CHAPTER 8

REPORTING GUIDANCE AND TABLES

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8 REPORTING GUIDANCE AND TABLES

Users are expected to go to Mapping Tables in Annex 1, before reading this chapter. This is required to correctly understand both the refinements made and how the elements in this chapter relate to the corresponding chapter in the 2006 IPCC Guidelines.

8.1 INTRODUCTION

No refinement.

8.2 REPORTING GUIDANCE

8.2.1 Coverage

Anthropogenic emissions and removals

The *2006 IPCC Guidelines* and its *2019 Refinement* are designed to estimate and report on national inventories of anthropogenic greenhouse gas emissions and removals. Anthropogenic emissions and removals means that greenhouse gas emissions and removals included in national inventories are a result of human activities.

National inventory

National inventories should include greenhouse gas emissions and removals taking place within national territory and offshore areas over which the country has jurisdiction. There are, however, some specific issues to be taken into account:

- Emissions from fuel for use on ships or aircraft engaged in international transport should not be included in national totals. To ensure global completeness, these emissions should be reported separately.
- In cases of road transport that crosses national borders, carbon dioxide (CO_2) emissions from road transportation should be attributed to the country where the fuel is sold to the end user. The same allocation principle can be applied to methane (CH_4) and nitrous oxide (N_2O) emissions from road transportation by their sources depending on the methodology tier used to estimate emissions.
- Fishing includes emissions from fuel used in inland, coastal and deep sea fishing. Emissions resulting from fuel used in coastal and deep sea fishing should be allocated to the country delivering the fuel.
- Military fuel use is reported under "1A5 Non-specified", and this category includes fuel deliveries for all mobile and stationary consumption (e.g., ships, aircraft, road and energy used in living quarters) of the country. Emissions from multilateral operations pursuant to the Charter of the United Nations are not included in national totals. It is *good practice* to document clearly which activities have been included under the category multilateral operations and report as memo item in the reporting tables.
- Fugitive emissions from pipelines transporting, e.g., oil, gas, or CO_2, should be allocated according to the national territory of the pipeline, including offshore areas. This implies that emissions from one pipeline may be distributed between two or more countries.
- Emissions associated with the injection and possible subsequent leakage of CO_2 stored in geological formations should be linked to the country in whose national jurisdiction or by whose international right the point of injection is located. This includes any emissions arising from leakage of CO_2 from a geological formation that crosses a national boundary.
- The IPCC methodology for carbon stored in non-fuel products manufactured from fossil fuels or other non-biogenic sources of carbon takes into account emissions released from their production, use and destruction. Emissions are estimated at each stage when and where they occur, for example in waste incineration.
- Where CO_2 emissions are captured from industrial processes or large combustion sources, captured emissions should be allocated to the sector generating the CO_2 unless it can be shown that the CO_2 is stored in properly monitored geological storage sites as set out in Chapter 5 of Volume 2. CO_2 emissions captured for use, e.g. in greenhouses and industry, and transported offsite should be allocated to the sector where the CO_2 was captured. If in the process of using captured CO_2, emissions (fugitive) occur, then such emissions should be reported where the use of CO_2 occurs.

- CO_2 emissions from biomass combustion for energy are reported in the energy sector as memo item and estimated and reported in the Agriculture, Forestry and Other Land Use (AFOLU) Sector as part of net changes in carbon stocks. The capture of biogenic CO_2 emissions from biomass combustion, or other processes, should be treated consistently with CO_2 capture from fossil fuel combustion and reported in the Energy and/or IPPU Sectors. Once captured, and added to the carbon capture and storage process there is no differentiated treatment between biogenic carbon and fossil carbon. Both captured biogenic and fossil CO_2 should not be added to the total emissions, i.e. net emissions should be reported (also see Section 5.3 of Chapter 5 in Volume 2 of the *2006 IPCC Guidelines*). Non-CO_2 emissions from biomass combustion are reported in the Energy Sector. Non-CO_2 fugitive emissions from production of fuels (e.g. charcoal or biochar) are reported in the Energy Sector (see Table 4.3.1 in Chapter 4, Volume 2 for the correct allocation of non-CO_2 fugitive emissions from fuel transformation).
- When reporting harvested wood products (HWP), countries can select any of the approaches reflected in Chapter 12 of Volume 4 for the AFOLU Sector when estimating their emissions/removals from HWP.
- Indirect N_2O emissions resulting from atmospheric deposition of volatilised N is allocated to the country emitting nitrogen oxides and ammonia. Similarly, indirect N_2O emissions from leaching/run-off are allocated to the country where leaching/run-off of nitrogen (mainly in the form of nitrate) occurs. It is assumed that the indirect N_2O is emitted in the same year as the N losses occur through volatilisation and leaching/runoff.
- When reporting total national emissions and removals (Table A: Summary Table), for those countries that choose to implement the approach described in Section 2.6, Volume 4, it is *good practice* to report the total Managed Land Proxy (MLP) emissions and removals, as well as the emissions and removals associated with human activity on managed land.
- When reporting total national emissions and removals, for those countries that choose to implement the approach described in Section 7.3.3, Volume 4, it is *good practice* to report the total MLP emissions and removals, as well as the indicative estimates of the anthropogenic component of total emissions. Emissions estimated for the categories in the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Supplement)* are included in the land use categories forestland, cropland, grassland as well as wastewater treatment and discharge. *Wetlands Supplement* provides guidance on reporting these categories and the sub-categories contained in the supplement (IPCC 2014).

8.2.2 Gases included

The 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (2019 Refinement) can be applied for the following two groups of greenhouse gases[1]:

Greenhouse gases with a GWP in an IPCC Assessment Report and not covered by Annexes A through E of the Montreal Protocol

In addition to the greenhouse gases included in the *Revised 1996 IPCC Guidelines*, gases for which global warming potential (GWP) values are given in one of the IPCC Assessment Reports are included in the *2019 Refinement* unless they are covered by Annexes A through E of the Montreal Protocol. Annex F of the Montreal Protocol lists hydrofluorocarbons, which are included in the *2019 Refinement*. Please refer to the Glossary for the definition of GWPs and their relevance in estimating greenhouse gas emissions.

The greenhouse gases included are:

- carbon dioxide (CO_2);
- methane (CH_4);
- nitrous oxide (N_2O);
- hydrofluorocarbons (HFCs: e.g., HFC-23 (CHF_3), HFC-134a (CH_2FCF_3), HFC-152a (CH_3CHF_2), HFC-1234yf ($CF_3CF=CH_2$)), including hydrofluoro-olefins (HFOs: e.g. HFC-1234yf, HFC-1234ze) and (HFCO-1233zd);
- perfluorocarbons (PFCs: e.g., CF_4, C_2F_6, C_3F_8, C_4F_6, C_4F_{10}, c-C_4F_8, C_5F_{12}, C_6F_{14});

[1] In a few cases, although methods are available, the *2006 IPCC Guidelines* do not provide default emission factors for all category-gas combinations due to limited research or literature. If a country expects that emissions of these gases occur in a category for which no default emission factors are provided, it is *good practice* to explore the feasibility of developing country-specific data in order to include these emissions in the inventory. If it is not possible to develop country-specific data, countries should provide documentation that these emissions occur but were not estimated.

- sulphur hexafluoride (SF_6);
- nitrogen trifluoride (NF_3);
- trifluoromethyl sulphur pentafluoride (SF_5CF_3);
- halogenated ethers (e.g., $C_4F_9OC_2H_5$, $CHF_2OCF_2OC_2F_4OCHF_2$, $CHF_2OCF_2OCHF_2$, $CF_3OCF(CF_3)CF_2OCF_2OCF3$ (PFPMIE));
- other halocarbons not covered by the Montreal Protocol including, for example CF_3I, CH_2Br_2, $CHCl_3$, CH_3Cl, CH_2Cl_2.

Other halogenated greenhouse gases not covered by Annexes A through E of the Montreal Protocol

The *2019 Refinement* also provides estimation methods for halogenated greenhouse gases which are not covered by the Annexes A through E of the Montreal Protocol and for which GWP values were not available from IPCC Assessment Reports at the time the *2019 Refinement* was developed. Examples of such GHGs include:

- c- C_4F_8O;
- perfluorotripropylamine, perfluoromethylmorpholine, 3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-trifluoromethyl-hexane, and other heat transfer fluids used in electronics.[2]

These and other greenhouse gases can only be considered in key category analysis or included in national total emissions using GWP values from subsequent Assessment Reports of the IPCC. If these GWP values are not yet available countries are encouraged to provide estimates for them in mass units using the methods provided in the *2006 IPCC Guidelines*, as updated and elaborated by the *2019 Refinement*. Reporting tables are provided for this purpose. It is *good practice* to use the same set of GWPs from a single IPCC assessment report for the entire time series.

Other gases

Emissions of the ozone precursors nitrogen oxide (NO_x), non-methane volatile organic compounds (NMVOC) and carbon monoxide (CO) and the aerosol precursors sulphur dioxide (SO_2) and ammonia (NH_3) should be reported in the appropriate tables if the country has prepared an inventory of these gases. Box 8.1 gives brief explanation of these gases.

BOX 8.1 (UPDATED)
REPORTING EMISSIONS OF PRECURSORS[3]

NO_x includes NO and NO_2 reported in NO_2 mass equivalents.

SO_2 includes all sulphur compounds expressed in SO_2 mass equivalents.

NMVOC means all organic compounds of an anthropogenic nature, other than methane, that are capable of producing photochemical oxidants by reaction with nitrogen oxides in the presence of sunlight.

NH_3 is reported in NH_3 mass units.

8.2.3 Time frame of reporting

No refinement.

8.2.4 Sectors and categories

No refinement.

[2] The first two compounds are marketed under the Fluorinert™ trade name, along with other fully fluorinated compounds such as alkanes, other tertiary amines and aminoethers. The last compound is marketed under the Novec Engineered Fluid™ tradename. Heat transfer fluids marketed under the Galden tradename consist of PFPMIEs similar to the PFPMIE distillate for which GWPs are provided in the Fourth and Fifth IPCC Assessment Reports.

[3] Guidance on reporting and definitions are consistent with the 2002 reporting guidelines of the Convention on Long-Range Transboundary Air Pollution, available in Air Pollution Studies series, No.15, 2003. (http://www.emep.int/index.html).

8.2.5 Notation keys and completeness information

No refinement.

8.2.6 Units and digits

No refinement.

8.2.7 Time series

It is *good practice* to complete all the reporting tables (summary, sectoral, cross-sectoral) for each year in which an inventory is available.

