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Hands-on Training

ETF GHG Inventory Reporting Tool

Nashib Kafle

Transparency Division

UNFCCC Secretariat

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Agenda

- Introduction
  - Reporting requirements under the Paris Agreement
  - Common Reporting Tables (CRT)
  - Development of the ETF Reporting Tools
- Hands-on Training on ETF GHG Inventory Reporting Tool
- Interoperability with IPCC Software
- Participants' interaction and question/answers
- Future implementation

Scan the QR code for exercise guide

https://unfccc.int/documents/632417

Session background and objectives

Training session

- **ETF GHG Inventory Reporting Tool** for common reporting tables (CRT) for the electronic reporting of the information in the national inventory reports of anthropogenic emissions by sources and removals by sinks of greenhouse gases
- Hands-on training session to provide a practical experience of the use of the tool and its features

Background

At the end of the training session, the participants will be able to:

- ✓ Access to the ETF Reporting Tools
- ✓ Get familiar with the user interface
- ✓ Create a new inventory version
- ✓ Specify/Edit version settings
- ✓ View and access all inventory versions
- ✓ Customize the categories to report
- ✓ Add and modify data in the application
- ✓ Export/import of data entry grids in Excel
- ✓ Working with Comments and NK explanation
- ✓ Generate/download common reporting tables
- ✓ Work with JSON and interoperability with IPCC Software

Objective

Introduction

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Reporting requirement for GHG Inventories under Paris Agreement

Article 13 of the Paris Agreement

National inventory report (NIR) of GHG emissions

7. **Each Party shall** regularly provide the following information:

(a) A **national inventory report** of anthropogenic emissions by sources and removals by sinks of greenhouse gases, prepared using good practice methodologies accepted by the Intergovernmental Panel on Climate Change and agreed upon by the Conference of the Parties serving as the meeting of the Parties to this Agreement;

Decision 18/CMA.1, Annex, Chapter II

National inventory document (NID) and Common reporting tables (CRT)

38. Pursuant to Article 13, paragraph 7(a), of the Paris Agreement, **each Party shall** provide a **national inventory report** of anthropogenic emissions by sources and removals by sinks of GHGs. The national inventory report consists of a **national inventory document** and the **common reporting tables**. Each Party shall report the information referred to in paragraphs 39–46 below, recognizing the associated flexibilities provided for those developing country Parties that need them in the light of their capacities.

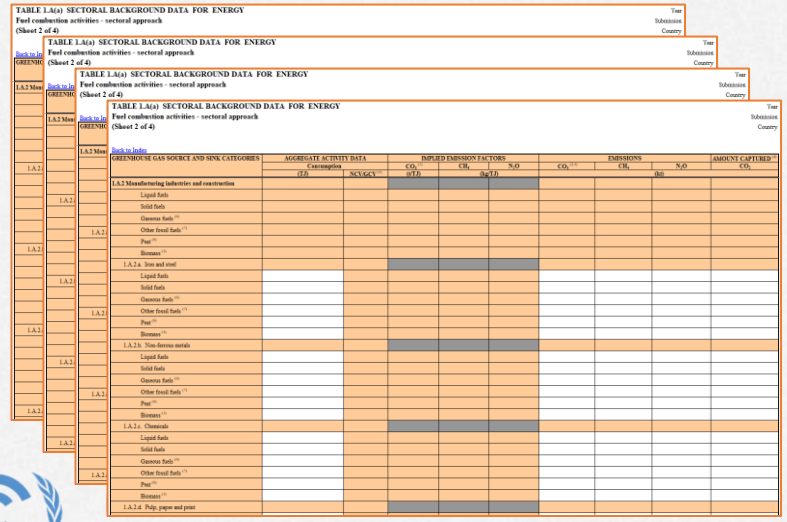
Decision 5/CMA.3

1. **Adopts**:

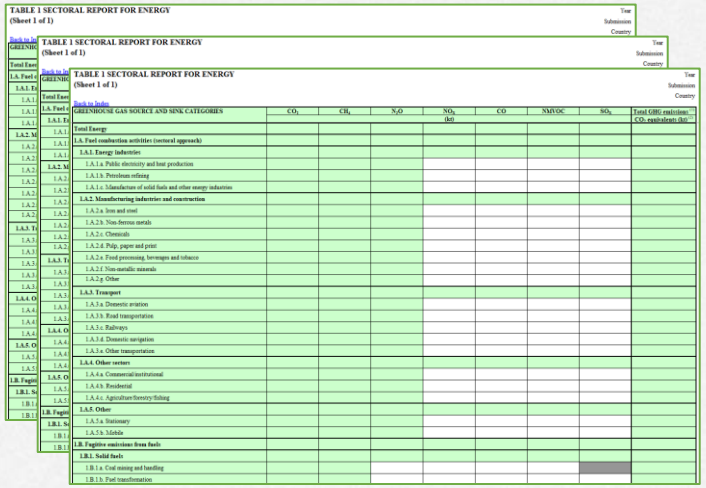
(a) The **common reporting tables** referred to in chapter II of the annex to decision 18/CMA.1 for the electronic reporting of the information in the national inventory reports of anthropogenic emissions by sources and removals by sinks of greenhouse gases, as contained in annex I;

Common Reporting Tables (CRT)

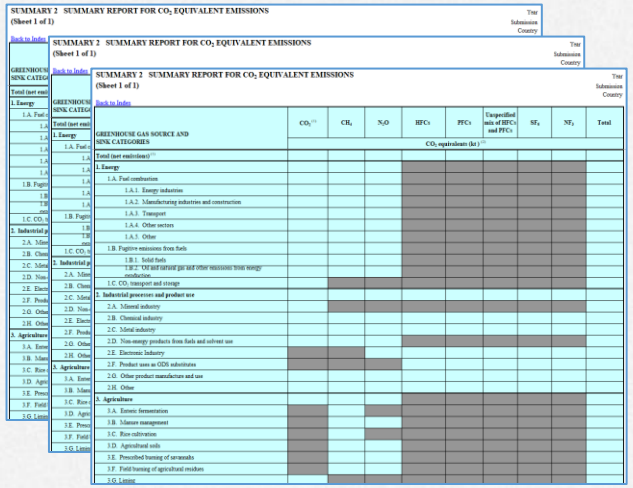
- Prepared for the electronic reporting of information in the NIR of anthropogenic emissions by sources and removals sinks of GHGs
- Set of MS Excel workbook (containing 60 worksheets) for each reported year
- There are three types of tables for each year
  - Sectoral Background Tables (white/orange cells) – Need to fill data at this layer
  - Sectoral Report Tables (green cells) – Automatically generated
  - Summary Tables/Cross-sectoral Tables (blue cells) – Automatically generated



Sectoral Background Tables



Sectoral Report Tables



Summary / Cross-sectoral / Trends Tables

CRT structure

1. Energy

Sectoral background tables

Table1.A(a)s1
Table1.A(a)s2
Table1.A(a)s3
Table1.A(a)s4
Table1.A(b)
Table1.A(c)
Table1.A(d)
Table1.B.1
Table1.B.2
Table1.C
Table1.D

Sectoral report table

Table1

2. IPPU

Sectoral background tables

Table2(I).A-H
Table2(II).B-Hs1
Table2(II).B-Hs2

Sectoral report table

Table2(I)
Table2(II)

3. Agriculture

Sectoral background tables

Table3.A
Table3.B(a)
Table3.B(b)
Table3.C
Table3.D
Table3.E
Table3.F
Table3.G-J

Sectoral report table

Table3

4. LULUCF

Sectoral background tables

Table4.1
Table4.A
Table4.B
Table4.C
Table4.D
Table4.E
Table4.F
Table4(I)
Table4(II)
Table4(III)
Table4(IV)
Table4.Gs1
Table4.Gs2

Sectoral report table

Table4

5. Waste

Sectoral background tables

Table5.A
Table5.B
Table5.C
Table5.D

Sectoral report table

Table5

Summary tables

Summary1
Summary2
Summary3

Cross-cutting tables

Table6
Table7
Table8s1
Table8s2
Table9
Flex_Summary

Trend tables

Table10s1
Table10s2
Table10s3
Table10s4
Table10s5
Table10s6

Level 3

Level 2

Level 1

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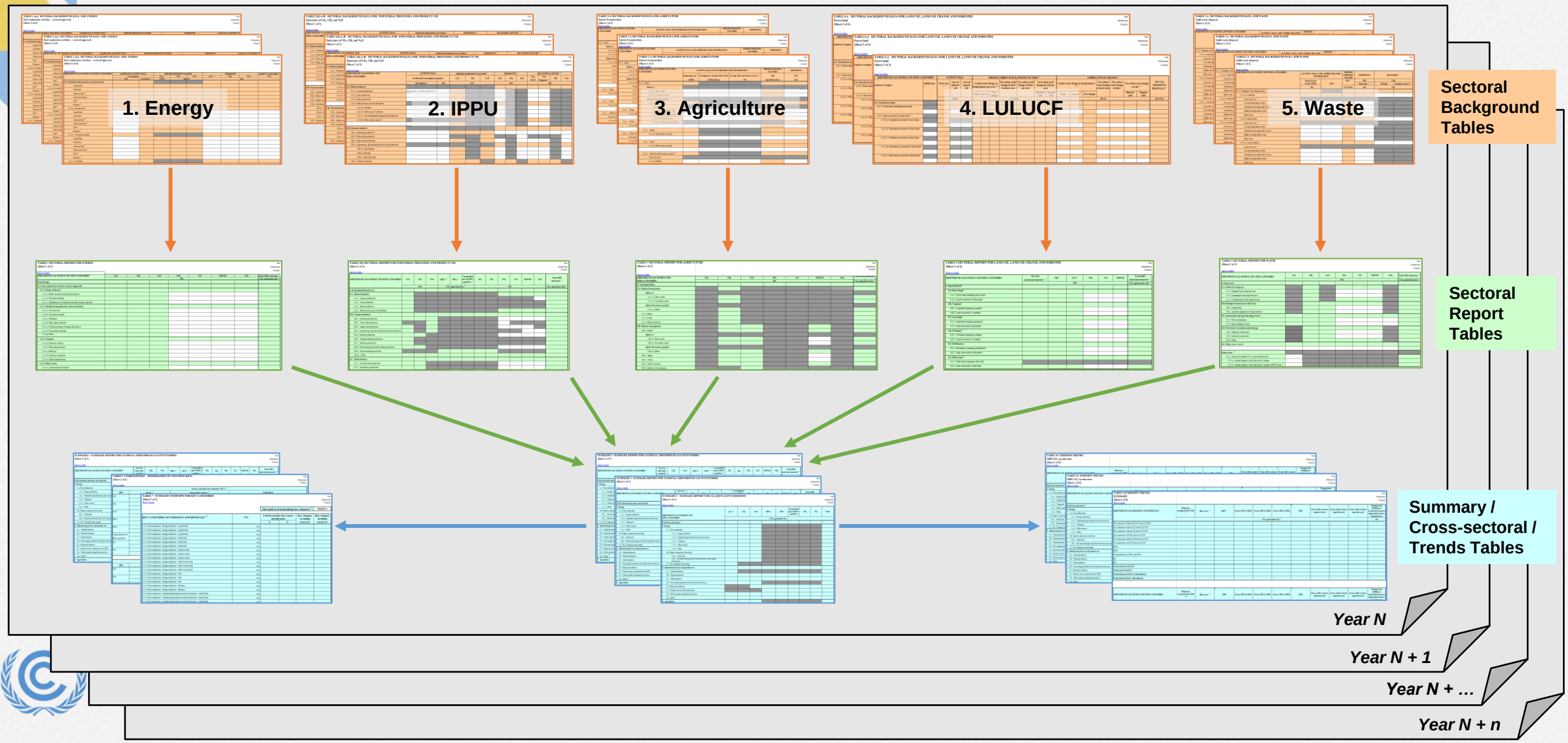
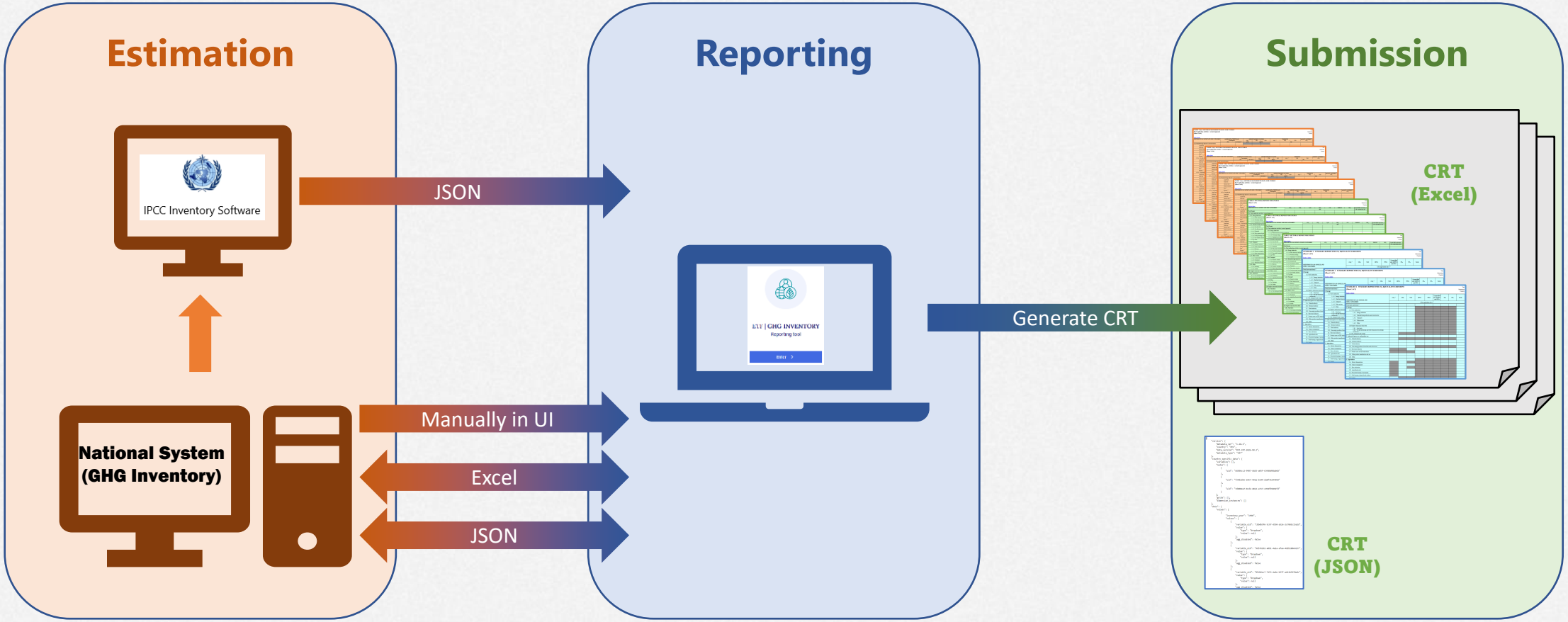
CRT worksheets



