



# Work on interoperability with the UNFCCC Reporting Tool for CRT (for GHG Inventories)

IPCC TFI: release of the new version of the IPCC Inventory Software for GHG Inventories

Sharm el-Sheikh Climate Change Conference

November 2022

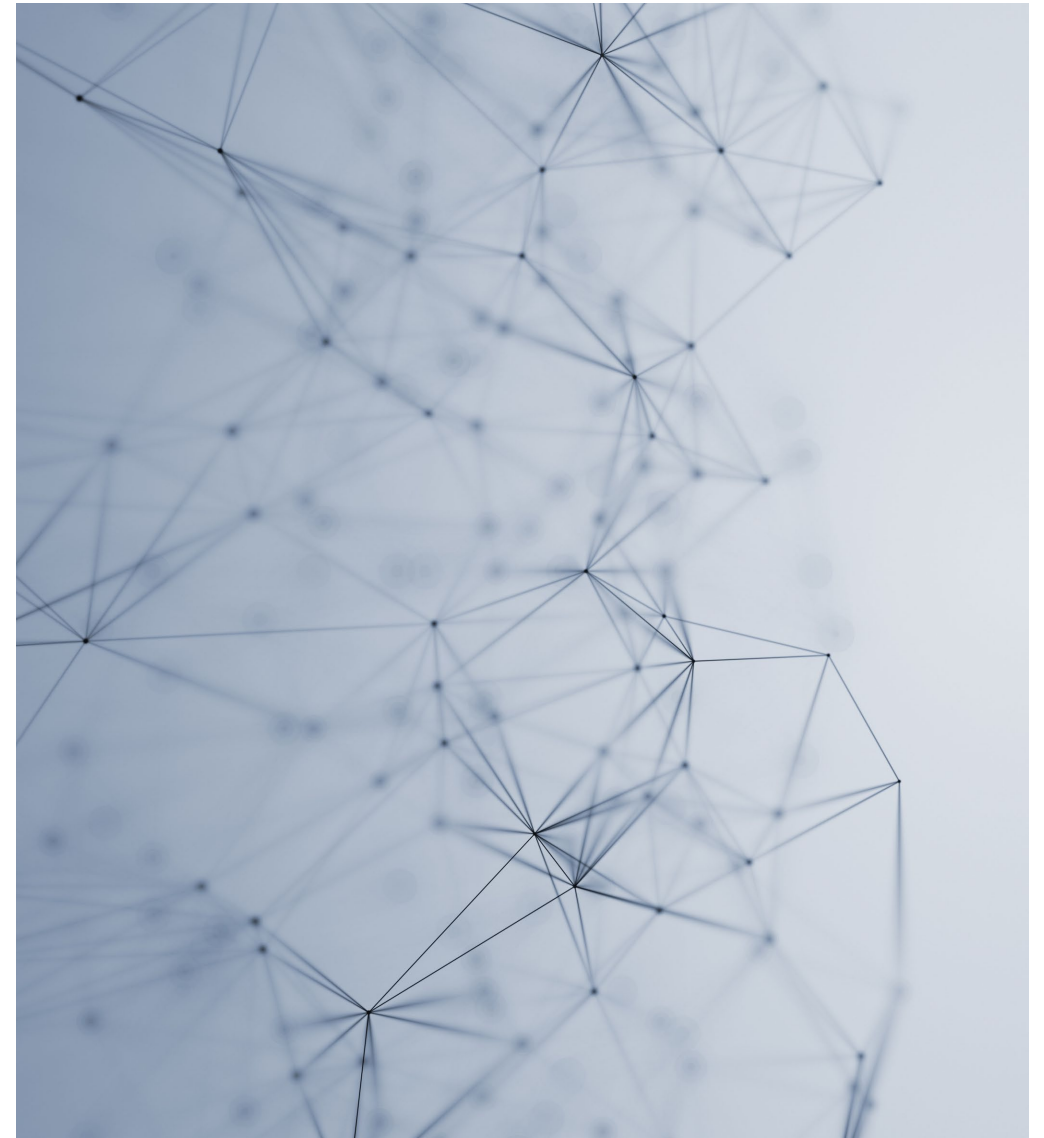
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INTERGOVERNMENTAL PANEL ON climate change



# Outline

- ✓ Background
- ✓ What is interoperability?
- ✓ Why is it important?
- ✓ Current activities to prepare IPCC Inventory Software to interact with UNFCCC Reporting Tool
- ✓ The road ahead



# Background

- ✓ Beginning 31 December 2024, countries submit a **biennial transparency report (BTR)** consisting of a narrative document and reporting tables/ formats.
- ✓ Reporting must follow the **Modalities, Procedures and Guidelines (MPGs)** (decision 18/CMA.1)
- ✓ **Decision 5/CMA.3** mandates the UNFCCC to develop reporting tools for the electronic reporting of the tables and formats, specifically:
  - ✓ Common reporting tables for GHG inventory (Annex I);
  - ✓ Common tabular formats for tracking progress made in implementing/achieving NDCs (Annex 2);
  - ✓ Common tabular formats for financial, technology development and transfer and capacity-building support (Annex 3)
- ✓ Requests the UNFCCC secretariat **to facilitate interoperability** between the reporting tools and the IPCC inventory software and invites the IPCC to participate in this effort.