It is *good practice* to summarise the aggregated inventory data from different years in the trend tables (Table 6A to 6G).

It is *good practice* to perform recalculations of the time series in cases of methodological changes and refinement (follow Section 5.2 of Volume 1, Chapter 5 of the *2019 Refinement* for guidance on recalculations).

8.2.8 Indirect N_2O

No refinement.

8.3 INTRODUCTION TO REPORTING TABLES

The reporting tables in Annex 8A.2 are designed to ensure that inventory compilers can report quantitative data in a standard format and to facilitate consistency between countries, categories, gases and years.

The set of inventory reporting tables consist of:

Summary and short summary tables

Summary and short summary tables allow the inventory compiler to report all emissions and removals at aggregated level for an overview of national totals for the actual year.

The summary tables also allow reporting of memo items including international bunkers and multilateral operations. These emissions are not included in national total emissions of greenhouse gases.

Two tables are included:

Table A	Summary table
Table B	Short summary table

Sectoral and background tables

Sectoral tables enable reporting of emissions and removals, for all relevant categories and subcategories listed in Table 8.2. Background tables allow reporting of activity data and related emissions at the subcategory level to facilitate transparency and consistency of information. Information items that are usually not themselves emissions, for example carbon dioxide stored long-term in the storage sites, are reported separately as additional information under respective sectors for increased transparency.

The following tables are included:

Table 1	Energy Sectoral Table
Table 1.1 – 1.5	Energy Background Tables
Table 2	IPPU Sectoral Table
Table 2.1 – 2.12	IPPU Background Tables
Table 3	AFOLU Sectoral Table
Table 3.1 – 3.10	AFOLU Background Tables
Table 4	Waste Sectoral Table

Table 4.1 – 4.3 Waste Background Tables

Cross-sectoral table

Cross-sectoral tables enable inventory compilers to report indirect emissions of N_2O. Indirect emissions are reported in separate columns of Cross-sectoral Table 5A.

Table 5A Cross-sectoral Table: Indirect emissions of N_2O

Emission trend tables by gas

Trend tables enable inventory compilers to report all greenhouse gas emissions and removals at an aggregated level for entire inventory period. It is *good practice* to complete trend tables if an inventory is available, even if the information is not complete. Reporting of emission trends can help inventory compilers to track time series consistency of the estimates.

Table 6A – 6C Trends of CO_2, CH_4 and N_2O

Emissions of fluorinated gases are aggregated in four groups and expressed in Gg of CO_2 equivalent.

Table 6D – 6F Trends of HFCs, PFCs, NF_3 and SF_6

Emissions of other greenhouse gases are aggregated and expressed in Gg of CO_2 equivalent, if they are reported and included in national totals.

Table 6G Trends of Other Gases

Uncertainty and key categories tables

Table 7A Uncertainties

Table 7B Summary of key category analysis

8.4 OTHER REPORTING

No refinement.

8.5 CLASSIFICATION AND DEFINITION OF CATEGORIES

Table 8.2 introduces the classification and definition of categories and subcategories[4] of emissions and removals (consistent with the sectoral, sectoral background and cross-sectoral tables provided in Annex 8A.2). The correspondence with the reporting categories of the *Revised 1996 IPCC Guidelines* is also provided in the third column of Table 8.2. A fourth column identifies gases that may be relevant to each category. Additional guidance on gases is provided in Volumes 2-5 and in Table 7.1 of Chapter 7 of this Volume for indirect gases[5].

[4] The nomenclature for the levels within the category list is: category, subcategory - 1st order, subcategory - 2nd order, subcategory – 3rd order, etc.

[5] In order to facilitate transparent reporting of emissions of non-CO_2 gases and CO_2 emissions from liming in the AFOLU Sector, reporting is based on aggregated categories (3C) taking into account that data may not be available to report those emissions by land.

