.20	0.21	0.00	30.50	0.12	0.00
Portugal	ab	ha	9,431.06	28.06	0.14	0.00	264.65	1.31	0.02
Romania	ab	ha	278.21	47.52	0.21	0.01	13.22	0.06	0.00
Russian Federation	ab	ha	NA,IE	NA,IE	NA,IE	NA,IE	NA,IE	2.21	0.12
Slovakia	bb	kg dm	19,562.86	0.00	0.00	0.00	0.02	0.00	0.00
Slovenia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Spain	bb	kg dm	62,299,654.98	0.00	0.00	0.00	114.53	0.50	0.00
Sweden			NA	NO	NO	NO	NO	NO	NO
Switzerland			NO	NO	NO	NO	NO	NO	NO
Ukraine	bb	kg dm	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
United Kingdom	bb	kg dm	28,977,345.48	0.00	0.00	0.00	39.24	0.14	0.01

[a] Total for controlled burning and wildfires.

[b] Area burned (ab) and biomass burned (bb).

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8b

Emissions from biomass burning on afforestation and reforestation (A.1.1: units of land not harvested) land for 2012

	Activity data[a]			Implied Emission Factor[a]			Emissions[a]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[b]	ha or kg dm		Mg/activity data unit			Gg		
Australia	bb	kg dm	224,189,076.18	NO,IE	0.00	0.00	IE, NO	0.81	0.01
Austria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Belgium	ab	ha	NO	NO	NO	NO	NO	NO	NO
Bulgaria	ab	ha	41.99	30.31	0.14	0.00	1.27	0.01	0.00
Croatia	ab	ha	52.23	13.14	0.02	0.00	0.69	0.00	0.00
Czech Republic	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	ab		NO	NO	NO	NO,NA	NO	NO	NA, NO
Estonia	ab	ha	5.00	NO,IE	0.03	0.00	IE, NO	0.00	0.00
European Union (15)	ab	ha	91,388,148.22	0.00	0.00	0.00	453.68	6.74	0.33
Finland	ab	ha	91,274.00	NO	NO	0.00	NO	NO	0.15
France (KP)	ab	ha	1,126.56	25.50	0.10	0.00	28.72	0.12	0.00
Germany			IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO	IE, NO
Greece	ab	ha	97.29	NO,IE	0.03	0.00	IE, NO	0.00	0.00
Hungary	bb	kg dm	NO	NO,IE	NO	NO	IE, NO	NO	NO
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland	ab	ha	35.15	151.78	0.66	0.00	5.34	0.02	0.00
Italy	ab	ha	9,379.10	NO,IE	0.50	0.02	IE, NO	4.65	0.15
Japan	bb	kg dm	12,966.53	NA	0.00	0.00	NA	0.00	0.00
Latvia			NO	NO	NO	NO	NO	NO	NO
Liechtenstein			NO	NO	NO	NO	NO	NO	NO
Lithuania	ab	ha	1.20	NO,IE	0.16	0.00	IE, NO	0.00	0.00
Luxembourg	ab	ha	NO	NO	NO	NO	NO	NO	NO
Monaco			NA	NA	NA	NA	NA	NA	NA
Netherlands			NA	NA	NA	NA	1.20	0.01	0.00
New Zealand	bb	kg dm	19,894,870.59	IE	0.00	0.00	IE	0.22	0.00
Norway	ab	ha	0.29	NO,IE	0.07	0.00	IE, NO	0.00	0.00
Poland	ab	ha	573.28	53.20	0.21	0.00	30.50	0.12	0.00
Portugal	ab	ha	9,431.06	28.06	0.14	0.00	264.65	1.31	0.02
Romania	ab	ha	278.21	47.52	0.21	0.01	13.22	0.06	0.00
Russian Federation	ab	ha	NA,IE	NA,IE	NA,IE	NA,IE	IE, NA	2.21	0.12
Slovakia	bb	kg dm	19,562.86	0.00	0.00	0.00	0.02	0.00	0.00
Slovenia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Spain	bb	kg dm	62,299,654.98	0.00	0.00	0.00	114.53	0.50	0.00
Sweden			NA	NO	NO	NO	NO	NO	NO
Switzerland			NO	NO	NO	NO	NO	NO	NO
Ukraine			NA	NA	NA	NA	NA	NA	NA
United Kingdom	bb	kg dm	28,977,345.48	0.00	0.00	0.00	39.24	0.14	0.01

[a] Total for controlled burning and wildfires.

