Overview of the IPCC Inventory Software for National Greenhouse Gas Inventories

IPCC TFI Side Event, UNFCCC SB 58

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ipcc

INTERGOVERNMENTAL PANEL ON climate change

WMO   UNEP

IPCC Inventory Software

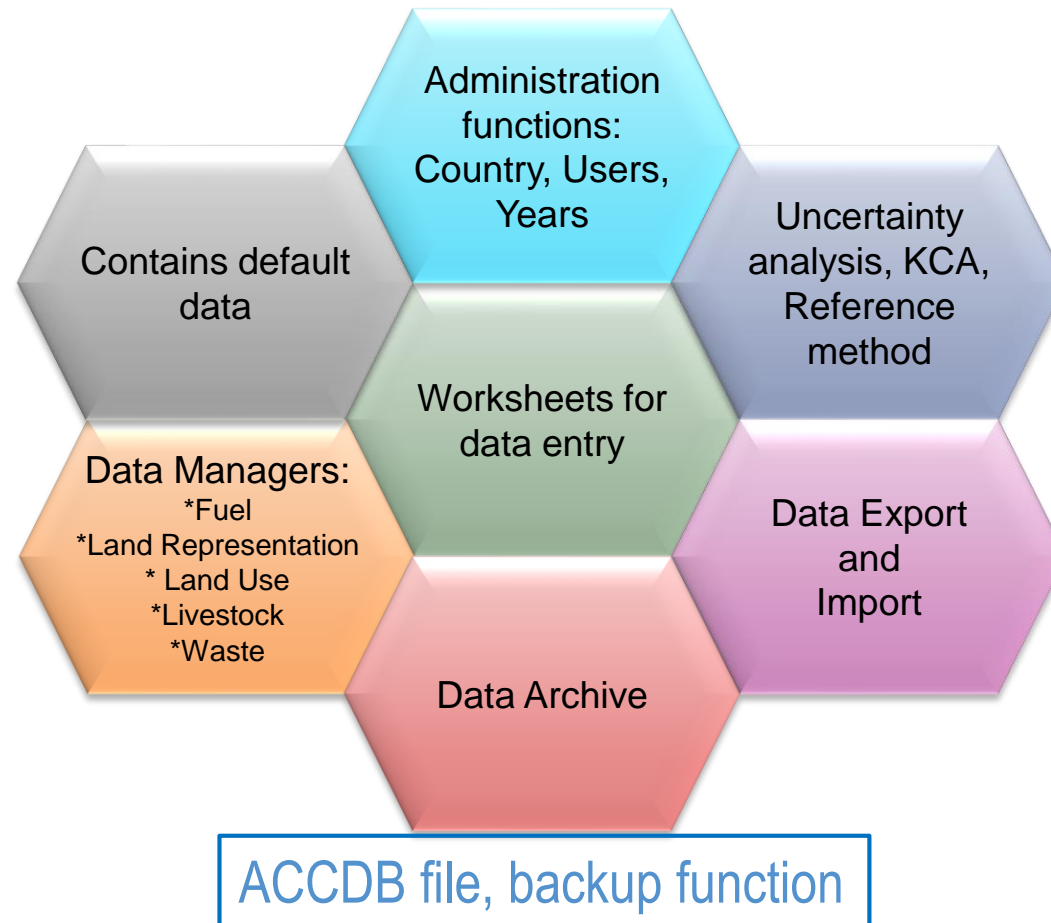○ **IPCC Inventory Software was produced in 2012. Initially, it was designed to be a simple tool implementing only Tier 1 methods according to the *2006 IPCC Guidelines***

○ **The latest version is the version 2.861. It has been released on June 6, 2023 at the SB 58**

○ **The version 2.861 implements the following:**

  - **all Methodological Tiers & Approaches according to the *2006 IPCC Guidelines*, and its**
    - ✓ ***Wetlands Supplement* (in lilac colour)**
    - ✓ **in addition, some elements of the *2019 Refinement* (in magenta colour) to facilitate Interoperability with the UNFCCC CRT Reporting tool**
  - **Interoperability functionality with the UNFCCC CRT Reporting tool (Energy Sector)**