TABLE 8.2 (UPDATED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
1 ENERGY	Includes all GHG emissions arising from combustion and fugitive releases of fuels. Emissions from the non-energy uses of fuels are generally not included here, but reported under Industrial Processes and Product Use Sector.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A **Fuel Combustion Activities**	Emissions from the intentional oxidation of materials within an apparatus that is designed to raise heat and provide it either as heat or as mechanical work to a process or for use away from the apparatus.	1A	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 *Energy Industries*	Comprises emissions from fuels combusted by the fuel extraction or energy-producing industries.	1A1	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 a Main Activity Electricity and Heat Production	Sum of emissions from main activity producers of electricity generation, combined heat and power generation, and heat plants. Main activity producers (formerly known as public utilities) are defined as those undertakings whose primary activity is to supply the public. They may be in public or private ownership. Emissions from own on-site use of fuel should be included. Emissions from auto-producers (undertakings that generate electricity/heat wholly or partly for their own use, as an activity that supports their primary activity) should be assigned to the sector where they were generated and not under 1 A 1 a. Auto-producers may be in public or private ownership.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 a i *Electricity Generation*	Comprises emissions from all fuel use for electricity generation from main activity producers except those from combined heat and power plants.	1A1a i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 a ii *Combined Heat and Power Generation (CHP)*	Emissions from production of both heat and electrical power from main activity producers for sale to the public, at a single CHP facility.	1A1a ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 a iii *Heat Plants*	Production of heat from main activity producers for sale by pipe network.	1A1a iii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 b Petroleum Refining	All combustion activities supporting the refining of petroleum products including on-site combustion for the generation of electricity and heat for own use. Does not include evaporative emissions occurring at the refinery. These emissions should be reported separately under 1 B 2 a.	1A1b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 c Manufacture of Solid Fuels and Other Energy Industries	Combustion emissions from fuel use during the manufacture of secondary and tertiary products from solid fuels including production of charcoal. Emissions from own on-site fuel use should be included. Also includes combustion for the generation of electricity and heat for own use in these industries.	1A1c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 1 c i *Manufacture of Solid Fuels*	Emissions arising from fuel combustion for the production of coke, brown coal briquettes and patent fuel.	1A1c i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
1 A 1 c ii *Other Energy Industries*	Combustion emissions arising from the energy-producing industries own (on-site) energy use not mentioned above or for which separate data are not available. This includes the emissions from own-energy use for the production of charcoal, bagasse, saw dust, cotton stalks and carbonizing of biofuels as well as fuel used for coal mining, oil and gas extraction and the processing and upgrading of natural gas. This category also includes emissions from pre-combustion processing for CO_2 capture and storage. Combustion emissions from pipeline transport should be reported under 1 A 3 e.	1A1c ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 *Manufacturing Industries and Construction*	Emissions from combustion of fuels in industry. Also includes combustion for the generation of electricity and heat for own use in these industries. Emissions from fuel combustion in coke ovens within the iron and steel industry should be reported under 1 A 1 c and not within manufacturing industry. Emissions from the industry sector should be specified by sub-categories that correspond to the International Standard Industrial Classification of all Economic Activities (ISIC). Energy used for transport by industry should not be reported here but under Transport (1 A 3). Emissions arising from off-road and other mobile machinery in industry should, if possible, be broken out as a separate subcategory. For each country, the emissions from the largest fuel-consuming industrial categories ISIC should be reported, as well as those from significant emitters of pollutants. A suggested list of categories is outlined below.	1A2	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 a Iron and Steel	ISIC Group 271 and Class 2731.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 b Non-Ferrous Metals	ISIC Group 272 and Class 2732.	1A2b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 c Chemicals	ISIC Division 24.	1A2c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 d Pulp, Paper and Print	ISIC Divisions 21 and 22.	1A2d	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 e Food Processing, Beverages and Tobacco	ISIC Divisions 15 and 16.	1A2e	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 f Non-Metallic Minerals	Includes products such as glass ceramic, cement, etc. ISIC Division 26.	1A2f	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name				Definition	96 GLs Category Code	Gases
1 A 2 g			Transport Equipment	ISIC Divisions 34 and 35.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 h			Machinery	Includes fabricated metal products, machinery and equipment other than transport equipment. ISIC Divisions 28, 29, 30, 31 and 32.	1A2f	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 i			Mining (excluding fuels) and Quarrying	ISIC Divisions 13 and 14.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 j			Wood and Wood Products	ISIC Division 20.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 k			Construction	ISIC Division 45.	1A2f	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 l			Textile and Leather	ISIC Divisions 17, 18 and 19.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 2 m			Non-specified Industry:	Any manufacturing industry/construction not included above or for which separate data are not available. Includes ISIC Divisions 25, 33, 36 and 37.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3			*Transport*	Emissions from the combustion and evaporation of fuel for all transport activity (excluding military transport), regardless of the sector, specified by sub-categories below. Emissions from fuel sold to any air or marine vessel engaged in international transport (1 A 3 a i and 1 A 3 d i) should as far as possible be excluded from the totals and subtotals in this category and should be reported separately.	1A3	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 a			Civil Aviation	Emissions from international and domestic civil aviation, including take-offs and landings. Comprises civil commercial use of airplanes, including: scheduled and charter traffic for passengers and freight, air taxiing, and general aviation. The international/domestic split should be determined on the basis of departure and landing locations for each flight stage and not by the nationality of the airline. Exclude use of fuel at airports for ground transport which is reported under 1 A 3 e Other Transportation. Also exclude fuel for stationary combustion at airports; report this information under the appropriate stationary combustion category.	1A3a	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 a i			*International Aviation (International Bunkers)*	Emissions from flights that depart in one country and arrive in a different country. Include take-offs and landings for these flight stages. Emissions from international military aviation can be included as a separate sub-category of international aviation provided that the same definitional distinction is applied and data are available to support the definition.	1A3a i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name		Definition	96 GLs Category Code	Gases
1 A 3 a ii	*Domestic Aviation*	Emissions from civil domestic passenger and freight traffic that departs and arrives in the same country (commercial, private, agriculture, etc.), including take-offs and landings for these flight stages. Note that this may include journeys of considerable length between two airports in a country (e.g. San Francisco to Honolulu). Exclude military, which should be reported under 1 A 5 b.	1A3a ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b	Road Transportation	All combustion and evaporative emissions arising from fuel use in road vehicles, including the use of agricultural vehicles on paved roads.	1A3b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b i	*Cars*	Emissions from automobiles so designated in the vehicle registering country primarily for transport of persons and normally having a capacity of 12 persons or fewer.	1A3b i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b i 1	Passenger Cars With 3-way Catalysts	Emissions from passenger car vehicles with 3-way catalysts.	1A3b i	CO_2, CH_4, N_2O, NOx, CO, NMVOC, SO_2
1 A 3 b i 2	Passenger Cars Without 3-way Catalysts	Passenger car emissions from vehicles without 3-way catalysts.	1A3b i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b ii	*Light-duty Trucks*	Emissions from vehicles so designated in the vehicle registering country primarily for transportation of light-weight cargo or which are equipped with special features such as four-wheel drive for off-road operation. The gross vehicle weight normally ranges up to 3500-3900 kg or less.	1A3b ii, 1A3b i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b ii 1	Light-duty Trucks With 3-way Catalysts	Emissions from light duty trucks with 3-way catalysts.	1A3b ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b ii 2	Light-duty Trucks Without 3-way Catalysts	Emissions from light duty trucks without 3-way catalysts.	1A3b ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b iii	*Heavy-duty Trucks and Buses*	Emissions from any vehicles so designated in the vehicle registering country. Normally the gross vehicle weight ranges from 3500-3900 kg or more for heavy duty trucks and the buses are rated to carry more than 12 persons.	1A3b iii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b iv	*Motorcycles*	Emissions from any motor vehicle designed to travel with not more than three wheels in contact with the ground and weighing less than 680 kg.	1A3b iv	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b v	*Evaporative Emissions from Vehicles*	Evaporative emissions from vehicles (e.g. hot soak, running losses) are included here. Emissions from loading fuel into vehicles are excluded.	1A3b v	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 b vi	*Urea-based Catalysts*	CO_2 emissions from use of urea-based additives in catalytic converters (non-combustive emissions).		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name				Definition	96 GLs Category Code	Gases
1 A 3 c			Railways	Emissions from railway transport for both freight and passenger traffic routes.	1A3c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 d			Water-borne Navigation	Emissions from fuels used to propel water-borne vessels, including hovercraft and hydrofoils, but excluding fishing vessels. The international/domestic split should be determined on the basis of port of departure and port of arrival, and not by the flag or nationality of the ship.	1A3d	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 d i			*International Water-borne Navigation (International Bunkers)*	Emissions from fuels used by vessels of all flags that are engaged in international water-borne navigation. The international navigation may take place at sea, on inland lakes and waterways and in coastal waters. Includes emissions from journeys that depart in one country and arrive in a different country. Exclude consumption by fishing vessels (see Other Sector - Fishing). Emissions from international military water-borne navigation can be included as a separate sub-category of international water-borne navigation provided that the same definitional distinction is applied and data are available to support the definition.	1A3d i	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 d ii			*Domestic Water-borne Navigation*	Emissions from fuels used by vessels of all flags that depart and arrive in the same country (exclude fishing, which should be reported under 1 A 4 c iii, and military, which should be reported under 1 A 5 b). Note that this may include journeys of considerable length between two ports in a country (e.g. San Francisco to Honolulu).	1A3d ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 e			Other Transportation	Combustion emissions from all remaining transport activities including pipeline transportation, ground activities in airports and harbours, and off-road activities not otherwise reported under 1 A 4 c Agriculture or 1 A 2. Manufacturing Industries and Construction. Military transport should be reported under 1 A 5 (see 1 A 5 Non-specified).	1A3de	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 e i			*Pipeline Transport*	Combustion related emissions from the operation of pump stations and maintenance of pipelines. Transport via pipelines includes transport of gases, liquids, slurry and other commodities via pipelines. Distribution of natural or manufactured gas, water or steam from the distributor to final users is excluded and should be reported in 1 A 1 c ii or 1 A 4 a.	1A3e	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 3 e ii			*Off-road*	Combustion emissions from Other Transportation excluding Pipeline Transport.	1A3e	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 4			*Other Sectors*	Emissions from combustion activities as described below, including combustion for the generation of electricity and heat for own use in these sectors.	1A4	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 4 a			Commercial/Institutional	Emissions from fuel combustion in commercial and institutional buildings; all activities included in ISIC Divisions 41,50, 51, 52, 55, 63-67, 70-75, 80, 85, 90-93 and 99.	1A 4 a	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 A 4 b			Residential	All emissions from fuel combustion in households.	1A4b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name					Definition	96 GLs Category Code	Gases
1	A	4	c	Agriculture/Forestry/Fishing/Fish Farms	Emissions from fuel combustion in agriculture, forestry, fishing and fishing industries such as fish farms. Activities included in ISIC Divisions 01, 02 and 05. Highway agricultural transportation is excluded.	1A4c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	4	c i	*Stationary*	Emissions from fuels combusted in pumps, grain drying, horticultural greenhouses and other agriculture, forestry or stationary combustion in the fishing industry.	1A4ci	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	4	c ii	*Off-road Vehicles and Other Machinery*	Emissions from fuels combusted in traction vehicles on farm land and in forests.	1A3e	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	4	c iii	*Fishing (mobile combustion)*	Emissions from fuels combusted for inland, coastal and deep-sea fishing. Fishing should cover vessels of all flags that have refuelled in the country (include international fishing).	1A4ciii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5		*Non-Specified*	All remaining emissions from fuel combustion that are not specified elsewhere. Include emissions from fuel delivered to the military in the country and delivered to the military of other countries that are not engaged in multilateral operations Emissions from fuel sold to any air or marine vessel engaged in multilateral operation pursuant to the Charter of the United Nations should be excluded from the totals and subtotals of the military transport, and should be reported separately.	1A5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5	a	Stationary	Emissions from fuel combustion in stationary sources that are not specified elsewhere.	1A5a	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5	b	Mobile	Emissions from vehicles and other machinery, marine and aviation (not included in 1 A 4 c ii or elsewhere).	1A5b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5	b i	*Mobile (Aviation Component)*	All remaining aviation emissions from fuel combustion that are not specified elsewhere. Include emissions from fuel delivered to the country's military not otherwise included separately in 1 A3 a i as well as fuel delivered within that country but used by militaries of other countries that are not engaged in multilateral operation pursuant to the Charter of the United Nations.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5	b ii	*Mobile (Water-borne Component)*	All remaining water-borne emissions from fuel combustion that are not specified elsewhere. Include emissions from fuel delivered to the country's military not otherwise included separately in 1 A3 d i as well as fuel delivered within that country but used by militaries of other countries that are not engaged in multilateral operation pursuant to the Charter of the United Nations.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1	A	5	b iii	*Mobile (Other)*	All remaining emissions from mobile sources not included elsewhere.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
1 A 5 c Multilateral Operations	Emissions from fuel sold to any air or marine vessel engaged in multilateral operations pursuant to the Charter of the United Nations should be excluded from the totals and subtotals of the military transport, and should be reported separately.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B **Fugitive Emissions from Fuels**	Includes all intentional and unintentional emissions from the extraction, processing, storage and transport of fuel to the point of final use.	1B	CO_2, CH_4, N_2O, NO_x, CO, NMVOC,
1 B 1 *Solid Fuels*	Includes all intentional and unintentional emissions from the extraction, processing, storage and transport of fuel to the point of final use.	1B1	CO_2, CH_4,
1 B 1 a Coal Mining and Handling	Includes all fugitive emissions from coal.	1B1a	CO_2, CH_4,
1 B 1 a i *Underground Mines*	Includes all emissions arising from mining, post-mining, abandoned mines and flaring of drained methane.	1B1a i	CO_2, CH_4,
1 B 1 a i 1 Mining	Includes all seam gas emissions vented to atmosphere from coal mine ventilation air and degasification systems.	1B1a i	CO_2, CH_4,
1 B 1 a i 2 Post-mining Seam Gas Emissions	Includes methane and CO_2 emitted after coal has been mined, brought to the surface and subsequently processed, stored and transported.	1B1a i	CO_2, CH_4,
1 B 1 a i 3 Abandoned Underground Mines	Includes methane emissions from abandoned underground mines.	1B1a i	CO_2, CH_4,
1 B 1 a i 4 Flaring of Drained Methane or Conversion of Methane to CO_2	Methane drained and flared, or ventilation gas converted to CO_2 by an oxidation process should be included here. Methane used for energy production should be included in Volume 2, Energy, Chapter 2 'Stationary Combustion'.	1B1a i	CO_2, CH_4,
1 B 1 a ii *Surface Mines*	Includes all seam gas emissions arising from surface coal mining.	1B1a ii	CO_2, CH_4,
1 B 1 a ii 1 Mining	Includes methane and CO_2 emitted during mining from breakage of coal and associated strata and leakage from the pit floor and high wall.		CO_2, CH_4,
1 B 1 a ii 2 Post-mining Seam Gas Emissions	Includes methane and CO_2 emitted after coal has been mined, subsequently processed, stored and transported.	1B1a ii	CO_2, CH_4,
1 B 1 a ii 3 Abandoned Surface Mines	Includes methane emissions from abandoned surface mines.		CO_2, CH_4
1 B 1 a iii *Coal Exploration*	Includes methane emissions from boreholes drilled for the purposes of coal exploration.		CH_4
1 B 1 b Uncontrolled Combustion, and Burning Coal Dumps	Includes fugitive emissions of CO_2 from uncontrolled combustion in coal.	1B1c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B 1 c Fuel Transformation	Fugitive emissions arising during the manufacture of secondary and tertiary products from fuels.	1B1b	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B 1 c i Charcoal and Biochar Production	Fugitive emissions arising during the production of charcoal and biochar.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B 1 c ii Coke Production	Fugitive emissions arising during the production of coke.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name		Definition	96 GLs Category Code	Gases
1 B 1 c iii	Solid to Solid Fuel Production	Fugitive emissions arising during the production of wood pellets.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B 1 c iv	Gasification Transformation	Fugitive emissions from the transformation of biomass, coal or natural gas into syngas, composed by H_2, CO, CO_2 and CH_4, and, then, into a liquid hydrocarbons fuels.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
1 B 2	*Oil and Natural Gas*	Comprises fugitive emissions from all oil and natural gas activities. The primary sources of these emissions may include fugitive equipment leaks, evaporation losses, venting, flaring and accidental releases.	1B2	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1 B 2 a	Oil	Comprises emissions from venting, flaring and all other fugitive sources associated with the exploration, production, transmission, upgrading, and refining of crude oil and distribution of crude oil products.	1B2a	CO_2, CH_4, NMVOC
1 B 2 a i	Exploration	Fugitive emissions (including venting and flaring) from oil well drilling, drill stem testing, and well completions.	1B2a i	CO_2, CH_4, NMVOC
1 B 2 a ii	Production and Upgrading	Fugitive emissions from oil production (including venting and flaring) occur at the oil wellhead or at the oil sands or shale oil mine through to the start of the oil transmission system. This includes fugitive emissions related to well servicing, oil sands or shale oil mining, transport of untreated production (i.e., well effluent, emulsion, oil shale and oil sands) to treating or extraction facilities, activities at extraction and upgrading facilities, associated gas re-injection systems and produced water disposal systems. Fugitive emission from upgraders are grouped with those from production rather than those from refining since the upgraders are often integrated with extraction facilities and their relative emission contributions are difficult to establish. However, upgraders may also be integrated with refineries, co-generation plants or other industrial facilities and their relative emission contributions can be difficult to establish in these cases.	1B2a ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1 B 2 a iii	Transport	Fugitive emissions (including venting and flaring) related to the transport of marketable crude oil (including conventional, heavy and synthetic crude oil and bitumen) to upgraders and refineries. The transportation systems may comprise pipelines, marine tankers, tank trucks and rail cars. Evaporation losses from storage, filling and unloading activities and fugitive equipment leaks are the primary sources of these emissions.	1B2a iii	CO_2, CH_4, NMVOC
1 B 2 a iv	Refining	Fugitive emissions (including venting and flaring) at petroleum refineries. Refineries process crude oils, natural gas liquids and synthetic crude oils to produce final refined products (e.g., primarily fuels and lubricants). Where refineries are integrated with other facilities (for example, upgraders or co-generation plants) their relative emission contributions can be difficult to establish.	1B2a iv	CO_2, CH_4, NMVOC
1 B 2 a v	Distribution of oil products	This comprises fugitive emissions (including venting and flaring) from the transport and distribution of refined fuels, including those at bulk terminals and retail facilities. Evaporation losses from storage, filling and unloading activities and fugitive equipment leaks are the primary sources of these emissions. Emissions from refined products other than fuels are not subject of this segment.	1B2a v	CO_2, CH_4, NMVOC
1 B 2 a vi	Other	Fugitive emissions from oil systems (including venting and flaring) not otherwise accounted for in the above segments. This includes fugitive emissions from spills and other accidental releases, waste oil treatment facilities and oilfield waste disposal facilities.	1B2a vi	CO_2, CH_4, N_2O, NO_x, CO, NMVOC