GHG inventory workflow



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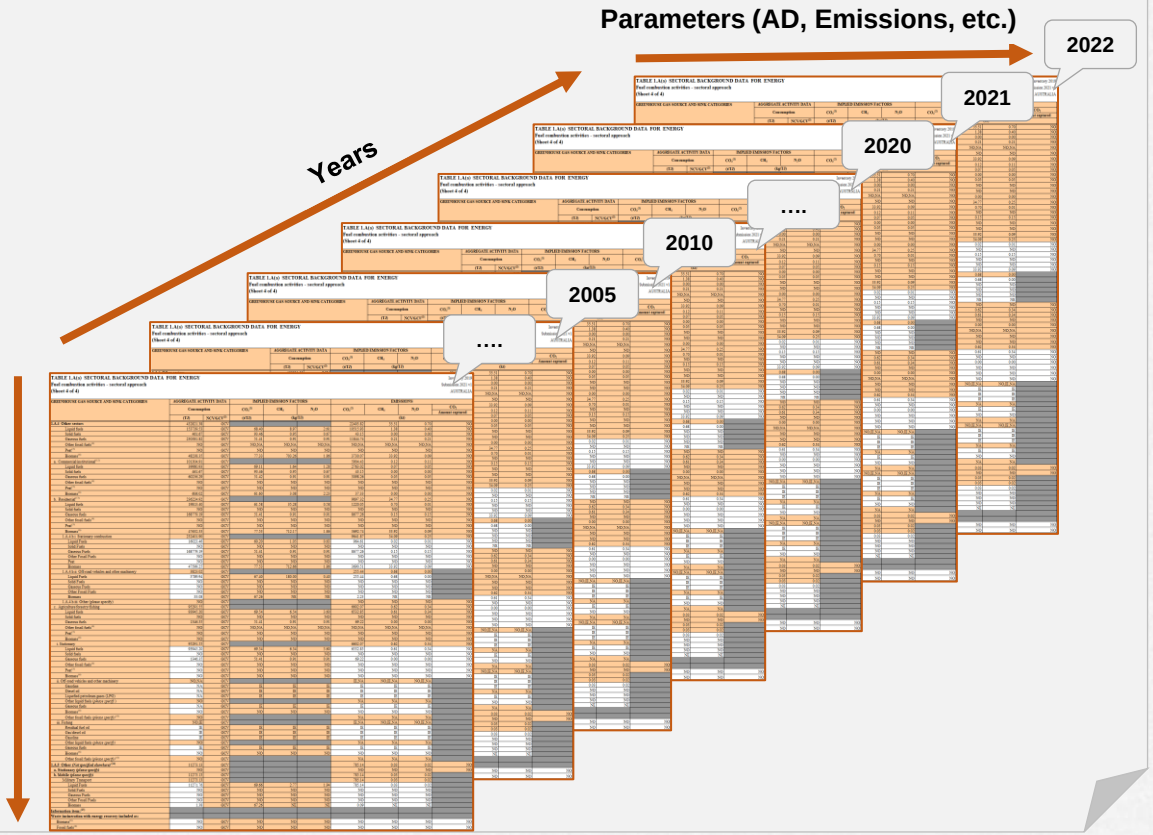
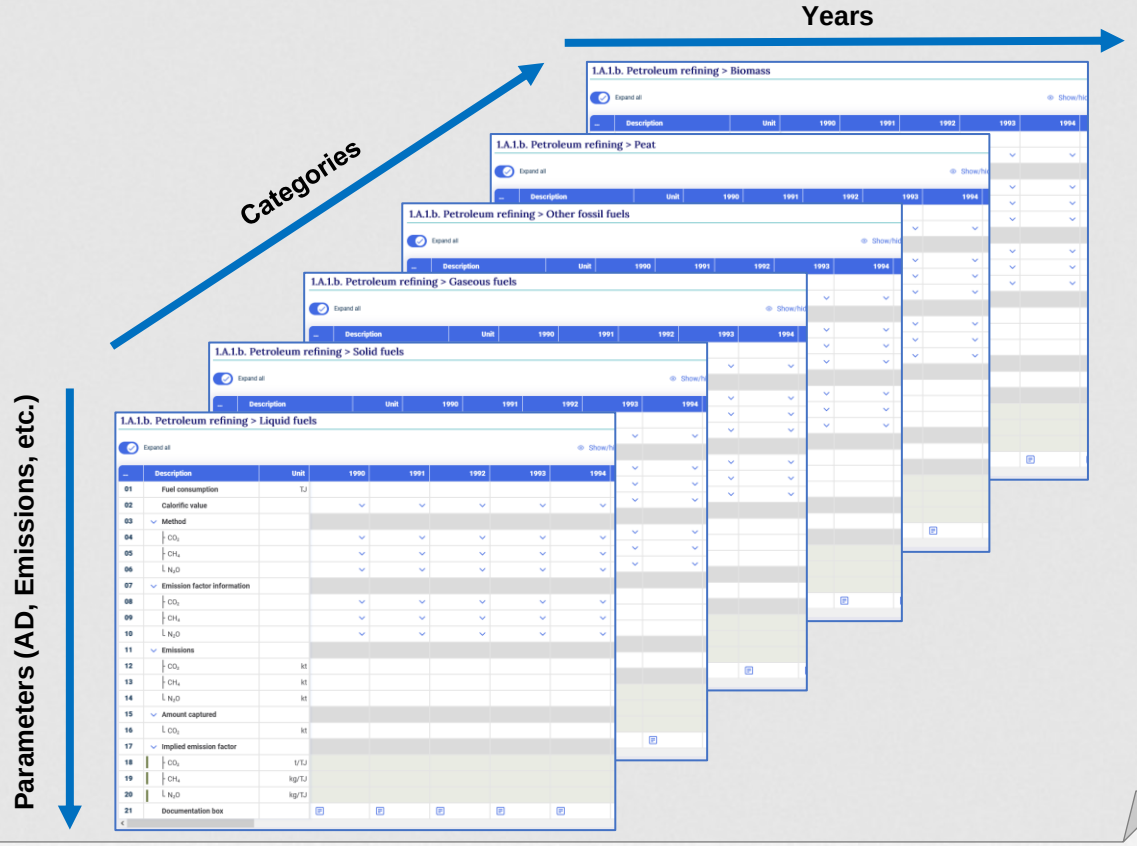
Common Reporting Tables and Data entry grids

Data entry grids have categories for all sectors arranged in navigation tree and allows to enter data for the whole time series for a selected category. The data from the data entry grids are mapped to the CRTs on an annual basis when you generate/download the reporting tables.

Common Reporting Tables – Annual basis



Data entry grids – Category basis



Hands-on Training

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Housekeeping rules for the training

1. For this training session, **access is provided to the training version** of the GHG Inventory Reporting tool.

2. The secretariat will demonstrate the features of the GHGI Reporting tool. **During the demonstration, please refrain from using the tool.**

3. **Please start working on the exercise only when you are asked to do so**. Sufficient time will be allotted to perform exercises.

4. **Please feel free to ask questions** while performing the exercises.

5. Please **DO NOT** use the training version of the ETF Reporting Tools to begin your GHG inventory submission.

Use of icons in the presentation

This icon denotes that the box contains useful information.

This icon signifies that there will be a hands-on exercise on a particular feature of the GHG Inventory Reporting Tool. Each exercise is associated with a number. e.g., E1

The slide with this icon is for information. The feature will be demonstrated during the training, but there will not be any corresponding exercise.

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Scan the QR code for exercise guide

- ❑ Go to the web link

https://etf-ghg-training.unfccc.int

- ❑ Enter your email address (registered for this training) and click on **Next**
- ❑ Click on **Send Code**
- ❑ Check your **email** for the **verification code**
- ❑ In the log-in window, **enter the code** and click on **Sign-in**

List of exercise for the training

- **Exercise 1**: Creating an inventory version and specifying version settings
- **Exercise 2**: Customizing navigation tree (categories for reporting)
- **Exercise 3**: Data entry (manual data entry)
- **Exercise 4**: Data entry (Excel export/import)
- **Exercise 5**: Editing version setting(s)
- **Exercise 6**: Working with comments, NK explanations
- **Exercise 7**: Generation/download of reporting tables
- **Exercise 8**: Working with JSON and interoperability with IPCC Software

ETF Reporting Tools login

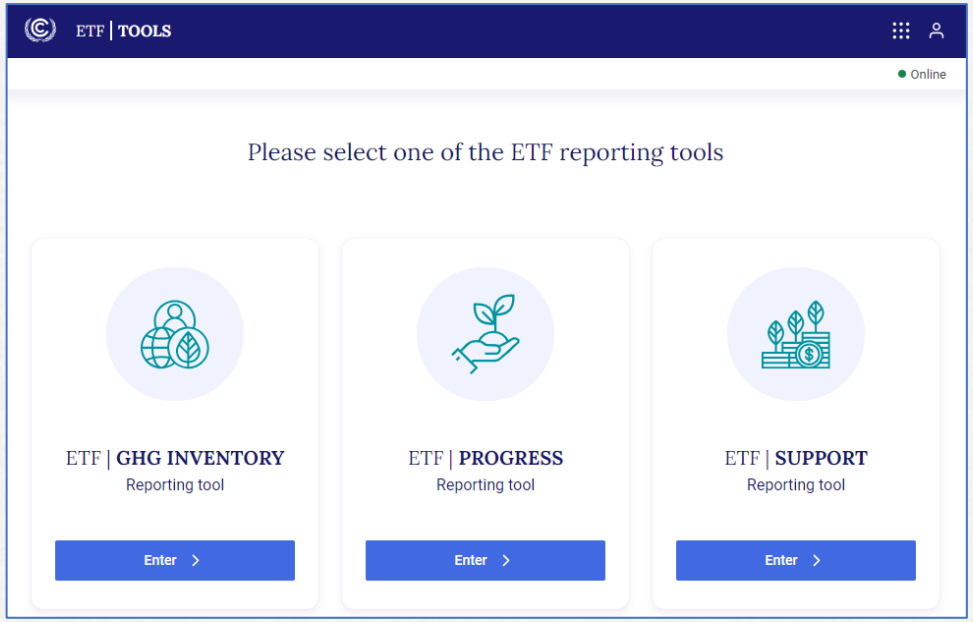
- Weblink to access the ETF Reporting Tools

  https://etf-ghg-training.unfccc.int

- Login in details

  Username: [Email address (registered for this training)]

  Follow on-screen instruction to get the code in your email



!!! UNFCCC will provide username and password if you do not have one yet. It can be only used during the training.!!!

