



Partnership on Transparency
in the Paris Agreement



Ministry of Environment
Greenhouse Gas Inventory
and Research Center

ETF Reporting Tool

GHG Emissions Inventory

Pedro Torres (UNFCCC)

24-26 September 2024

Supported by:



Federal Ministry
for Economic Affairs
and Climate Action

Federal Foreign Office

on the basis of a decision
by the German Bundestag



INTERNATIONAL
CLIMATE
INITIATIVE



United Nations
Framework Convention on
Climate Change



AUSTRALIA



Outline

- Introduction
 - Reporting requirements under the Paris Agreement
 - Common Reporting Tables (CRT)
- User interface main components
- Creating a submission version
- Interoperability with IPCC Software
- Hands-on exercise (work collaboratively on a version)
- Download reporting tables
- Questions/answers



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.

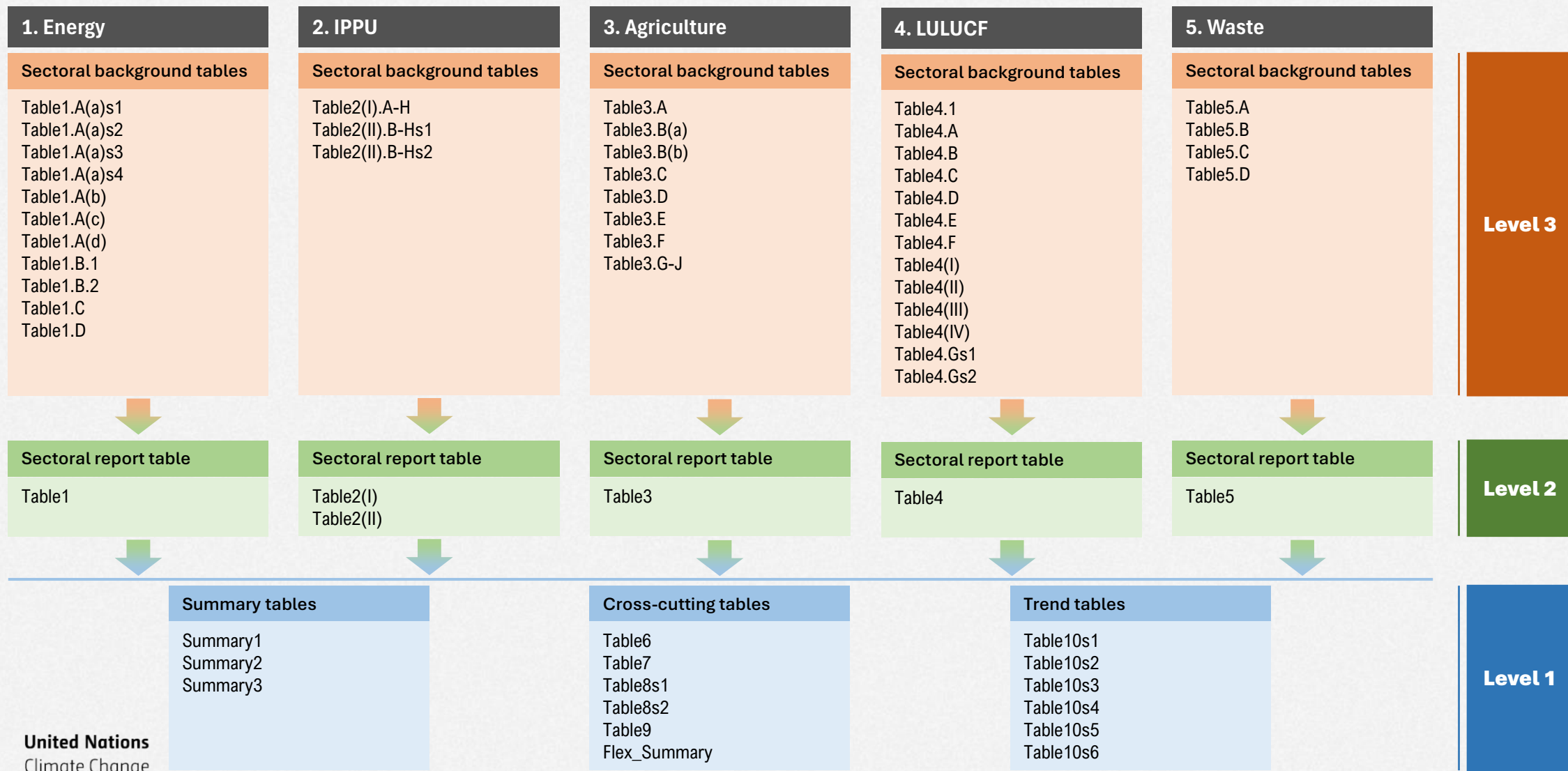
Decision 5/CMA.3

1. **Adopts:**

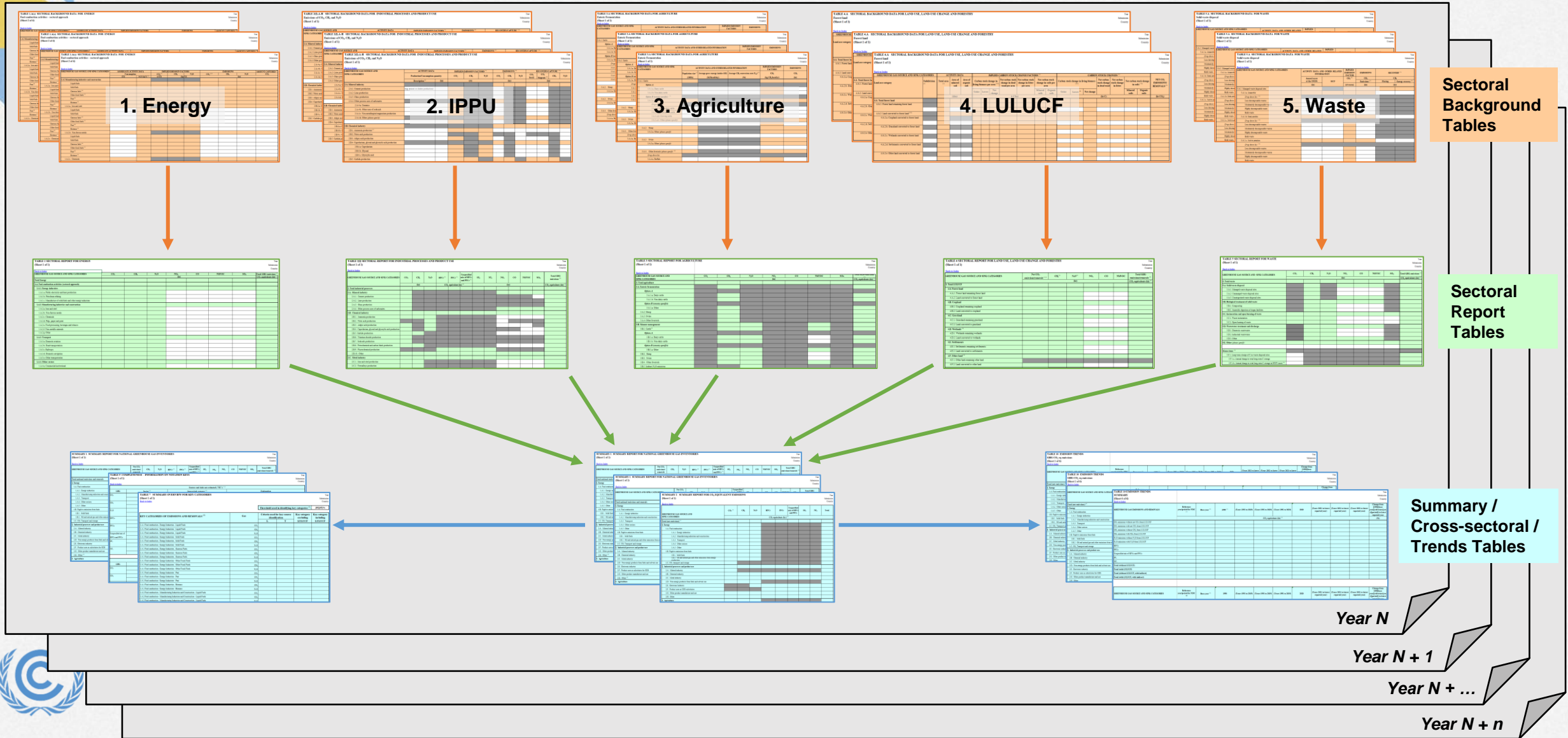
(a) The **common reporting tables** referred to in chapter II of the annex to decision 18/CMA.1 for the electronic reporting of the information in the national inventory reports of anthropogenic emissions by sources and removals by sinks of greenhouse gases, as contained in annex I;