[b] Area burned (ab) and biomass burned (bb).

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8c

Emissions from biomass burning on afforestation and reforestation (A.1.2: units of land harvested) land for 2012

	Activity data[a]			Implied Emission Factor[a]			Emissions[a]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[b]	ha or kg dm		Mg/activity data unit			Gg		
Australia	bb	kg dm	NO	IE	NO	NO	IE	NO	NO
Austria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Belgium	ab	ha	NO	NO	NO	NO	NO	NO	NO
Bulgaria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Croatia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Czech Republic	ab	ha	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	ab		NO	NO	NO	NO	NO	NO	NO
Estonia	ab	ha	NO	NO	NO	NO	NO	NO	NO
European Union (15)	ab	ha	NO	NA,NE,NO,IE	NA,NE,NO,IE	NA,NE,NO,IE	IE, NA, NE, NO	IE, NA, NE, NO	IE, NA, NE, NO
Finland	ab	ha	NA	NA	NA	NA	NA	NA	NA
France (KP)			NA	NA	NA	NA	NA	NA	NA
Germany			NO	NO	NO	NO	NO	NO	NO
Greece			NA	NA	NA	NA	NA	NA	NA
Hungary	bb	kg dm	2,173,385.00	IE	0.00	0.00	IE	0.02	0.00
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland	ab	ha	NO	NO	NO	NO	NO	NO	NO
Italy			NA	NA	NA	NA	NA	NA	NA
Japan			NA	NA	NA	NA	NA	NA	NA
Latvia			NO	NO	NO	NO	NO	NO	NO
Liechtenstein			NO	NO	NO	NO	NO	NO	NO
Lithuania	ab	ha	NA	NA	NA	NA	NA	NA	NA
Luxembourg	ab	ha	NO	NO	NO	NO	NO	NO	NO
Monaco			NA	NA	NA	NA	NA	NA	NA
Netherlands	bb	kg dm	NO,NE	NO,NE	NO,NE	NO,NE	NE, NO	NE, NO	NE, NO
New Zealand	bb	kg dm	IE	IE	IE	IE	IE	IE	IE
Norway	ab	ha	NO,IE	NO,IE	NO,IE	NO,IE	IE, NO	IE, NO	IE, NO
Poland	ab	ha	NO,IE	NO,IE	NO,IE	NO,IE	IE, NO	IE, NO	IE, NO
Portugal	ab	ha	NO	NO	NO	NO	NO	NO	NO
Romania	ab	ha	NO	NO	NO	NO	NO	NO	NO
Russian Federation			NA	NA	NA	NA	NA	NA	NA
Slovakia			NA	NA	NA	NA	NA	NA	NA
Slovenia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Spain	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
Sweden			NA	NO	NO	NO	NO	NO	NO
Switzerland			NO	NO	NO	NO	NO	NO	NO
Ukraine	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
United Kingdom	bb	kg dm	IE	IE	IE	IE	IE	IE	IE

[a] Total for controlled burning and wildfires.

[b] Area burned (ab) and biomass burned (bb).