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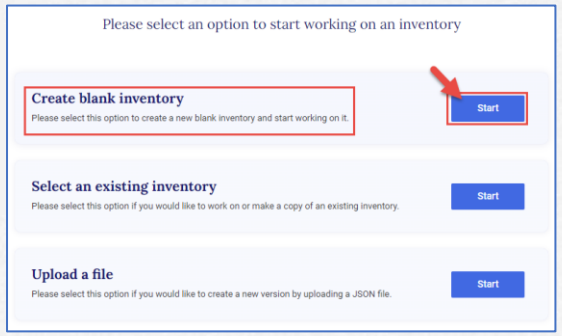
Creating an inventory and version settings (1/2)

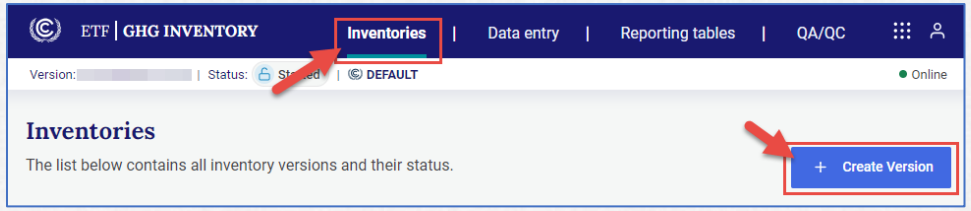
E1

1. Click **"Enter"** on the **"ETF | GHG INVENTORY Reporting tool"** tile.
2. Click on "**Start**" in the **"Create blank inventory"** tile.

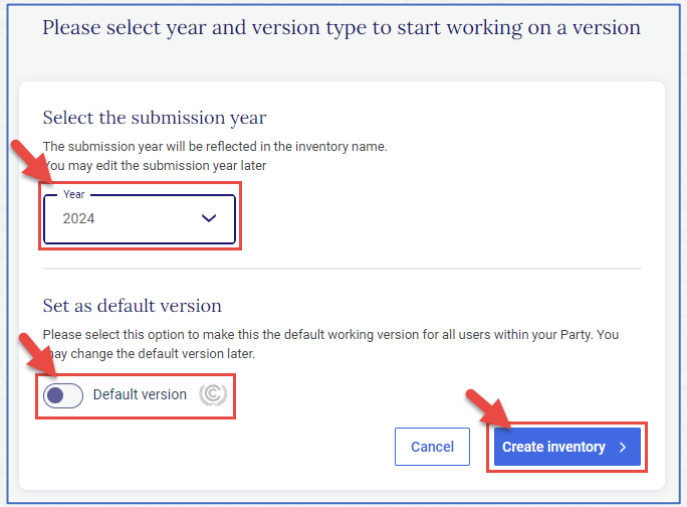


*If you are in the **"Data entry"** tab*

1. *Click on the **"Inventories"** tab*
2. *Click on **"+ Create version"** and follow the steps above.*



3. Select **"Year"** for which you want to submit the inventory.
4. Toggle on "**Default version**" to make this the default working version for all users within your Party.
5. Click **"Create Inventory >"**



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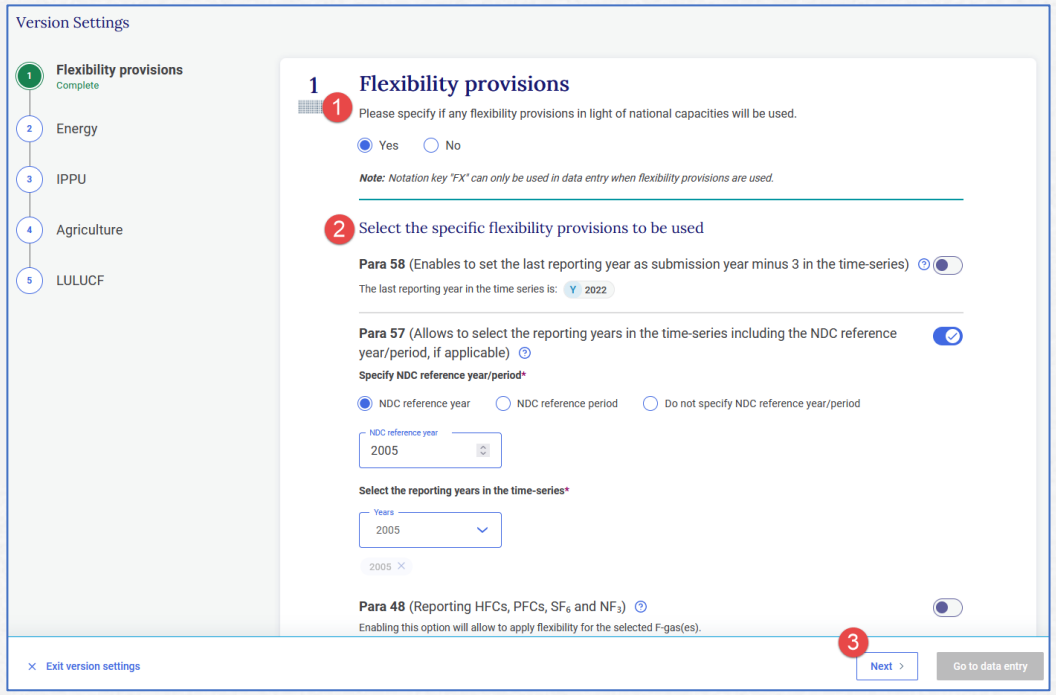
Creating an inventory and version settings (2/2)

E1

1. Select **“No”** if your Party does not want to apply flexibility provisions.
2. Select **“Yes”** if your Party wants to apply flexibility provisions, and you can select the specific flexibility provisions.
3. Click on **“Next”** until you complete all version settings
4. At the end of version settings, you can enter the **“Data entry”** page



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Flexibility provisions

Flexibility provisions (Annex to decision 18/CMA.1)	Flexibility provisions for those developing country Parties that need it in the light of their capacities.
Para. 25 (Key category analysis)	Identify key categories using a threshold no lower than 85 per cent (instead of 95 per cent)
Para. 29 (Uncertainty assessment)	Provide qualitative discussion of uncertainty for key categories both latest inventory year/ trend, instead of quantitatively estimating and qualitatively discussing uncertainty for all categories for at least the starting year and the latest reporting year and the trend.
Para. 32 (Insignificance threshold)	Consider emissions insignificant if the likely level of emissions is below 0.1 per cent of total GHG emissions, excluding LULUCF, or 1,000 kt CO2 eq, whichever lower (as opposed to 0.05 per cent or 500 kt CO2 eq). Total emissions for all gases from categories considered insignificant shall remain below 0.2 % total GHG emissions, excluding LULUCF, as opposed to 0.1 per cent.
Para. 34 (QA/QC plan)	Encouraged to elaborate an inventory QA/QC plan including information on the inventory agency responsible for implementing QA/QC (as opposed to a requirement to develop a QA/QC plan).
Para. 35 (QC procedures)	Encouraged to implement and provide information on general inventory QC procedures in accordance with their QA/QC plan (as opposed to required to implement and provide information).
Para. 48 (Reporting F-gases)	Report at least 3 gases (CO2, CH4, and N2O). Also, any of the 4 gases (HFCs, PFCs, SF6, and NF3) included in NDC under Art. 4 or that are covered by activity under Article 6 or have been previously reported (as opposed to reporting all 7 gases)
Para. 57 (Annual time series years)	Report data covering the reference year/period for the NDC and, in addition, a consistent annual time series from at least 2020 onward (as opposed to reporting a continuous time series from 1990 onwards).
Para. 58 (Last year in time series)	The latest reporting year shall be no more than 3 years prior to submission of the inventory (as opposed to no more than 2 years for all other Parties)

Exercise: Creating version and specifying version settings

Exercise 1a:

- Login to the application using the weblink: https://etf-ghg-training.unfccc.int
- Create a new inventory version for the submission year 2025
- Select “Yes” to apply flexibility provisions
- Select para 58 flexibility provisions
- Select para 57 flexibility provisions and select “Do not specify NDC reference year” and select 1990, 2000, and 2010

Scan the QR code for exercise guide

Exercise 1b:

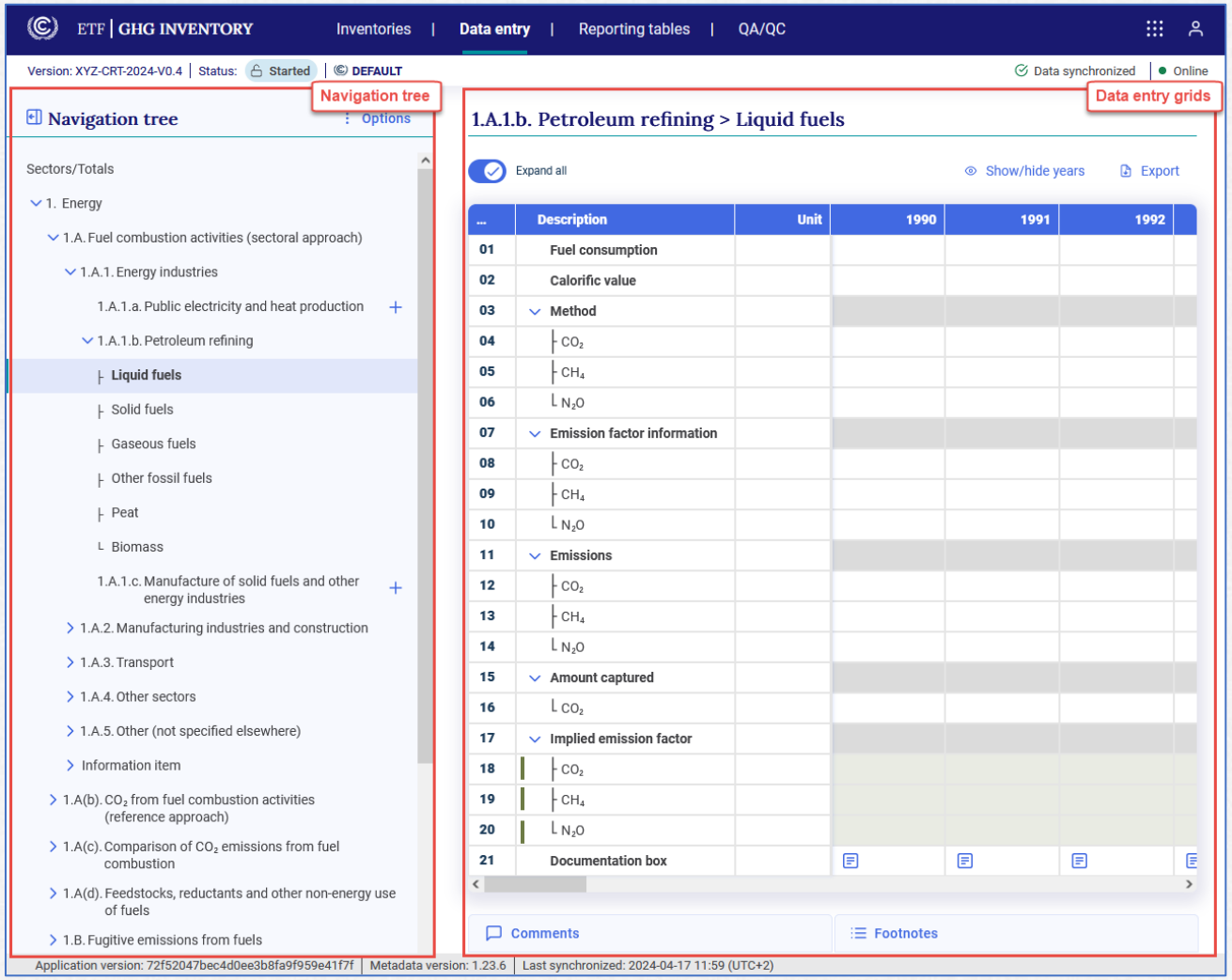
- Go through the version settings for Energy and IPPU, and do not select any settings (Toggle off)
- Go to the version setting for the Agriculture sector
- Select “Option B (country-specific)” for the cattle categorization
- Select “Approach C” in the LULUCF sector
- Click on “Go to data entry”