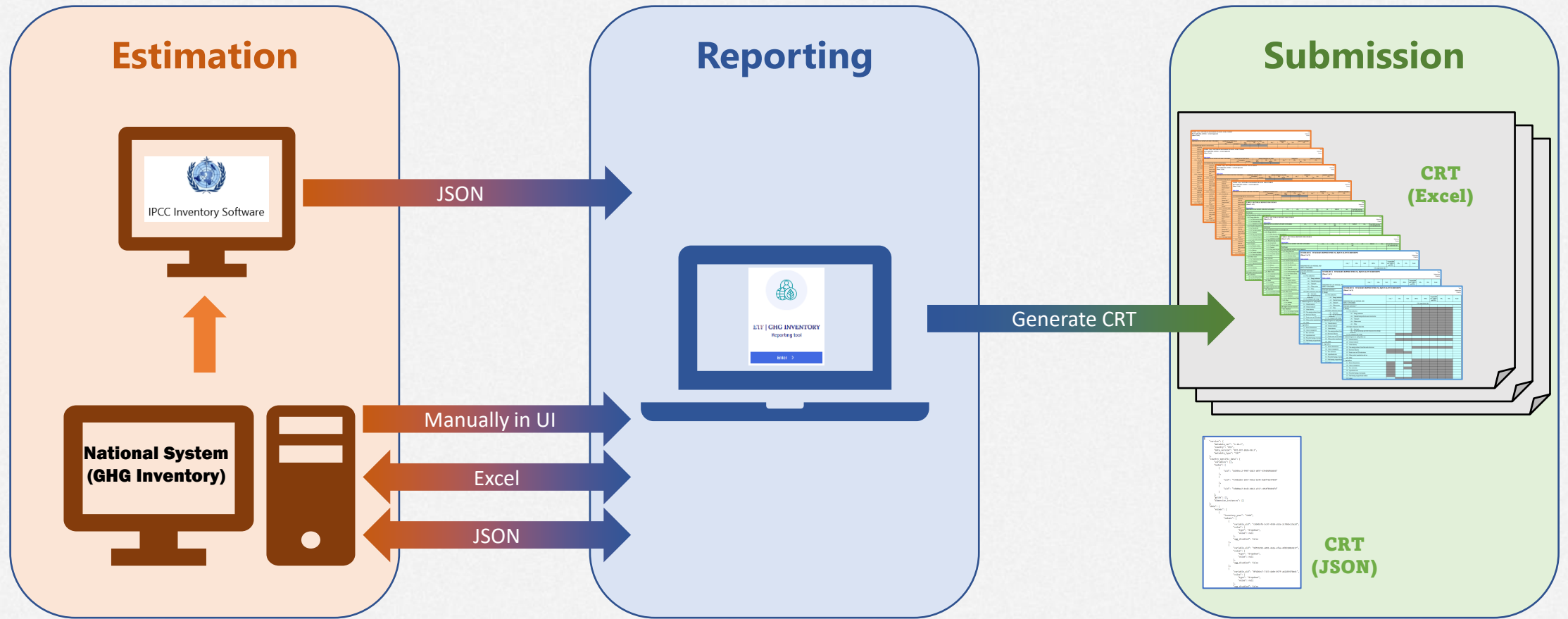
CRT structure



CRT worksheets



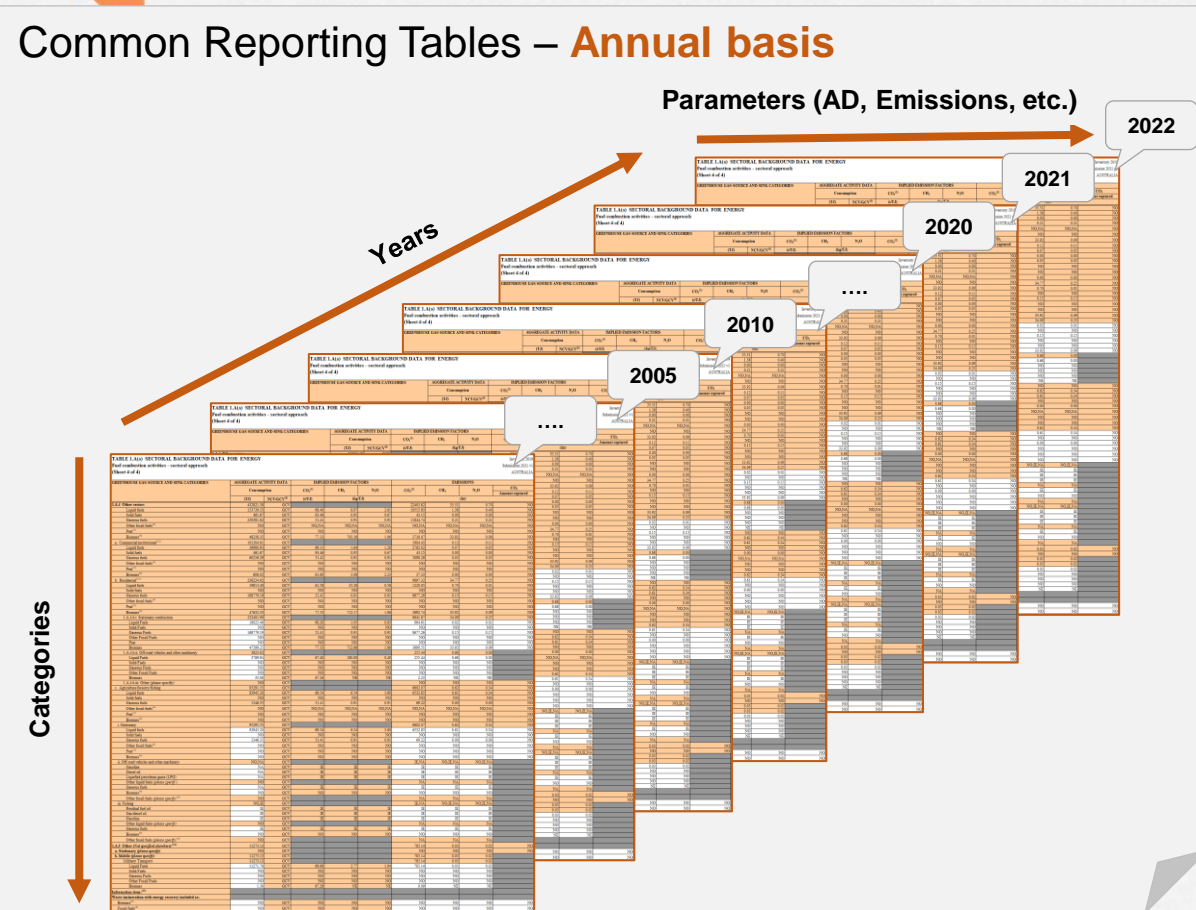
GHG inventory workflow



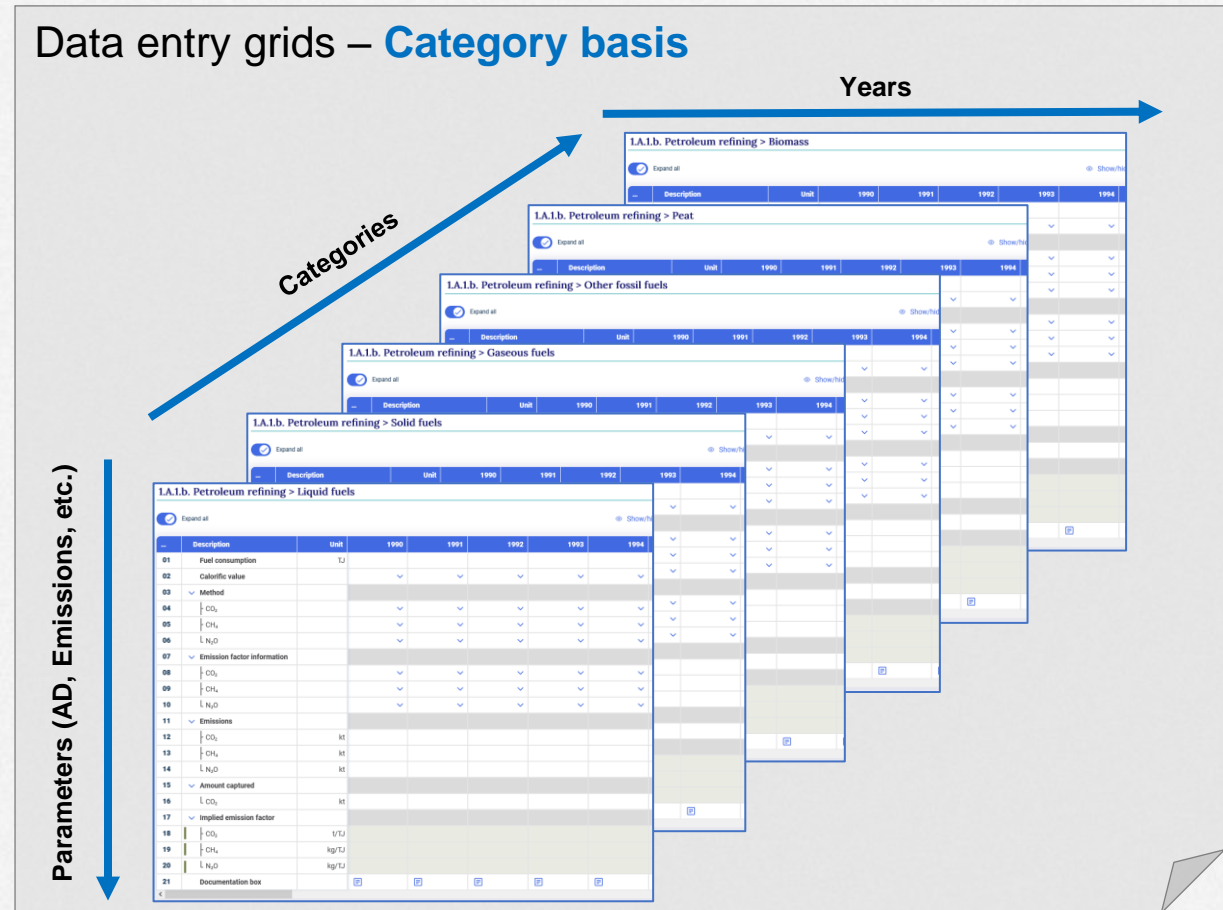
Common Reporting Tables and Data entry grids

i 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



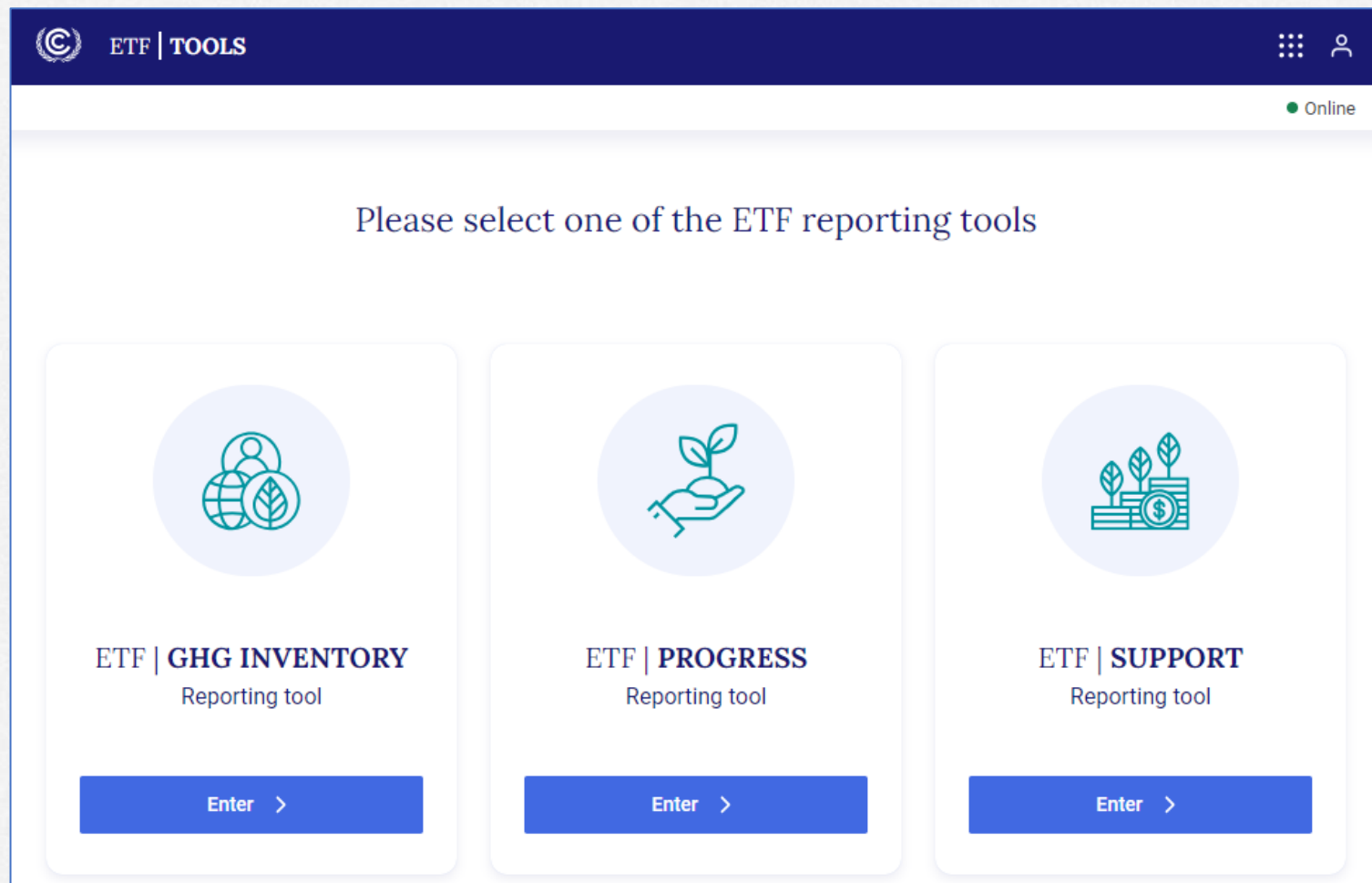
ETF Reporting Tool for GHG Emission Inventories

Main components of the user interface



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ETF Reporting Tools




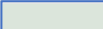
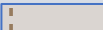
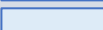
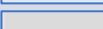

The screenshot shows a web interface for 'ETF | TOOLS'. At the top left is the United Nations logo and the text 'ETF | TOOLS'. At the top right are icons for a grid and a user profile, and a status indicator 'Online' with a green dot. The main content area has the heading 'Please select one of the ETF reporting tools'. Below this are three cards, each with a circular icon, a title, a subtitle, and a blue button with 'Enter >'. The first card has an icon of a globe with a person and a leaf, titled 'ETF | GHG INVENTORY Reporting tool'. The second card has an icon of a hand holding a plant, titled 'ETF | PROGRESS Reporting tool'. The third card has an icon of a stack of coins with a plant growing from them, titled 'ETF | SUPPORT Reporting tool'.