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8d

Emissions from biomass burning on deforestation land for 2012

	Activity data[a]			Implied Emission Factor[a]			Emissions[a]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[b]	ha or kg dm		Mg/activity data unit			Gg		
Australia	bb	kg dm	9,008,690,177.67	NO,IE	0.00	0.00	IE, NO	32.43	0.60
Austria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Belgium	ab	ha	NO	NO	NO	NO	NO	NO	NO
Bulgaria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Croatia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Czech Republic	ab	ha	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	ab	ha	NO	NO	NO	NO	NO	NO	NO
Estonia	ab	ha	NO	NO	NO	NO	NO	NO	NO
European Union (15)							343.61	9.41	0.46
Finland	ab	ha	NE,NO,IE	NE,NO,IE	NE,NO,IE	NE,NO,IE	IE, NE, NO	IE, NE, NO	IE, NE, NO
France (KP)			NA	IE,NO	NA	NA	IE, NO	7.11	0.05
Germany	ab	ha	NO	NO	NO	NO	NO	NO	NO
Greece			NA	NA	NA	NA	NA	NA	NA
Hungary	bb	kg dm	2,705,990.00	NO,IE	0.00	0.00	IE, NO	0.02	0.00
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland	bb	kg dm	NO	NO,IE	NO,IE	NO,IE	IE, NO	IE, NO	IE, NO
Italy			NA	NA	NA	NA	NA	NA	NA
Japan	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
Latvia			NO	NO	NO	NO	NO	NO	NO
Liechtenstein			NO	NO	NO	NO	NO	NO	NO
Lithuania	ab	ha	NO	NO	NO	NO	NO	NO	NO
Luxembourg	ab	ha	NO	NO	NO	NO	NO	NO	NO
Monaco			NA	NA	NA	NA	NA	NA	NA
Netherlands			NA	NA	NA	NA	0.06	0.00	0.00
New Zealand	bb	kg dm	144,048,718.83	IE	0.00	0.00	IE	1.15	0.01
Norway	ab	ha	NO	NO	NO	NO	NO	NO	NO
Poland	ab	ha	NO	NO	NO	NO	NO	NO	NO
Portugal	ab	ha	7,379.77	NO	0.11	0.05	NO	0.81	0.40
Romania	ab	ha	NO	NO	NO	NO	NO	NO	NO
Russian Federation			NA	NA	NA	NA	NA	NA	NA
Slovakia			NA	NA	NA	NA	NA	NA	NA
Slovenia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Spain	bb	kg dm	284.01	NE	0.00	0.00	NE	0.00	0.00
Sweden			NA	NO	NO	NO	NO	NO	NO
Switzerland	ab	ha	NO	NO	NO	NO	NO	NO	NO
Ukraine			NA	NA	NA	NA	NA	NA	NA
United Kingdom	bb	kg dm	208,260,195.58	0.00	0.00	0.00	343.54	1.49	0.01

[a] Total for controlled burning and wildfires.

[b] Area burned (ab) and biomass burned (bb).

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8e

Emissions from biomass burning on Total Article 3.3 land for 2012

	Activity data[a]			Implied Emission Factor[a]			Emissions[a]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[b]	ha or kg dm		Mg/activity data unit			Gg		
Australia	bb	kg dm	9,232,879,253.85	NO,IE	0.00	0.00	NO,IE	33.24	0.61
Austria	ab	ha	NO	NO	NO	NO	NO	NO	NO
Belgium	ab	ha	NO	NO	NO	NO	NO	NO	NO
Bulgaria	ab	ha	41.99	30.31	0.14	0.00	1.27	0.01	0.00
Croatia	ab	ha	52.23	13.14	0.02	0.00	0.69	0.00	0.00
Czech Republic	NA	NA	NO	NO	NO	NO	NO	NO	NO
Denmark[c]	ab	ha	NO	NO	NO	NO,NA	NO	NO	NO,NA
Estonia	ab	ha	5.00	NO,IE	0.03	0.00	NO,IE	0.00	0.00
European Union (15)	NA	NA	NA	NA	NA	NA	797.28	16.15	0.79
Finland	ab	ha	91,274.00	NE,NO,IE,NA	NE,NO,IE,NA	0.00	NE,NO,IE,NA	NE,NO,IE,NA	0.15
France (KP)	NA	NA	NA	NA	NA	NA	28.72	7.23	0.05
Germany	NA	NA	NA	NA	NA	NA	NO,IE	NO,IE	NO,IE
Greece	NA	NA	NA	NA	NA	NA	NO,IE,NA	0.00	0.00
Hungary	bb	kg dm	4,879,375.00	NO,IE	0.00	0.00	NO,IE	0.03	0.00
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland	ab	ha	35.15	151.78	0.66	0.00	5.34	0.02	0.00
Italy	ab	ha	9,379.10	NO,IE,NA	0.50	0.02	NO,IE,NA	4.65	0.15
Japan	bb	kg dm	12,966.53	NA,NO	0.00	0.00	NA,NO	0.00	0.00
Latvia			NO	NO	NO	NO	NO	NO	NO
Liechtenstein			NO	NO	NO	NO	NO	NO	NO
Lithuania	ab	ha	1.20	NO,IE,NA	0.16	0.00	NO,IE,NA	0.00	0.00
Luxembourg	ab	ha	NO	NO	NO	NO	NO	NO	NO
Monaco			NA	NA	NA	NA	NA	NA	NA
Netherlands			NA	NA	NA	NA	1.26	0.01	0.00
New Zealand	bb	kg dm	163,943,589.42	IE	0.00	0.00	IE	1.37	0.01
Norway	ab	ha	0.29	NO,IE	0.07	0.00	NO,IE	0.00	0.00
Poland	ab	ha	573.28	53.20	0.21	0.00	30.50	0.12	0.00
Portugal	ab	ha	16,810.84	28.06	0.25	0.06	264.65	2.12	0.42
Romania	ab	ha	278.21	47.52	0.21	0.01	13.22	0.06	0.00
Russian Federation	ab	ha	NA,IE	NA,IE	NA,IE	NA,IE	NA,IE	2.21	0.12
Slovakia	bb	kg dm	19,562.86	0.00	0.00	0.00	0.02	0.00	0.00
Slovenia	ab	ha	NO	NO	NO	NO	NO	NO	NO
Spain	bb	kg dm	62,299,939.00	0.00	0.00	0.00	114.53	0.50	0.00
Sweden			NA	NO	NO	NO	NO	NO	NO
Switzerland	ab	ha	NO	NO	NO	NO	NO	NO	NO
Ukraine	bb	kg dm	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
United Kingdom	bb	kg dm	237,237,541.06	0.00	0.00	0.00	382.78	1.62	0.02