User Interface of GHG Inventory Reporting Tool

- **Inventories** – To start a new inventory and to configure the properties relating to the inventory, such as submission year, sectors, options and years to be included in the inventory
- **Data entry** – For entering and/or editing data in the data entry grids
- **Reporting tables** – For viewing reporting tables in Excel, in the format of the agreed CRT, for a particular year
- **QA/QC** – Placeholder for various types of QA/QC (not implemented yet)

- **Version** – Unique name of the version you are working on (ISO code, Tool, Submission year, version number)
- **Status** – State of the inventory (e.g., Initiated, Started, QA/QC, Approved, Submitted)
- **Default** – Flag to indicate the common version that all users within a Party are working
- Data synchronized – Shows the status of data synchronization
- **Online** – Indication if the user is Online or Offline

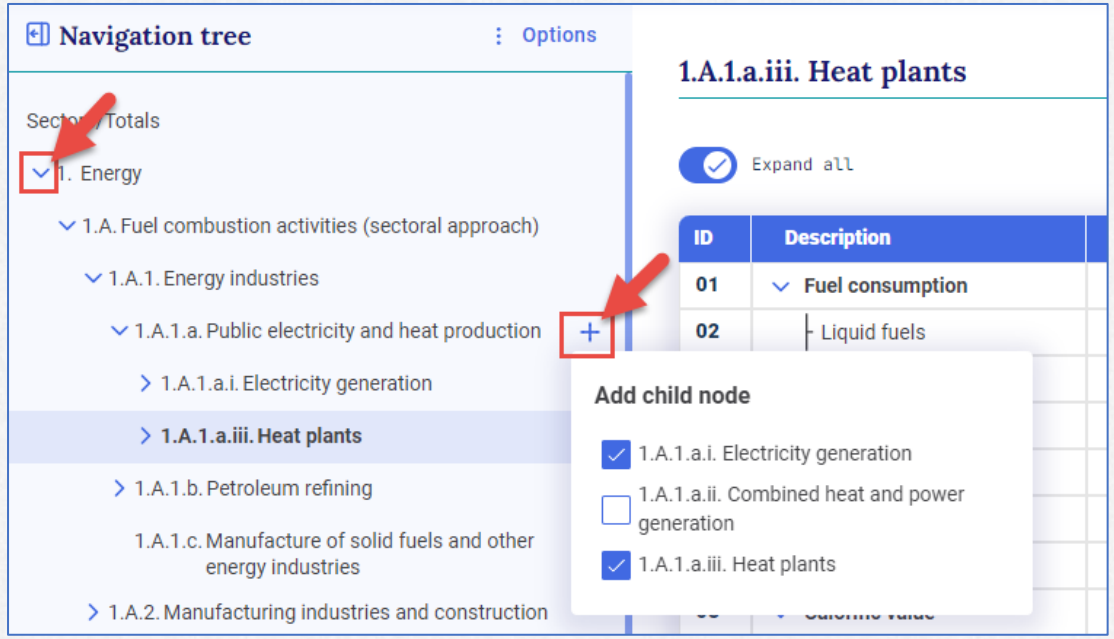
- **Navigation tree** – CRT category tree as agreed in Annex I to decision 5/CMA.3
- **Data entry grids** – Grids for entering data



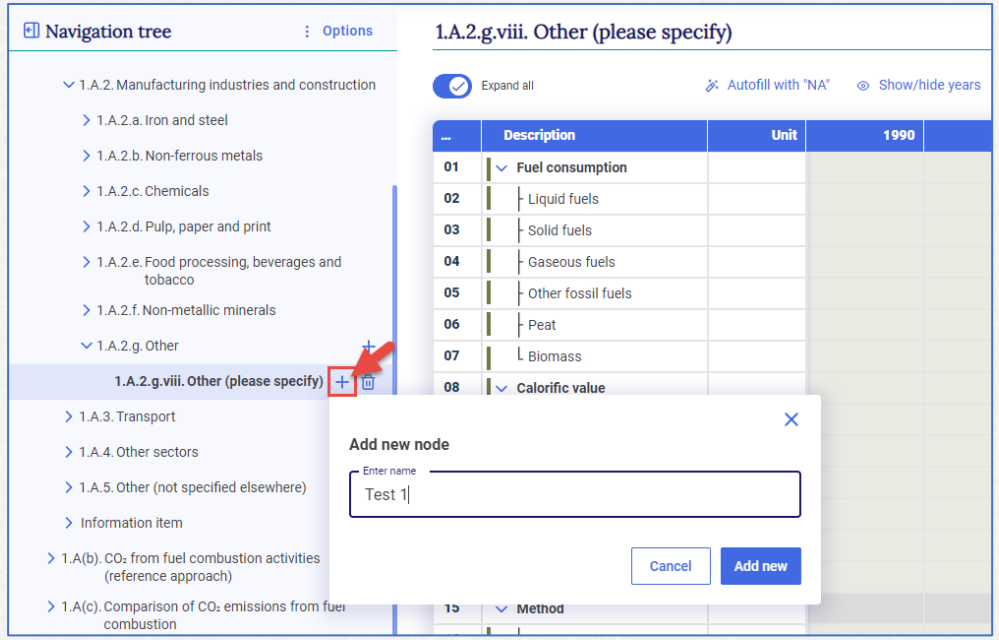
Customizing navigation tree – Adding country-specific category

E2

1. Click on the **“Data entry”** tab.
2. Click on “**>**” to expand the tree node (category) and “**v**” to collapse the tree node.
3. Click on “+” sign next to the category name to add a sub-category
4. Select an item from a dropdown list where the predefined sub-category is available
5. OR Enter a country-specific category where the node name says “please specify”



Adding pre-defined sub-category



Adding country specific category

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Customizing navigation tree – Editing/deleting country-specific category

E2

Editing user-specified category

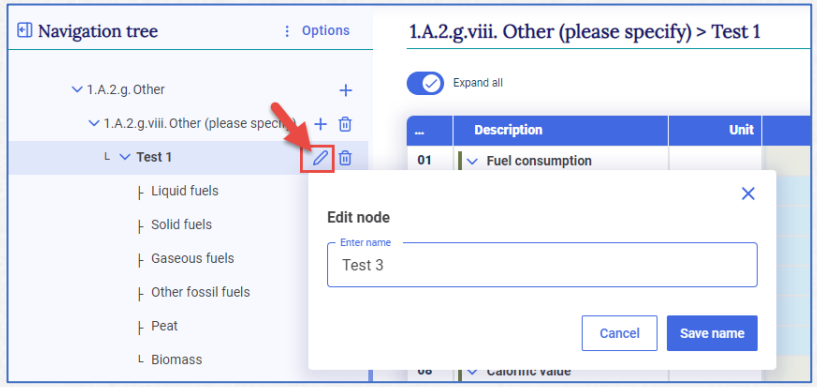
1. Click on the added category and click on the pen icon to edit the child node name
2. Rename the child node and Click **'Save name'** to confirm rename.

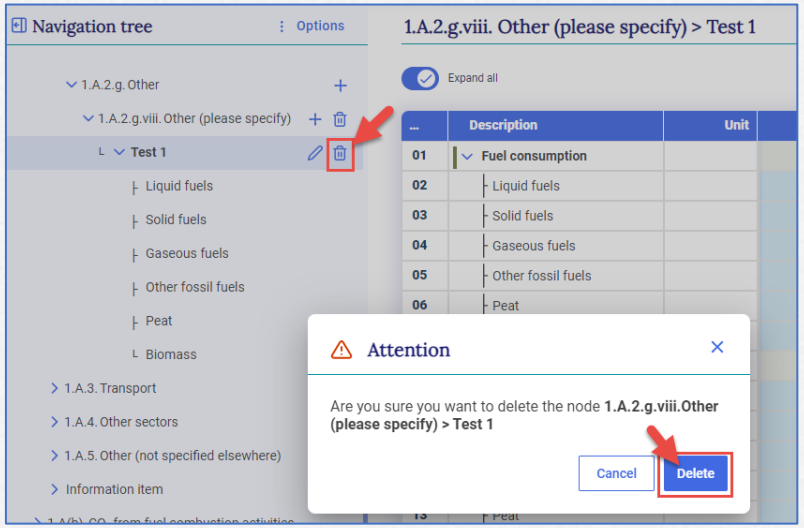
Deleting country-specific category

1. Click on the added category and click on the bin icon to delete the child node.
2. Click "Delete" to confirm the deletion.

Note: Only the node/category that you have added can be deleted.

!!! Deletion of the node also deletes all data added for that category. !!!





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Exercise: Customizing navigation tree (categories for reporting)

Exercise 2a:

- Find child node “1.A.4.c.iii. Fishing > Gasoline” in the navigation tree

Exercise 2b:

- Add user-specified node “5.A.2. Unmanaged waste disposal sites > Less decomposable wastes”

Exercise 2c:

- Add user-specified node “3.A.1.A.iv. Other (please specify) > Famous cow” and “3.A.1.A.iv. Other (please specify) > Sad cow”
- Rename “Sad cow” to “Happy cow”

Exercise 2d:

- Delete user-specified node “3.A.1.A.iv. Other (please specify) > Famous cow”

Scan the QR code for exercise guide

Data entry in GHG Inventory Reporting Tool

- ❑ Three ways of data entry
  - ✓ Manual input into the data entry grids
  - ✓ Partial or full import of data using MS Excel
  - ✓ Bulk import of data using JSON
    - ▪ For connecting with the national system
    - ▪ For importing data from IPCC Software

- ❑ Data are saved automatically in the database in real-time

- ❑ Copy and paste including drag and drop of data in data entry grids

- ❑ Automatic data entry validation
  - ✓ Either a number or a notation key (NO, NA, IE, NE, C, FX)
  - ✓ The notation keys entered in a year propagate to the subsequent years
  - ✓ Number to be separated by a dot (“.”) to signify a decimal point
  - ✓ Number should be between 0 and 1 where fractions are required
  - ✓ Number should be between 0 and 100 where the information required is in %
  - ✓ Text can be entered as needed to report e.g., AD description (in 1.B.2)

Manual data input

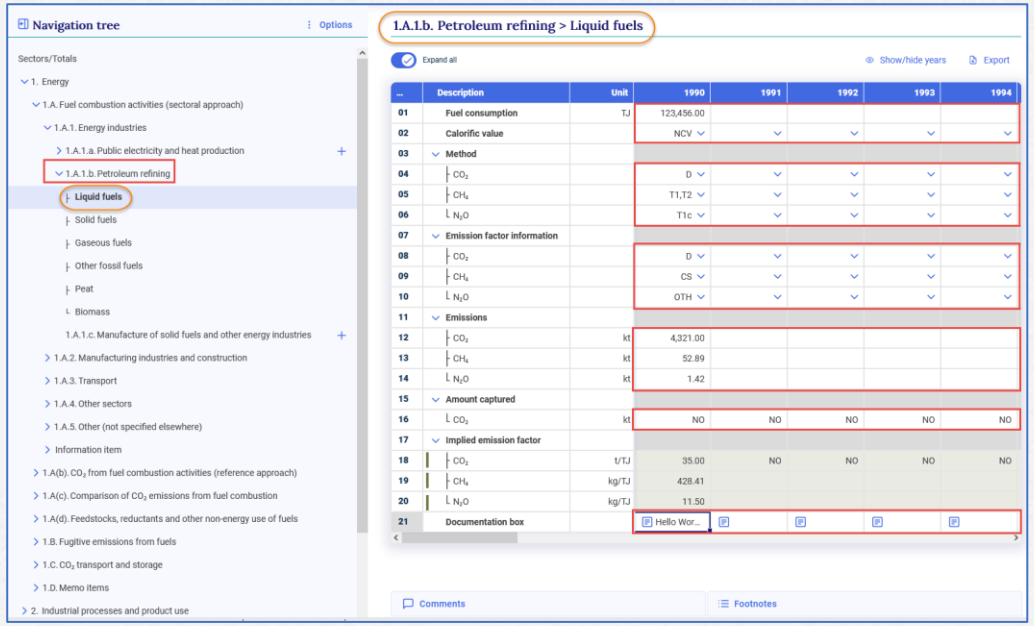
E3

Manual data entry can be done in the data entry grids of each category in the navigation tree. Color codes are used in the data entry grids:

- White – The user can enter data
- Green – Data are automatically calculated by the application
- Brown – Formula in these cells are overwritten with user-entered data
- Blue – Value cross-referenced
- Grey – No input necessary
- Dropdown - Data can be selected from the dropdown list

1. Click on the **"Data Entry"** tab.
2. Navigate to a node (category) in the tree by using the "**>**" sign.
3. Click on the node (category) to display the data entry grid.
4. In the data entry grid, provide the required information in the corresponding cells (for one year), such as AD and emissions.

