



Demonstration of Interoperability between IPCC Inventory Software and UNFCCC ETF Reporting Tool for GHG Inventory

Baku, Azerbaijan

IPCC TFI TSU

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Session

1

Data import via XML – demonstration and exercise

2

Demonstration Interoperability in IPCC Software

3

Exercises – your turn

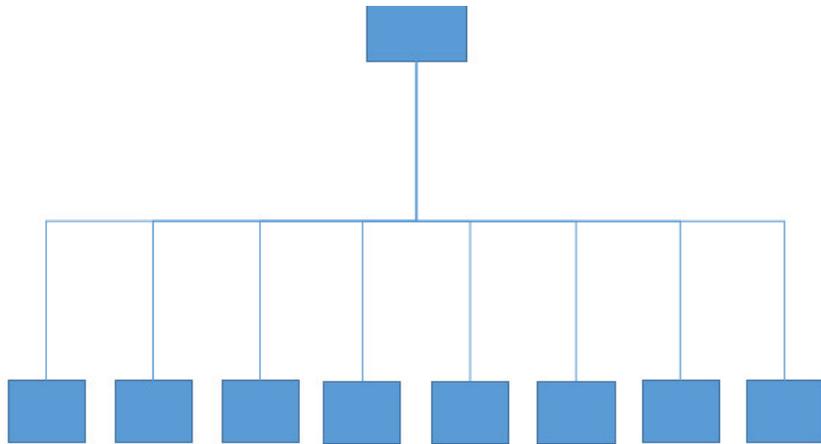
4

Hands-on demonstration of interoperability in ETF Reporting Tool

Data import via XML

Preparing GHGI Team to Start Work

A single database is shared on an intranet

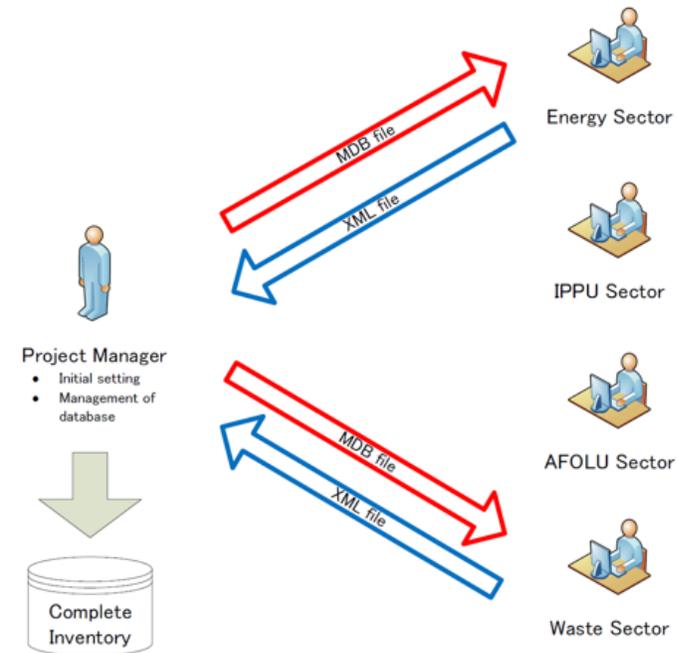


Preferable: all NGHGI data can be shared in real time, including information necessary for the CRT

Note that sharing the database with

- Microsoft Sharepoint will not allow users to access it
- Googledrive may cause data losses
- Microsoft SQL Server cannot be used with current version of the *Software*

Sector compilers share work via XML



Note: Approach requires the coordinator to compile additional explanatory information for the CRT after XML import, working with sector experts, as necessary

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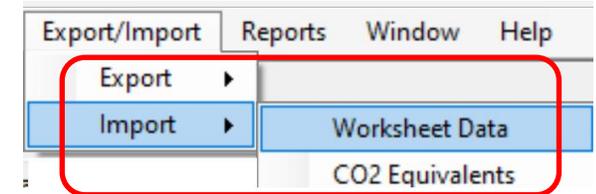
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XML Import/Export



- From main menu, select export/import. Opens a dialog box that allows exporting / importing one or more categories of current inventory year in XML format.



- Export and import limited to current and open inventory year only – make sure year's match!!



- Export/import must be between same versions of the database and same country code
 - This country list is based on the [UN list](#). In addition, the user may select “World” as a country, in which case all defaults will appear in the relevant dropdowns
 - **Note on Interoperability:** “World” is not read by UNFCCC ETF Reporting Tool
 - Country selection applies to database, not Software; Software can manage databases of different countries



- When importing information for a category, all subdivisions in that category will be overwritten

Exercise: Import XML files

1. Import the XML file for 2015 : File name = Interoperability exercise_2015_XML

Remember!! Be sure that inventory year 2015 is open!

- Review after import, you should see data for IPCC categories 1.A.1.a.i (Electricity generation), 2.A.1 (Cement Production), 2.C.1 (Iron and steel production) and 2.F.1.a (Refrigeration and Air Conditioning)
- What do you notice about the worksheet for 2.F.1.a? How is it different than the other categories after import?

Need a hint? 