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name						Definition	96 GLs Category Code	Gases
1	B	2	a	vi	i	Abandoned Oil Wells	Fugitive emissions from abandoned oil wells (including any venting and flaring). This includes leakage at plugged and unplugged onshore and offshore wells		CO_2, CH_4
1	B	2	b			Natural Gas	Comprises emissions from venting, flaring and all other fugitive sources associated with the exploration, production, processing, transmission, storage and distribution of natural gas (including both associated and non-associated gas).	1B2b	CO_2, CH_4, NMVOC
1	B	2	b	i		Exploration	Fugitive emissions (including venting and flaring) from gas well drilling, drill stem testing and well completions.	1Bb i	CO_2, CH_4, N_2O, NMVOC
1	B	2	b	ii		Production and Gathering	Fugitive emissions (including venting and flaring) from the gas wellhead through to the inlet of gas processing plants, or, where processing is not required, to the tie-in points on gas transmission systems. This includes fugitive emissions related to well servicing, gas gathering, processing and associated waste-water and acid gas disposal activities.	1Bb ii	CO_2, CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	iii		Processing	Fugitive emissions (including venting and flaring) from gas processing facilities.	1Bb iii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	iv		Transmission and Storage	Fugitive emissions (including venting and flaring) from systems used to transport processed natural gas to market (i.e., to industrial consumers and natural gas distribution systems). Fugitive emissions from natural gas storage systems should also be included in this category. Emissions from natural gas liquids extraction plants on gas transmission systems should be reported as part of natural gas processing (Sector 1.B.2.b.iii.3). Fugitive emissions related to the transmission of natural gas liquids should be reported under Category 1.B.2.a.iii.3.	1B2b ii	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	v	5	Distribution	Fugitive emissions (including any venting and flaring) from the distribution of natural gas to end users. This also includes emissions from short term storage at public utilities or consumers as well as fugitive losses from tanks of gas driven vehicles.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	vi		Gas Post-Meter	Fugitive emissions (including any venting and flaring) beyond gas meters, including from appliances, power plants, and natural gas-fuelled vehicles.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	vi	i	Other	Fugitive emissions from natural gas systems (including venting and flaring) not otherwise accounted for in the above segments. This may include emissions from well blowouts and pipeline ruptures or dig-ins.	1B2 c	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	B	2	b	vi	ii	Abandoned Gas Wells	Fugitive emissions from abandoned wells (including any venting and flaring). This includes leakage at plugged and unplugged onshore and offshore wells		CH_4
1	B	3				*Other Emissions from Energy Production*	Other fugitive emissions for example, from geo thermal energy production, peat and other energy production not included in 1.B.2.		CO_2, CH_4, N_2O, NO_x, CO, NMVOC
1	C					**Carbon Dioxide Transport and Storage**	Carbon dioxide (CO_2) capture and storage (CCS) involves the capture of CO_2 from anthropogenic sources, its transport to a storage location and its long-term isolation from the atmosphere. Emissions associated with CO_2 transport, injection and storage are covered under category 1C. Emissions (and reductions) associated with CO_2 capture should be reported under the IPCC Sector in which capture takes place (e.g. Fuel Combustion or Industrial Activities).		CO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
1 C 1 *Transport of CO_2*	This comprises fugitive emissions from the systems used to transport captured CO_2 from the source to the injection site. These emissions may comprise losses due to fugitive equipment leaks, venting and releases due to pipeline ruptures or other accidental releases (e.g., temporary storage).		CO_2
1 C 1 a Pipelines	Fugitive emissions from the pipeline system used to transport CO_2 to the injection site.		CO_2
1 C 1 b Ships	Fugitive emissions from the ships used to transport CO_2 to the injection site.		CO_2
1 C 1 c Other (please specify)	Fugitive emissions from other systems used to transport CO_2 to the injection site and temporary storage		CO_2
1 C 2 *Injection and Storage*	Fugitive emissions from activities and equipment at the injection site and those from the end containment once the CO_2 is placed in storage.		CO_2
1 C 2 a Injection	Fugitive emissions from activities and equipment at the injection site.		CO_2
1 C 2 b Storage	Fugitive emissions from the end equipment once the CO_2 is placed in storage.		CO_2
1 C 3 *Other*	Any other emissions from CCS not reported elsewhere.		CO_2
2 INDUSTRIAL PROCESSES AND PRODUCT USE	Emissions from industrial processes and product use, excluding those related to energy combustion (reported under 1A), extraction, processing and transport of fuels (reported under 1B) and CO_2 transport, injection and storage (reported under 1C).		CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases, NO_x, CO, NMVOC, SO_2
2 A **Mineral Industry**		2A	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 A 1 *Cement Production*	Process-related emissions from the production of various types of cement (ISIC: D2694).	2A1	CO_2, CH_4,
2 A 2 *Lime Production*	Process-related emissions from the production of various types of lime (ISIC: D2694).	2A2	CO_2, CH_4
2 A 3 *Glass Production*	Process-related emissions from the production of various types of glass (ISIC: D2610).	2A3, 2A4	CO_2, CH_4
2 A 4 *Other Process Uses of Carbonates*	Includes limestone, dolomite and other carbonates etc. Emissions from the use of limestone, dolomite and other carbonates should be included in the industrial source category where they are emitted. Therefore, for example, where a carbonate is used as a flux for iron and steel production, resultant emissions should be reported under 2C1 “Iron and Steel Production” rather than this subcategory.	2A3, 2A4	CO_2, CH_4, NO_x, CO, NMVOC, SO_2
2 A 4 a Ceramics	Process-related emissions from the production of bricks and roof tiles, vitrified clay pipes, refractory products, expanded clay products, wall and floor tiles, table and ornamental ware (household ceramics), sanitary ware, technical ceramics, and inorganic bonded abrasives (ISIC: D2691, D2692 and D2693).	2A3	CO_2, CH_4
2 A 4 b Other Uses of Soda Ash	This should include emissions from soda ash use that are not included elsewhere. For example, soda ash used for glass should be reported in 2A3.	2A4	CO_2, CH_4, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name				Definition	96 GLs Category Code	Gases
2 A 4 c			Non Metallurgical Magnesia Production	This source category should include emissions from magnesia production that are not included elsewhere. For example, where magnesia production is used for primary and secondary magnesium production, emissions should be reported in relevant source category in Metals.	2A3	CO_2, CH_4
2 A 4 d			Other (please specify)	Process-related emissions reported under this sub-category should include all other miscellaneous uses of limestone, dolomite and other carbonates, except from uses already listed in the sub-categories above, and uses as fluxes or slagging agents in the Metals and Chemicals industries, or for the liming of soils and wetlands in Agriculture, Forestry and Other Land Uses (ISIC D269).	2A3	CO_2, CH_4, NO_x, CO, NMVOC, SO_2
2 A 5			*Other (please specify)*		2A7	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 B			**Chemical Industry**		2B, 2A4, 3C	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases, NO_x, CO, NMVOC, SO_2
2 B 1			*Ammonia Production*	Ammonia (NH_3) is a major industrial chemical and the most important nitrogenous material produced. Ammonia gas is used directly as a fertilizer, in heat treating, paper pulping, nitric acid and nitrates manufacture, nitric acid ester and nitro compound manufacture, explosives of various types, and as a refrigerant. Amines, amides, and miscellaneous other organic compounds, such as urea, are made from ammonia. The main greenhouse gas emitted from NH_3 production is CO_2. CO_2 used in the production of urea, a downstream process, should be subtracted from the CO_2 generated and accounted for in the AFOLU Sector.	2B1	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 B 2			*Nitric Acid Production*	Nitric acid is used as a raw material mainly in the manufacture of nitrogenous-based fertiliser. Nitric acid may also be used in the production of adipic acid and explosives (e.g., dynamite), for metal etching and in the processing of ferrous metals. The main greenhouse gas emitted from HNO_3 production is nitrous oxide.	2B2	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
2 B 3			*Adipic Acid Production*	Adipic acid is used in the manufacture of a large number of products including synthetic fibres, coatings, plastics, urethane foams, elastomers and synthetic lubricants. The production of Nylon 6.6 accounts for the bulk of adipic acid use. The main greenhouse gas emitted from adipic acid production is nitrous oxide.	2B3	N_2O, CO_2, CH_4 NO_x
2 B 4			*Caprolactam, Glyoxal and Glyoxylic Acid Production*	Most of the annual production of caprolactam ($NH(CH_2)_5CO$) is consumed as the monomer for nylon-6 fibres and plastics, with a substantial proportion of the fibre used in carpet manufacturing. All commercial processes for the manufacture of caprolactam are based on either toluene or benzene. This subcategory also covers production of glyoxal (ethanedial) and glyoxylic acid production. The main greenhouse gas emitted from this subcategory is nitrous oxide.	2B5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
2 B 5 *Carbide Production*	The production of carbide can result in emissions of CO_2, CH_4, CO and SO_2. Silicon carbide is a significant artificial abrasive. It is produced from silica sand or quartz and petroleum coke. Calcium carbide is used in the production of acetylene, in the manufacture of cyanamide (a minor historical use), and as a reductant in electric arc steel furnaces. It is made from calcium carbonate (limestone) and carbon-containing reductant (petroleum coke).	2B4	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
2 B 6 *Titanium Dioxide Production*	Titanium dioxide (TiO_2) is the most important white pigment. The main use is in paint manufacture followed by paper, plastics, rubber, ceramics, fabrics, floor covering, printing ink, and other miscellaneous uses. The main production process is the chloride route, giving rise to CO_2 emissions that are likely to be significant. This category also includes synthetic rutile production using the Becher process, and titanium slag production, both of which are reduction processes using fossil fuels and resulting in CO_2 emissions. Synthetic rutile is the major input to TiO_2 production using the chloride route.	2B5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
2 B 7 *Soda Ash Production*	Soda ash (sodium carbonate, Na_2CO_3) is a white crystalline solid that is used as a raw material in a large number of industries including glass manufacture, soap and detergents, pulp and paper production and water treatment. Emissions of CO_2 from the production of soda ash vary dependent on the manufacturing process. Four different processes may be used to produce soda ash. Three of these processes, monohydrate, sodium sesquicarbonate (trona) and direct carbonation, are referred to as natural processes. The fourth, the Solvay process, is classified as a synthetic process.	2A4	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
2 B 8 *Petrochemical and Carbon Black Production*		2B5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 B 8 a Methanol	Methanol production covers production of methanol from fossil fuel feedstocks [natural gas, petroleum, coal] using steam reforming or partial oxidation processes. Production of methanol from biogenic feedstocks (e.g., by fermentation) is not included in this source category.	2B5	CO_2, CH_4, N_2O, NMVOC
2 B 8 b Ethylene	Ethylene production covers production of ethylene from fossil fuel-derived feedstocks at petrochemical plants by the steam cracking process. Production of ethylene from processes situation within the boundaries of petroleum refineries is not included in this source category. The greenhouse gases produced from ethylene production are carbon dioxide and methane.	2B5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 B 8 c Ethylene Dichloride and Vinyl Chloride Monomer	Ethylene dichloride and vinyl chloride monomer production covers production of ethylene dichloride by direct oxidation or oxychloination of ethylene, and the production of vinyl chloride monomer from ethylene dichloride. The greenhouse gases produced from production of ethylene dichloride production and vinyl chloride monomer production are carbon dioxide and methane.	2B5	CO_2, CH_4, N_2O, CO, NMVOC
2 B 8 d Ethylene Oxide	Ethylene oxide production covers production of ethylene oxide by reaction of ethylene and oxygen by catalytic oxidation. The greenhouse gases produced from ethylene oxide production are carbon dioxide and methane.	2B5	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name				Definition	96 GLs Category Code	Gases
2 B 8 e			Acrylonitrile	Acrylonitrile production covers production of acrylonitrile from ammoxidation of propylene, and associated production of acetonitrile and hydrogen cyanide from the ammoxidation process. The greenhouse gases produced from production of acrylonitrile are carbon dioxide and methane.	2B5	CO_2, CH_4, N_2O, NMVOC
2 B 8 f			Carbon Black	Carbon black production covers production of carbon black from fossil fuel-derived feedstocks (petroleum or coal-derived carbon black feedstock, natural gas, acetylene). Production of carbon black from biogenic feedstocks is not included in this source category.	2B5, 3C	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 B 9			*Fluorochemical Production*	Fluorochemical Production covers the complete range of fluorochemicals, whether or not the principal products are greenhouse gases. Emissions encompass HFCs, PFCs, SF_6 and all other halogenated gases with global warming potential. Emissions from process vents often include primarily by-products but may also include reactants, intermediates, and products.	2E	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 a			*HCFC-22 Production*	Various F-gases emissions in HCFC-22 Production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 b			*HFC Production (specify HFC(s) produced)*	Various F-gases emissions in HFCs Production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 c			*PFC Production (specific PFC(s) produced)*	Various F-gases emissions in PFCs Production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 d			*SF_6 Production*	Various F-gases emissions in SF_6 Production		
2 B 9 e			*NF_3 Production*	Various F-gases emissions in NF_3 Production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 f			*Fluoropolymer Production (specify fluoropolymer produced)*	Various F-gases emissions in Fluoropolymer Production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases
2 B 9 g			Other Fluorochemical Production (specify other fluorochemical produced)	Various F-gases emissions in other fluorochemicals production	2E1	HFCs, PFCs, SF_6, NF_3, other halogenated gases