[a] Total for controlled burning and wildfires.

[b] Area burned (ab) and biomass burned (bb).

[c] Includes Greenland but excludes Faroe Islands.

Table 7.8f

Emissions from biomass burning on forest management[a] land for 2012

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							NA	NA	NA
Austria							NA	NA	NA
Belgium							NA	NA	NA
Bulgaria							NA	NA	NA
Croatia	ab	ha	7,171.96	30.31	0.14	0.00	217.41	1.01	0.02
Czech Republic	bb	kg dm	363,047,199.60	0.00	0.00	0.00	638.96	2.79	0.02
Denmark[d]	ab	ha	NO,NA	NO	NO,NA	NO,NA	NO	NA, NO	NA, NO
Estonia							NA	NA	NA
European Union (15)							1,769.84	61.87	1.02
Finland	ab	ha	421.00	2.02	0.05	0.00	0.85	0.02	0.00
France (KP)			NA	NA	NA	NA	241.80	28.30	0.21
Germany			268.60	IE,NO	0.33	0.01	IE, NO	0.09	0.00
Greece	ab	ha	3,592.62	NO,IE	0.08	0.00	IE, NO	0.29	0.00
Hungary	bb	kg dm	202,970,077.00	IE	0.00	0.00	IE	1.42	0.01
Iceland							NA	NA	NA
Ireland							NA	NA	NA
Italy	ab	ha	41,959.28	NO,IE	0.50	0.02	IE, NO	20.80	0.65
Japan	bb	kg dm	6,144,181.93	NO,IE	0.00	0.00	IE, NO	0.05	0.00
Latvia			NA	NA	NA	NA	11.31	0.51	0.00
Liechtenstein							NA	NA	NA
Lithuania	ab	ha	19.09	NO,IE	0.16	0.00	IE, NO	0.00	0.00
Luxembourg							NA	NA	NA
Monaco							NA	NA	NA
Netherlands							NA	NA	NA
New Zealand							NA	NA	NA
Norway	ab	ha	59.71	NO,IE	0.07	0.00	IE, NO	0.00	0.00
Poland	ab	ha	6,662.41	53.20	0.21	0.00	354.47	1.37	0.02
Portugal	ab	ha	45,779.10	29.28	0.13	0.00	1,340.37	5.73	0.08
Romania	ab	ha	6,345.79	29.43	0.13	0.00	186.75	0.81	0.02
Russian Federation	ab	ha	4,505,323.30	IE	0.14	0.01	IE	609.57	33.70
Slovakia							NA	NA	NA
Slovenia	ab	ha	606.53	63.63	0.36	0.00	38.60	0.22	0.00
Spain	bb	kg dm	719,289,646.03	IE,NE	0.00	0.00	IE, NE	5.96	0.04
Sweden	ab	ha	1,133.84	IE	0.04	0.00	IE	0.04	0.00
Switzerland			22.00	23.01	0.90	0.01	0.51	0.02	0.00
Ukraine	bb	kg dm	116,439.63	1.70	0.01	0.00	198.10	0.93	0.01
United Kingdom	bb	kg dm	137,943,471.04	0.00	0.00	0.00	186.82	0.65	0.04

