**Templates for Method and data documentation**

**Staff member responsible for populating the template - Contact Information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name:** |  | **Organization name:** |  |
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***Introduction to Template 3. Methods and Data Documentation***

The purpose of this template is to help inventory compilers document and report the methodologies, datasets (e.g., activity data and emission factors), and assumptions used to estimate emissions and removals from each category in accordance with the 2006 IPCC Guidelines and good practice. This template facilitates compiling disaggregated data encouraged in current reporting requirements (e.g., Biennial Update Report). Compiling disaggregated data will be required in future reporting (i.e., under the Enhanced Transparency Framework[[1]](#footnote-1) for National GHG Inventories) to the United National Framework Convention on Climate Change (UNFCCC). Use of the Methods and Data Documentation (MDD) template will:

* + help current inventory compilers in drafting a National Inventory Report;
  + support future inventory compilers in their compilation effort as they will be able to better understand previously used data, and data collection approaches and methodologies, thus increasing compilation efficiency and consistency; and
  + allow users to reproduce past estimates, increasing the transparency of reporting, which can be particularly valuable for peer review processes.

Inventory compilers/Sector or category leads (see roles documented in Template 2. Institutional Arrangements), with the support of other key inventory team members as required, are encouraged to complete this template for all categories included in the inventory.

To complete this template and document your methodology, activity data, and emission factors or stock change factors for each emission or removal category, carry out the steps listed below by following the instructions above each table in this template.

**When the tables are complete, delete the green text throughout this template.**

**Step 1: Complete one set of Tables 3-1 for each source or sink category.**

**Category 1: [Insert category sector, code, and name, e.g., “Energy: 1A1 Energy Industries”]**

1. **General information**

|  |  |  |  |
| --- | --- | --- | --- |
| **Key category in the previous GHG inventory:**  ***Record Yes or No*** |  | | |
| **Greenhouse gases and tiers, as reported in the previous inventory:** | | | |
| ***Gases reported*** | ***Key category***  *Record Yes if the GHG named at left was a key category. Otherwise, record No.* | ***Activity data Tier***  *Record the tier level used for activity data.*  *Example: Tier 1, 2, or 3* | ***Emission factor Tier***  *Record the tier level relating to the emission factor. Example: Country-specific, or default factor* |
|  |  |  |  |
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|  |  |  |  |
| **Category description/definition:**  *Record the (sub)category description in line with the 2006 IPCC Guidelines and a clear reference to the section or table in the 2006 IPCC Guidelines.*  *Example: 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. (Source: Volume 2, Energy, Mobile Combustion, Table 3.1.1 https://www.ipcc-nggip.iges.or.jp/public/2006Guidelines/pdf/2\_Volume2/V2\_3\_Ch3\_Mobile\_Combustion.pdf)* | | | |
|  | | | |

1. **Methodology**

|  |  |
| --- | --- |
| **Greenhouse gas:**  *Record the specific gas or gases to which the below methodology relates. Example: CH4* |  |
| **Equation and parameters:**  *Present the equation for the estimation of emissions/removals under this category and describe variables and describe its key parameters. Where several equations apply or equations are complex, a reference to the source complemented by any relevant assumptions about its application will suffice. Example: First order decay model as in Equation 3.1 of Chapter 3 of Volume 5 (Waste) of the 2006 IPCC Guidelines using default activity data and default parameters. Assumptions: No CH4 capture takes place* |  |
| **Reference:**  *List the source of the equation, including full title, chapter, and page number/equation number. Example: Equation 3.1 of Chapter 3 of Volume 5 (Waste) of the 2006 IPCC Guidelines.* |  |
| **How and why this method was chosen:**  *Describe why this methodology is most appropriate for your country and how it was chosen. Appropriateness should be based on the IPCC decision trees, including considerations like data availability and cost-effectiveness. Describe the institutions/departments involved in the choice. Example: There is very little information on historical waste disposal amounts and waste composition available, therefore, a Tier 1 approach was chosen, allowing the use of default factors.* |  |