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name				Definition	96 GLs Category Code	Gases
2	B	10	*Hydrogen Production*	Emissions from hydrogen production when it is produced as a main product at a stand-alone facility. Also, emissions from production of hydrogen as a by-product or intermediate product at refineries, ammonia production facilities and at other chemical production facilities, insofar as the emissions are not reported under the respective sectors.	NA	CO_2
2	B	11	*Other (Please specify)*	For example, gases with global warming potential listed in IPCC assessment reports that do not fall within any categories above could be reported here, if they are estimated.	2B5	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases, NO_x, CO, NMVOC, SO_2
2	C		**Metal Industry**		2C	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases, NO_x, CO, NMVOC, SO_2
2	C	1	*Iron and Steel Production*	Carbon dioxide is the predominant gas emitted from the production of iron and steel. The sources of the carbon dioxide emissions include that from carbon-containing reducing agents such as coke and pulverized coal, and, from minerals such as limestone and dolomite added.	2C1	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2	C	2	*Ferroalloys Production*	Ferroalloys production covers emissions from primary metallurgical reduction production of the most common ferroalloys, i.e. ferro-silicon, silicon metal, ferro-manganese, silicon manganese, and ferro-chromium, excluding those emissions relating to fuel use. From the production of these alloys, carbon dioxide (CO_2), nitrous oxide (N_2O), and methane (CH_4) originating from ore- and reductant raw materials, is emitted.	2C2	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2	C	3	*Aluminium Production*	Aluminium Production covers primary production of aluminium, except the emissions related to the use of fuel. Carbon dioxide (CO_2) emissions result from the electrochemical reduction reaction of alumina with a carbon-based anode. Tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6) are also produced intermittently. No greenhouse gases are produced in recycling of aluminium other than from the fuels uses for metal remelting. Sulphur hexafluoride (SF_6) emissions are not associated with primary aluminium production; however, casting of some high magnesium containing alloys does result in SF_6 emissions and these emissions are accounted for in Section 2C4, Magnesium Production. CO_2 emissions from alumina production via the Bayer process are accounted for in Section 1A, Fuel Combustion Activities and Section 2A2, Lime Production; however, exceptions are alumina production via alternative Bayer-Sintering (BSS and BSP) and Nepheline-Sintering (NP) processes, which are covered here in Section 2C3, Aluminium Production.	2C3	CO_2, CH_4, PFCs, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name			Definition	96 GLs Category Code	Gases
2 C 4		*Magnesium Production*	Magnesium production covers GHG emissions related to both primary magnesium production as well as oxidation protection of magnesium metal during processing (recycling and casting), excluding those emissions relating to fuel use. In the primary production of magnesium, carbon dioxide (CO_2) is emitted during calcination of dolomite and magnesite raw materials. Primary production of magnesium from non-carbonate raw materials does not emit carbon dioxide. In the processing of liquid magnesium, cover gases containing carbon dioxide (CO_2), sulphur hexafluoride (SF_6), the hydrofluorocarbon HFC 134a or the fluorinated ketone FK 5-1-12 ($C_3F_7C(O)C_2F_5$) may be used. Partial thermal decomposition and/or reaction between these compounds and liquid magnesium generates secondary compounds such as perfluorocarbons (PFCs), which are emitted in addition to unreacted cover gas constituents.	2C4	CO_2, HFCs, PFCs, SF_6, other halogenated gases, NO_x, CO, NMVOC, SO_2
2 C 5		*Lead Production*	Lead production covers production by the sintering/smelting process as well as direct smelting. Carbon dioxide emissions result as a product of the use of a variety of carbon-based reducing agents in both production processes.	2C5	CO_2
2 C 6		*Zinc Production*	Zinc production covers emissions from both primary production of zinc from ore as well as recovery of zinc from scrap metals, excluding emissions related to fuel use. Following calcination, zinc metal is produced through one of three methods: 1-electro-thermic distillation, 2-pyro-metallurgical smelting or 3-electrolysis. If method 1 or 2 is used, carbon dioxide (CO_2) is emitted. Method 3 does not result in carbon dioxide emissions. Recovery of zinc from metal scrap often uses the same methods as primary production and may thus produce carbon dioxide emissions, which is included in this section.	2C5	CO_2
2 C 7		*Rare Earths*	Rare Earth Production covers primary production of rare earth metals and alloys, except the emissions related to the use of fuel. Carbon dioxide (CO_2) emissions result from the electrochemical reduction reaction of rare earth oxides with a carbon-based anode. Perfluorocarbons (PFCs), mainly tetrafluoromethane (CF_4) and hexafluoroethane (C_2F_6), are also produced intermittently.		CO_2, PFCs, CO
2 C 8		*Other (please specify)*		2C5	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other, NO_x, CO, NMVOC, SO_2
2 D		**Non-Energy Products from Fuels and Solvent Use**	The use of oil products and coal-derived oils primarily intended for purposes other than combustion.	1, 2A5, 2A6, 3	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 D 1		*Lubricant Use*	Lubricating oils, heat transfer oils, cutting oils and greases.	1, 3	CO_2
2 D 2		*Paraffin Wax Use*	Oil-derived waxes such as petroleum jelly, paraffin waxes and other waxes.	1, 3	CO_2, CH_4, N_2O
2 D 3		*Solvent Use*	NMVOC emissions from solvent use e.g. in paint application, degreasing and dry cleaning should be contained here. Emissions from the use of HFCs and PFCs as solvents should be reported under 2F5.	3A, 3B	NMVOC
2 D 4		*Other (please specify)*	For example, CH_4, CO and NMVOC emissions from asphalt production and use (including asphalt blowing), as well as NMVOC emissions from the use of other chemical products than solvents should be contained here, if relevant.	2A5, 2A6, 3D	CO_2, CH_4, N_2O, NO_x, CO,SO_2 NMVOC