# What is interoperability?

Fuel Consumption Data | Fuel Combustion Emissions

Worksheet: Energy  
 Category: Fuel Combustion Activities  
 Subcategory: 1.A.1.a.i - Electricity Generation  
 Sheet: Fuel Consumption Data

Data  
 Fuel Type: Peat

**1** User enters underlying data (e.g. AD and EF) into IPCC Inventory Software

2005

Subdivision	Fuel	Consumption Unit	Consumption (Mass, Volume or Energy Unit)	Conversion Factor (TJ/Unit) (NCV)	Total consumption (TJ)
S	F	U	C	CF	$TC = C \cdot CF$
Unspecified	Peat	Gg	1	9.76	9.76
<b>Total</b>					<b>9.76</b>

*Interoperability: "The ability of computer systems or software to exchange and make use of information"*

--Oxford Dictionary

**2** IPCC Inventory Software calculates emissions

2005

Subdivision	Fuel	Total consumption (TJ)	CO2 Emissions (Gg CO2)	CH4 Emissions (Gg CH4)	N2O Emissions (Gg N2O)
S	F	TC	CO2	CH4	N2O
Unspecified	Peat	9.76	1.03456	0.00001	0.00001

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	$C = TC \cdot P / 100$	EF(CO2)	Z	$CO2 = C \cdot EF$ (CO2)/10 <sup>6</sup> -Z	EF(CH4)	$CH4 = C \cdot EF$ (CH4)/10 <sup>6</sup>	EF(N2O)	$N2O = C \cdot EF$ (N2O)/10 <sup>6</sup>
Unspecified	100	9.76	106000		1.03456	1	0.00001	1.5	0.00001
<b>Total</b>		<b>9.76</b>			<b>1.03456</b>		<b>0.00001</b>		<b>0.00001</b>

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

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GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS		
	Consumption (TJ)	NCV/GCV <sup>(5)</sup>	CO <sub>2</sub> <sup>(1)</sup> (t/TJ)	CH <sub>4</sub> (kg/TJ)	N <sub>2</sub> O	CO <sub>2</sub> <sup>(2,3)</sup>	CH <sub>4</sub>	N <sub>2</sub> O
Biomass <sup>(3)</sup>								
<i>Drop-down list:</i>								
1.A.1.a.i. Electricity generation								
Liquid fuels								
Solid fuels								
Gaseous fuels <sup>(6)</sup>								
Other fossil fuels <sup>(7)</sup>								
Peat <sup>(8)</sup>								
Biomass <sup>(3)</sup>								

**3** AD, EFs and some parameters entered into cells of CRT

# Why is interoperability important?

IPCC inventory software becomes a central component of a Party's institutional arrangements to facilitate meeting UNFCCC national reporting obligations.

- ✓ Supports Parties in estimating GHG emissions/removals
- ✓ Organizing framework for data collection efforts among entities
- ✓ Minimizes error
- ✓ Reduces reporting burden





# Making the Link

- ✓ There are a number of categories in the CRT from decision 5/CMA.3 that are from the 2019 Refinement to the 2006 IPCC Guidelines. We are exploring the best ways to accommodate these specific categories in the IPCC Inventory software to enable transparent and comparable mapping