Values in green cells with formulas, e.g., implied emission factor, are automatically calculated.



...	Description	Unit	1990	1991	1992	1993	1994
01	Fuel consumption	TJ	123,456.00				
02	Calorific value		NCV				
03	Method						
04	CO_2		D				
05	CH_4		T1,T2				
06	N_2O		T1c				
07	Emission factor information						
08	CO_2		D				
09	CH_4		CS				
10	N_2O		OTH				
11	Emissions						
12	CO_2	kt	4,321.00				
13	CH_4	kt	52.89				
14	N_2O	kt	1.42				
15	Amount captured						
16	CO_2	kt	NO	NO	NO	NO	NO
17	Implied emission factor						
18	CO_2	t/TJ	35.00	NO	NO	NO	NO
19	CH_4	kg/TJ	428.41				
20	N_2O	kg/TJ	11.50				
21	Documentation box		Hello Wor...				

Disabling automatic aggregation

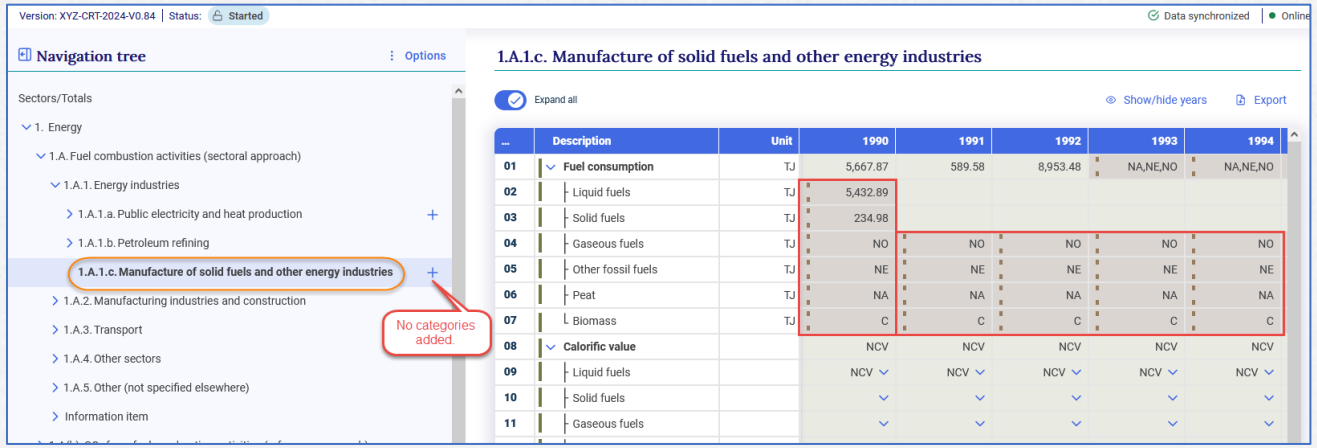
E3

The GHGI-RT automatically aggregates the data from the sub-categories to the sector and then to the national totals. It is possible to disable automatic aggregation in the following cases:

- Disaggregated data is not available
- Emission data reported for at least one direct subcategory is the notation key ‘C’ (confidential) or ‘FX’ (flexibility)

Disaggregated data not available

1. Click on the **“Data Entry”** tab.
2. Select a category that do not have information on subcategories level.
3. Do not add any subcategories for that category.
4. Enter the data in the green cells (i.e., overwriting formulas).
5. Entering data in green cells is only possible when the category to which the grid with green cells belongs does not have any subcategories.
6. Once the green cells are overwritten, the shading on the cells becomes brown, making it easy for users to identify the cells where formulas have been overwritten.



Reporting confidential information

1. Click on the **“Data Entry”** tab.
2. Select a category which have direct subcategories.
3. In one of the subcategory, enter the notation key ‘C’ (confidential) for emissions.
4. In this case, the aggregation formula in the parent category becomes editable and can be overwritten.
5. Enter the aggregated value in the parent node overwriting the formula.

Exercise: Manual data entry (directly in the tool)

Exercise 3a:

- Go to “1.A.1.b. Petroleum refining > Liquid fuels”
- Fill fuel consumption for several years
- Fill calorific value (choose from the list) and apply subsequent years
- Fill “NO” for CH_4 emissions in the first reporting year.
- Fill numeric values for CO_2 and N_2O

Exercise 3b:

- Go to “1.A.1.b. Petroleum refining > Solid fuels”
- Do similar things for this node as in exercise 3a.
- Go to “1.A.1.b. Petroleum refining” and check the aggregation

Scan the QR code for exercise guide

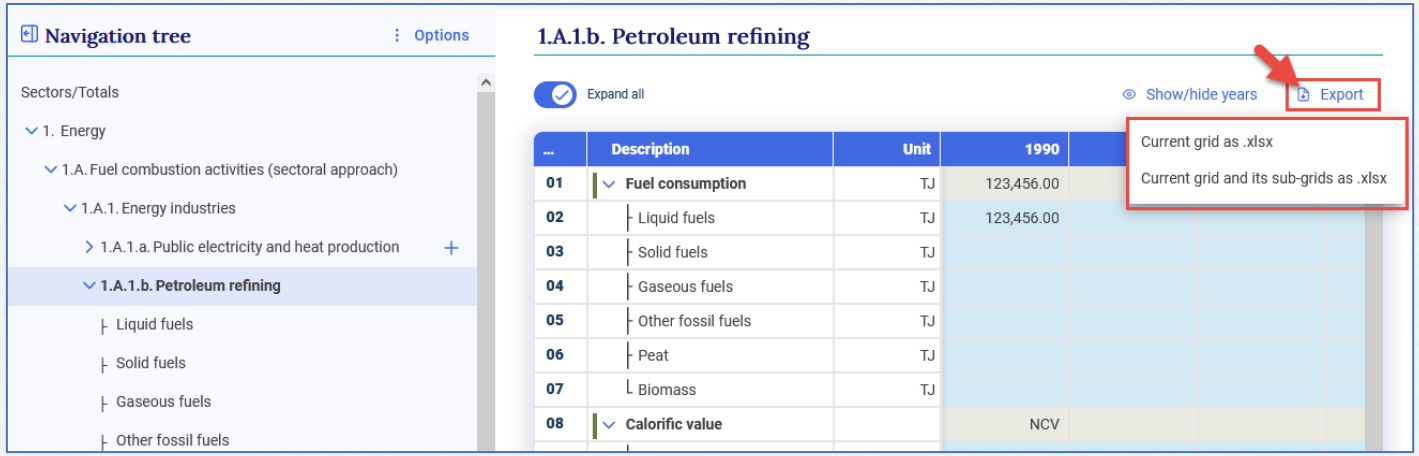
Excel data input – Exporting Excel tables for data entry

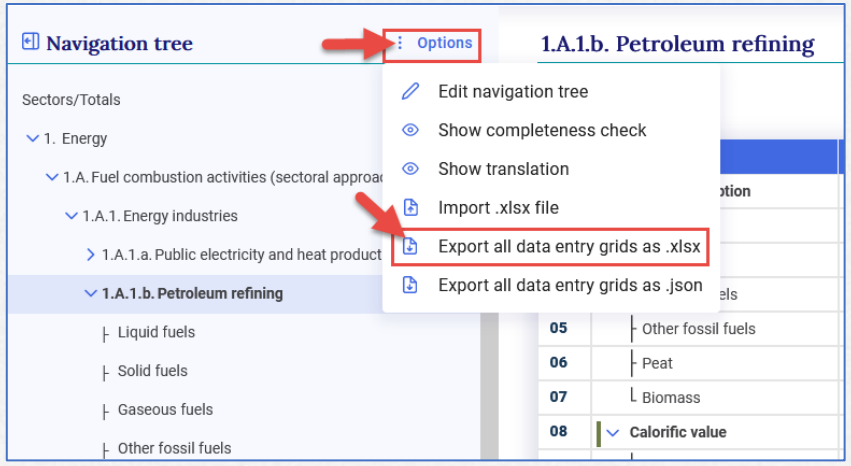
E4

This method allows downloading data entry grids in Excel format and work offline. It assists users to either check data entered in the software, or to enter/edit data and re-import it into the application. Export of data entry grids can be done for a sub-category, sector, or for the entire inventory.

Exporting excel data entry grids

1. Click on category that you want to export.
2. Click on "**Export**" and then on **"Current grid as .xlsx"** to export the single selected grid or **"Current sector/subsector as .xlsx"** to export the selected category and all sub-categories below the selected category.
3. The file will be exported to your local computer.
4. You can also export all data entry grids in excel. Click **"Options"** then **"Export all data entry grids as .xlsx"**.





Excel data input – Entering data in Excel table(s)

E4

The color scheme of the excel data entry grid follows the same color scheme as in the web interface. The excel file should not be modified to add/delete rows or columns or to enter data in the cells other than the specified cells.

Entering data in Excel data entry grids

1. Open the Excel data entry grid file exported from the GHG Inventory reporting tool.
2. Enter the data in the white cells for activity data and emissions.
3. The implied emission factor (green cells) is not calculated in the Excel file, but it will be calculated upon importing it into the GHG Inventory reporting tool.
4. Save the Excel file after entering the data for importing to the GHG Inventory reporting tool.

	A	B	C	D	E	F	G	H	I	J	K
1	TEST			XYZ-CRT-2024-V0.84		Exported on: 2024-04-17 13:58:29 (UTC+2)					
2	Sectors/Totals > 1. Energy > 1.A. Fuel combustion activities (sectoral approach) > 1.A.1. Energy industries > 1.A.1.b. Petroleum refining > Liquid fuels										
3											
4	ID	Description	Unit	1990	1991	1992	1993	1994	1995	1996	1997
5	01	Fuel consumption	TJ	123,456.00	123789.00						
6	02	Calorific value		NCV	NCV						
7	03	Method									
8	04	CO_2		D							
9	05	CH_4		T1,T2							
10	06	N_2O		T2							
11	07	Emission factor information									
12	08	CO_2		D							
13	09	CH_4		CS							
14	10	N_2O		OTH							
15	11	Emissions									
16	12	CO_2	kt	4,321.00	5432.00						
17	13	CH_4	kt	65.40	68.00						
18	14	N_2O	kt	8.70	23.00						
19	15	Amount captured									
20	16	CO_2	kt	NO	-2.50	NO	NO	NO	NO	NO	NO
21	17	Implied emission factor									
22	18	CO_2	t/TJ	35.00	NO	NO	NO	NO	NO	NO	NO
23	19	CH_4	kg/TJ	529.74							
24	20	N_2O	kg/TJ	70.47							
25	21	Documentation box		Hello again!							
26											

1.A.1.b.Petroleum refining | 1.A.1.b. Liquid fuels | 1.A.1.b. Solid fuels | 1.A.1.b. Gaseous fuels | 1.A.1.b. Other fossil fuels | 1.A.1.b. Peat

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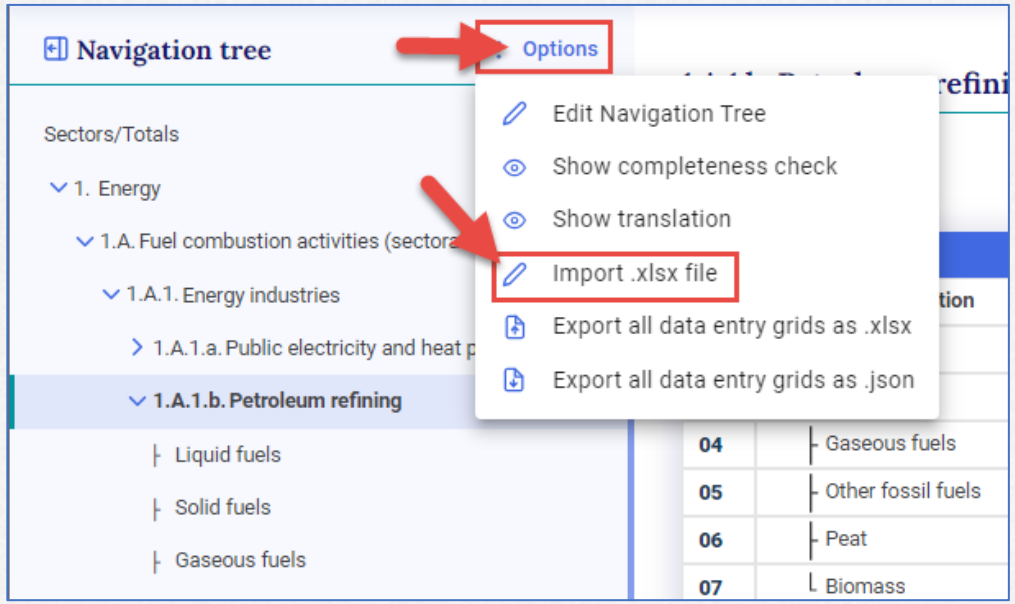
Excel data input – Importing Excel tables into the tool

E4

The Excel data import function will only work with Excel files for data entry grids exported from the GHGI Reporting Tool. The user should first export the file from the software in order to import an Excel file with the data. It is imperative that the format and structure of the Excel file exported are not changed.