User Interface of GHG Inventory Reporting Tool

The screenshot displays the 'Data entry' section of the GHG Inventory Reporting Tool. On the left, a 'Navigation tree' shows a hierarchy of sectors, with '1.A.1.b. Petroleum refining > Liquid fuels' selected. On the right, 'Data entry grids' are shown for this category. The grid includes columns for 'Description', 'Unit', and years '1990', '1991', and '1992'. The first three rows are highlighted in white, indicating they are ready for manual data entry. The 'Method' row is highlighted in blue, indicating it is cross-referenced. The 'Amount captured' and 'Implied emission factor' rows are highlighted in grey, indicating no input is necessary. The 'Documentation box' row is highlighted in brown, indicating a formula is overwritten with user-entered data.

i 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

This detailed screenshot shows the 'Data entry grids' for '1.A.1.b. Petroleum refining > Liquid fuels'. The grid includes rows for 'Fuel consumption', 'Calorific value', 'Method', 'CH₄', 'N₂O', 'Amount captured', 'Implied emission factor', 'CO₂', 'CH₄', 'N₂O', and 'Documentation box'. The 'Amount captured' and 'Implied emission factor' rows are highlighted in grey, indicating no input is necessary. The 'Documentation box' row is highlighted in brown, indicating a formula is overwritten with user-entered data. The 'CH₄' and 'N₂O' rows are highlighted in green, indicating data is automatically calculated. The 'Method' row is highlighted in blue, indicating it is cross-referenced. The 'Fuel consumption' and 'Calorific value' rows are highlighted in white, indicating they are ready for manual data entry. The 'Documentation box' row has a dropdown arrow, indicating data can be selected from the dropdown list. The 'Comments' and 'Footnotes' sections are visible at the bottom of the grid.

Demo

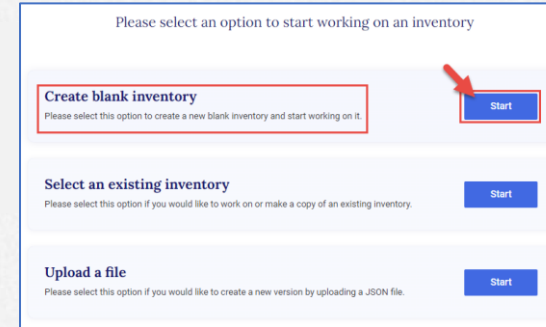
Creating a new submission version



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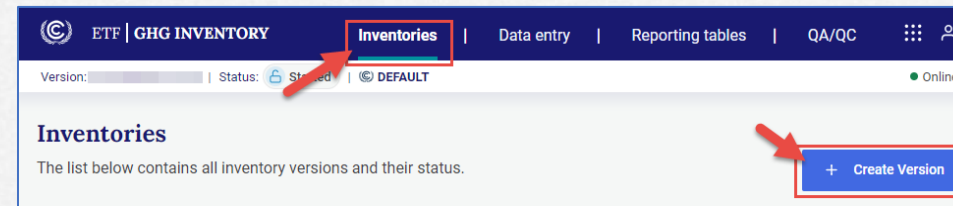
Creating an inventory and version settings (1/2)

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

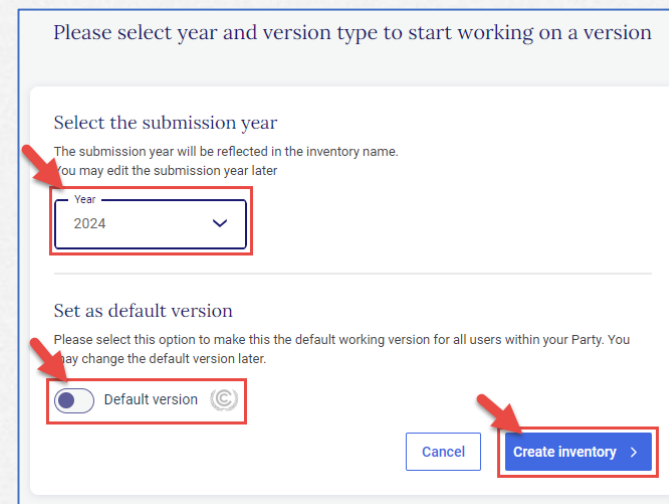


If you are in the “Data entry” tab

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 >”**



Creating an inventory and version settings (2/2)

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

Version Settings

1 Flexibility provisions
Complete

2 Energy

3 IPPU

4 Agriculture

5 LULUCF

1 Flexibility provisions

1 Please specify if any flexibility provisions in light of national capacities will be used.

Yes No

Note: Notation key 'FX' can only be used in data entry when flexibility provisions are used.

2 Select the specific flexibility provisions to be used

Para 58 (Enables to set the last reporting year as submission year minus 3 in the time-series)

The last reporting year in the time series is: Y 2022

Para 57 (Allows to select the reporting years in the time-series including the NDC reference year/period, if applicable)

Specify NDC reference year/period*

NDC reference year NDC reference period Do not specify NDC reference year/period

NDC reference year

2005

Select the reporting years in the time-series*

Years

2005

2005 X

Para 48 (Reporting HFCs, PFCs, SF₆ and NF₃)

Enabling this option will allow to apply flexibility for the selected F-gas(es).

[Exit version settings](#)

3 Next > Go to data entry

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 CO ₂ eq, whichever lower (as opposed to 0.05 per cent or 500 kt CO ₂ 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 (CO ₂ , CH ₄ , and N ₂ O). Also, any of the 4 gases (HFCs, PFCs, SF ₆ , and NF ₃) 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)





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□ Web link

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



ETF | GHG INVENTORY
Reporting tool



Demo Interoperability with the IPCC Software



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Interoperability with IPCC Software

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.

The screenshot displays the IPCC Inventory Software interface. The main window shows the 'Export/Import' menu with 'Export' selected, leading to a sub-menu where 'UNFCCC CRT' is chosen. The 'Worksheet' tab is active, showing a table of fuel consumption data for 'Ethane' with columns for Subdivision, Fuel, Total consumption (TJ), CO2 Emissions (Gg CO2), CH4 Emissions (Gg CH4), and N2O Emissions (Gg N2O). The table shows a total consumption of 5000 TJ, 308 Gg CO2, 0.005 Gg CH4, and 0.0005 Gg N2O.

Subdivision	Fuel	Total consumption (TJ)	CO2 Emissions (Gg CO2)	CH4 Emissions (Gg CH4)	N2O Emissions (Gg N2O)
Unspecified	Ethane	5000	308	0.005	0.0005
Total		5000	308	0.005	0.0005

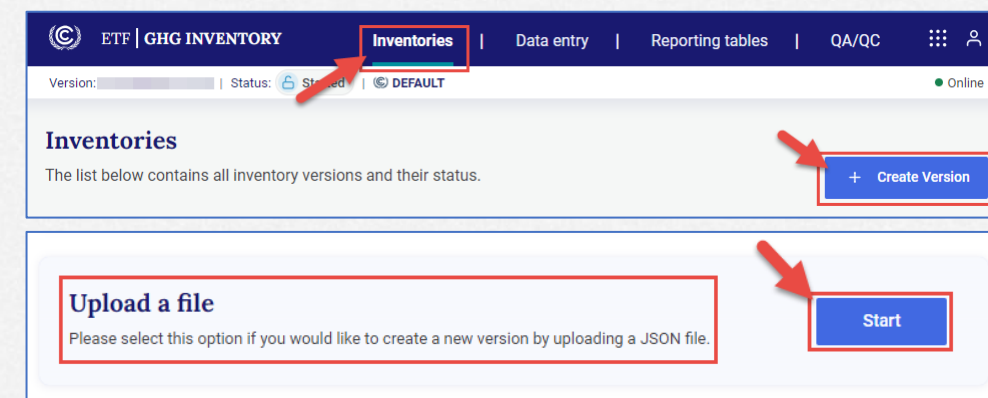
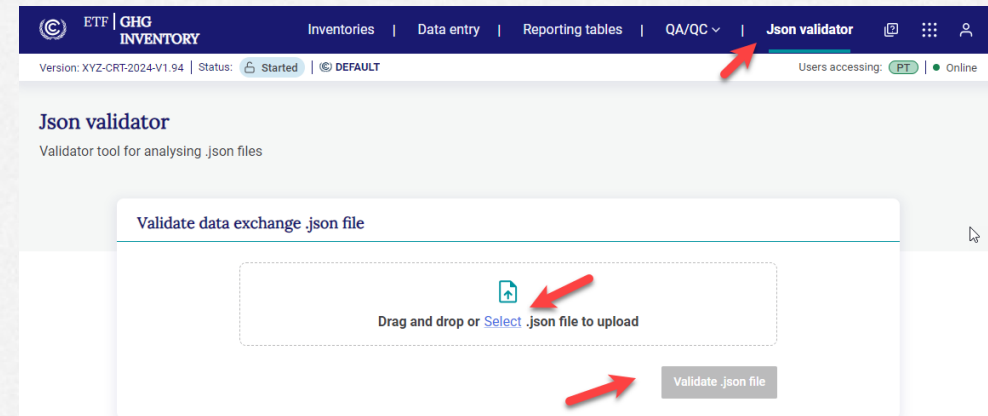
A separate window titled 'CRT Data Set Manager' shows a table with two columns: 'CRT Data Set name' and 'Date created'. The table contains one entry: 'CRT_2' with a date of '01.09.2023 09:58:12'. At the bottom of this window, the 'Generate JSON' button is highlighted with a red box.