See Section Export/Import Menu of the Software Manual in PowerPoint

1. Import “Interoperability exercise_2022_XML”

If you don't have 2015 or 2022 in the Main Menu under **Inventory Year / Choose**, then see how to create a new inventory year in Section First Run of the Software Manual in PowerPoint

- 2006 IPCC Categories
- 1 - Energy Industries
 - 1.1 - Energy Industries
 - 1.1.a - Main Activity Electricit
 - 1.1.a.i - Electricity Genera
 - 1.1.a.i.i - Combined Heat
 - 1.1.a.i.iii - Heat Plants
 - 1.1.b - Petroleum Refining
 - 1.1.c - Manufacture of Solid F
 - 1.1.c.i - Manufacture of S
 - 1.1.c.ii - Other Energy Ind
- 2 - Manufacturing Industries an
 - 2.a - Iron and Steel
 - 2.b - Non-Ferrous Metals
 - 2.c - Chemicals
 - 2.d - Pulp, Paper and Print
 - 2.e - Food Processing, Bev
 - 2.f - Non-Metallic Minerals
 - 2.g - Transport Equipment
 - 2.h - Machinery
 - 2.i - Mining (excluding fuels)
 - 2.j - Wood and wood produ
 - 2.k - Construction
 - 2.k.i - Textile and Leather
 - 2.k.m - Non-specified Industr
- 3 - Transport
 - 3.a - Civil Aviation
 - 3.a.i - International Avia
 - 3.a.i.i - Domestic Aviatio
 - 3.a.b - Road Transportation
 - 3.a.b.i - Cars
 - 3.a.b.i.1 - Passenger
 - 3.a.b.i.2 - Passenger
 - 3.a.b.ii - Light-duty trucks
 - 3.a.b.ii.1 - Light-duty t
 - 3.a.b.ii.2 - Light-duty t
 - 3.a.b.iii - Heavy-duty truc
 - 3.a.b.iv - Motorcycles
 - 3.a.b.v - Evaporative emi
 - 3.a.b.vi - Urea-based cata

F-Gas Emissions F-Gas Parameters - Tier 2 F-Gas Emissions - Tier 2a F-Gas Emissions - Tier 2b

Worksheet

Sector: Industrial Processes and Product Use

Category: Product Uses as Substitutes for Ozone Depleting Substances

Subcategory: 2.F.1.a - Refrigeration and Stationary Air Conditioning

Sheet: HFC-23 (CHF3) Emissions

Data

Subdivision: Unspecified_1 Gas: HFC-23 (CHF3) Chemical's Data

Intro Year: 2000 Growth Rate (%): 3 Lifetime (d) (years): 15 EF (%): 15 Destroyed (%): 0

Equation 7.2B											Information for UNFCCC CRT		
Year	Agent production (tonnes)	Agent export (tonnes)	Agent import (tonnes)	Total new agent to domestic market (tonnes)	Retired in equipment at end-of-life (tonnes)	Destruction of agent in retired equipment (tonnes)	Release of agent from retired equipment (tonnes)	Bank (tonnes)	Emissions from installed equipment (tonnes)	Total Emissions (tonnes)	Agent for servicing (tonnes)	Agent in new equipment installed in year t (tonnes)	Agent in all equipment installed (tonnes)
t	P	Ex	Im	Im	$(S_{needed}(t-d) - S_{stock}(t-d))$	(destroyed/100)	$(S_{stock}(t-d) - S_{needed}(t-d))$	H	$(E_{inst}(t) - E_{ret}(t))$	$E = G + I$	$K = IF(D > I(t-1), I(t-1), D)$	$L = D - K$	$M = \sum(L(t, t-(d-1)))$
2000	0	0	0	0	0	0	0	5.865	1.035	1.035	0	6.9	6.9
2001	0	0	7.19	7.19	0	0	0	10.935	1.93575	1.93575	1.035	6.005	12.905
2002	0	0	7.19	7.19	0	0	0	15.43536	2.72389	2.72389	1.93575	5.25425	18.15925
2003	0	0	7.35	7.35	0	0	0	3.4178	3.4178	3.4178	2.72389	4.62611	22.78536
2004	0	0	7.52	7.52	0	0	0	0.3313	4.03313	4.03313	3.4178	4.1022	26.88756
2005	0	0	7.69	7.69	0	0	0	4.58166	4.58166	4.58166	4.03313	3.65687	30.54442
2006	0	0	7.87	7.87	0	0	0	28.75785	5.07491	5.07491	4.58166	3.28834	33.83276
2007	0	0	8.06	8.06	0	0	0	31.29517	5.52268	5.52268	5.07491	2.98509	36.81785
2008	0	0	8.26	8.26	0	0	0	33.62189	5.93328	5.93328	5.52268	2.73732	39.55517
2009	0	0	8.47	8.47	0	0	0	35.77811	6.31378	6.31378	5.93328	2.53672	42.09189
2010	0	0	8.7	8.7	0	0	0	37.80639	6.67172	6.67172	6.31378	2.38622	44.47811
2011	0	0	8.93	8.93	0	0	0	39.72593	7.01046	7.01046	6.67172	2.25828	46.73639
2012	0	0	9.17	9.17	0	0	0	41.56154	7.33439	7.33439	7.01046	2.15954	48.89593
2013	0	0	9.43	9.43	0	0	0	43.34281	7.64873	7.64873	7.33439	2.09561	50.99154
2014	0	0	9.71	9.71	0	0	0	45.09489	7.95792	7.95792	7.64873	2.06127	53.05281
2015	0	0	10	10	5.865	0	5.865	42.00066	7.22923	13.09423	7.95792	2.04208	48.19489
2016	0	0	9.27	9.27	5.10425	0	5.10425	39.53181	6.6346	11.73885	7.22923	2.04077	44.23066
2017	0	0	8.54	8.54	4.46611	0	4.46611	37.47342	6.13227	10.59838	6.6346	1.9054	40.88181
2018	0	0	7.82	7.82	3.9322	0	3.9322	35.66972	5.69151	9.62371	6.13227	1.68773	37.94342
2019	0	0	7.11	7.11	3.48687	0	3.48687	34.00389	5.28896	8.77582	5.69151	1.41849	35.25972
2020	0	0	6.4	6.4	3.10834	0	3.10834	32.38847	4.90708	8.01542	5.28896	1.11104	32.71389
2021	0	0	5.7	5.7	2.79509	0	2.79509	30.76062	4.53277	7.32786	4.90708	0.79292	30.21847
2022	0	0	5	5	2.53732	0	2.53732	29.0682	4.15509	6.69291	4.53277	0.46723	27.70062

Demonstration and Hands-On Interoperability - IPCC Inventory Software

Worksheet notes

Cells with red background contain interpolated values while cells with white background contain user-defined values.