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8g

Emissions from biomass burning on cropland management[a] land for 2012

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							NA	NA	NA
Austria							NA	NA	NA
Belgium							NA	NA	NA
Bulgaria							NA	NA	NA
Croatia							NA	NA	NA
Czech Republic							NA	NA	NA
Denmark[d]	ab		NO	NO	NO	NO	NO	NO	NO
Estonia							NA	NA	NA
European Union (15)				IE, NA, NE, NO			IE, NA, NE, NO	0.44	0.02
Finland							NA	NA	NA
France (KP)							NA	NA	NA
Germany							NA	NA	NA
Greece							NA	NA	NA
Hungary							NA	NA	NA
Iceland							NA	NA	NA
Ireland							NA	NA	NA
Italy							NA	NA	NA
Japan							NA	NA	NA
Latvia							NA	NA	NA
Liechtenstein							NA	NA	NA
Lithuania							NA	NA	NA
Luxembourg							NA	NA	NA
Monaco							NA	NA	NA
Netherlands							NA	NA	NA
New Zealand							NA	NA	NA
Norway							NA	NA	NA
Poland							NA	NA	NA
Portugal	ab	ha	7,503.67	NO	0.06	0.00	NO	0.44	0.02
Romania							NA	NA	NA
Russian Federation							NA	NA	NA
Slovakia							NA	NA	NA
Slovenia							NA	NA	NA
Spain	bb	kg dm	NE,IE	NE,IE	NE,IE	NE,IE	IE, NE	IE, NE	IE, NE
Sweden							NA	NA	NA
Switzerland							NA	NA	NA
Ukraine							NA	NA	NA
United Kingdom							NA	NA	NA

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8h

Emissions from biomass burning on cropland management[a] land for the base year

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							-	-	-
Austria							-	-	-
Belgium							-	-	-
Bulgaria							-	-	-
Croatia							-	-	-
Czech Republic							-	-	-
Denmark[d]	ab		NO	NO	NO	NO	NO	NO	NO
Estonia							-	-	-
European Union (15)				IE, NE, NO			IE, NE, NO	0.49	0.01
Finland							-	-	-
France (KP)							-	-	-
Germany							-	-	-
Greece							-	-	-
Hungary							-	-	-
Iceland							-	-	-
Ireland							-	-	-
Italy							-	-	-
Japan							-	-	-
Latvia							-	-	-
Liechtenstein							-	-	-
Lithuania							-	-	-
Luxembourg							-	-	-
Monaco							-	-	-
Netherlands							-	-	-
New Zealand							-	-	-
Norway							-	-	-
Poland							-	-	-
Portugal	ab	ha	10,645.56	NO,NE	0.05	0.00	NE, NO	0.49	0.01
Romania							-	-	-
Russian Federation							-	-	-
Slovakia							-	-	-
Slovenia							-	-	-
Spain	bb	kg dm	NE,IE	NE,IE	NE,IE	NE,IE	IE, NE	IE, NE	IE, NE
Sweden							-	-	-
Switzerland							-	-	-
Ukraine							-	-	-
United Kingdom							-	-	-

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8i

Emissions from biomass burning on grazing land management[a] land for 2012

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							NA	NA	NA
Austria							NA	NA	NA
Belgium							NA	NA	NA
Bulgaria							NA	NA	NA
Croatia							NA	NA	NA
Czech Republic							NA	NA	NA
Denmark[d]	ab		0.71	NO,IE	1.03	0.15	IE, NO	0.00	0.00
Estonia							NA	NA	NA
European Union (15)				NA,NO			NA, NO	0.20	0.05
Finland							NA	NA	NA
France (KP)							NA	NA	NA
Germany							NA	NA	NA
Greece							NA	NA	NA
Hungary							NA	NA	NA
Iceland							NA	NA	NA
Ireland							NA	NA	NA
Italy							NA	NA	NA
Japan							NA	NA	NA
Latvia							NA	NA	NA
Liechtenstein							NA	NA	NA
Lithuania							NA	NA	NA
Luxembourg							NA	NA	NA
Monaco							NA	NA	NA
Netherlands							NA	NA	NA
New Zealand							NA	NA	NA
Norway							NA	NA	NA
Poland							NA	NA	NA
Portugal	ab	ha	13,398.42	NO	0.02	0.00	NO	0.20	0.05
Romania							NA	NA	NA
Russian Federation							NA	NA	NA
Slovakia							NA	NA	NA
Slovenia							NA	NA	NA
Spain							NA	NA	NA
Sweden							NA	NA	NA
Switzerland							NA	NA	NA
Ukraine							NA	NA	NA
United Kingdom							NA	NA	NA