Version 2.861

o **More features**

- allows **subnational level of reporting** *(e.g., tracking specific activities or regions)*

- allows for each source/sink to use either a **single methodological Tier or a mix of Tiers**

- allows, in each equation, to **input user-specific values for EFs and parameters**

- allows different categories/sectors to be developed simultaneously

- implements **AR5 GWP$_{100}$** values *(and allows any other user-specific metric to be applied)*

- stores the entire set of information of NGHGI within a single database

Architecture

- MSAccess (ACE OLEDB 12) for WindowsOS
- Microsoft .NET Framework 4.6.2

Example of a worksheet

Ongoing work

o **Paris Agreement requirements**

- Indirect CO_2 emissions

- (memo item) Indirect N_2O emissions

- Interoperability with UNFCCC reporting tool for Common Reporting Tables (*Decision 5/CMA.3*)

o **Other**

- Notation Keys

- Time series export/import

- Supporting tools

Guidebook - Scope

o **Guide to estimate anthropogenic GHG emissions and removals from each inventory category by implementing all methodological Tiers & Approaches according to the** *2006 IPCC Guidelines* **and its** *Wetlands Supplement* **with elements of the** *2019 Refinement*.

o **Software users must be familiar with the IPCC methodologies and read the Software Manual** (downloadable from the "Help" menu) **before going through the Guidebook.**

✓ *The Guidebook does not replace guidance provided in the IPCC Methodology Reports*