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name			Definition	96 GLs Category Code	Gases
2 E		**Electronics Industry**		2F6	CO_2, CH_4, N_2O, PFCs, HFCs, SF_6, other halogenated gases
2 E 1		*Integrated Circuit or Semiconductor*	Emissions of CF_4, C_2F_6, C_3F_8, c-C_4F_8, C_4F_6, C_4F_8O, C_5F_8, CHF_3, CH_2F_2, NF_3 and SF_6 from uses of these gases in Integrated Circuit (IC) manufacturing in rapidly evolving ways and in varying amounts, which depend on product (e.g., memory or logic devices) and equipment manufacturer.	2F6	CO_2, N_2O, PFCs, HFCs, SF_6, other halogenated gases
2 E 2		*Displays*	Uses and emissions of predominantly CF_4, CHF_3, NF_3 and SF_6 during the fabrication of thin-film transistors (TFTs) on glass substrates for flat panel display manufacture. In addition to these gases, C_2F_6, C_3F_8 and c-C_4F_8 may also be used and emitted during the manufacture of thin and smart displays.	2F6	PFCs, HFCs, SF_6, N_2O, other halogenated gases
2 E 3		*Photovoltaics*	Photovoltaic cell manufacture may use and emit CF_4 and C_2F_6 among others.	2F6	PFCs, HFCs, SF_6, other halogenated gases
2 E 4		*Microelectromechanical systems (MEMS)*	Microelectromechanical systems (MEMS) is a sub-sector of Electronics Industry, the technology of microscopic devices, particularly those with moving parts. The emissions happen during the same technological processes as for other Electronics sub-sectors, the main gases are: CF_4, c-C_4F_8, SF_6.		PFCs, SF_6, other halogenated gases
2 E 5		*Other (please specify)*		2F6	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases
2 F		**Product Uses as Substitutes for Ozone Depleting Substances**		2F	CO_2, HFCs, PFCs, other halogenated gases
2 F 1		*Refrigeration and Air Conditioning*	Refrigeration and air-conditioning systems are usually classified in six application domains or categories. These categories utilise different technologies such as heat exchangers, expansion devices, pipings and compressors. The six application domains are domestic refrigeration, commercial refrigeration, industrial processes, transport refrigeration, stationary air conditioning, mobile air-conditioning systems. For all these applications, various HFCs are selectively replacing CFCs and HCFCs. For example, in developed countries, HFC-134a has replaced CFC-12 in domestic refrigeration and mobile air conditioning systems, and blends of HFCs such as R-407C (HFC-32/HFC-125/HFC-134a) and R-410A (HFC-32/HFC-125) are replacing HCFC-22 mainly in stationary air conditioning. Other, non HFC substances are used to replace CFCs and HCFCs such as iso-butane in domestic refrigeration or ammonia in industrial refrigeration. HFC-152a is also being considered for mobile air conditioning in several regions.	2F1	CO_2, HFCs, PFCs, other halogenated gases

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
2 F 1 a Refrigeration and Stationary Air Conditioning	The application domains are domestic refrigeration, commercial refrigeration, industrial processes, stationary air conditioning.	2F1	CO_2, HFCs, PFCs, other halogenated gases
2 F 1 b Mobile Air Conditioning	The application domains are transport refrigeration, mobile air-conditioning systems.	2F1	CO_2, HFCs, PFCs, other halogenated gases
2 F 2 *Foam Blowing Agents*	HFCs are being used as replacements for CFCs and HCFCs in foams, particularly in closed-cell insulation applications. Compounds that are being used include HFC-245fa, HFC-365mfc, HFC-227ea, HFC-134a, and HFC-152a. The processes and applications for which these various HFCs are being used include insulation boards and panels, pipe sections, sprayed systems and one-component gap filling foams. For open-cell foams, such as integral skin products for automotive steering wheels and facias, emissions of HFCs used as blowing agents are likely to occur during the manufacturing process. In closed-cell foam, emissions not only occur during the manufacturing phase, but usually extend into the in-use phase and often the majority of emission occurs at the end-of-life (de-commissioning losses). Accordingly, emissions can occur over a period of up to 50 years or even longer.	2F2	CO_2, HFCs, PFCs, other halogenated gases
2 F 3 *Fire Protection*	There are two general types of fire protection (fire suppression) equipment that use greenhouse gases as partial replacements for halons: portable (streaming) equipment, and fixed (flooding) equipment. The non-ozone depleting, industrial gases HFCs, PFCs and more recently a fluoroketone are mainly used as substitutes for halons, typically halon 1301, in flooding equipment. PFCs played an early role in halon 1301 replacement but current use is limited to replenishment of previously installed systems. HFCs in portable equipment, typically replacing halon 1211, are available but have achieved very limited market acceptance due primarily to their high cost. PFC use in new portable extinguishers is currently limited to a small amount (few percent) in an HCFC blend.	2F3	CO_2, HFCs, PFCs, other halogenated gases
2 F 4 *Aerosols*	Most aerosol packages now contain hydrocarbon (HC) as propellants but, in a small fraction of the total, HFCs and PFCs may be used as propellants or solvents. Emissions from aerosols usually occur shortly after production, on average six months after sale. During the use of aerosols, 100% of the chemical is emitted. The 5 main sources are metered dose inhalers (MDIs), personal care products (e.g. hair care, deodorant, shaving cream), household products (e.g. air-fresheners, oven and fabric cleaners), industrial products (e.g. special cleaning sprays such as those for operating electrical contact, lubricants, pipe-freezers) and other general products (e.g. silly string, tire inflators, claxons), although in some regions the use of such general products is restricted. The HFCs currently used as propellants are HFC 134a, HFC 227ea, and HFC 152a. The substance HFC 43 10mee and a PFC, perfluorohexane, are used as solvents in industrial aerosol products.	2F4	HFCs, PFCs, other halogenated gases
2 F 5 *Solvents*	HFCs and, to a much lesser extent PFCs, are being used as substitutes for ozone depleting substances (most notably CFC-113). Typical HFCs used are HFC-365mfc and HFC-43-10mee. Use of these fluorinated replacements is much less widespread than the ozone depleting substances they replace. Re-capture and re-use is also much more widely practiced The primary areas of use are precision cleaning, electronics cleaning, metal cleaning and deposition applications. Emissions from aerosols containing solvents should be reported under category 2F4 "Aerosols" rather than under this category.	2F5	HFCs, PFCs, other halogenated gases

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
2 F 6 *Other Applications (please specify)*	The properties of ozone depleting substances have made them attractive for a variety of niche applications not covered in other sub-source categories. These include electronics testing, heat transfer, dielectric fluid and medical applications. The properties of HFCs and PFCs are equally attractive in some of these sectors and they have been adopted as substitutes. There are also some historical uses of PFCs, as well as emerging use of HFCs, in these applications. These applications have leakage rates ranging from 100% emissive in year of application to around 1% per annum.	2F6	CO_2, CH_4, N_2O, HFCs, PFCs, other halogenated gases
2 G **OTHER PRODUCT MANUFACTURE AND USE**		2F6, 3D	CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, other halogenated gases
2 G 1 *Electrical Equipment*	Electrical equipment is used in the transmission and distribution of electricity above 1 kV. SF_6 is used in gas-insulated switchgear (GIS), gas circuit breakers (GCB), gas-insulated transformers (GIT), gas-insulated lines (GIL), outdoor gas-insulated instrument transformers, reclosers, switches, ring main units and other equipment.	2F6	SF_6, PFCs, other halogenated gases
2 G 1 a Manufacture of Electrical Equipment		2F6	SF_6, PFCs, other halogenated gases
2 G 1 b Use of Electrical Equipment		2F6	SF_6, PFCs, other halogenated gases
2 G 1 c Disposal of Electrical Equipment		2F6	SF_6, PFCs, other halogenated gases
2 G 2 *Halogenated Gases from Other Product Uses*		2F6	SF_6, PFCs, other halogenated gases
2 G 2 a Military Applications	Military applications include AWACS, which are military reconnaissance planes of the Boeing E-3A type. In AWACS (and possibly other reconnaissance planes), the SF_6 is used as an insulating gas in the radar system.	2F6	SF_6, PFCs, other halogenated gases
2 G 2 b Accelerators	Particle accelerators are used for research purposes (at universities and research institutions), for industrial applications (in cross-linking polymers for cable insulation and for rubber parts and hoses), and in medical (radiotherapy) applications.	2F6	SF_6, PFCs, other halogenated gases
2 G 2 c Waterproofing of Electronic Circuits	This source includes HFCs and PFCs used to waterproof electronic circuits. Electronic circuit boards often have thin conformal waterproofing coatings applied in a variety of applications, especially for mobile devices such as smartphones and tablets to prevent damage by accidental exposure to water, and in demanding environments, such as automotive and aerospace, to protect from the ingress of moisture. In all situations, the ingress of water could short-circuit the electronic components and circuitry.	2F6	HFCs, PFCs

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
2 G 2 d Other *(please specify)*	This source includes adiabatic uses, sound-proof glazing, PFCs used as heat transfer fluids in consumer and commercial applications, PFCs used in cosmetic and medical applications, and PFCs and SF_6 used as tracers.	2F6	SF_6, PFCs, other halogenated gases
2 G 3 *N_2O from Product Uses*		3D	N_2O
2 G 3 a Medical Applications	This source covers evaporative emissions of nitrous oxide (N_2O) that arise from medical applications (anaesthetic use, analgesic use and veterinary use). N_2O is used during anaesthesia for two reasons: a) as an anaesthetic and analgesic and as b) a carrier gas for volatile fluorinated hydrocarbon anaesthetics such as isoflurane, sevoflurane and desflurane.	3D	N_2O
2 G 3 b Propellant for Pressure and Aerosol Products	This source covers evaporative emissions of nitrous oxide (N_2O) that arise from use as a propellant in aerosol products primarily in food industry. Typical usage is to make whipped cream, where cartridges filled with N_2O are used to blow the cream into foam.	3D	N_2O
2 G 3 c Other (Please specify)		3D	N_2O
2 G 4 *Other (Please specify)*		2F6, 3D	CO_2, CH_4, HFCs, other halogenated gases
2 H **Other**		2D1, 2D2, 2G	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
2 H 1 *Pulp and Paper Industry*		2D1	CO_2, CH_4, NO_x, CO, NMVOC, SO_2
2 H 2 *Food and Beverages Industry*		2D2	CO_2, CH_4, NO_x, CO, NMVOC, SO_2
2 H 3 *Other (please specify)*		2G	CO_2, CH_4, N_2O, NO_x, CO, NMVOC, SO_2
3 AGRICULTURE, FORESTRY, AND OTHER LAND USE	Emissions and removals from forest land, cropland, grassland, wetlands, settlements, and other land. Also includes emissions from livestock and manure management, emissions from managed soils, and emissions from liming and urea application. Methods to estimate annual harvested wood product (HWP) variables are also covered in this category.	4,5	CH_4, N_2O, CO_2
3 A **Livestock**	Methane emissions from enteric fermentation, and methane and nitrous oxide emissions from manure management.	4	CH_4
3 A 1 *Enteric Fermentation*	Methane emissions from herbivores as a by-product of enteric fermentation (a digestive process by which carbohydrates are broken down by micro-organisms into simple molecules for absorption into the bloodstream). Ruminant animals (e.g., cattle, sheep) are major sources with moderate amounts produced from non-ruminant animals (e.g., pigs, horses).	4A	CH_4
3 A 1 a Cattle	Methane emissions from dairy cows and other cattle.	4A1	CH_4