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8j

Emissions from biomass burning on grazing land management[a] land for the base year

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							-	-	-
Austria							-	-	-
Belgium							-	-	-
Bulgaria							-	-	-
Croatia							-	-	-
Czech Republic							-	-	-
Denmark[d]	ab		0.05	IE, NO	1.67	0.15	IE, NO	0.00	0.00
Estonia							-	-	-
European Union (15)				NA, NE, NO			NA, NE, NO	0.25	0.00
Finland							-	-	-
France (KP)							-	-	-
Germany							-	-	-
Greece							-	-	-
Hungary							-	-	-
Iceland							-	-	-
Ireland							-	-	-
Italy							-	-	-
Japan							-	-	-
Latvia							-	-	-
Liechtenstein							-	-	-
Lithuania							-	-	-
Luxembourg							-	-	-
Monaco							-	-	-
Netherlands							-	-	-
New Zealand							-	-	-
Norway							-	-	-
Poland							-	-	-
Portugal	ab	ha	29,293.89	NO,NE	0.01	0.00	NE, NO	0.25	0.00
Romania							-	-	-
Russian Federation							-	-	-
Slovakia							-	-	-
Slovenia							-	-	-
Spain							-	-	-
Sweden							-	-	-
Switzerland							-	-	-
Ukraine							-	-	-
United Kingdom							-	-	-

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8k

Emissions from biomass burning on revegetation[a] land for 2012

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							NA	NA	NA
Austria							NA	NA	NA
Belgium							NA	NA	NA
Bulgaria							NA	NA	NA
Croatia							NA	NA	NA
Czech Republic							NA	NA	NA
Denmark[d]							NA	NA	NA
Estonia							NA	NA	NA
European Union (15)							NA	NA	NA
Finland							NA	NA	NA
France (KP)							NA	NA	NA
Germany							NA	NA	NA
Greece							NA	NA	NA
Hungary							NA	NA	NA
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland							NA	NA	NA
Italy							NA	NA	NA
Japan	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
Latvia							NA	NA	NA
Liechtenstein							NO	NO	NO
Lithuania							NA	NA	NA
Luxembourg							NA	NA	NA
Monaco							NA	NA	NA
Netherlands							NA	NA	NA
New Zealand							NA	NA	NA
Norway							NA	NA	NA
Poland							NA	NA	NA
Portugal							NA	NA	NA
Romania	ab	ha	NO	NO	NO	NO	NO	NO	NO
Russian Federation							NA	NA	NA
Slovakia							NA	NA	NA
Slovenia							NA	NA	NA
Spain							NA	NA	NA
Sweden							NA	NA	NA
Switzerland							NA	NA	NA
Ukraine							NA	NA	NA
United Kingdom							NA	NA	NA

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8l

Emissions from biomass burning on revegetation[a] land for the base year

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							-	-	-
Austria							-	-	-
Belgium							-	-	-
Bulgaria							-	-	-
Croatia							-	-	-
Czech Republic							-	-	-
Denmark[d]							-	-	-
Estonia							-	-	-
European Union (15)							-	-	-
Finland							-	-	-
France (KP)							-	-	-
Germany							-	-	-
Greece							-	-	-
Hungary							-	-	-
Iceland			NA	NA	NA	NA	NA	NA	NA
Ireland							-	-	-
Italy							-	-	-
Japan	bb	kg dm	NO	NO	NO	NO	NO	NO	NO
Latvia							-	-	-
Liechtenstein							-	-	-
Lithuania							-	-	-
Luxembourg							-	-	-
Monaco							-	-	-
Netherlands							-	-	-
New Zealand							-	-	-
Norway							-	-	-
Poland							-	-	-
Portugal							-	-	-
Romania	ab	ha	NO	NO	NO	NO	NO	NO	NO
Russian Federation							-	-	-
Slovakia							-	-	-
Slovenia							-	-	-
Spain							-	-	-
Sweden							-	-	-
Switzerland							-	-	-
Ukraine							-	-	-
United Kingdom							-	-	-