Importing excel data entry grids

1. Click **“Options”** and then click **“Import .xlsx file”**.
2. Click on the **“Select”** and select the appropriate Excel file to be imported. You can also drag and drop the file in import window.
3. Click on **“Import”** button. This will initiate the data import process, which includes automatic input of data, and recalculation of values in cells with formulas.
4. You can check the generated log file for the detail of the import.



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Exercise: Data entry with Excel export / import

Exercise 4:

- For the category “1.A.1.b. Petroleum refining”, export “Current sector/subsector as .xlsx”.
- Open the exported Excel file (from your download folder)
- Add some numerical values/notation keys in the exported Excel file for the fuels in the fuel-specific worksheet.
- Add invalid notation key ‘PK’ for CH_4 in the exported Excel file.
- Save the exported Excel file
- Import the Excel file to the GHGI reporting tool
- Check that the data that you have entered in the Excel are imported into the tool.

Scan the QR code for exercise guide

Version settings for inventory

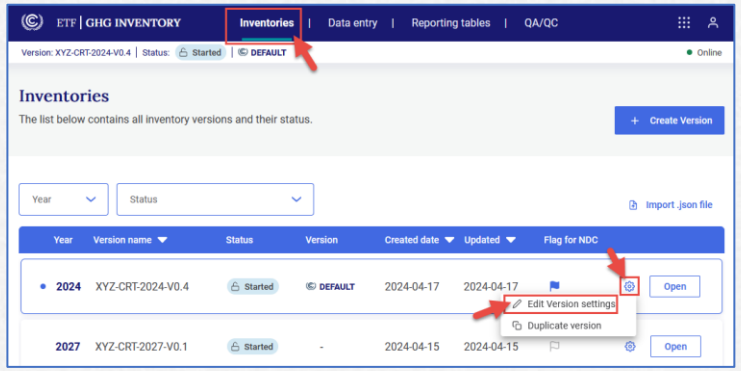
Settings		Explanation
Flexibility provisions	**Application of flexibility provision**	Option to apply flexibility for those developing country Parties that need it in the light of their capacities. The notation key 'FX' can be used in data entry only when flexibility provisions are used.
	Para 58 (Last year in time series)	Set the last reporting year as the submission year minus 3 in the annual time series.
	Para 57 (Annual time series)	Select the reporting years in the annual time series, including the NDC reference year/period, if applicable.
	Para 48 (Reporting F-gases)	Select F-gas (HFCs, PFCs, SF6 and NF3) for reporting.
Energy	**Specify calorific value**	Auto-fill the selected calorific values for all fuels in sub-categories of 1.A.
	Fuel(s) Not Occurring	Auto-fill the notation key 'NO' in the data entry grids for the selected fuel(s) in all sub-categories of 1.A.
IPPU	**F-Gas(es) Not Occurring**	Auto-fill the notation key 'NO' in the data entry grids for the selected species of F-Gas(es).
	Bulk addition of F-Gases species	Bulk add the selected F-gas(es) as child nodes in all sub-categories of 2.B, 2.C, 2.E, 2.F, 2.G and 2.H.
Agriculture	**Cattle categorization**	Select the options (Option A or Option B) for cattle categorization
LULUCF	**Approach for HWP**	Specify the approach (Approach A, Approach B and Approach C) for the harvested wood products reporting
	Additional years for HWP activity data	Select additional year(s) for reporting HWP activity data
	Reporting information in Table4(II)	Select the option to report the information in the aggregated or disaggregated way

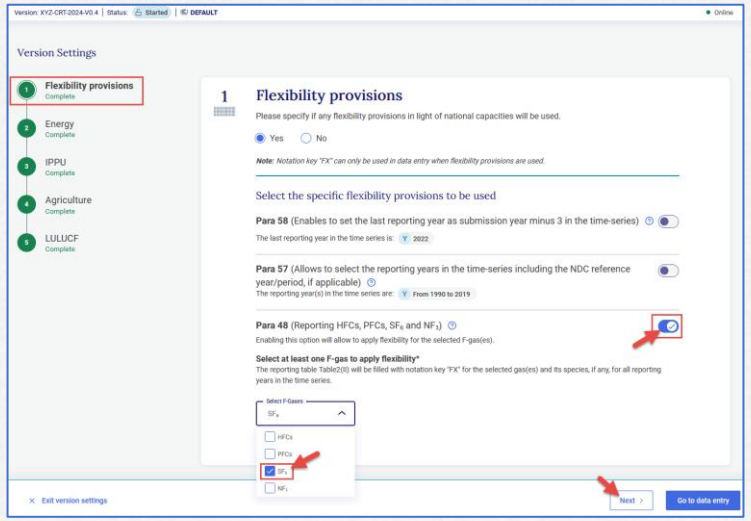
Editing version setting

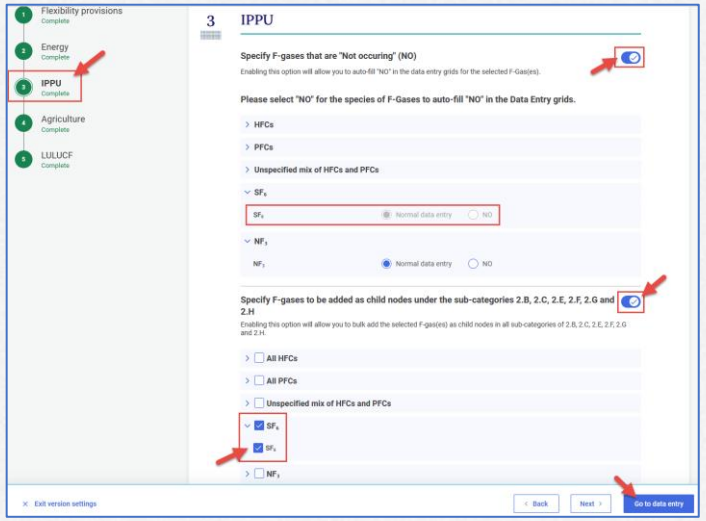
E5

You can go back to the edit version setting in your inventory to change the parameters you want to report or add/edit flexibility provisions. This will only affect the version that you are editing.

1. Go to the **Inventories** tab,
2. Identify the inventory for which you want to edit the version setting and click on the gear icon.
3. Navigate to the section for which you want to edit the version setting
4. Edit the settings you want to change.
5. Click on **“Next”** for additional settings or click **“Go to data entry”**







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Exercise: Editing version setting

Exercise 5:

- Go to the Inventories tab and identify the version you are working.
- Go to the edit version setting of that inventory.
- Select the toggle ON for flexibility provision on Para 48 (Reporting HFCs, PFCs, SF6, and NF3).
- Select SF6 to apply flexibility and Click Next to go to the IPPU version setting.
- Select the toggle ON to specify SF6 to be added as child nodes.
- Click on Go to data entry grids
- Go to 2.G.1 and check if SF6 has been added as child nodes and is populated with ‘FX’

Scan the QR code for exercise guide

Comments, NK explanation, Documentation box, Footnotes

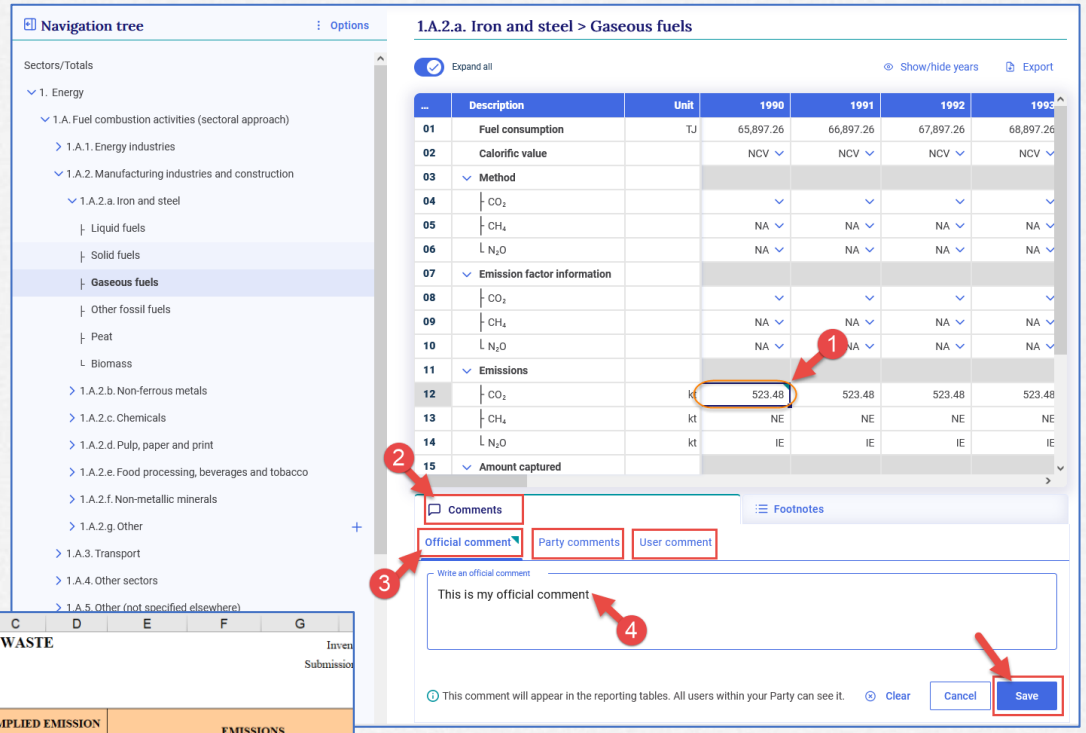
Type		Definition
Cell comments	**Official comment**	Official comment at the cell level of data entry. This will be reflected in the respective reporting tables of the official GHG inventory submission.
	Party comment	A comment entered by a user that they would like to share with the other users within their Party. This will NOT be reflected in the official submission.
	User comment	A comment entered by a user is visible only to that user. Users can put reminders for themselves here. This will NOT be reflected in the official submission.
Notation key Explanation	**NK category**	Navigation tree path for the cell where the notation keys "IE" and "NE" are entered. Auto-populated by the application. This will be reflected in Table9.
	Allocation by Party	Textual information provided by the user explaining the rationale for using the notation key "IE" . This will be reflected in Table9.
	Allocation by IPCC	Textual information provided by the user explaining the rationale for using the notation key "IE" . This will be reflected in Table9.
	NK Explanation	Textual information provided by the user explaining the rationale for using the notation key "IE" or "NE". This will be reflected in Table9.
Documentation Box		The last line in each data entry grid. This type of comment is year-specific and will, therefore, be reflected only in the documentation box section of the reporting table for the year where the comment was entered. Used for providing reference in the NID.
Footnotes		Static text based on the footnotes in the agreed reporting tables. The footnotes appear in the relevant applicable data entry grid.

Working with comments

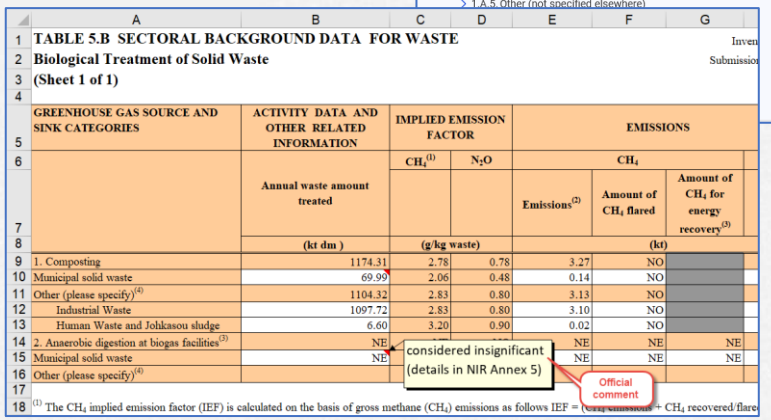
E6

Users can insert comments (official, party, user) for the white cells in the data entry grids. Only official comments are reflected in the reporting tables.