Please, [click here while holding CTRL](#) for more instructions

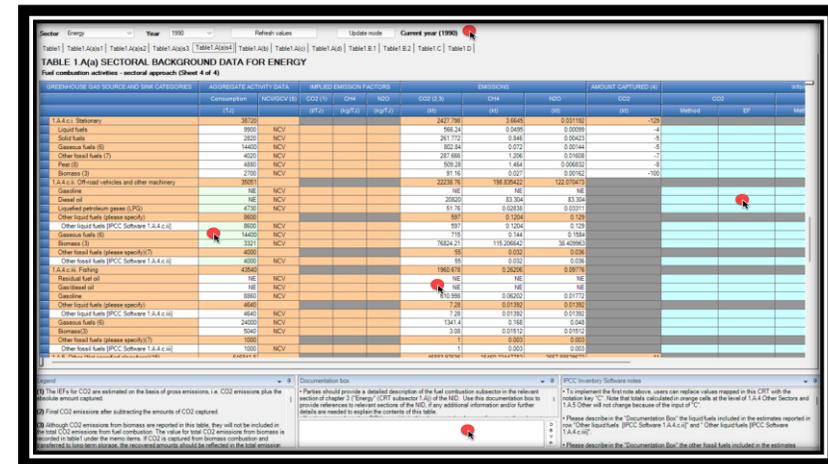
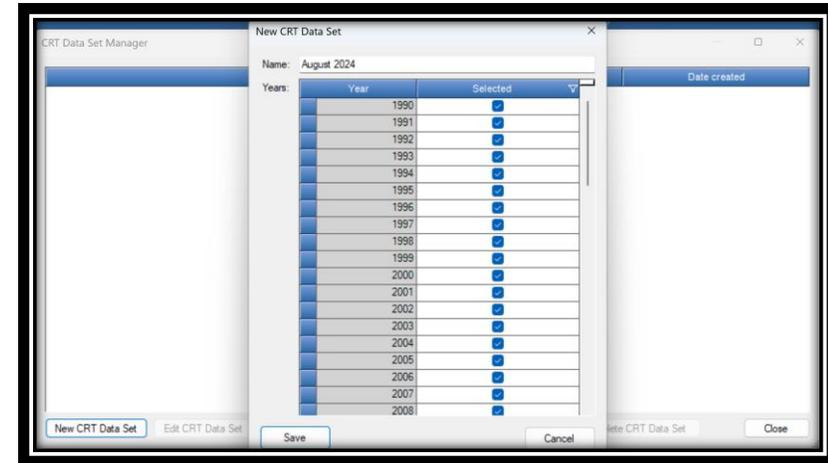
Objectives

You have learned how to create your GHG Inventory. Goal of this section is to demonstrate how to prepare your file for upload to the UNFCCC ETF Reporting Tool for GHG Inventory.

1. Demonstration
2. Your turnExercises
3. If you need help, see referenced slides of IPCC Inventory Software PowerPoint Manual or ask one of us!

Highlights of Demo

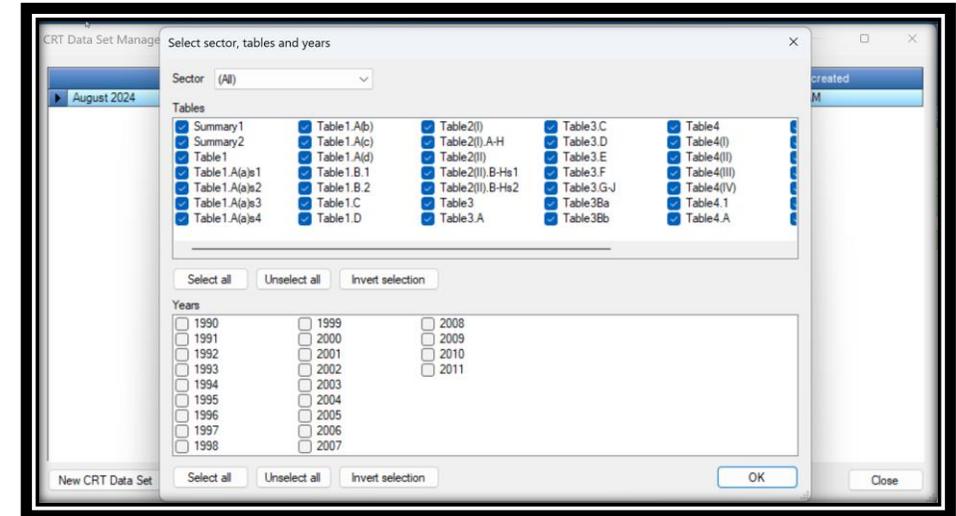
- **Create CRT Data Set** – First step in preparing the CRTs. Will compile information AD and emissions information from the underlying IPCC Inventory Software worksheets for selected year(s). Will allow you to see how data will map to CRT!
- **Open and review visualized CRT, provide additional information for CRT** –
 - Apply changes to single year or multiple years
 - How to change notation keys
 - How to provide notation key explanations for CRT9
 - How to provide method and EF information for Summary 3
 - How to provide information for documentation boxes
 - How do designate information as confidential
 - Update AD, if necessary, where multiple tiers used