Interoperability with IPCC Software

In the GHG Inventory reporting tool

1. In the **JSON Validator** tab, validate the JSON file exported from the IPCC software and download the validated file
2. In the **Inventories** tab, click **+ Create version**
3. Upload the **validated JSON file**. You can also drag and drop the validated 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.



Hans-on Exercise

Manually change data in the data entry grid

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

Login details:

Username: [Email that you registered with]

Password: [Password associated with the account]



*Scan the QR code
for exercise guide*

A screenshot of the UNFCCC Sign in page. At the top left is the UNFCCC logo and the text "United Nations Climate Change". Below this is the heading "Sign in" and a text input field labeled "Your invited email address". Underneath the input field is a link that says "Can't access your account?". At the bottom of the input section are two buttons: "Back" (grey) and "Next" (blue). Below the buttons is a grey box containing text: "Access UNFCCC events and systems here. If you are a guest of ours, please sign in using the email address to which your invitation was sent." and "If you get the error 'This user name may be incorrect...', you may have a linked Microsoft account with another address (UPN); please use the UPN to log in." At the very bottom of the page is a white bar with a magnifying glass icon and the text "Sign-in options".



Hans-on exercise

Scenario

- You realize that data for the latest inventory year (2022) was not updated for the categories **1.A.1.a.i Electricity generation** and **1.A.a.iii Heat Plants**.

Actions

- In the **Inventory** tab, find the inventory version created at the workshop (tip: filter for year 2024 and sort by date descending) and **open the version**
- In the **Data entry** tab, navigate to these categories and update the **Fuel consumption** and **Emissions** data for those categories for all the relevant fuels (Liquid fuels, Solid fuels, Gaseous fuels, Other fossil fuels, Peat, Biomass)

Organization

- Work in groups (max 5 persons per group). Each group updates data for one fuel under one category

Group 1: 1.A.1.a.i Electricity generation, Liquid fuels	Group 7: 1.A.a.iii Heat Plants, Liquid fuels
Group 2: 1.A.1.a.i Electricity generation, Solid fuels	Group 8: 1.A.a.iii Heat Plants, Solid fuels
Group 3: 1.A.1.a.i Electricity generation, Gaseous fuels	Group 9: 1.A.a.iii Heat Plants, Gaseous fuels
Group 4: 1.A.1.a.i Electricity generation, Other fossil fuels	Group 10: 1.A.a.iii Heat Plants, Other fossil fuels
Group 5: 1.A.1.a.i Electricity generation, Peat	Group 11: 1.A.a.iii Heat Plants, Peat
Group 6: 1.A.1.a.i Electricity generation, Biomass	Group 12: 1.A.a.iii Heat Plants, Biomass


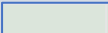
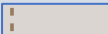
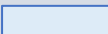
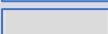



Some features in Data entry

- 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 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

Demo Export Reporting Tables



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Thank you



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Full Hands-on Training



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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



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 some of the features of the GHGI Reporting tool.
3. Please **feel free to ask questions** while performing the exercises.
4. 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.





*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

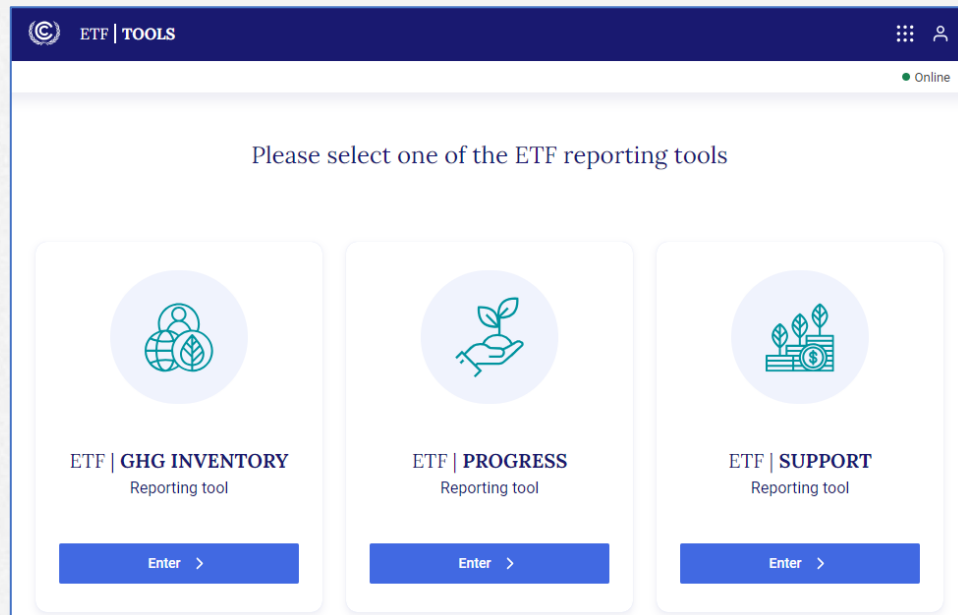
- ❑ Weblink to access the ETF Reporting Tools

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

- ❑ Login in details

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

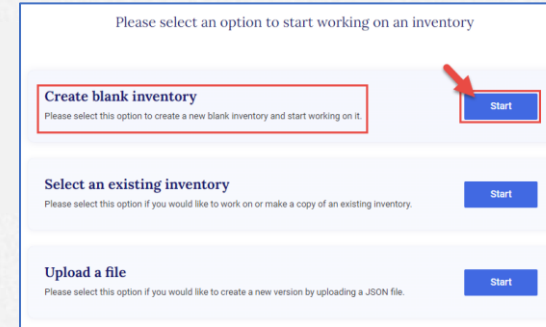
Follow on-screen instruction to get the code in your email



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

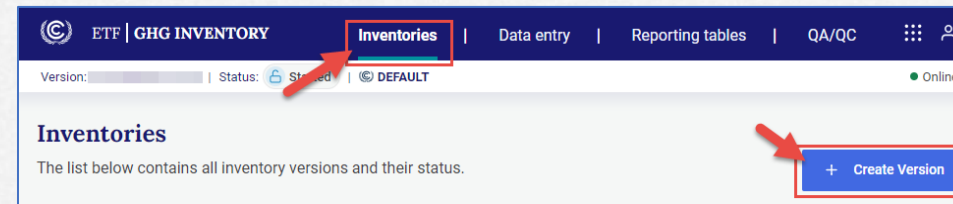
Creating an inventory and version settings (1/2)

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

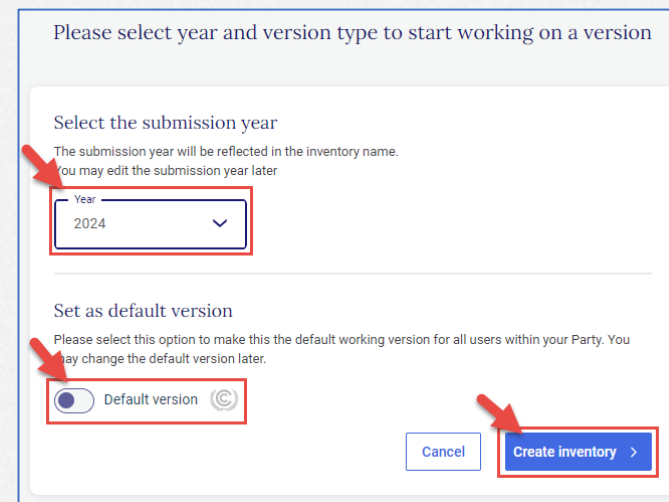


*If you are in the “**Data entry**” tab*

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 >**”



Creating an inventory and version settings (2/2)

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

Version Settings

1 Flexibility provisions
Complete

2 Energy

3 IPPU

4 Agriculture

5 LULUCF

1 Flexibility provisions

1 Please specify if any flexibility provisions in light of national capacities will be used.

Yes No

Note: Notation key 'FX' can only be used in data entry when flexibility provisions are used.

2 Select the specific flexibility provisions to be used

Para 58 (Enables to set the last reporting year as submission year minus 3 in the time-series)

The last reporting year in the time series is: Y 2022

Para 57 (Allows to select the reporting years in the time-series including the NDC reference year/period, if applicable)

Specify NDC reference year/period*

NDC reference year NDC reference period Do not specify NDC reference year/period

NDC reference year 2005

Select the reporting years in the time-series*

Years 2005

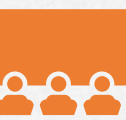
2005 ×

Para 48 (Reporting HFCs, PFCs, SF₆ and NF₃)

Enabling this option will allow to apply flexibility for the selected F-gas(es).

× Exit version settings

3 Next > Go to data entry



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)
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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

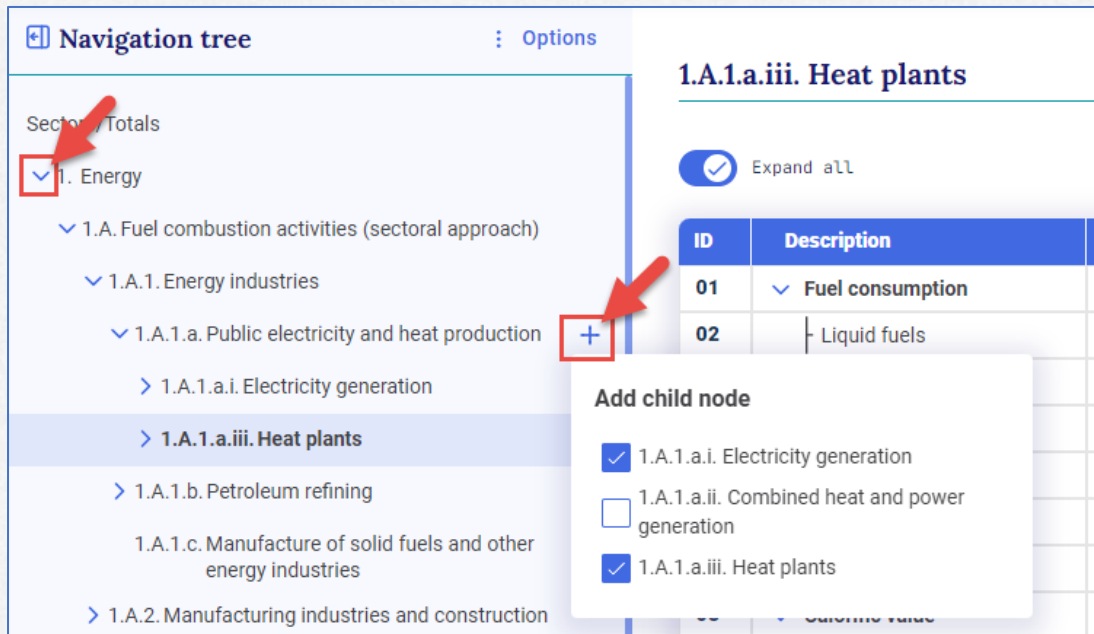
The screenshot displays the 'GHG INVENTORY' application interface. At the top, there are navigation tabs for 'Inventories', 'Data entry', 'Reporting tables', and 'QA/QC'. The current view is 'Data entry', showing a 'Data entry grid' for '1.A.1.b. Petroleum refining > Liquid fuels'. The interface includes a 'Navigation tree' on the left, a 'Data entry grid' on the right, and a 'Comments' section at the bottom. The data entry grid has columns for 'Description', 'Unit', and years '1990', '1991', and '1992'. The grid contains 21 rows of data, including 'Fuel consumption', 'Calorific value', 'Method', 'Emission factor information', 'Emissions', 'Amount captured', and 'Implied emission factor'. The 'Documentation box' is also visible at the bottom of the grid.