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name						Definition	96 GLs Category Code	Gases
3	A	1	a	i	*Dairy Cows*	Methane emissions from cattle producing milk for commercial exchange being grown for dairy purposes.	4A1a	CH_4
3	A	1	a	ii	*Other Cattle*	Methane emissions from all non-dairy cattle including: cattle kept or grown for meat production, draft animals, and breeding animals.	4A1b	CH_4
3	A	1	b		Buffalo	Methane emissions from buffalo.	4A2	CH_4
3	A	1	c		Sheep	Methane emissions from sheep.	4A3	CH_4
3	A	1	d		Goats	Methane emissions from goats.	4A4	CH_4
3	A	1	e		Camels	Methane emissions from camels.	4A5	CH_4
3	A	1	f		Horses	Methane emissions from horses.	4A6	CH_4
3	A	1	g		Mules and Asses	Methane emissions from mules and asses.	4A7	CH_4
3	A	1	h		Swine	Methane emissions from swine.	4A8	CH_4
3	A	1	j		Other (please specify)	Methane emissions from other livestock (e.g. alpacas, llamas, deer, reindeer, etc.).	4A10	CH_4
3	A	2			*Manure Management*	Methane and nitrous oxide emissions from the decomposition of manure under low oxygen or anaerobic conditions and on-farm co-digestates combined with manure in on-farm biogas plants. These conditions often occur when large numbers of animals are managed in a confined area (e.g. dairy farms, beef feedlots, and swine and poultry farms), where manure is typically stored in large piles or disposed of in lagoons and other types of manure management systems.	4B	CH_4, N_2O
3	A	2	a		Cattle	Methane and nitrous oxide emissions from the decomposition of manure from cattle.	4B1	CH_4, N_2O
3	A	2	a	i	*Dairy Cows*	Methane and nitrous oxide emissions from the decomposition of manure from dairy cows.	4B1a	CH_4, N_2O
3	A	2	a	ii	*Other Cattle*	Methane and nitrous oxide emissions from the decomposition of manure from other cattle.	4B1b	CH_4, N_2O
3	A	2	b		Buffalo	Methane and nitrous oxide emissions from the decomposition of manure from buffalo.	4B2	CH_4, N_2O
3	A	2	c		Sheep	Methane and nitrous oxide emissions from the decomposition of manure from sheep.	4B3	CH_4, N_2O
3	A	2	d		Goats	Methane and nitrous oxide emissions from the decomposition of manure from goats.	4B4	CH_4, N_2O
3	A	2	e		Camels	Methane and nitrous oxide emissions from the decomposition of manure from camels.	4B5	CH_4, N_2O
3	A	2	f		Horses	Methane and nitrous oxide emissions from the decomposition of manure from horses.	4B6	CH_4, N_2O
3	A	2	g		Mules and Asses	Methane and nitrous oxide emissions from the decomposition of manure from mules and assess.	4B7	CH_4, N_2O
3	A	2	h		Swine	Methane and nitrous oxide emissions from the decomposition of manure from swine.	4B8	CH_4, N_2O
3	A	2	i		Poultry	Methane and nitrous oxide emissions from the decomposition of manure from poultry including chicken, broilers, turkeys, and ducks.	4B9	CH_4, N_2O

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
3 A 2 j Other (please specify)	Methane and nitrous oxide emissions from the decomposition of manure from other livestock (e.g. alpacas, llamas, deer, reindeer, fur-bearing animals, ostriches, etc.)	4B13	CH_4, N_2O
3 B **Land**	Emissions and removals from five land use categories (Forest land, Cropland, Grasslands, Settlements, and Other land) except for sources listed under 3C (Aggregate sources and non-CO_2 emissions sources on land). Except for Wetlands, the greenhouse gas inventory involves estimation of changes in carbon stock from five carbon pools (i.e. aboveground biomass, belowground biomass, dead wood, litter, and soil organic matter), as appropriate.	5	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 *Forest Land*	Emissions and removals from lands with woody vegetation consistent with thresholds used to define forest land in the national GHG inventory, sub-divided into managed and unmanaged, and possibly also by climatic region, soil type and vegetation type as appropriate. It also includes systems with vegetation that currently fall below, but are expected to later exceed, the threshold values used by a country to define the forest land category.	5A,5B,5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 a Forest land Remaining Forest Land	Emissions and removals from managed forests and plantations which have always been under forest land use or other land categories converted to forest over 20 years ago (default assumption).	5A	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b Land Converted to Forest Land	Emissions and removals from lands converted to forest land. Includes conversion of cropland, grassland, wetlands, settlements, and other land to forest land. Even abandoned lands which are regenerating to forest due to human activities are also included.	5A,5C,5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b i *Cropland Converted to Forest Land*	Emissions and removals from cropland converted to forest land.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b ii *Grassland Converted to Forest Land*	Emissions and removals from grassland converted to forest land.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b iii *Wetlands Converted to Forest Land*	Emissions and removals from wetlands converted to forest land.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b iv *Settlements Converted to Forest Land*	Emissions and removals from settlements converted to forest land.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 1 b v *Other Land Converted to Forest Land*	Emissions and removals from other land converted to forest land.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
3 B 2 *Cropland*	Emissions and removals from arable and tillage land, rice fields, and agro-forestry systems where vegetation falls below the thresholds used for the forest land category. This does not include methane emissions from rice cultivation (please see 3C7).	`	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 a Cropland Remaining Cropland	Emissions and removals from cropland that has not undergone any land use change during the inventory period.	4C, 4D, 4F, 5A, 5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b Land Converted to Cropland	Emissions and removals from lands converted to cropland. Includes conversion of forest land, grassland, wetlands, settlements, and other land to cropland.	5B, 5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b i *Forest Land Converted to Cropland*	Emissions and removals from forest land converted to cropland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b ii *Grassland Converted to Cropland*	Emissions and removals from grassland converted to cropland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b iii *Wetlands Converted to Cropland*	Emissions and removals from wetlands converted to cropland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b iv *Settlements Converted to Cropland*	Emissions and removals from settlements converted to cropland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 2 b v *Other Land Converted to Cropland*	Emissions and removals from other land converted to cropland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 3 *Grassland*	Emissions and removals from rangelands and pasture land that is not considered cropland. It also includes systems with woody vegetation that fall below the threshold values used in the forest land category and are not expected to exceed them, without human intervention. The category also includes all grassland from wild lands to recreational areas as well as agricultural and silvi-pastural systems, subdivided into managed and unmanaged, consistent with national definitions.	4D, 4E, 5A,5B,5C 5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 3 a Grassland Remaining Grassland	Emissions and removals from grassland remaining grassland.	4D, 4E, 5A,5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name					Definition	96 GLs Category Code	Gases
3	B	3	b	Land Converted to Grassland	Emissions and removals from land converted to grassland.	5B, 5C, 5D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	3	b i	*Forest Land Converted to Grassland*	Emissions and removals from forest land converted to grassland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	3	b ii	*Cropland Converted to Grassland*	Emissions and removals from cropland converted to grassland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	3	b iii	*Wetlands Converted to Grassland*	Emissions and removals from wetlands converted to grassland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	3	b iv	*Settlements Converted to Grassland*	Emissions and removals from settlements converted to grassland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	3	b v	*Other Land Converted to Grassland*	Emissions and removals from other land converted to grassland.		CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	4		*Wetlands*	Emissions from land that is covered or saturated by water for all or part of the year (e.g., peatland) and that does not fall into the forest land, cropland, grassland or settlements categories. The category can be subdivided into managed and unmanaged according to national definitions. It includes reservoirs as a managed sub-division and natural rivers and lakes as unmanaged sub-divisions.	5A, 5B, 5E, 4D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	4	a	Wetlands Remaining Wetlands	Emissions from peatland undergoing peat extraction and from flooded land remaining flooded land.	5A, 5D, 5E, 4D	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3	B	4	a i	*Peatlands Remaining peatlands*	Includes (1) on-site emissions from peat deposits during the extraction phase and (2) off-site emissions from horticultural use of peat. The off-site emissions from the energy use of peat are reported in the Energy Sector and are therefore not included in this category.	5A, 5E, 4D	CO_2, CH_4 N_2O, NOx, CO, NMVOC, SO_2
3	B	4	a ii	*Flooded Land Remaining Flooded Land*	Emissions from flooded land remaining flooded land. Flooded lands are defined as water bodies where human activities have caused changes in the amount of surface area covered by water, typically through water level regulation. Examples of flooded lands include reservoirs for the production of hydroelectricity, irrigation, navigation, etc. Regulated lakes and rivers that have not experienced substantial changes in water area in comparison with the pre-flooded ecosystem are not considered as flooded lands. Some rice paddies are cultivated through flooding of land, but because of the unique characteristics of rice cultivation, rice paddies are addressed in 3C7.	5A, 5E	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
3 B 4 b Land Converted to Wetlands	Emissions from land being converted for peat extraction from land converted to wetland.	5B, 5E	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 4 b i *Land Converted for Peat Extraction*	Emissions from land being converted for peat extraction.	5B, 5E	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 4 b ii *Land Converted to Flooded Land*	Emissions from land converted to flooded land.	5B, 5E	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 4 b iii *Land Converted to Other Wetlands*	Emissions from land converted to other wetlands than flooded land and land for peat extraction.	5E	CO_2, CH_4 N_2O, NO_x, CO, NMVOC, SO_2
3 B 5 *Settlements*	Emissions and removals from all developed land, including transportation infrastructure and human settlements of any size, unless they are already included under other categories. This should be consistent with national definitions.	5A, 5D, 5E, 5B	CO_2
3 B 5 a Settlements Remaining Settlements	Emissions and removals from settlements that have not undergone any land use change during the inventory period.		CO_2
3 B 5 b Land Converted to Settlements	Emissions and removals from lands converted to settlements. Includes conversion of forest land, cropland, grassland, wetlands, and other land to settlements.		CO_2
3 B 5 b i *Forest Land Converted to Settlements*	Emissions and removals from forest land converted to settlements.		CO_2
3 B 5 b ii *Cropland Converted to Settlements*	Emissions and removals from cropland converted to settlements.		CO_2
3 B 5 b iii *Grassland Converted to Settlements*	Emissions and removals from grassland converted to settlements.		CO_2
3 B 5 b iv *Wetlands Converted to Settlements*	Emissions and removals from wetlands converted to settlements.		CO_2
3 B 5 b v *Other Land Converted to Settlements*	Emissions and removals from other land converted to settlements.		CO_2
3 B 6 *Other Land*	Emissions and removals from bare soil, rock, ice, and all unmanaged land areas that do not fall into any of the other five categories. It allows the total of identified land areas to match the national area, where data are available.		CO_2
3 B 6 a Other Land Remaining Other Land	Emissions and removals from other land that has not undergone any land use change during the inventory period.		CO_2
3 B 6 b Land Converted to Other Land	Emissions and removals from lands converted to other land. Includes conversion of forest land, cropland, grassland, wetlands, and settlements to other land.		CO_2
3 B 6 b i *Forest Land Converted to Other Land*	Emissions and removals from forest land converted to other land.		CO_2
3 B 6 b ii *Cropland Converted to Other Land*	Emissions and removals from cropland converted to other land.		CO_2
3 B 6 b iii *Grassland Converted to Other Land*	Emissions and removals from grassland converted to other land.		CO_2
3 B 6 b iv *Wetlands Converted to Other Land*	Emissions and removals from wetlands converted to other land.		CO_2
3 B 6 b v *Settlements Converted to Other Land*	Emissions and removals from settlements converted to other land.		CO_2