1. **Activity data general information and values**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Type of Activity data:**  ***Example: Clinker produced*** | | |  | | | | | | | |
| **Reporting unit:**  *This should be the unit in which the data are reported for estimating emissions/removals. Example: metric tons.* | | |  | | | | | | | |
| **Appropriateness to national circumstances:**  *State how these specific activity data were chosen. Example: The National Cement Association compiles production data from all of its members.* | | |  | | | | | | | |
| **Time series covered:**  *Record the years for which the activity data are available. Example: 2001-2013* | | |  | | | | | | | |
| **Reference (if applicable):**  *If the activity data are from a publication* | | |  | | | | | | | |
| **Date of provision:**  *Record the date of receipt of the activity data. Example: August 29, 2016* | | |  | | | | | | | |
| **Source of data:**  *Record the source of the activity data, e.g. the institution and department that provided it. Example: National Cement Association* | | |  | | | | | | | |
| **Contact details:**  *Record the name, email address, and phone number of the contact person at the entity which provided the data.* | | |  | | | | | | | |
| **Basis for data provision:**  *State the basis upon which data are provided, e.g., voluntary provision, legal requirement, data sharing agreement, or a memorandum of cooperation or understanding.* | | |  | | | | | | | |
| **Coverage:**  *State whether the activity data cover all emissions or removals in the category. Example: The national cement association claims to cover all clinker production at the national level.* | | |  | | | | | | | |
| **Adjustments applied to activity data:**  *Explain any adjustments applied to the original activity data received from the data source to make it usable for the calculation, e.g., unit conversion or gap-filling. Example: The data were provided in kg and recalculated to t.* | | |  | | | | | | | |
| **Activity data values:** | | | | | | | | | | |
| **2001** | **2002** | **2003** | | **2004** | **2005** | | **2006** | **2007** | **2008** | **2009** |
|  |  |  | |  |  | |  |  |  |  |
| **2010** | **2011** | **2012** | | **2013** | **2014** | | **2015** | **2016** | **2017** | **2018** |
|  |  |  | |  |  | |  |  |  |  |
| **2019** | **2020** | **2021** | | **2022** |  | |  |  |  |  |
|  |  |  | |  |  | |  |  |  |  |
| **The activity data values in the rows above are derived from the files listed here:** | | | | | | *List all files from which the activity data values above come, and indicate where these files are located, and whom to contact in order to access these files.* | | | | |

1. **Emission factors/carbon stock change factors (EF/SCF) general information**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Emission Factors (EF):** | *The direct GHG emission estimates are computed using the IPCC default emission factors.*   |  |  |  |  | | --- | --- | --- | --- | | **Emission factor for Fuel** | **CO2  (kg CO2/TJ)** | **CH4  (kg CO2/TJ)** | **N2O  (kg CO2/TJ)** | | **[edit]** |  |  |  | |
| **Reference:**  *Example: Table 2.2: Default Emission Factors for Stationary Combustion in the Energy Industries, Page 2.16, Chapter 2, Volume 1 (Energy)* |  |

**Step 2: Complete Table 3-2 to document improvement options for methodologies and data.**

Table 3-2 below provides a list of suggested improvements on a category-by-category basis. These improvements will be incorporated into the national inventory improvement plan (see Template 7).

**Table 3‑5. Improvement options related to methodologies and data**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Improvement No. | Category sector  Example: Energy, AFOLU, IPPU, or Waste | Category code and name  Example: 1A3Bi Cars | Key category in the previous GHG inventory:  Record Yes or No | Relevant GHG inventory principle  Example: Transparency, Accuracy, Completeness, Consistency, or Comparability | Potential Improvement  Record in detail what the improvement entails, i.e. what will be changed and what impact this will have. Example: Replace proxy activity data (projected clinker production) with actual time series activity data collected from a recently completed industrial sector survey covering years 2012-2018. |
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| 9 |  |  |  |  |  |
| 10 |  |  |  |  |  |

1. See 18/CMA.1, Modalities, Procedures and Guidelines (MPGs), Annex Chapter II, Section A. Definitions, [Section B. National Circumstances and institutional arrangements, Section C. Methods, and Section E. Reporting guidance](https://unfccc.int/sites/default/files/resource/CMA2018_03a02E.pdf) for National Greenhouse Gas Inventory Report (available at http://unfccc.int/decisions). [↑](#footnote-ref-1)