...	Description	Unit	1990	1991	1992
01	Fuel consumption				
02	Calorific value				
03	Method				
04	CO ₂				
05	CH ₄				
06	N ₂ O				
07	Emission factor information				
08	CO ₂				
09	CH ₄				
10	N ₂ O				
11	Emissions				
12	CO ₂				
13	CH ₄				
14	N ₂ O				
15	Amount captured				
16	CO ₂				
17	Implied emission factor				
18	CO ₂				
19	CH ₄				
20	N ₂ O				
21	Documentation box				



Customizing navigation tree – Adding country-specific category

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”



Navigation tree Options

1.A.1.a.iii. Heat plants

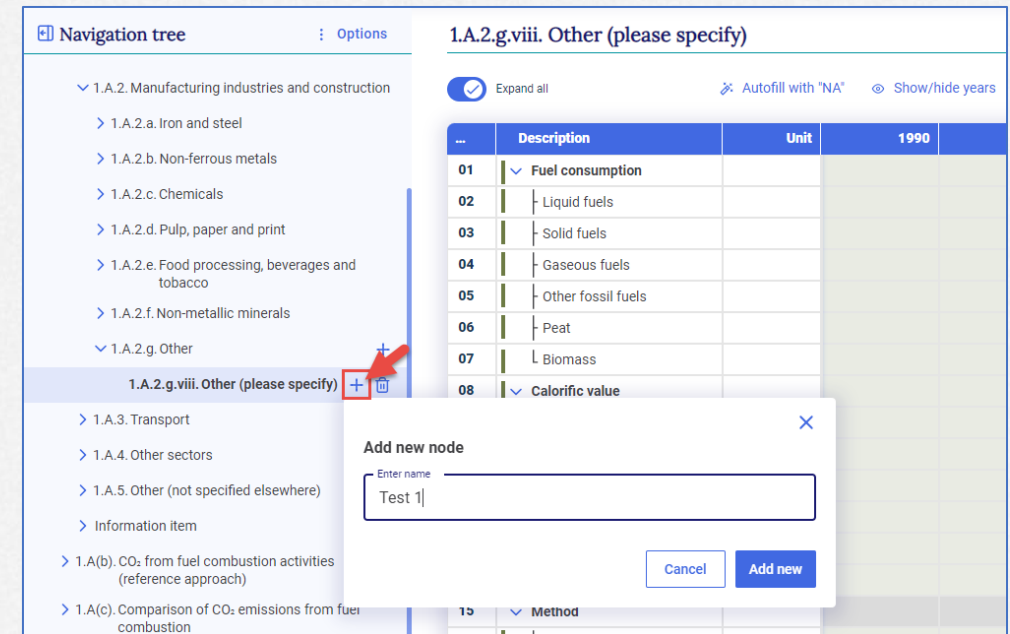
Expand all

ID	Description
01	▼ Fuel consumption
02	└ Liquid fuels

Add child node

- 1.A.1.a.i. Electricity generation
- 1.A.1.a.ii. Combined heat and power generation
- 1.A.1.a.iii. Heat plants

Adding pre-defined sub-category



Navigation tree Options

1.A.2.g.viii. Other (please specify)

Expand all Autofill with "NA" Show/hide years

ID	Description	Unit	1990
01	▼ Fuel consumption		
02	└ Liquid fuels		
03	└ Solid fuels		
04	└ Gaseous fuels		
05	└ Other fossil fuels		
06	└ Peat		
07	└ Biomass		
08	▼ Calorific value		

Add new node

Enter name

Test 1

Cancel Add new

Adding country specific category

Customizing navigation tree – Editing/deleting country-specific category

Editing user-specified category

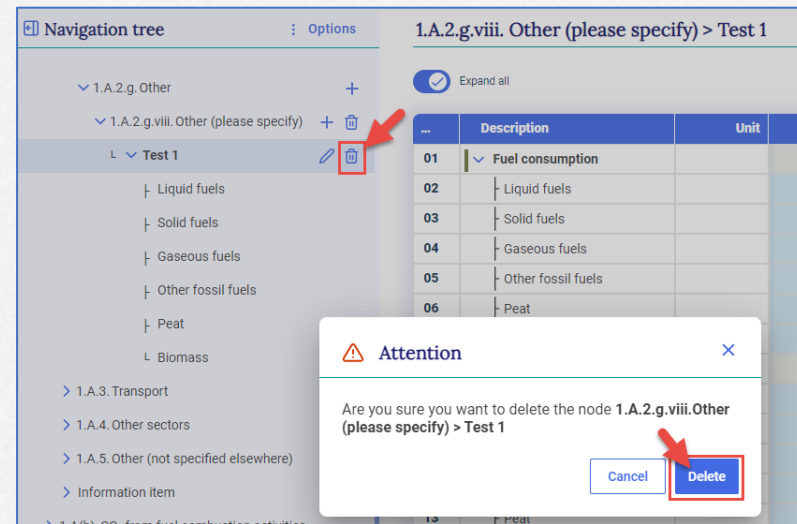
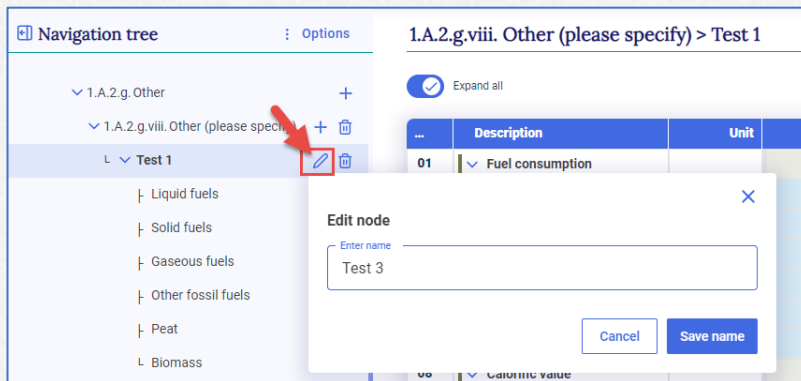
1. Click on the added category and click on the pen icon to edit the child node name
2. Rename the child node and Click **‘Save name’** to confirm rename.

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. !!!





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”

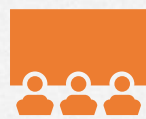
Exercise 2d:

- 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

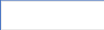
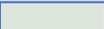
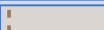
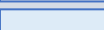
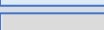

- ❑ Automatic data entry validation
 - ✓ Either a number or a notation key (NO, NA, IE, NE, C, FX)
 - ✓ The notation keys entered in a year propagate to the subsequent years
 - ✓ Number to be separated by a dot (".") to signify a decimal point
 - ✓ Number should be between 0 and 1 where fractions are 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

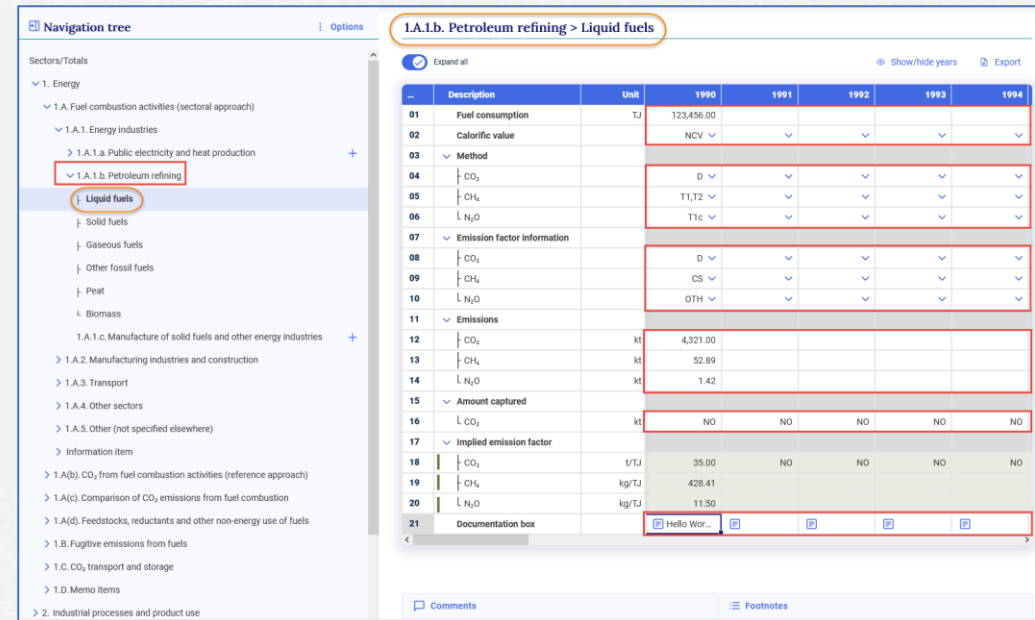


Manual data entry can be done in the data entry grids of each category in the navigation tree. Color codes are used in the data entry grids:

-  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.



The screenshot shows the 'Navigation tree' on the left and the 'Data Entry Grid' on the right. The navigation tree is expanded to '1.A.1.b. Petroleum refining > Liquid fuels'. The data entry grid shows the following data:

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 L N ₂ O	T1c					
07 Emission factor information						
08 CO ₂	D					
09 CH ₄	CS					
10 L N ₂ O	OTH					
11 Emissions						
12 CO ₂	kt	4,321.00				
13 CH ₄	kt	52.89				
14 L N ₂ O	kt	1.42				
15 Amount captured						
16 L 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 L N ₂ O	kg/TJ	11.50				
21 Documentation box		Hello Wor...				

Disabling automatic aggregation



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.

Version: XYZ-CRT-2024-V0.84 | Status: Started | Data synchronized | Online

Navigation tree: 1. Energy > 1.A. Fuel combustion activities (sectoral approach) > 1.A.1. Energy industries > 1.A.1.c. Manufacture of solid fuels and other energy industries

1.A.1.c. Manufacture of solid fuels and other energy industries

	Description	Unit	1990	1991	1992	1993	1994
01	Fuel consumption	TJ	5,667.87	589.58	8,953.48	NA,NE,NO	NA,NE,NO
02	Liquid fuels	TJ	5,432.89				
03	Solid fuels	TJ	234.98				
04	Gaseous fuels	TJ	NO	NO	NO	NO	NO
05	Other fossil fuels	TJ	NE	NE	NE	NE	NE
06	Peat	TJ	NA	NA	NA	NA	NA
07	Biomass	TJ	C	C	C	C	C
08	Calorific value		NCV	NCV	NCV	NCV	NCV
09	Liquid fuels		NCV	NCV	NCV	NCV	NCV
10	Solid fuels						
11	Gaseous fuels						

Note: A red box highlights rows 04-07, and a red callout bubble points to the '1.A.1.c. Manufacture of solid fuels and other energy industries' category in the navigation tree with the text 'No categories added.'