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name	Definition	96 GLs Category Code	Gases
3 C **Aggregate Sources and Non-CO_2 Emissions Sources on Land**	Includes emissions from activities that are likely to be reported at very high aggregation land level or even country level.		
3 C 1 *Emissions from Biomass Burning*	Emissions from biomass burning that include N_2O and CH_4. CO_2 emissions are included here only if emissions are not included in 3B categories as carbon stock changes.		N_2O, CH_4, CO_2*
3 C 1 a Biomass Burning in Forest Land	Emissions from biomass burning that include N_2O and CH_4 in forest land. CO_2 emissions are included here only if emissions are not included in 3B1 categories as carbon stock changes.		N_2O, CH_4, CO_2*
3 C 1 b Biomass Burning in Cropland	Emissions from biomass burning that include N_2O and CH_4 in cropland. CO_2 emissions are included here only if emissions are not included in 3B2 categories as carbon stock changes.		N_2O, CH_4, CO_2*
3 C 1 c Biomass Burning in Grassland	Emissions from biomass burning that include N_2O and CH_4 in grassland. CO_2 emissions are included here only if emissions are not included in 3B3 categories as carbon stock changes.		N_2O, CH_4, CO_2*
3 C 1 d Biomass Burning in All other lands	Emissions from biomass burning that include N_2O and CH_4 in settlements, wetlands and other land. CO_2 emissions are included here only if emissions are not included in 3B6 categories as carbon stock changes.		N_2O, CH_4, CO_2*
3 C 2 *Liming*	CO_2 emissions from the use of lime in agricultural soils, managed forest soils or lakes.		CO_2
3 C 3 *Urea Application*	CO_2 emissions from urea application.		CO_2
3 C 4 *Direct N_2O Emissions from Managed Soils*	Direct N_2O emissions from managed soils from the synthetic N fertilizers application; organic N applied as fertilizer (e.g. animal manure, compost, sewage sludge, rendering waste); urine and dung N deposited on pasture, range and paddock by grazing animals; N in crop residues (above and below ground), including from N-fixing crops and from forages during pasture renewal; N mineralization/immobilization associated with loss/gain of soil organic matter resulting from change of land use or management of mineral soils; and drainage/management of organic soils (i.e., histosols).	4D	N_2O
3 C 5 *Indirect N_2O Emissions from Managed Soils*	Indirect N_2O emissions from: (1) the volatilization of N (as NH_3 and NO_x) following the application of synthetic and organic N fertilizers and /or urine and dung deposition from grazing animals, and the subsequent deposition of the N as ammonium (NH_4+) and oxides of N (NO_x) on soils and waters, and (2) the leaching and runoff of N from synthetic and organic N fertilizer additions, crop residues, mineralization /immobilization of N associated with loss/gain of soil C in mineral soils through land use change or management practices, and urine and dung deposition from grazing animals, into groundwater, riparian areas and wetlands, rivers and eventually the coastal ocean.	4D	N_2O
3 C 6 *Indirect N_2O Emissions from Manure Management*	Indirect N_2O emissions from manure management (activity data amount of nitrogen in the manure excreted).		N_2O
3 C 7 *Rice Cultivation*	Methane (CH_4) emissions from anaerobic decomposition of organic material in flooded rice fields. Any N_2O emissions from the use of nitrogen-based fertilizers in rice cultivation should be reported under N_2O emissions from managed soils.	4C	CH_4
3 C 8 *Other (please specify)*	Other sources of CH_4 and N_2O emissions on land.		N_2O, CH_4
3 D **Other**			
3 D 1 *Harvested Wood Products*	CO_2 net emissions or removals resulting from Harvested Wood Products.		CO_2
3 D 2 *Other (please specify)*			

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name			Definition	96 GLs Category Code	Gases
4		**WASTE**			CO_2, CH_4, N_2O, NO_x, CO, NMVOC SO_2
4	A	**Solid Waste Disposal**	Methane is produced from anaerobic microbial decomposition of organic matter in solid waste disposal sites. Carbon dioxide (CO_2) is also produced but CO_2 from biogenic or organic waste sources is covered by the AFOLU Sector. Emissions of halogenated gases should be accounted in IPPU. Long-term storage of carbon in SWDS is reported as an information item.	6A	CH_4 N_2O, NO_x, CO, NMVOC
4	A 1	*Managed Waste Disposal Sites*	A managed solid waste disposal site must have controlled placement of waste (i.e. waste directed to specific deposition areas, a degree of control of scavenging and fires) and will include at least one of the following: cover material; mechanical compaction; or levelling of the waste. This category can be subdivided into aerobic and anaerobic.	6A1	CH_4 N_2O, NO_x, CO, NMVOC
4	A 2	*Unmanaged Waste Disposal Sites*	These are all other solid waste disposal sites that do not fall into the above category. This category can be subdivided into deep and shallow.	6A2	CH_4 N_2O, NO_x, NMVOC
4	A 3	*Uncategorised Waste Disposal Sites*	Mixture of above 4A1 and 4A2. Countries that do not have data on division of managed/unmanaged may use this category.	NA	CH_4 N_2O, NO_x, NMVOC
4	B	**Biological Treatment of Solid Waste**	Solid waste composting and other biological treatment. Emissions from biogas facilities (anaerobic digestion) with energy production are reported in the Energy Sector (1A4).	6A3	CH_4, N_2O NO_x, CO, NMVOC
4	C	**Incineration and Open Burning of Waste**	Thermal treatment technology of waste include incineration, pyrolysis, gasification and open burning waste, not including waste-to-energy facilities. Emissions from waste burnt for energy are reported under the Energy Sector, 1A. Emissions from burning of agricultural wastes should be reported under AFOLU (3C1). All non-CO_2 greenhouse gases as well as CO_2 from fossil waste should be reported here for incineration and open burning.	6C	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
4	C 1	*Waste Incineration*	Combustion of solid wastes in controlled incineration, pyrolysis and gasification facilities.	6C	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
4	C 2	*Open Burning of Waste*	Combustion of waste in the open-air or in an open dump.	NA	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
4	D	**Wastewater Treatment and Discharge**	Methane is produced from anaerobic decomposition of organic matter by bacteria in sewage collection and treatment facilities and from food processing and other industrial facilities during wastewater treatment. N_2O is also produced by bacteria (denitrification and nitrification) in wastewater treatment and discharge.	6B	CH_4, N_2O NO_x, CO, NMVOC
4	D 1	*Domestic Wastewater Treatment and Discharge*	Treatment and discharge of liquid wastes and sludge from housing and commercial sources (including human waste) through: wastewater sewage collection and treatment systems, open pits/latrines, constructed wetlands, anaerobic lagoons, anaerobic reactors and discharge into surface waters. Emissions from sludge disposed at SWDS are reported under category 4A.	6B2	CH_4, N_2O NO_x, CO, NMVOC
4	D 2	*Industrial Wastewater Treatment and Discharge*	Treatment and discharge of liquid wastes and sludge from industrial processes such as: food processing, textiles, or pulp and paper production. This includes aerobic biological treatment systems, anaerobic lagoons, anaerobic reactors, and discharge into surface waters. Industrial wastewater released into domestic wastewater sewage should be included under 4D1.	6B1	CH_4, N_2O NO_x, CO, NMVOC

TABLE 8.2 (UPDATED) (CONTINUED)
CLASSIFICATION AND DEFINITION OF CATEGORIES OF EMISSIONS AND REMOVALS

Category Code and Name			Definition	96 GLs Category Code	Gases
4	E	**Other (please specify)**	Release of GHGs from other waste handling activities than listed in categories 4A to 4D.	6D	CO_2, CH_4, N_2O, NO_x, CO, NMVOC
5	**Other**			7	
5	A	Indirect N_2O Emissions from the Atmospheric Deposition of Nitrogen in NO_x and NH_3	Excluding indirect emissions from NO_x and NH_3 in agriculture which are reported in 3C5 & 3C6.	NA	N_2O
5	B	Other (please specify)	Only use this category exceptionally, for any categories than cannot be accommodated in the categories described above. Include a reference to where a detailed explanation of the category can be found.	7	

(1) Under the *2006 IPCC Guidelines and its 2019 Refinement*, emissions from the use of carbonates should be reported in the subcategories (industries) where they occur. Therefore, part of emissions that were reported in 2A3 or 2A4 under the *Revised 1996 IPCC Guidelines* should be reported in various relevant subcategories (for example 2C1) under the *2006 IPCC Guidelines*. In this column of this table, however, the 96GLs Category Code 2A3 and 2A4 are entered not everywhere possibly relevant, for the sake of simplicity.

Note: NA or blank cells under the column '96 GLs category code': categories that are not defined in *Revised 1996 IPCC Guidelines*.

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