Highlights of Demo

- **Correct user errors and generate JSON file for upload to UNFCCC –**
 - Return to underlying worksheets, make a change and regenerate CRT
 - Generate IPCC JSON

- **Later, you'll see how to upload an IPCC JSON file into the UNFCCC ETF Reporting Tool for GHG Inventory**



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- 1 - Energy Industries
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 - 1.A.1.c.ii - Other Energy Ind
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 - 1.A.2.a - Iron and Steel
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 - 1.A.2.c - Chemicals
 - 1.A.2.d - Pulp, Paper and Print
 - 1.A.2.e - Food Processing, Bev
 - 1.A.2.f - Non-Metallic Minerals
 - 1.A.2.g - Transport Equipment
 - 1.A.2.h - Machinery
 - 1.A.2.i - Mining (excluding fuels
 - 1.A.2.j - Wood and wood produ
 - 1.A.2.k - Construction
 - 1.A.2.l - Textile and Leather
 - 1.A.2.m - Non-specified Industr
- 3 - Transport
 - 1.A.3.a - Civil Aviation
 - 1.A.3.a.i - International Avia
 - 1.A.3.a.ii - Domestic Aviatio
 - 1.A.3.b - Road Transportation
 - 1.A.3.b.i - Cars
 - 1.A.3.b.i.1 - Passenger
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F-Gas Emissions F-Gas Parameters - Tier 2 F-Gas Emissions - Tier 2a F-Gas Emissions - Tier 2b

Worksheet
 Sector: Industrial Processes and Product Use
 Category: Product Uses as Substitutes for Ozone Depleting Substances
 Subcategory: 2.F.1.a - Refrigeration and Stationary Air Conditioning
 Sheet: HFC-23 (CHF3) Emissions

Data
 Subdivision: Unspecified_1 Gas: HFC-23 (CHF3) Chemical's Data

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Equation 7.2B

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t	ΔP	P		$D_{done}(t-d)$	$R_{done}(t-d)$	$S_{done}(t-d)$					$K = IF(D>I)(t-1), I(t-1), D)$	$L = D - K$	$M = \sum(L(t, t-(d-1)))$
2000	0	0	0	7.04	0	0	0	5.865	1.035	1.035	0	6.9	6.9
2001	0	0	0	7.19	0	0	0	5.865	1.035	1.035	1.035	6.005	12.905
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2014	0	0	0	10	0	0	0	5.865	1.035	1.035	7.64873	2.06127	53.05281
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Exercises on Interoperability - IPCC Inventory Software

Worksheet notes

Cells with red background contain interpolated values while cells with white background contain user-defined values.

Exercise: Produce CRT Data Set and Open Visualized CRT

CRT Data Set Manager

CRT Data Set name	Date created
Baku	09.08.2024 15:14:55

- Create a new CRT Data Set title “Baku”
- Produce the data set for 2015 and 2022
- Compile the data from your database in the CRT data set
- Open the visualized CRT

New CRT Data Set Edit CRT Data Set Open tables Generate JSON Refresh values Delete CRT Data Set Close

Test your understanding

1. What is the 2015 estimate for CO₂ emissions from category 1.A.1.a.i?
2. If you want to add information to the documentation box for category 1.A.1.a.i, where is it added?
3. In Table 2(I) A-H, which categories have emissions estimates in the visualized CRT?
4. How many tables of the CRT do you find for the waste sector?

Need a hint?



See Section on CRT Data Set Manager of the Software Manual in PowerPoint

Exercise: Provide Information Required by MPGs in Visualized CRT

For both the 2015 and 2022 inventory years – in the visualized CRT (i.e. Open Tables)

(HINT! – use **Update mode** before making changes below so changes apply to both years. Do NOT check box “Apply to values directly input into editable (pale green) cells”)

1. For CO₂, CH₄ and N₂O emissions for category 1.A.1.a.ii Combined heat and power generation, provide an explanation for reporting of “NE”.
2. For CRT category 1.A.1.a.i (Electricity generation) (liquid and solid fuels) indicate use of Tier 1 and Tier 2 methods. For EFs, indicate use of “D” and “CS”.
3. In CRT Table 2(I)A-H, note AD are reported for category 2.C.1.b Pig iron, but CO₂ emissions are “NE”. The compiler identified these emissions should be “IE”, as they are included in 2.C.1.a. Change “NE” to “IE”. What should you do after changing to “IE”?
4. Change AD from 2.C.1.b pig iron production to “C” and indicate in documentation box for this category that AD are “C” because there is only one company.

Need a hint?



See Section on Functionalities in Open Tables of the Software Manual in PowerPoint

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Need a hint?



Exercise: Correct User Errors in Worksheets

See Section on [Functionalities in Open Tables](#) of the Software Manual in PowerPoint

For the 2022 inventory year:

1. You find a mistake. “Amount captured” from liquid fuels in 1.A.1.a.i should be “5”. Correct this by:

1. In main menu, navigate to “Worksheets” – **Confirm worksheet =2022**. If the year 2015 appears in upper right - hand corner, you are in inventory year 2015. To move to 2022, select **Inventory Year / Choose /2022** from main menu.
2. Navigate to 1.A.1.a.i electricity generation.
3. Select tab “Fuel Combustion Emissions”
4. Navigate to Residual Fuel Oil.
5. Select the [+] to open dropdown table.
6. Change amount captured from “0” to “5”

Equation 2.1, 2.2, 2.3, 2.4, 2.5										
Subdivision	Fuel	Total consumption (TJ)	CO2 Emissions (Gg CO2)	CH4 Emissions (Gg CH4)	N2O Emissions (Gg N2O)					
S	F	TC	CO2	CH4	N2O					
Unspecified	Other Bituminous Coal	314001	28982.2923	0.314	0.47					
Unspecified	Residual Fuel Oil	246426	19031.4085	0.73928	0.14786					