1. Click on the “Data entry” tab, go to the data entry grids of the category for which you want to provide a comment, and select the white cell for which you want to insert a comment.
2. Click on the **Comments** tab at the bottom of the screen.
3. Select the type of comment you want to insert.
4. Enter the comment and save.
5. The comments tab and data entry cells with comments are indicated by a green sign at the top right of cell.



Adding comments in the tool



Comments reflected in CRT

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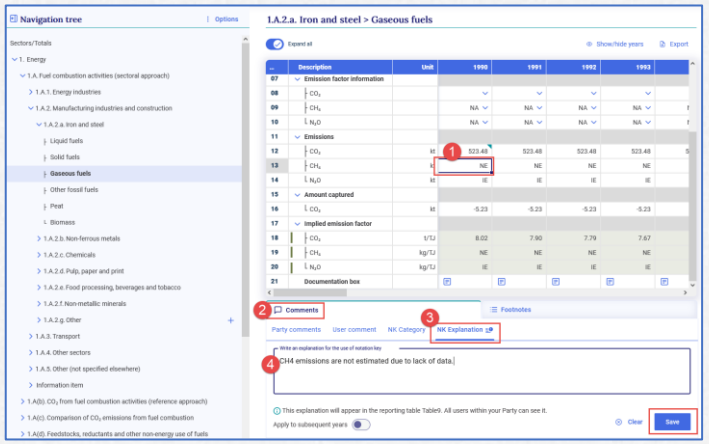
Working with Notation keys “NE” and “IE”

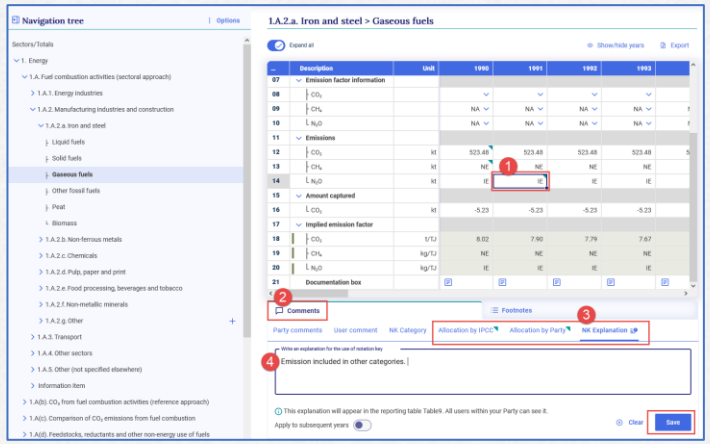
E6

Users can provide the notation keys explanation for the use of “NE” and “IE,” which will be reflected in the reporting table Table9.

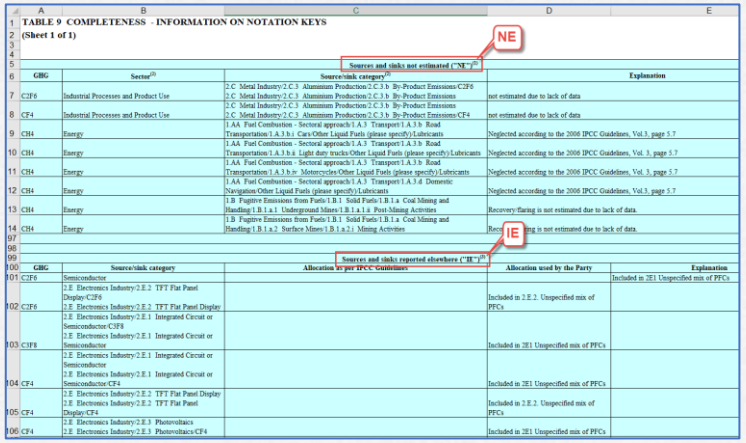
1. Click on the “Data entry” tab, go to the data entry grids of the category, and enter the notation key ‘NE’ or ‘IE’ for the emissions.
2. Click on the **Comments** tab at the bottom of the screen.
3. Select the type of explanation or the type of comment you want to insert.
4. Enter the explanations/comment and save.
5. The comments tab and data entry cells with comments are indicated by a green sign at the top right of cell.



Adding NK explanation for “NE” in the tool



Adding NK explanation for “IE” in the tool



Mapping of NK explanation in CRT Table9.

Exercise: Working with comments and NK explanation

Exercise 6:

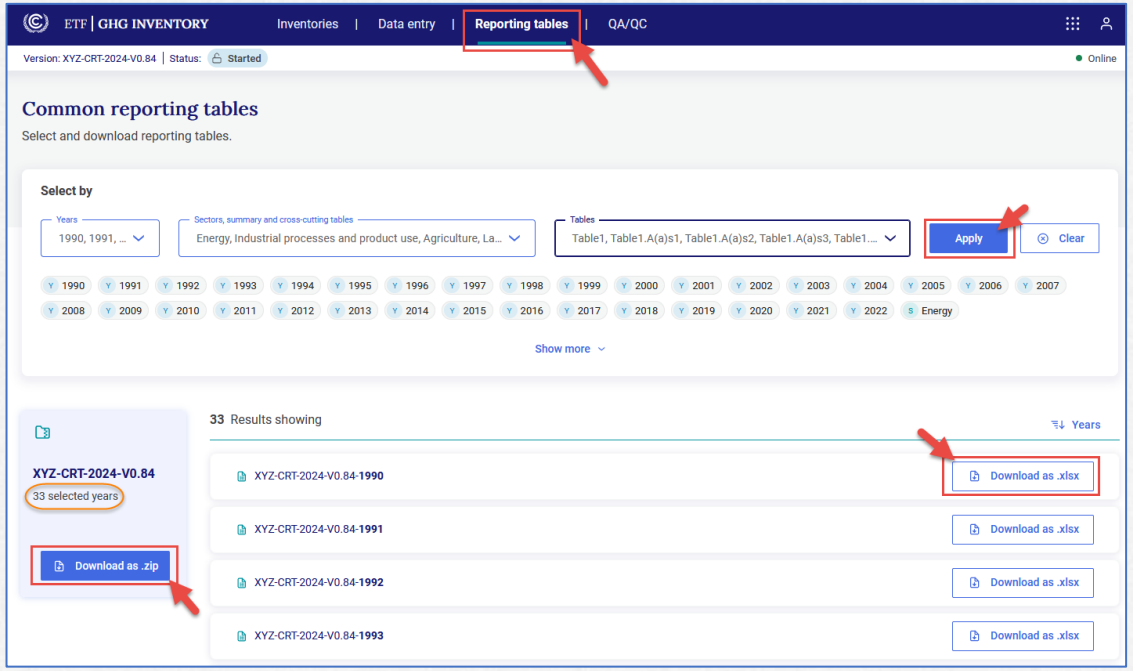
- Go to the ‘Data Entry tab’ of your inventory.
- Navigate to the data entry grids for 4. Land use, land-use change and forestry > 4.A. Forest land > 4(III).A. Direct & indirect N_2O emissions from N mineralization/immobilization > 4(III).A.1. Forest land remaining forest land
- Identify the Direct and Indirect emissions for N_2O emissions
- Enter “NE” for Direct emissions (N_2O) and “IE” for Indirect emissions (N_2O)
- Go to the comments tab and enter text in NK’s explanation for the use of “NE”
- Enter text in ‘Allocation by IPCC’ ‘Allocation by Party’ and ‘NKs explanation’ for the use of “IE”
- Enter User comment for the selected cell.

Scan the QR code for exercise guide

Viewing/download reporting tables

E7

1. Click on the **“Reporting tables”** tab.
2. Select **“Years”**, **“Sectors”** and **“Tables”** to view/download the reporting tables.
3. Click **“Apply filters”**. The reporting tables based on the selection above will be available for download.



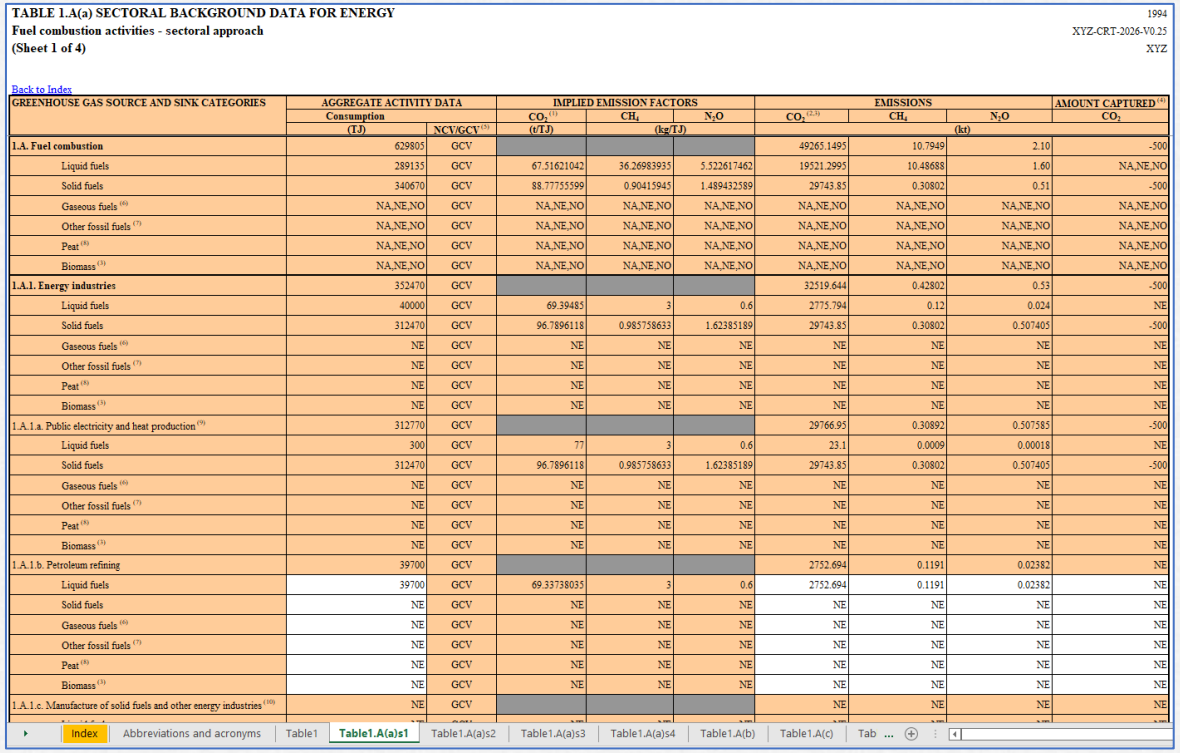


TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
Fuel combustion activities - sectoral approach
(Sheet 1 of 4)

1994
XYZ-CRT-2026-V0.25
XYZ

Back to Index

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS			AMOUNT CAPTURED [4]
	Consumption		CO_2 [1]	CH_4	N_2O	CO_2 [2,3]	CH_4	N_2O	CO_2
	(TJ)	NCV/GCV [5]	(t/TJ)	(kg/TJ)		(kt)			
1.A. Fuel combustion	629805	GCV				49265.1495	10.7949	2.10	-500
Liquid fuels	289135	GCV	67.51621042	36.26983935	5.522617462	19521.2995	10.48688	1.60	NA,NE,NO
Solid fuels	340670	GCV	88.77755599	0.90415945	1.489432589	29743.85	0.30802	0.51	-500
Gaseous fuels [6]	NA,NE,NO	GCV	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
Other fossil fuels [7]	NA,NE,NO	GCV	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
Peat [8]	NA,NE,NO	GCV	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
Biomass [3]	NA,NE,NO	GCV	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO	NA,NE,NO
1.A.1. Energy industries	352470	GCV				32519.644	0.42802	0.53	-500
Liquid fuels	40000	GCV	69.39485	3	0.6	2775.794	0.12	0.024	NE
Solid fuels	312470	GCV	96.7896118	0.985758633	1.62385189	29743.85	0.30802	0.507405	-500
Gaseous fuels [6]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Other fossil fuels [7]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Peat [8]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Biomass [3]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
1.A.1.a. Public electricity and heat production [9]	312770	GCV				29766.95	0.30892	0.507585	-500
Liquid fuels	300	GCV	77	3	0.6	23.1	0.0009	0.00018	NE
Solid fuels	312470	GCV	96.7896118	0.985758633	1.62385189	29743.85	0.30802	0.507405	-500
Gaseous fuels [6]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Other fossil fuels [7]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Peat [8]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Biomass [3]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
1.A.1.b. Petroleum refining	39700	GCV				2752.694	0.1191	0.02382	NE
Liquid fuels	39700	GCV	69.33738035	3	0.6	2752.694	0.1191	0.02382	NE
Solid fuels	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Gaseous fuels [6]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Other fossil fuels [7]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Peat [8]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
Biomass [3]	NE	GCV	NE	NE	NE	NE	NE	NE	NE
1.A.1.c. Manufacture of solid fuels and other energy industries [10]	NE	GCV				NE	NE	NE	NE

Index | Abbreviations and acronyms | Table1 | Table1.A(a)s1 | Table1.A(a)s2 | Table1.A(a)s3 | Table1.A(a)s4 | Table1.A(b) | Table1.A(c) | Tab ...