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 CH₄ emissions in the first reporting year.
- Fill numeric values for CO₂ and N₂O

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



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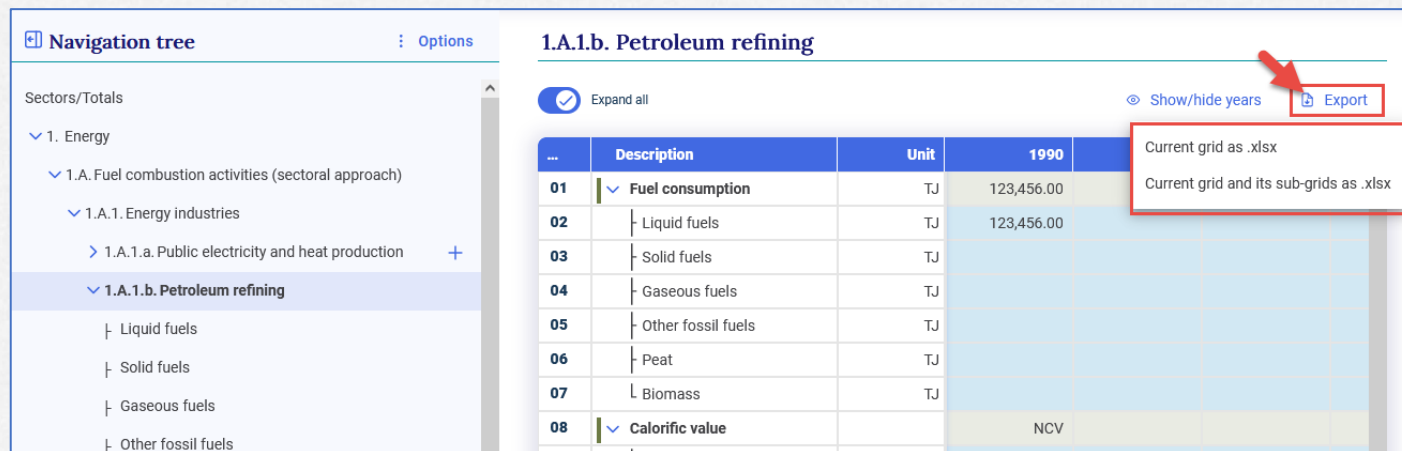


Excel data input – Exporting Excel tables for data entry

i 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.

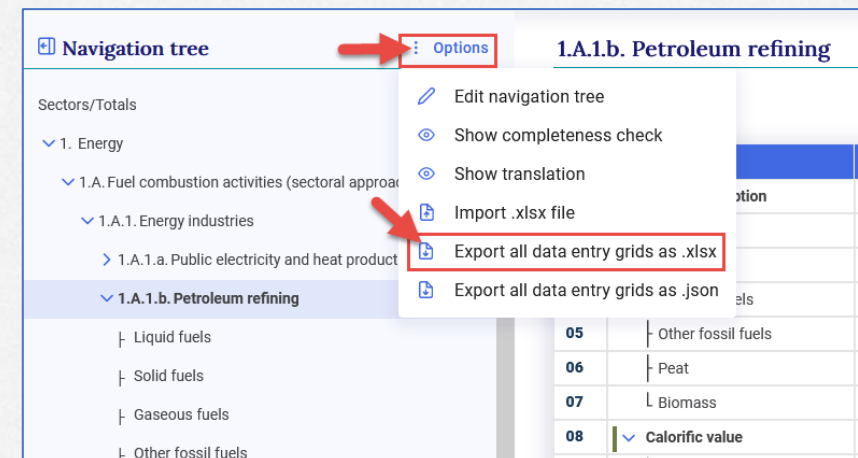
Exporting excel data entry grids

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**”.



The screenshot shows the '1.A.1.b. Petroleum refining' section. The 'Export' button is highlighted with a red box and an arrow. A dropdown menu is open, showing two options: 'Current grid as .xlsx' and 'Current grid and its sub-grids as .xlsx', both also highlighted with red boxes.

Description	Unit	1990
01 Fuel consumption	TJ	123,456.00
02 Liquid fuels	TJ	123,456.00
03 Solid fuels	TJ	
04 Gaseous fuels	TJ	
05 Other fossil fuels	TJ	
06 Peat	TJ	
07 Biomass	TJ	
08 Calorific value	NCV	



The screenshot shows the 'Options' menu open. The 'Export all data entry grids as .xlsx' option is highlighted with a red box and an arrow. The 'Options' button is also highlighted with a red box and an arrow.

Description	Unit	1990
05 Other fossil fuels		
06 Peat		
07 Biomass		
08 Calorific value		



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

i 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 ₂ O		T2							
11	07	Emission factor information									
12	08	CO ₂		D							
13	09	CH ₄		CS							
14	10	N ₂ O		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 ₂ O	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 ₂ O	kg/TJ	70.47							
25	21	Documentation box		Hello again!							
26											

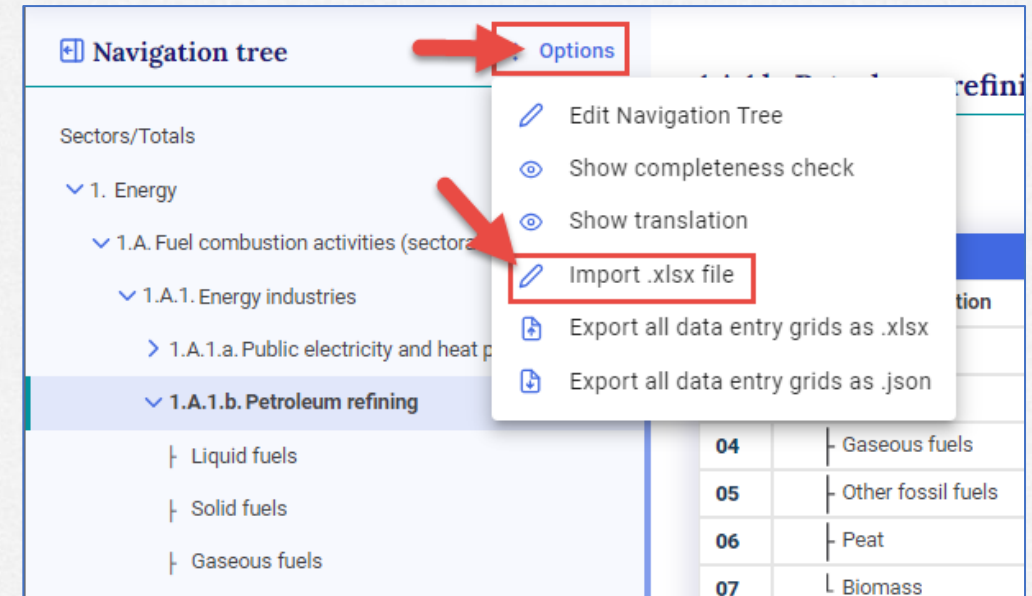
Excel data input – Importing Excel tables into the tool



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.





Exercise: Data entry with Excel export / import

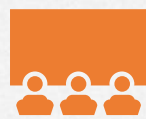
Exercise 4:

- 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 CH₄ 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.



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exercise guide*





Version settings for inventory

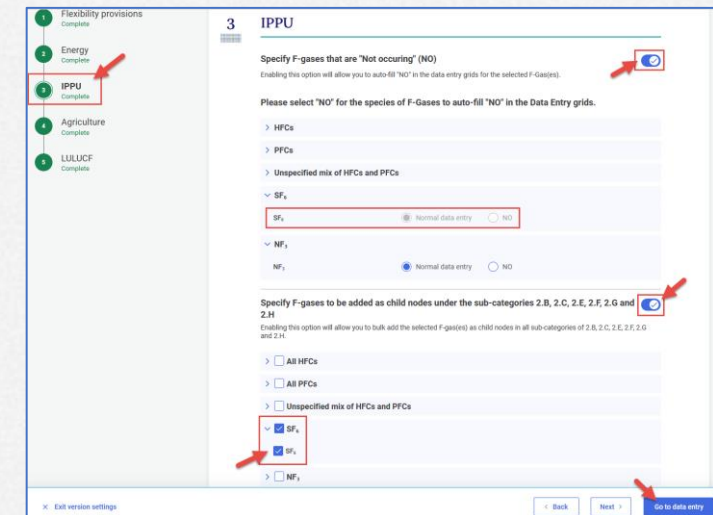
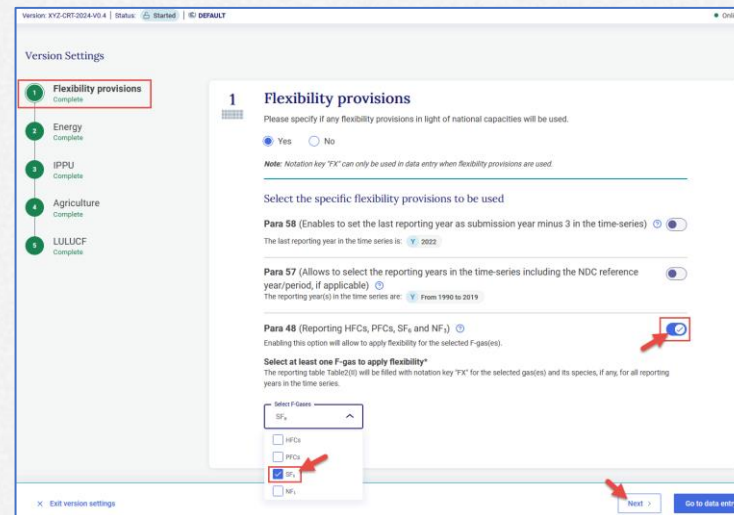
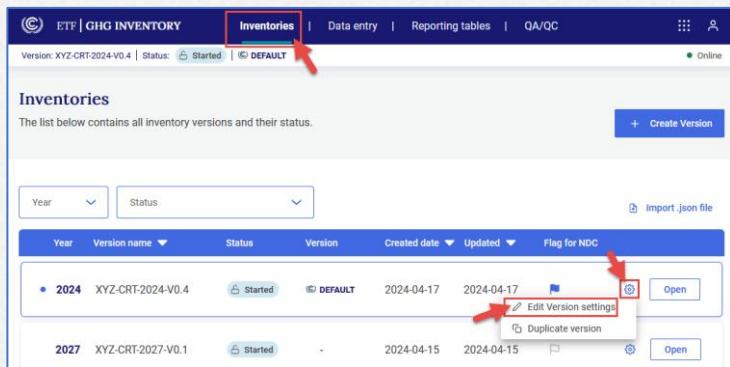
Settings		Explanation
Flexibility provisions	Application of flexibility provision	Option to apply flexibility for those developing country Parties that need it in the light of their capacities. The notation key 'FX' can be used in data entry only when flexibility provisions are used.
	Para 58 (Last year 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

i 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”**





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'