Technology			CO2		CH4		N2O			
Type of Technology	Technology penetration (%)	Consumption (TJ)	CO2 Emission Factor (kg CO2/TJ)	Amount Captured (Gg CO2)	CO2 Emissions (Gg CO2)	CH4 Emission Factor (kg CH4/TJ)	CH4 Emissions (Gg CH4)	N2O Emission Factor (kg N2O/TJ)	N2O Emissions (Gg N2O)	
T	P	C=TC*(P/100)	EF(CO2)	Z	CO2=C*EF(CO2)/10*6 -Z	EF(CH4)	CH4=C*EF(CH4)/10*6	EF(N2O)	N2O=C*EF(N2O)/10*6	
Unspecified	100	246426	Specified 77250	5	19031.40	3	0.73928	0.6	0.14786	

2. Navigate back to main menu, “Export/Import – UNFCCC CRT”. When it says CRT Tables window is currently open, select “OK” (since that is where you want to go).

Careful, check that Year = 2022. If not, switch to 2022

3. Refresh **ONLY** the cell for CO₂ emissions and amount captured for 1.A.1.a.i Electricity Generation/ Liquid Fuels / CO₂ captured.

Exercise: Upload JSON

Need a hint?



See Section on CRT Data Set Manager of the Software Manual in PowerPoint

1. Generate the JSON for CRT Data Set titled “Baku.”
2. Include all tables of the CRT in your JSON file.
3. Include 2015 and 2022.
4. Save to your computer.

From the User Manual - UNFCCC ETF GHG Inventory Reporting Tool

The user may generate a .json file from the IPCC Inventory Software containing **information for all sectors, a single sector, selected tables of the CRT, or even a single category**. The user can create a new GHG Inventory using Upload a file in the reporting tool with any of these IPCC .json files. The data in the newly created inventory will be consistent with the contents of the .json file.

To note:

- Creating an inventory using a .json file for all sectors, will import all sectors into the reporting tool. If the user subsequently imports a new .json file into that same inventory containing only the agriculture sector, it is only the agriculture sector that will be overwritten.
- The user can decide to upload a .json file for one sector (energy) and later, in a second step import a second, different, sector (e.g. IPPU). In this case, no data will be overwritten and the inventory will contain the energy and IPPU sectors.
- The user may also import a gas from a single category.



Thank you

<https://www.ipcc-nggip.iges.or.jp/software/index.html>

ipcc-software@iges.or.jp

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Answers

Answers: Produce CRT Data Set and Open Visualized CRT

Test your understanding

1. What is the 2015 estimate for CO₂ emissions from category 1.A.1.a.i? **50,786.46 kt**
2. If you want to add information to the documentation box for category 1.A.1.a.i, where is it added? **The bottom of CRT Table 1A(a)s4**
3. In Table 2(I) A-H, which categories have estimates in the visualized CRT for 2015?
 1. **2.A.1 Cement Production**
 2. **2.B.1 Ammonia Production**
 3. **2.B.8.b Ethylene Production**
 4. **2.C.1 Iron and Steel Production**
4. How many tables of CRT will you find for the waste sector? **5 tables (i.e. all tables)**

Answers: Provide Information Required by MPGs in Visualized CRT

First, before making any changes, set your “Update Mode” so that changes are made to both 2015 and 2022

The screenshot shows the IPCC Visualized CRT interface. The 'Sector' is set to 'Energy' and the 'Year' is '2015'. The 'Update mode' dialog box is open, and the 'All years' radio button is selected. The 'Apply to values directly input into editable (pale green) cells' checkbox is unchecked. The 'OK' button is highlighted.

CO2 (2,3)	CH4	N2O
(kt)	(kt)	(kt)
31185.8905	0.342215	0.5063925
NE	NE	NE
NE	NE	NE
NE	NE	NE
50786.4625	1.099787	0.6588309
19626.444	0.762192	0.1524384
31160.0185	0.337595	0.5063925
NE	NE	NE
NE	NE	NE
NE	NE	NE
50786.4625	1.099787	0.6588309
19626.444	0.762192	0.1524384
31160.0185	0.337595	0.5063925
NE	NE	NE
NE	NE	NE
NE	NE	NE

1. Select “Update mode” – note that the default setting would only apply changes to current year (2015)

2. Indicate you want changes to apply to all years in data set (in this case, this is only 2015 and 2022)

3. Box is not checked, so changes will not apply to green cells (i.e. cells where direct entry occurred)

4. Select OK

Answers: Provide Information Required by MPGs in Visualized CRT

1. For CO₂, CH₄ and N₂O emissions for category 1.A.1.a.ii Combined heat and power generation, provide an explanation for reporting of “NE”.

The screenshot displays the IPCC Visualized CRT interface. At the top, the 'Sector' is set to 'Energy' and the 'Year' is '2015'. A 'Refresh values' button and an 'Update mode' dropdown set to 'All years' are visible. A callout '1' points to the 'Update mode' dropdown. Below this, a navigation bar shows various table tabs, with 'Table1.D' selected. The main table is titled 'TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENERGY' and 'Fuel combustion activities - sectoral approach (Sheet 1 of 4)'. The table has columns for 'GREENHOUSE GAS SOURCE AND SINK CATEGORIES', 'AGGREGATE ACTIVITY DATA', 'IMPLIED EMISSION FACTORS', 'EMISSIONS', and 'AMOUNT CAPTURED (4)'. The 'EMISSIONS' column is further divided into CO₂ (2,3), CH₄, and N₂O (kt). The 'AMOUNT CAPTURED (4)' column is divided into CO₂ (kt). A callout '2' points to a row of 'NE' values in the CH₄ column. A 'CRT Variable Detail' dialog box is open, showing 'Description: NE' and 'Data not available|'. A callout '3' points to the 'Description' field, and a callout '5' points to the 'Data not available|' text. At the bottom of the dialog, a checkbox is checked with the text 'Apply Notation Key comment specified in the box above to all NE cells in selection'. A callout '4' points to this checkbox. A 'Save' button is highlighted with a red box, and a 'Cancel' button is also visible. A callout '1' also points to the 'Save' button.