## Examples of (Sub-) Categories from 2019 Refinement/ UNFCCC CRT

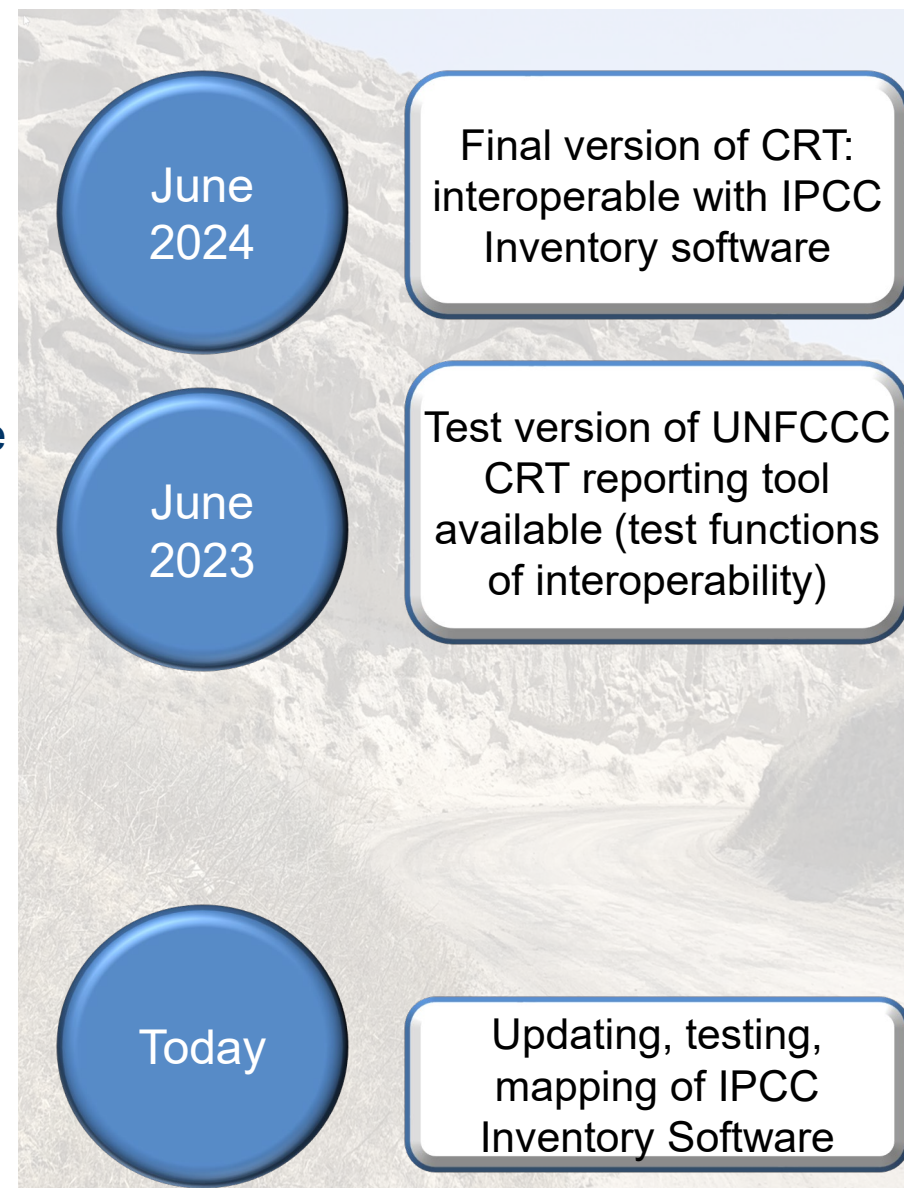
Energy	IPPU	Waste
Charcoal and Biochar Production Coke Production Solid to Solid Fuel production Gasification Transformation <i>(CRT further divides into coal-to-liquids and gas-to-liquids)</i> Abandoned Oil Wells Gas Post-Meter Abandoned Gas Wells	HFC production <i>(CRT has HFC-134-a production)</i> PFC Production SF <sub>6</sub> Production NF <sub>3</sub> Production Hydrogen Production Rare Earths Production Microelectromechanical systems Waterproofing of Electronic Circuits	Active-aeration landfills <i>(subcategory of managed waste disposal sites in CRT)</i> , and disaggregation into varying degrees of decomposable waste

- ✓ Exploring approach for confidentiality
- ✓ Considering role of notation keys in the IPCC software
- ✓ Flexibility

# The Road Ahead

- Striving to ensure users will be able to use the IPCC Inventory Software to apply all tiers/ approaches in the 2006 IPCC Guidelines, or a combination thereof, to calculate their GHG inventory.
- Actively developing the mapping together with the UNFCCC to enable the updated IPCC Inventory software to “talk” to the UNFCCC CRT reporting tool, in line with Parties’ request at CMA3 (COP26) in Glasgow.
- The best way for Parties to prepare for reporting under the ETF, is to start today.
- If you are interested in using the software, or testing, please contact [ipcc-software@iges.or.jp](mailto:ipcc-software@iges.or.jp)
  - Learn about IPCC inventory software: <https://www.ipcc-nggip.iges.or.jp/software/index.html>
  - Understand the UNFCCC reporting requirements (MPGs and further guidance)

[https://unfccc.int/sites/default/files/resource/cma2018\\_3\\_add2\\_new\\_advance.pdf](https://unfccc.int/sites/default/files/resource/cma2018_3_add2_new_advance.pdf)  
[https://unfccc.int/sites/default/files/resource/cma2021\\_10a2\\_adv\\_0.pdf](https://unfccc.int/sites/default/files/resource/cma2021_10a2_adv_0.pdf)



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# Thank you

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