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exercise guide*





Comments, NK explanation, Documentation box, Footnotes



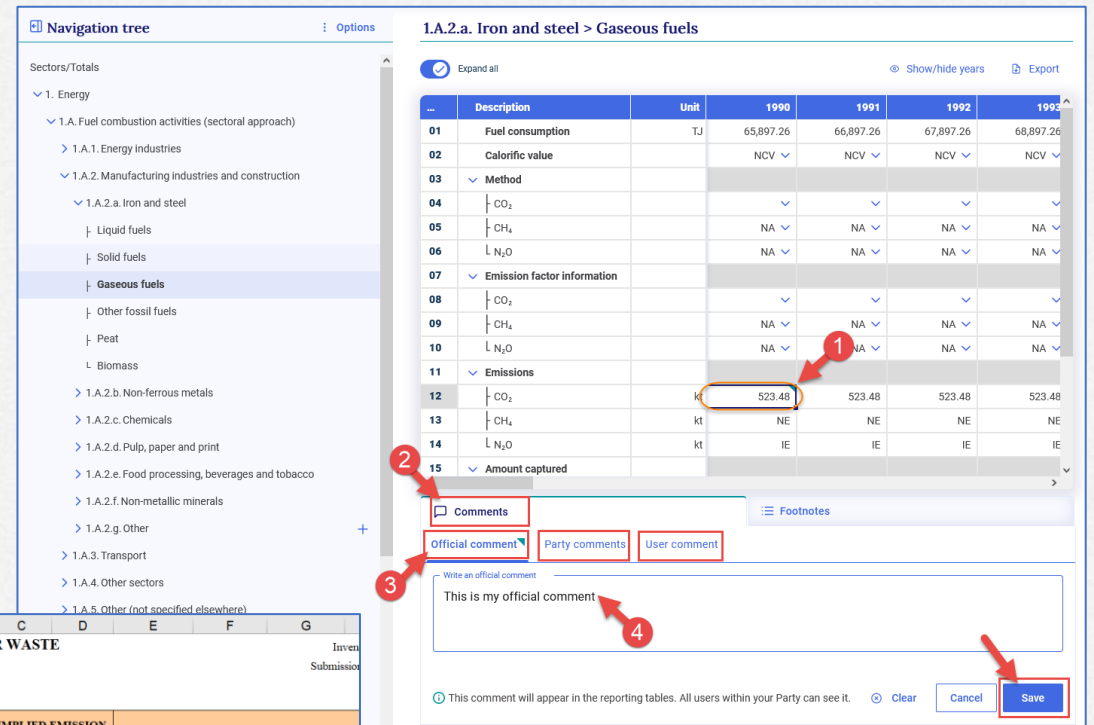
Type		Definition
Cell comments	Official comment	Official comment at the cell level of data entry. This will be reflected in the respective reporting tables of the official GHG inventory submission.
	Party comment	A comment entered by a user that they would like to share with the other users within their 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

i 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

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA AND OTHER RELATED INFORMATION	IMPLIED EMISSION FACTOR		EMISSIONS		
		CH ₄ ⁽¹⁾	N ₂ O	CH ₄	Amount of CH ₄ flared	Amount of CH ₄ for energy recovery ⁽²⁾
	Annual waste amount treated			Emission ⁽²⁾		
	(kt dm)	(g/kg waste)			(kt)	
1. Composting	1174.31	2.78	0.78	3.27	NO	
10 Municipal solid waste	69.99	2.06	0.48	0.14	NO	
11 Other (please specify) ⁽⁴⁾	1104.32	2.83	0.80	3.13	NO	
12 Industrial Waste	1097.72	2.83	0.80	3.10	NO	
13 Human Waste and Jokkasou sludge	6.60	3.20	0.90	0.02	NO	
14 2. Anaerobic digestion at biogas facilities ⁽³⁾	NE			NE	NE	NE
15 Municipal solid waste	NE			NE	NE	NE
16 Other (please specify) ⁽⁴⁾	NE			NE	NE	NE

Official comment: considered insignificant (details in NIR Annex 5)

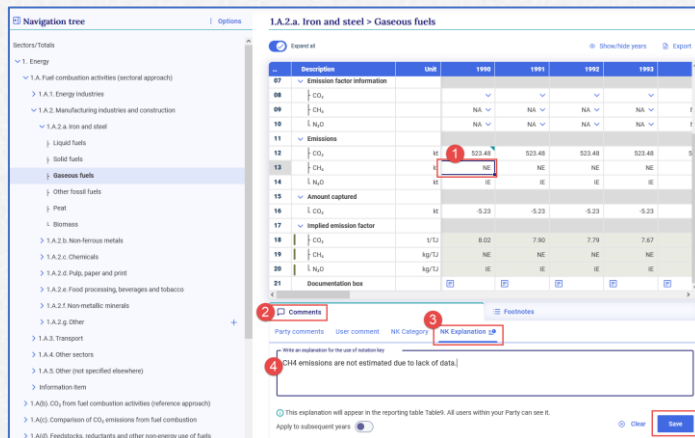
Comments reflected in CRT



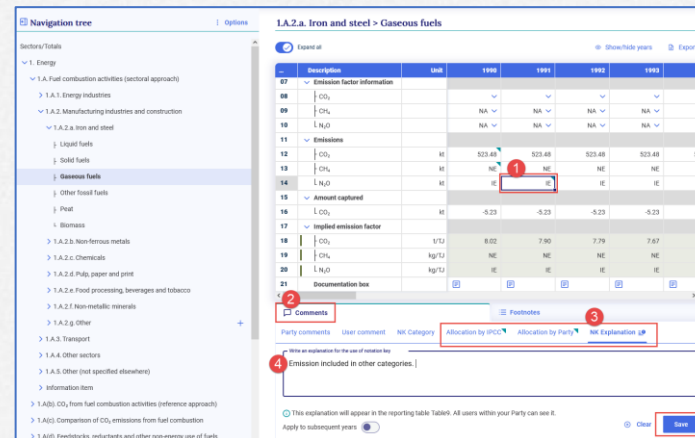
Working with Notation keys “NE” and “IE”

i 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

TABLE 9 - COMPLETENESS - INFORMATION ON NOTATION KEYS (Sheet 1 of 1)				
GRG	Sector ⁹⁸	Source/link category ⁹⁹	Allocation by Party	Explanation
7	Industrial Processes and Product Use	2.C. Metal Industry-2.C.1 Aluminium Production-2.C.1.b By-Product Emissions-CF6		not estimated due to lack of data
8	Industrial Processes and Product Use	2.C. Metal Industry-2.C.1 Aluminium Production-2.C.1.b By-Product Emissions-CF4		not estimated due to lack of data
9	Energy	1.AA Fuel Combustion - Sectoral approach 1.A.3 Transport 1.A.3.b Road Transport 1.A.3.b.1 Car/Other Liquid Fuels (please specify/Lubricants)		Neglected according to the 2006 IPCC Guidelines, Vol. 1, page 5.7
10	Energy	1.AA Fuel Combustion - Sectoral approach 1.A.3 Transport 1.A.3.b Road Transport 1.A.3.b.1 Light duty trucks/Other Liquid Fuels (please specify/Lubricants)		Neglected according to the 2006 IPCC Guidelines, Vol. 1, page 5.7
11	Energy	1.AA Fuel Combustion - Sectoral approach 1.A.3 Transport 1.A.3.b Road Transport 1.A.3.b.1 Motorcycles/Other Liquid Fuels (please specify/Lubricants)		Neglected according to the 2006 IPCC Guidelines, Vol. 1, page 5.7
12	Energy	1.AA Fuel Combustion - Sectoral approach 1.A.3 Transport 1.A.3.b Domestic Navigation/Other Liquid Fuels (please specify/Lubricants)		Neglected according to the 2006 IPCC Guidelines, Vol. 1, page 5.7
13	Energy	1.B Fugitive Emissions from Fuels 1.B.1 Solid Fuels 1.B.1.a Coal Mining and Handling 1.B.1.a.1 Underground Mines 1.B.1.a.1.a Pool-Mining Activities		Recovery-firing is not estimated due to lack of data
14	Energy	1.B Fugitive Emissions from Fuels 1.B.1 Solid Fuels 1.B.1.a Coal Mining and Handling 1.B.1.a.2 Surface Mines 1.B.1.a.2.1 Mining Activities		Recovery-firing is not estimated due to lack of data
GRG	Source/link category	Allocation by Party	Allocation used by the Party	Explanation
101	Semiconductors	1.E Electronics Industry-2.E.1 TFT Flat Panel Display-CF6		Included in 2.E.1 Unspecified mix of PFCS
102	Semiconductors	1.E Electronics Industry-2.E.1 TFT Flat Panel Display		Included in 2.E.1 Unspecified mix of PFCS
103	Semiconductors	1.E Electronics Industry-2.E.1 Integrated Circuit or Semiconductor-CF6		Included in 2.E.1 Unspecified mix of PFCS
104	Semiconductors	1.E Electronics Industry-2.E.1 Integrated Circuit or Semiconductor-CF4		Included in 2.E.1 Unspecified mix of PFCS
105	Photovoltaics	1.E Electronics Industry-2.E.3 TFT Flat Panel Display-CF4		Included in 2.E.3 Unspecified mix of PFCS
106	Photovoltaics	1.E Electronics Industry-2.E.3 Photovoltaics-CF4		Included in 2.E.3 Unspecified mix of PFCS

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 N₂O emissions from N mineralization/immobilization > 4(III).A.1. Forest land remaining forest land
- Identify the Direct and Indirect emissions for N₂O emissions
- Enter "NE" for Direct emissions (N₂O) and "IE" for Indirect emissions (N₂O)
- 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.



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Viewing/download reporting tables

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.