1. Note changes apply to “All years”, may also say (2015, 2022)

2. Select the cells for which you want to provide an explanation. Right click and select Edit

3. Select tab for “NE”

4. Check this box to indicate you will provide the same explanation for all selected cells (in all years).

5. Enter country-specific explanation and select SAVE.

Answers: Provide Information Required by MPGs in Visualized CRT

1. Note changes apply to “All years”, may also say (2015, 2022)

2. Select the cells for which you want to provide method and EF information. You can select method and EF cells separately, or at the same time. Right click and select **Edit**

3. Start with either EF or Method (in example, I selected all method/EF cells). Check box to indicate you will provide the same explanation for all selected cells.

4. For EF, select “D” and “CS” For Method, Select “T1” and “T2” and select SAVE

The screenshot displays the 'CRT Variable Data' dialog box for 'TABLE 1.A(a) SECTORAL Fuel combustion activities - sectoral'. The dialog is set to 'All years' and 'Energy' sector. The 'EF' tab is selected, showing a table with columns 'Selected', 'Notation', and 'Remark'. The 'Selected' column has checkboxes for 'D', 'CR', 'CS', 'M', 'PS', and 'OTH'. The 'Remark' column contains descriptions like 'IPCC Default', 'CORINAIR', 'Country-Specific', 'Model', 'Plant-Specific', and 'Other'. A checkbox at the bottom of the dialog is labeled 'Apply Notation Keys selected in the table above to all EF cells in selection'. The background shows a table with columns for 'CO2' and 'CH4', each with sub-columns for 'Method' and 'EF'. A 'Save' button is highlighted at the bottom right of the dialog.

Answers: Provide Information Required by MPGs in Visualized CRT

3. In CRT Table 2(I)A-H, note AD are reported for category 2.C.1.b Pig iron, but CO₂ emissions are “NE”. The compiler identified these emissions should be “IE”, as they are included in 2.C.1.a. Change “NE” to “IE”. What should you do after changing to “IE”?

The screenshot displays the IPCC Inventory Software interface. At the top, the Sector is set to IPPU and the Year is 2015. A 'Refresh values' button and an 'Update mode' dropdown are visible. A circled '1' is placed over the 'All years' button. Below this, the table 'TABLE 2(I)A-H SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES AND PRODUCT USE' is shown, with columns for Greenhouse Gas Source and Sink Categories, Activity Data, Implied Emission Factors, and Emissions. The table includes categories like 2.B.8.d Ethylene oxide, 2.C.1.a Steel, and 2.C.1.b Pig iron. A circled '2' is placed over the 'NE' value in the CO2 emissions column for 2.C.1.b. A 'CRT Variable Detail' dialog box is open, showing the 'Summary' tab with a 'User comment' field containing 'IE'. A circled '3' is placed over the 'IE' text. A circled '4' is placed over the 'Description' field. A circled '5' is placed over the 'Explanation for IE:' field. Another circled '5' is placed over the 'Allocation as per IPCC Guidelines:' field. A third circled '5' is placed over the 'Allocation used by the Party:' field. A 'Save' button is at the bottom of the dialog. A 'Legend' box at the bottom left contains five numbered notes. A 'IPCC Inventory Software notes' box at the bottom right contains additional information.

1. Note changes apply to “All years”, may also say (2015, 2022)

2. Right click on “NE” and select “Notation Key”. Select the “IE”

3. Right click the cell again and select Edit

4. Select tab for “IE”

5. Enter country-specific explanation for all three elements; will transfer to CRT9

Answers: Provide Information Required by MPGs in Visualized CRT

4. Change AD from 2.C.1.b pig iron production to “C” and indicate in documentation box for this category that AD are “C” because there is only one company.

Sector: IPPU Year: 2015 Refresh values Update mode: All years

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

TABLE 2(I).A-H SECTORAL BACKGROUND DATA FOR INDUSTRIAL PROCESSES AND PRODUCT USE
Emissions of CO₂, CH₄ and N₂O (Sheet 1 of 1)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	ACTIVITY DATA		IMPLIED EMISSION FACTORS (1)		
	Production/Consumption quantity		CO ₂	CH ₄	N ₂ O
	Description (5)	(kt)	(t/t)	(t/t)	(t/t)
2.B.6. Titanium dioxide production	Titanium dioxide production	NE			
2.B.7. Soda ash production	Soda ash production	NE			
2.B.8. Petrochemical and carbon black production					
2.B.8.a. Methanol	Methanol production	NE			
2.B.8.b. Ethylene	Ethylene production	551.5			
2.B.8.c. Ethylene dichloride and vinyl chloride monomer	Ethylene dichloride and vinyl monomer production	NE			
2.B.8.d. Ethylene oxide	Ethylene oxide production	NE			
2.B.8.e. Acrylonitrile	Acrylonitrile production	NE			
2.B.8.f. Carbon black	Carbon black production	NE			
2.B.8.g. Other (8)					
2.B.8.g.i. Styrene	Styrene production	NE			
2.B.8.g.ii. Other (please specify)					
Other petrochemical production [IPCC Software 2.B.8]	Other petrochemical production	NE			
2.B.10. Other					
2.B.10.a. Hydrogen production	Hydrogen production	NE			
2.B.10.b. Other (please specify)					
Other chemical industry [IPCC Software 2.B.11]	Other chemical production	NE			
2.C. Metal industry					
2.C.1. Iron and steel production					
2.C.1.a. Steel	Steel production	2057	C		
2.C.1.b. Pig iron	Pig iron production	980			
2.C.1.c. Direct reduced iron	Direct reduced iron production	NE			
2.C.1.d. Sinter	Sinter production	182			
2.C.1.e. Pellet	Pellet production	NE			