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Exercise: Downloading common reporting tables (CRT)

Exercise 7:

- Select a few years from the years dropdown (e.g., 1990 and 1995)
- Select the “Energy” sector or Select “Tables”
- Click “Apply filters”
- You will see the list of reporting tables for each year
- Download individual Excel files from the list or download them as zip file
- Open the Excel file
- Check if the data you entered in the reporting tool is reflected in the reporting tables

Scan the QR code for exercise guide

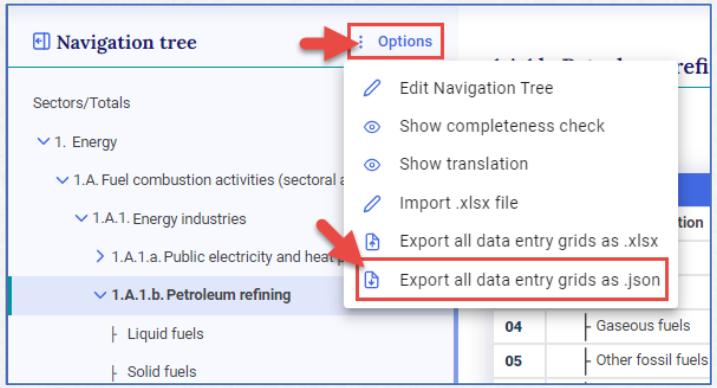
JSON data input – Export/ Import JSON file

E8

The JSON is the interoperability format used in the GHG Inventory Reporting Tool. It is used for integration with other UNFCCC systems as well as with national systems that follow the JSON schema provided to Parties.

Exporting JSON file

1. In the **“Data Entry”** tab, click **“Options”** and then click **“Export all data entry grids .json”**.
2. The file will be exported to your local computer.
3. You can then modify data in the JSON file, or you can transfer the data into JSON file from your national system.



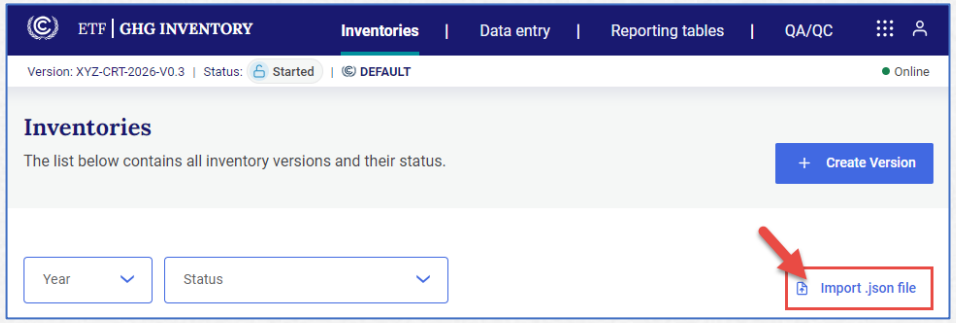
Exporting JSON file

JSON Sample


```
{
    "version": {
        "metadata_ver": "1.18.2",
        "country": "XYZ",
        "data_version": "XYZ-CRT-2026-V0.3",
        "metadata_type": "CRT"
    },
    "country_specific_data": {
        "variables": [],
        "nodes": [
            {
                "uid": "44506cc2-9907-4443-a05f-63940d98ab68"
            },
            {
                "uid": "f34d2d25-1057-492a-b144-da8f76247050"
            },
            {
                "uid": "7d600ea7-0cd2-4812-a717-c054fb5892fd"
            }
        ],
        "grids": [],
        "dimension_instances": []
    },
    "data": {
        "values": [
            {
                "inventory_year": "1990",
                "values": [
                    {
                        "variable_uid": "cbb4b5f6-5c97-4550-a52e-2c706bc15a2d",
                        "value": {
                            "type": "dropdown",
                            "value": null
                        },
                        "agg_disabled": false
                    },
                    {
                        "variable_uid": "9d576292-a091-4a1a-afaa-4d1b180e4237",
                        "value": {
                            "type": "dropdown",
                            "value": null
                        },
                        "agg_disabled": false
                    },
                    {
                        "variable_uid": "0fd26ec7-7153-4a9e-b57f-a421b5978edc",
                        "value": {
                            "type": "dropdown",
                            "value": null
                        },
                        "agg_disabled": false
```


Importing JSON file

1. In the **“Inventories”** tab, click **“Import .json file”**
2. Click on the **“Select”** and select the appropriate JSON file to be imported. You can also drag and drop the file in import window.
3. Click on **“Import”** button. This will initiate the data import process.
4. You can check the generated log file for the detail of the import.



Importing JSON file

Interoperability with IPCC Software (1/2)

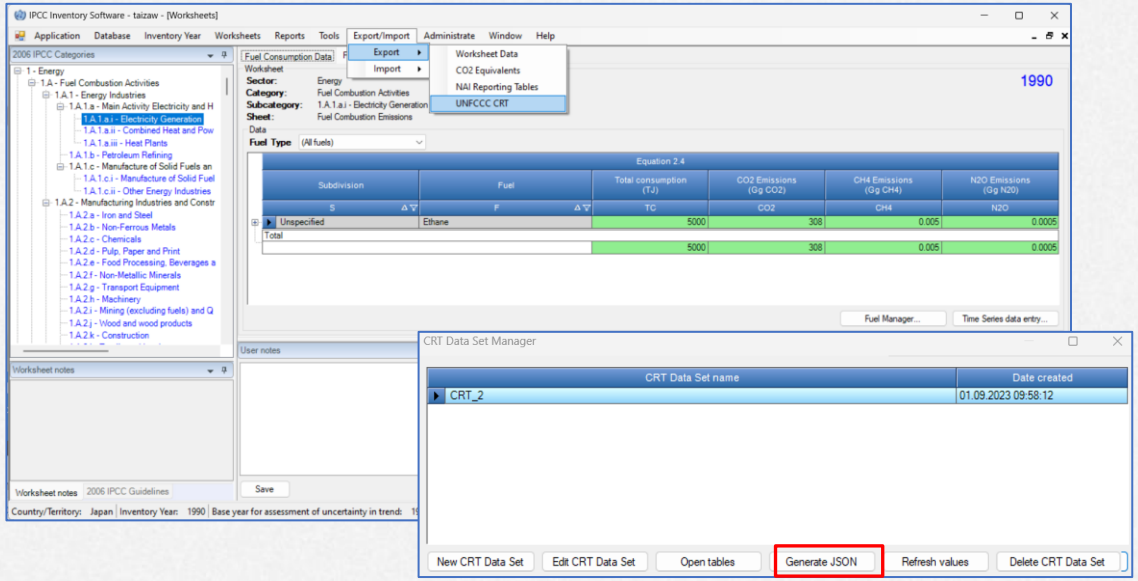
E8

The interoperability with the IPCC Software allows the transfer of the data from the IPCC software to the GHG Inventory Reporting Tool. After estimating the national GHG inventory Parties can export the JSON data exchange file from IPCC software and import it to GHG inventory reporting tool. Please note the following for the interoperability:

- ❑ Generation and Export of JSON file is available in the IPCC software version 2.871 or later.
- ❑ In the test version, JSON import can be done at the sector level only.
- ❑ In the test version, JSON file generation has been implemented for all sectors except for the F-gases.

In the IPCC Software

1. After compiling your GHG inventory, Click **“Export/Import”** > **“Export”** > **“UNFCCC CRT”**
2. Click **“Generate JSON”** and a JSON file is generated.
3. Save the JSON file to your computer and it can now be imported to the GHG Inventory reporting tool.



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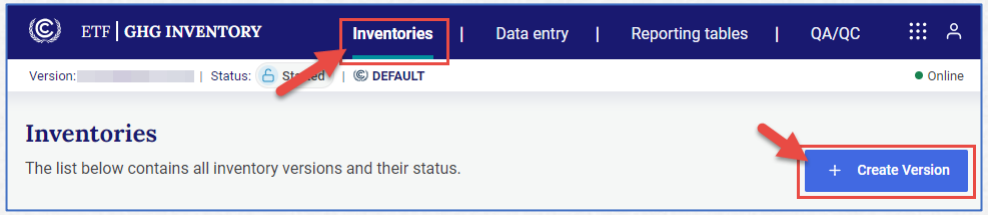
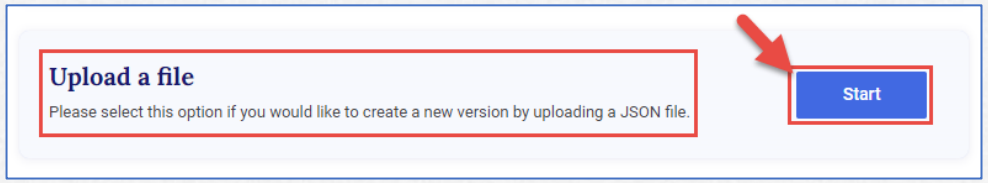
Interoperability with IPCC Software (2/2)

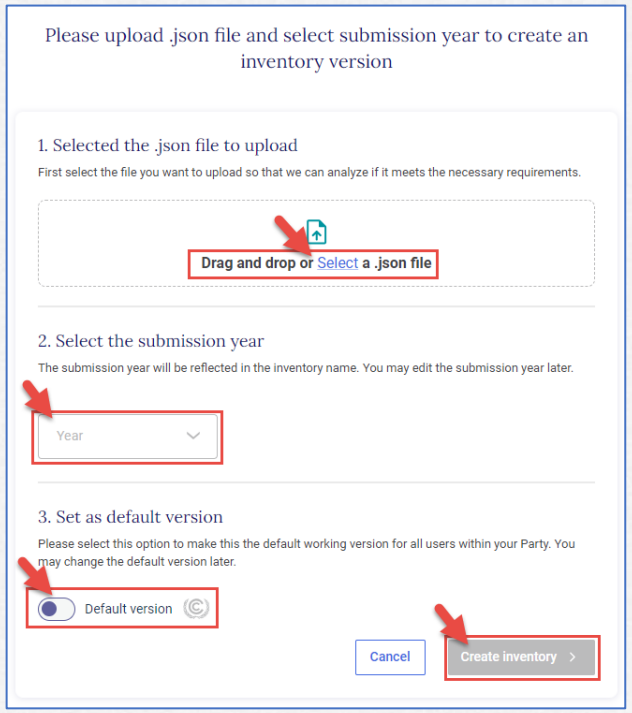
E8

In the GHG Inventory reporting tool

1. In the **“Inventories”** tab, click **“+ Create version”**
2. Click **“Select”** in the **“Upload a file”** tile
3. Click **“Select”** and select the JSON file exported from the IPCC software. You can also drag and drop the file in drag and drop area.
4. Specify **“Submission year”**, **“Default version”** and click **“Create inventory”.** The inventory will be created.
5. Specify applicable version settings and click **“Go to data entry”** to start working on your inventory.
6. The data imported from the IPCC software will already be populated in the data entry grids.
7. You can modify the data, if needed.







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Exercise: Interoperability with IPCC Software

Exercise 8:

- Compiling your GHG inventory in the IPCC Software
- Click “Export/Import” > “Export” > “UNFCCC CRT” in the IPCC Software
- Click “Generate JSON,” and a JSON file is generated and save the JSON file to your computer
- Enter the GHG Inventory Reporting Tool
- In the “Inventories” tab, click “+ Create version”
- Click “Select” in the “Upload a file” tile and select the JSON file downloaded to your computer.
- Specify “Submission year” and “Default version” and click “Create inventory”.
- Specify applicable version settings and click “Go to data entry” to start working on your inventory.
- Data imported from the IPCC software will already be populated in the data entry grids and you can edit/modify the data if needed.

Scan the QR code for exercise guide

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Thank you for attending!

Let’s keep this conversation going.

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Let’s work **#Together4Transparency**
Find out more at:

https://unfccc.int/Transparency

Contact us at:
Tools.Support@unfccc.int

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