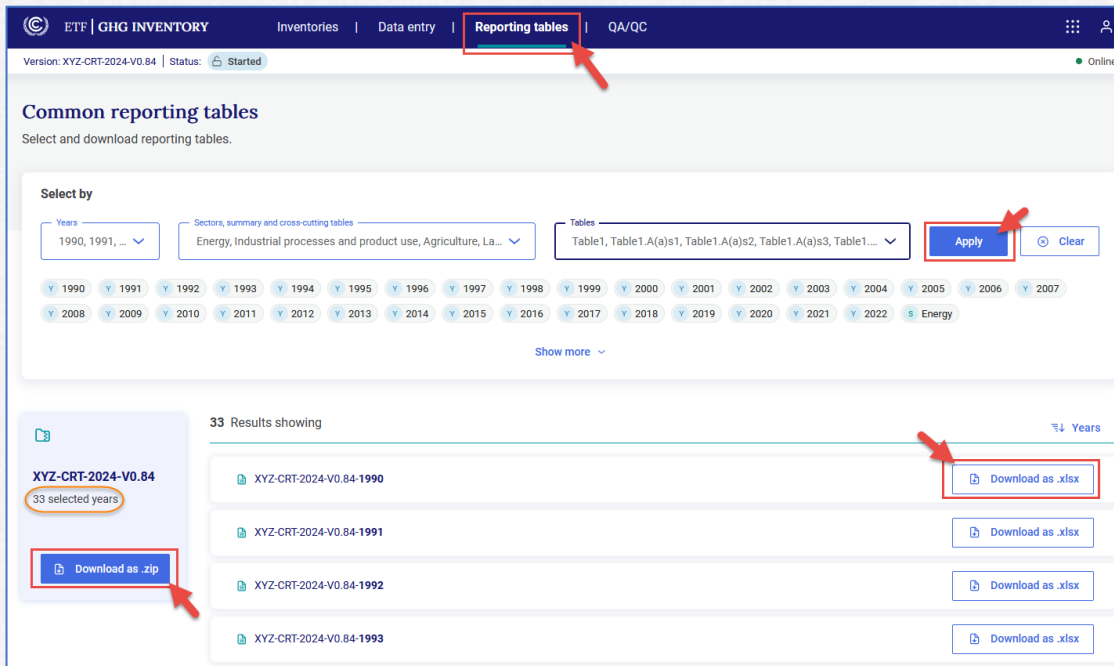


TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY
 Fuel combustion activities - sectoral approach
 (Sheet 1 of 4)

1994
 XYZ-CRT-2026-V0.25
 XYZ

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS			AMOUNT CAPTURED ⁽¹⁾
	Consumption (TJ)	NCV/GCV ⁽²⁾	CO ₂ ⁽³⁾ (t/TJ)	CH ₄ (kg/TJ)	N ₂ O	CO ₂ ⁽³⁾	CH ₄	N ₂ O	CO ₂
I.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 ⁽⁹⁾	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
I.A.1. Energy industries	352470	GCV				32519.644	0.42802	0.53	-500
Liquid fuels	40000	GCV	69.39485		3	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 ⁽⁹⁾	NE	GCV	NE	NE	NE	NE	NE	NE	NE
I.A.1.a. Public electricity and heat production⁽¹⁰⁾	312770	GCV				29766.95	0.30892	0.507585	-500
Liquid fuels	300	GCV	77		3	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 ⁽⁹⁾	NE	GCV	NE	NE	NE	NE	NE	NE	NE
I.A.1.b. Petroleum refining	39700	GCV				2752.694	0.1191	0.02382	NE
Liquid fuels	39700	GCV	69.33738035		3	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 ⁽⁹⁾	NE	GCV	NE	NE	NE	NE	NE	NE	NE
I.A.1.c. Manufacture of solid fuels and other energy industries⁽¹⁰⁾	NE	GCV				NE	NE	NE	NE



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



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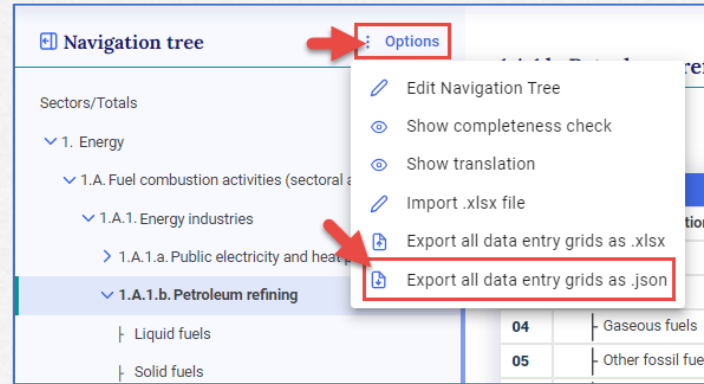
JSON data input – Export/ Import JSON file



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

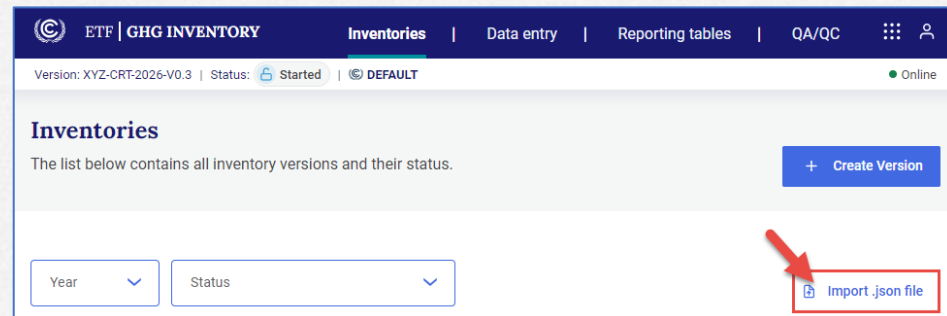
```

{
  "version": {
    "metadata_ver": "1.18.2",
    "country": "XYZ",
    "data_version": "XYZ-CRT-2026-V0.3",
    "metadata_type": "CRT"
  },
  "country_specific_data": {
    "variables": [],
    "nodes": [
      {
        "uid": "A4506cc2-9907-4443-a05f-63940d98ab68"
      },
      {
        "uid": "f34d2d25-1057-492a-b144-da8f76247050"
      },
      {
        "uid": "7d600ea7-0cd2-4812-a717-c054f65892fd"
      }
    ],
    "grids": [],
    "dimension_instances": []
  },
  "data": {
    "values": [
      {
        "inventory_year": "1990",
        "values": [
          {
            "variable_uid": "cbb4b5f6-5c97-4550-a52e-2c706bc15a2d",
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              "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
          }
        ]
      }
    ]
  }
}
  
```

JSON Sample

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)

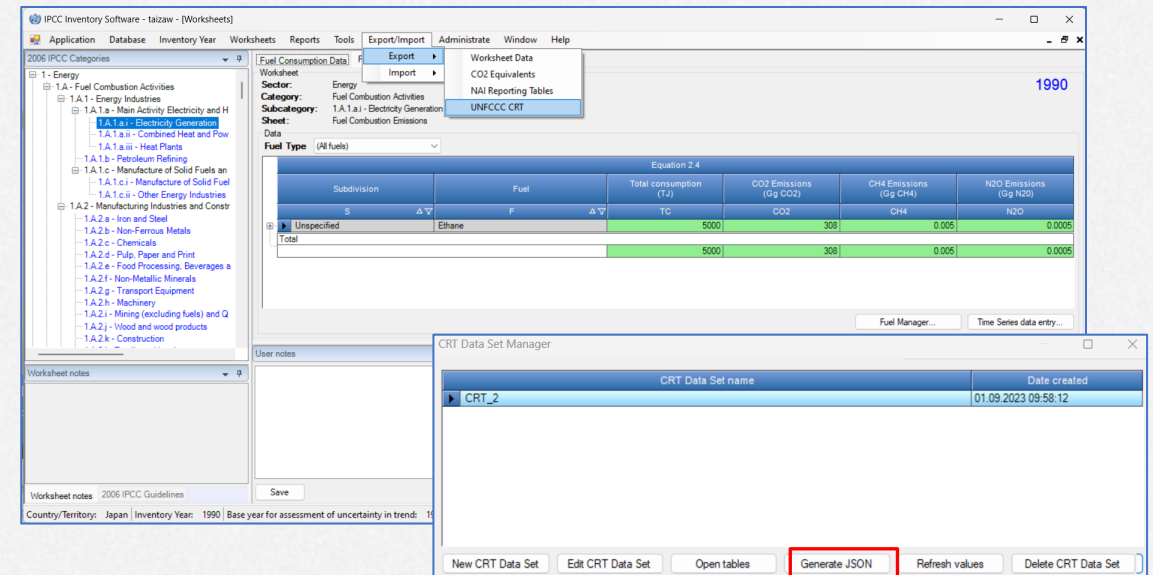


The interoperability with the IPCC Software allows the transfer of the data from the IPCC software to the GHG Inventory Reporting Tool. After estimating the national GHG inventory Parties can export the JSON data exchange file from IPCC software and import it to GHG inventory reporting tool. Please note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



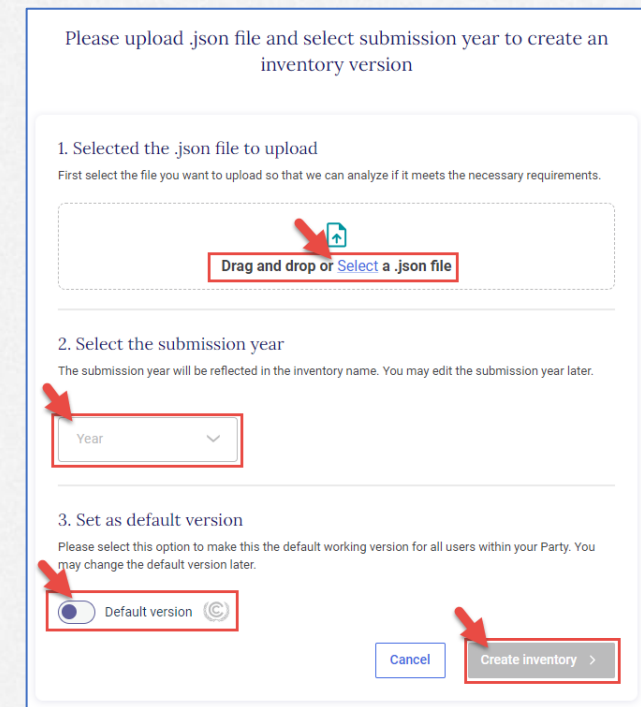
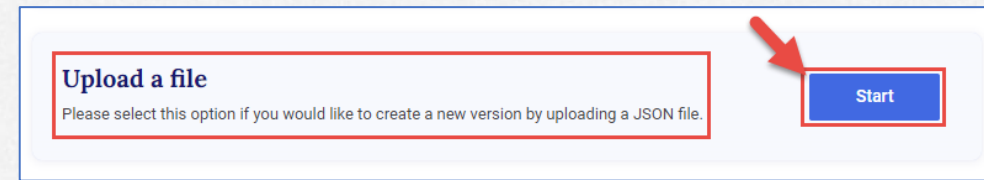
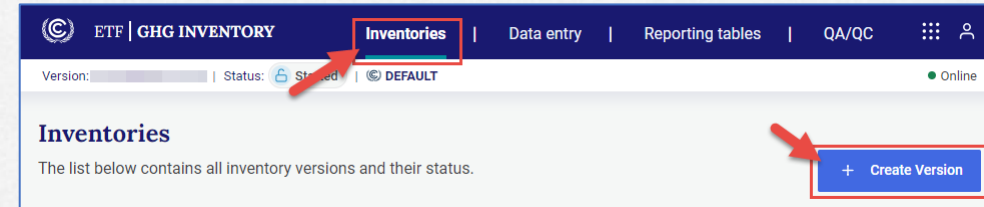
The screenshot shows the IPCC Inventory Software interface. The 'Export/Import' menu is open, and 'Export' is selected. The 'Export' submenu is also open, showing 'UNFCCC CRT' as the selected option. The main window displays a table of fuel consumption data for Ethane, with columns for Subdivision, Fuel, Total consumption (TJ), CO2 Emissions (Gg CO2), CH4 Emissions (Gg CH4), and N2O Emissions (Gg N2O). The 'Generate JSON' button in the CRT Data Set Manager dialog is highlighted with a red box.

Subdivision	Fuel	Total consumption (TJ)	CO2 Emissions (Gg CO2)	CH4 Emissions (Gg CH4)	N2O Emissions (Gg N2O)
Unspecified	Ethane	TC	5000	308	0.005
Total			5000	308	0.005

Interoperability with IPCC Software (2/2)

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.





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.



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Tools.Support@unfccc.int