1. Right click, select Notation Key and change to “C”

2. Insert explanation in documentation box and click Save.

Legend

(1) The IEFs are estimated on the basis of gross emissions as follows: IEF = (emissions plus the absolute amounts recovered (fossil+biogenic), oxidized, destroyed or transformed) / AD.
 (2) Final emissions are to be reported (after subtracting the amounts of emission recovery, oxidation, destruction or transformation).
 (3) Amounts of CO₂ captured or emission recovery, oxidation, destruction or transformation of the other gases. CO₂ captured should be reported only when estimated using a higher-tier emissions calculation. Quantities of CO₂ captured for later use and short-term storage should not be reported unless CO₂ emissions are accounted for elsewhere in the inventory (see the 2006 IPCC Guidelines, vol. 2, chap. 1.2.2). The NID should include information on emissions from leakage in pipeline transport, injection and storage.
 (4) Enter the amount of GHGs captured as a negative number since this amount is subtracted from total of each GHGs produced respectively.
 (5) Where the 2006 IPCC Guidelines provide options for AD, such as on cement or clinker

Documentation box

2.B.7

2.B.8

2.B.10

2.C.1 Data are confidential because there is only one company

2.C.2

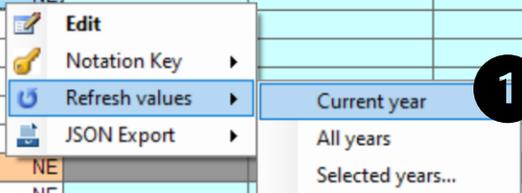
2.C.3

Answers: Correct User Errors in Worksheets

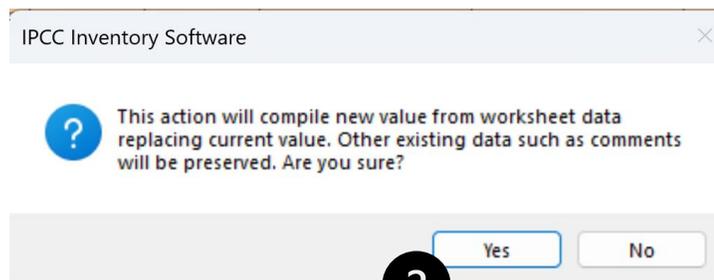
For the 2022 inventory year:

1. To refresh only a single cell, right click on cell and select **Refresh Value – Current Year**

1.A.1.a.i. Electricity generation	560427				48018.7008	1.053279	0.6188571	NE
▶ Liquid fuels	246426	NCV			19036.4085	0.739278	0.1478556	NE
Solid fuels	314001	NCV			28982.2923	0.314001	0.4710015	
Gaseous fuels (6)	NE	NCV			NE	NE	NE	
Other fossil fuels (7)	NE	NCV			NE	NE	NE	
Peat (8)	NE	NCV			NE	NE	NE	
Biomass (3)	NE	NCV			NE	NE	NE	
1.A.1.a.ii. Combined heat and power generation	NE				NE	NE	NE	NE
Liquid fuels	NE	NCV			NE	NE	NE	NE



The context menu is open over the cell containing the value 19036.4085. The menu options are: Edit, Notation Key, Refresh values (highlighted), and JSON Export. The 'Refresh values' sub-menu is open, showing options: Current year (highlighted), All years, and Selected years... A circled '1' is next to the 'Current year' option.

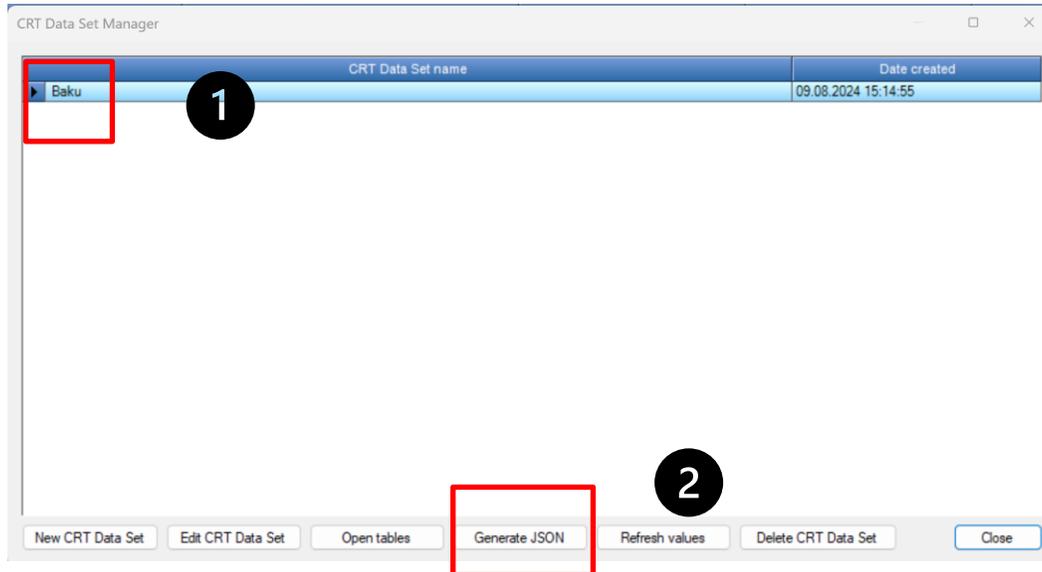


Select “Yes”. **Important:** When you refresh, it will refresh everything – as if the tables are read and compiled for the first time. So, if you changed notation keys they will change back. Official/user comments will stay. Try to do this at the most disaggregated level.