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8m

Emissions from biomass burning on total Article 3.4[a] land for 2012

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia							NA	NA	NA
Austria							NA	NA	NA
Belgium							NA	NA	NA
Bulgaria							NA	NA	NA
Croatia	ab	ha	7,171.96	30.31	0.14	0.00	217.41	1.01	0.02
Czech Republic	bb	kg dm	363,047,199.60	0.00	0.00	0.00	638.96	2.79	0.02
Denmark[d]	ab		0.71	NO	1.03	0.15	NO	0.00	0.00
Estonia							NA	NA	NA
European Union (15)							1,769.84	62.52	1.09
Finland	ab	ha	421.00	2.02	0.05	0.00	0.85	0.02	0.00
France (KP)			NA	NA	NA	NA	241.80	28.30	0.21
Germany			268.60	IE,NO	0.33	0.01	IE,NO	0.09	0.00
Greece	ab	ha	3,592.62	IE,NO	0.08	0.00	IE,NO	0.29	0.00
Hungary	bb	kg dm	202,970,077.00	IE	0.00	0.00	IE	1.42	0.01
Iceland							NA	NA	NA
Ireland							NA	NA	NA
Italy	ab	ha	41,959.28	IE,NO	0.50	0.02	IE,NO	20.80	0.65
Japan	bb	kg dm	6,144,181.93	IE,NO	0.00	0.00	IE,NO	0.05	0.00
Latvia			NA	NA	NA	NA	11.31	0.51	0.00
Liechtenstein							NA,NO	NA,NO	NA,NO
Lithuania	ab	ha	19.09	NO,IE,NA	0.16	0.00	NO,IE,NA	0.00	0.00
Luxembourg							NA	NA	NA
Monaco							NA	NA	NA
Netherlands							NA	NA	NA
New Zealand							NA	NA	NA
Norway	ab	ha	59.71	IE,NO	0.07	0.00	IE,NO	0.00	0.00
Poland	ab	ha	6,662.41	53.20	0.21	0.00	354.47	1.37	0.02
Portugal	ab	ha	66,681.18	29.28	0.00	0.00	1,340.37	6.38	0.15
Romania	ab	ha	6,345.79	29.43	0.13	0.00	186.75	0.81	0.02
Russian Federation	ab	ha	4,505,323.30	IE	0.14	0.01	IE	609.57	33.70
Slovakia							NA	NA	NA
Slovenia	ab	ha	606.53	63.63	0.36	0.00	38.60	0.22	0.00
Spain	bb	kg dm	719,289,646.03	IE,NE	0.00	0.00	IE,NE	5.96	0.04
Sweden	ab	ha	1,133.84	IE	0.04	0.00	IE	0.04	0.00
Switzerland			22.00	23.01	0.90	0.01	0.51	0.02	0.00
Ukraine	bb	kg dm	116,439.63	1.70	0.01	0.00	198.10	0.93	0.01
United Kingdom	bb	kg dm	137,943,471.04	0.00	0.00	0.00	186.82	0.65	0.04

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.

Table 7.8n

Emissions from biomass burning on total Article 3.4[a] land for the base year

	Activity data[b]			Implied Emission Factor[b]			Emissions[b]		
	Description	Unit	Value	CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
	ab or bb[c]	ha or kg dm		Mg/activity data unit			Gg		
Australia									
Austria									
Belgium									
Bulgaria									
Croatia									
Czech Republic									
Denmark[d]							NO,IE,NA	0.03	0.00
Estonia									
European Union (15)							NE,NO,IE,NA	0.76	0.01
Finland									
France (KP)									
Germany									
Greece									
Hungary									
Iceland							NA	NA	NA
Ireland									
Italy									
Japan	bb	kg dm	NO, NA	NO, NA	NO, NA	NO, NA	NO, NA	NO, NA	NO, NA
Latvia									
Liechtenstein									
Lithuania									
Luxembourg									
Monaco									
Netherlands									
New Zealand									
Norway									
Poland									
Portugal	ab	ha	39,939.45	NE, NO	0.00	0.00	NE, NO	0.73	0.01
Romania	ab	ha	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO	NA,NO
Russian Federation									
Slovakia									
Slovenia									
Spain	bb	kg dm	NE,IE,NA	NE,IE,NA	NE,IE,NA	NE,IE,NA	NE,IE,NA	NE,IE,NA	NE,IE,NA
Sweden									
Switzerland									
Ukraine									
United Kingdom									

[a] If elected by the Party.

[b] Total for controlled burning and wildfires.

[c] Area burned (ab) and biomass burned (bb).

[d] Includes Greenland but excludes Faroe Islands.