Guidebook - Structure


```
┌─────────────────────────────────────┐
│              Step A                  │
│           Fuel Manager               │
│ User's Fuel list, and associated     │
│         NCV/GCV and CC               │
└─────────────────────────────────────┘
              │
        ┌──────────────┐
        │ by Subdivision│
        └──────────────┘
              │
              ▼
┌─────────────────────────────────────┐
│              Step B                  │
│       Fuel Consumption Data          │
│ Amount of Fuel consumed, by fuel     │
│          and subdivision             │
└─────────────────────────────────────┘
       │                    │
┌──────────────────────┐  ┌──────────┐
│ by Technology-Type   │  │ Tier 1-2 │
│      (Tier 3)        │  └──────────┘
└──────────────────────┘
       │                    │
       ▼                    ▼
┌─────────────────────────────────────┐      ┌──────────────────────┐
│              Step C                  │      │       Step D         │
│      Fuel Combustion Emissions       │ ───▶ │       Results        │
│          IPCC default or             │      │ Emissions of each    │
│  subdivision/technology specific EFs │      │      GHG (Gg)        │
└─────────────────────────────────────┘      └──────────────────────┘
```
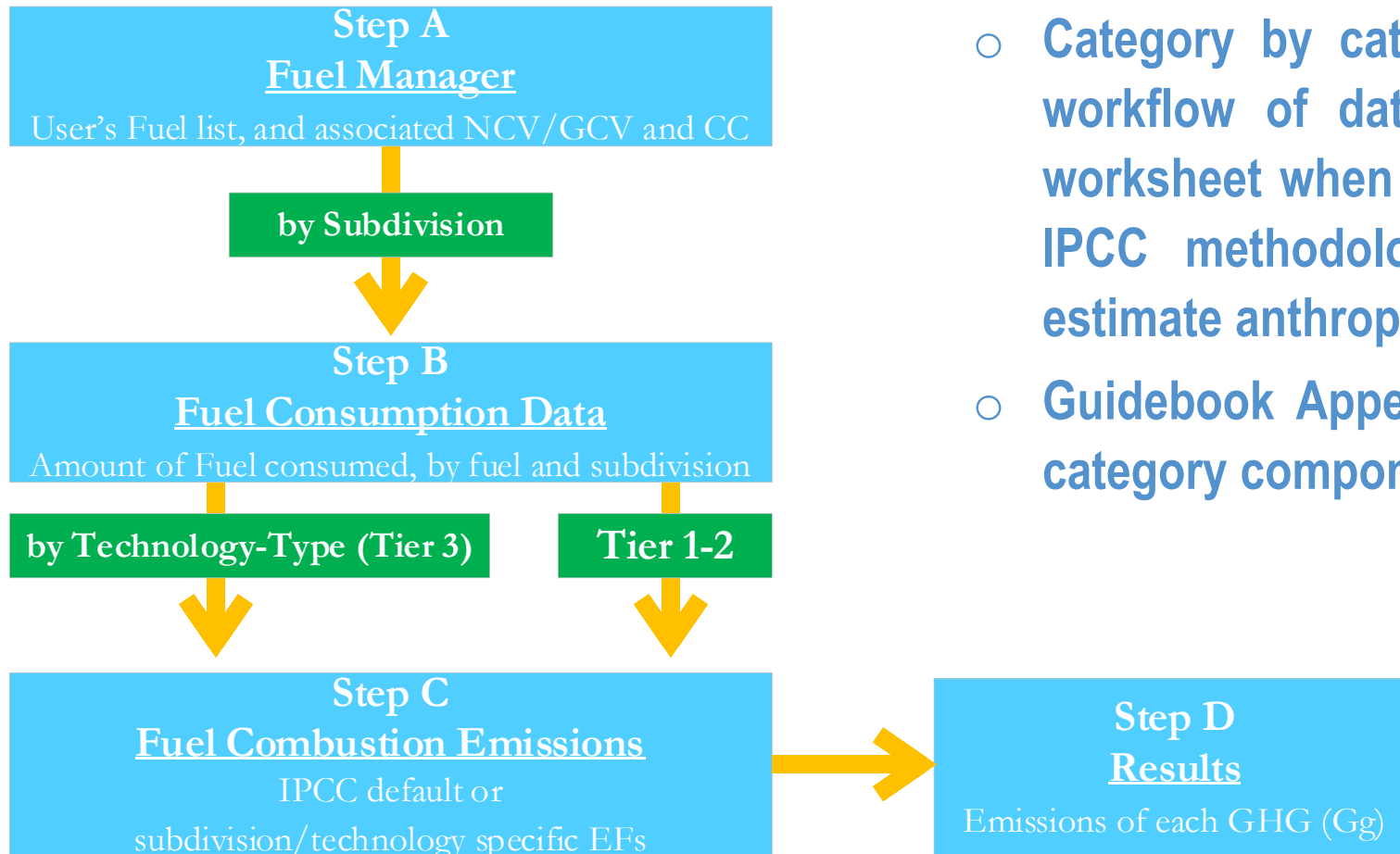
- Category by category, the Guidebook shows the workflow of data input and calculation in each worksheet when implementing any of the available IPCC methodological Tiers and Approaches to estimate anthropogenic GHG emissions/removals
- Guidebook Appendices describe the use of multi-category components (e.g., Fuel manager)

Download

- o **Version 2.861 of the IPCC Inventory Software comes with two alternative installation packages: 32 bit vs. 64bit.**

- o **Please support by using it and reporting any findings to: ipcc-software@iges.or.jp**

Support

o **IPCC TFI TSU is supporting the IPCC Inventory Software:**

- **User Manual**

- **Help Desk: ipcc-software@iges.or.jp**

- **Pool of voluntary testers**, *to support software development and use*

- **Cooperation with the UNFCCC at training workshops on the use of the IPCC Inventory Software**

- **Annual IPCC meetings on feedback from software users**, *including issues where support is needed or software improvements are envisaged*

✓ *In the 7th IPCC assessment cycle (from end of July 2023) the plan and support may be subject to changes, depending on consideration by the IPCC and the new Bureau of the Task Force on National Greenhouse Gas Inventories*

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Thank you

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

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