Biomass (3)		NE				NE	NE	NE	NE
1.A.1.a.i. Electricity generation	560427					48013.7008	1.053279	0.6188571	-5
▶ Liquid fuels	246426	NCV				19031.4085	0.739278	0.1478556	-5
Solid fuels	314001	NCV				28982.2923	0.314001	0.4710015	NE
Gaseous fuels (6)		NE	NCV			NE	NE	NE	NE
Other fossil fuels (7)		NE	NCV			NE	NE	NE	NE
Peat (8)		NE	NCV			NE	NE	NE	NE

The table shows the updated values after refreshing. The values 19031.4085 and -5 are highlighted with red boxes. A circled '2' is next to the 'Yes' button in the dialog box above.

Answers: Upload JSON



Select from main menu “Export/Import – UNFCCC CRT.

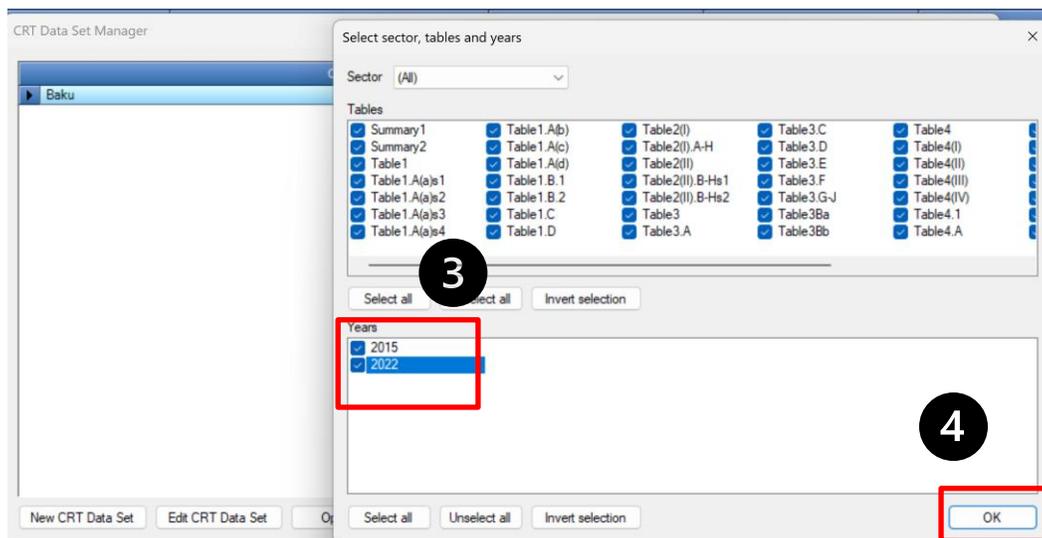
You may see a prompt that CRT Tables is open (i.e. the visualized CRT). Selecting **OK** takes you back to Open Tables. Selecting **Cancel** opens the CRT Data Set Manager.

1. Select **Baku**, the data set for which you want to generate the JSON

2. Select Generate JSON.

3. All tables are selected by default; select 2015 and 2022.

4. Select OK and then save the file to your computer.



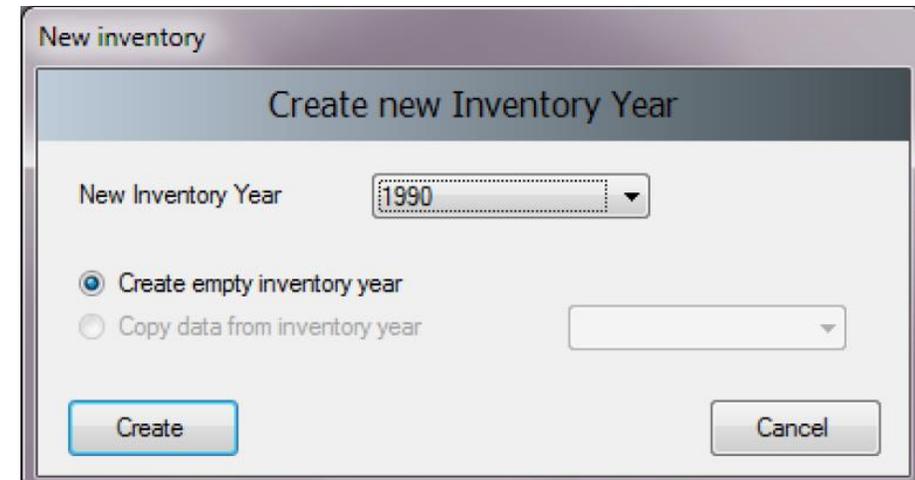
Additional slides (if needed)

First run

Create Inventory Year

In this step it is necessary to create the initial **Inventory Year**. After creating the **Inventory Year**, the *Software* is successfully initialized and prepared for use or for further addition/refining of user settings, as described in the next sections.

In this initial step, you will “Create empty inventory year”. When you create future inventory years, you will also have the option to create the inventory year and copy data from a previous inventory year.



Notes

- It is recommended to start with the first year in your time series and build future inventory years on the previous year(s). When building the land representation, you **MUST** start with the first year of the time series. For further information, see the Land Representation Guidebook.
- The Inventory Year selection applies to the database, not to the *Software*, when opening a new database a different year can be selected